

APPENDIX E.2

INCINERATOR ASH TESTING RESULTS

TABLE E.2.1 - INVENTORY AND STATUS OF INCINERATOR ASH GENERATED IN 2017

Category	Mine Site Bins	Mine Site ~Volume m ³	Mine Site Status	Milne Port Bins	Milne Port ~Volume m ³	Milne Port Status
Landfill	10	32.6	Landfilled	13	34.2	Landfilled
Hazardous	0	N/A	N/A	0	N/A	N/A
Total	10	32.6	N/A	13	34.2	N/A

TABLE E.2.2 - ANNUAL EXCEEDANCES FOR INCINERATOR ASH GENERATED IN 2017

Sample ID	Sample Date	Analyte	Minimum Detection Limit	Guideline	Result	Status
N/A		N/A	N/A	N/A	N/A	N/A

Note:

TCLP residual analysis tests were performed by ALS Laboratories and compared to Process Residuals Discharge Minimum (GN, 2011) to determine if ash was landfill compliant. 2017 incinerator ash volume: bin volumes converted to m³ and 'Full Bin' = 3.62 m³ * 0.9.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Jim Millard
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 26-JAN-17
Report Date: 30-JAN-17 15:51 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1883739
Project P.O. #: 4500017476
Job Reference: MS-ASH-146
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1883739

Report Date: 30-JAN-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Jim Millard

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3641721							
WG2470660-3	DUP	L1883945-5						
% Moisture		21.3	21.7		%	1.8	20	27-JAN-17
WG2470660-2	LCS							
% Moisture			99.8		%		90-110	27-JAN-17
WG2470660-1	MB							
% Moisture			<0.10		%		0.1	27-JAN-17
HG-TCLP-WT		Waste						
Batch	R3641466							
WG2470922-3	DUP	L1883066-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	27-JAN-17
WG2470922-2	LCS							
Mercury (Hg)			102.0		%		70-130	27-JAN-17
WG2470922-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	27-JAN-17
WG2470922-4	MS	L1882501-1						
Mercury (Hg)			96.7		%		50-140	27-JAN-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	28-JAN-17
WG2471016-2	LCS							
Zinc (Zn)-Total			92.8		%		70-130	28-JAN-17
WG2471016-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	28-JAN-17
WG2471016-5	MS	WG2471016-3						
Zinc (Zn)-Total			99.3		%		70-130	28-JAN-17
MET-TCLP-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	28-JAN-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	28-JAN-17
Barium (Ba)		0.57	0.56		mg/L	0.9	40	28-JAN-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	28-JAN-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17



Quality Control Report

Workorder: L1883739

Report Date: 30-JAN-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Jim Millard

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	28-JAN-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	28-JAN-17
WG2471016-2	LCS							
Silver (Ag)			100.6		%		70-130	28-JAN-17
Arsenic (As)			97.0		%		70-130	28-JAN-17
Boron (B)			100.4		%		70-130	28-JAN-17
Barium (Ba)			95.8		%		70-130	28-JAN-17
Cadmium (Cd)			95.9		%		70-130	28-JAN-17
Chromium (Cr)			97.5		%		70-130	28-JAN-17
Lead (Pb)			97.9		%		70-130	28-JAN-17
Selenium (Se)			97.6		%		70-130	28-JAN-17
Uranium (U)			97.0		%		70-130	28-JAN-17
WG2471016-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	28-JAN-17
Arsenic (As)			<0.050		mg/L		0.05	28-JAN-17
Boron (B)			<2.5		mg/L		2.5	28-JAN-17
Barium (Ba)			<0.50		mg/L		0.5	28-JAN-17
Cadmium (Cd)			<0.0050		mg/L		0.005	28-JAN-17
Chromium (Cr)			<0.050		mg/L		0.05	28-JAN-17
Lead (Pb)			<0.050		mg/L		0.05	28-JAN-17
Selenium (Se)			<0.025		mg/L		0.025	28-JAN-17
Uranium (U)			<0.25		mg/L		0.25	28-JAN-17
WG2471016-5	MS	WG2471016-3						
Silver (Ag)			125.7		%		50-150	28-JAN-17
Arsenic (As)			104.7		%		50-150	28-JAN-17
Boron (B)			104.4		%		50-150	28-JAN-17
Barium (Ba)			100.3		%		50-150	28-JAN-17
Cadmium (Cd)			103.5		%		50-150	28-JAN-17
Chromium (Cr)			103.5		%		50-150	28-JAN-17
Lead (Pb)			96.9		%		50-150	28-JAN-17
Selenium (Se)			104.8		%		50-150	28-JAN-17
Uranium (U)			95.0		%		50-150	28-JAN-17

Quality Control Report

Workorder: L1883739

Report Date: 30-JAN-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Jim Millard

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.

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 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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L1883739-COFC

DOC Number: 14 -

Page 1 of 1

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NA ID# 0276, 109 E. 104, January 20

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 23-FEB-17
Report Date: 27-FEB-17 15:00 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1893693
Project P.O. #: 4500017476
Job Reference: MS-ASH-147
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

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

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

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D.L. - The reporting limit.

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Quality Control Report

Workorder: L1893693

Report Date: 27-FEB-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3660703							
WG2484322-3	DUP	L1892718-8						
% Moisture		1.97	1.92		%	2.4	20	24-FEB-17
WG2484322-2	LCS							
% Moisture			99.96		%		90-110	24-FEB-17
WG2484322-1	MB							
% Moisture			<0.10		%		0.1	24-FEB-17
HG-TCLP-WT		Waste						
Batch	R3662178							
WG2485649-3	DUP	L1894115-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	27-FEB-17
WG2485649-2	LCS							
Mercury (Hg)			102.0		%		70-130	27-FEB-17
WG2485649-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	27-FEB-17
WG2485649-4	MS	L1894115-1						
Mercury (Hg)			95.7		%		50-140	27-FEB-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-FEB-17
WG2485559-2	LCS							
Zinc (Zn)-Total			92.8		%		70-130	27-FEB-17
WG2485559-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	27-FEB-17
WG2485559-5	MS	WG2485559-3						
Zinc (Zn)-Total			112.2		%		70-130	27-FEB-17
MET-TCLP-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-FEB-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	27-FEB-17
Barium (Ba)		1.16	1.11		mg/L	4.4	40	27-FEB-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-FEB-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17



Environmental

Quality Control Report

Workorder: L1893693

Report Date: 27-FEB-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	27-FEB-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	27-FEB-17
WG2485559-2	LCS							
Silver (Ag)			103.0		%		70-130	27-FEB-17
Arsenic (As)			97.6		%		70-130	27-FEB-17
Boron (B)			96.3		%		70-130	27-FEB-17
Barium (Ba)			100.5		%		70-130	27-FEB-17
Cadmium (Cd)			98.0		%		70-130	27-FEB-17
Chromium (Cr)			96.3		%		70-130	27-FEB-17
Lead (Pb)			102.7		%		70-130	27-FEB-17
Selenium (Se)			97.1		%		70-130	27-FEB-17
Uranium (U)			100.6		%		70-130	27-FEB-17
WG2485559-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	27-FEB-17
Arsenic (As)			<0.050		mg/L		0.05	27-FEB-17
Boron (B)			<2.5		mg/L		2.5	27-FEB-17
Barium (Ba)			<0.50		mg/L		0.5	27-FEB-17
Cadmium (Cd)			<0.0050		mg/L		0.005	27-FEB-17
Chromium (Cr)			<0.050		mg/L		0.05	27-FEB-17
Lead (Pb)			<0.050		mg/L		0.05	27-FEB-17
Selenium (Se)			<0.025		mg/L		0.025	27-FEB-17
Uranium (U)			<0.25		mg/L		0.25	27-FEB-17
WG2485559-5	MS	WG2485559-3						
Silver (Ag)			131.5		%		50-150	27-FEB-17
Arsenic (As)			117.1		%		50-150	27-FEB-17
Boron (B)			103.6		%		50-150	27-FEB-17
Barium (Ba)			95.7		%		50-150	27-FEB-17
Cadmium (Cd)			113.0		%		50-150	27-FEB-17
Chromium (Cr)			115.1		%		50-150	27-FEB-17
Lead (Pb)			115.4		%		50-150	27-FEB-17
Selenium (Se)			113.9		%		50-150	27-FEB-17
Uranium (U)			116.9		%		50-150	27-FEB-17

Quality Control Report

Workorder: L1893693

Report Date: 27-FEB-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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.

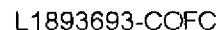
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COC Number: 14 -

Page 1 of 1

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

NA-EM-0325a v06 Enrol/04 January 2011



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 29-MAY-17
Report Date: 05-JUN-17 16:16 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1933805
Project P.O. #: 4500027854
Job Reference: MS-ASH-148
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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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:

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

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

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: L1933805

Report Date: 05-JUN-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3737670							
WG2538923-3	DUP	L1934592-2						
% Moisture		19.3	19.1		%	0.9	20	01-JUN-17
WG2538923-2	LCS							
% Moisture			99.8		%		90-110	01-JUN-17
WG2538923-1	MB							
% Moisture			<0.10		%		0.1	01-JUN-17
HG-TCLP-WT		Waste						
Batch	R3739837							
WG2541169-3	DUP	L1934148-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	05-JUN-17
WG2541169-2	LCS							
Mercury (Hg)			95.8		%		70-130	05-JUN-17
WG2541169-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	05-JUN-17
WG2541169-4	MS	L1934148-6						
Mercury (Hg)			92.8		%		50-140	05-JUN-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3739926							
WG2541137-4	DUP	WG2541137-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	05-JUN-17
WG2541137-2	LCS							
Zinc (Zn)-Total			90.2		%		70-130	05-JUN-17
WG2541137-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	05-JUN-17
WG2541137-5	MS	WG2541137-3						
Zinc (Zn)-Total			99.5		%		70-130	05-JUN-17
MET-TCLP-WT		Waste						
Batch	R3739926							
WG2541137-4	DUP	WG2541137-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	05-JUN-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	05-JUN-17
Boron (B)		2.7	2.9		mg/L	5.5	40	05-JUN-17
Barium (Ba)		0.51	0.53		mg/L	3.1	40	05-JUN-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	05-JUN-17
Chromium (Cr)		0.320	0.335		mg/L	4.5	40	05-JUN-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	05-JUN-17



Environmental

Quality Control Report

Workorder: L1933805

Report Date: 05-JUN-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3739926							
WG2541137-4	DUP	WG2541137-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	05-JUN-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	05-JUN-17
WG2541137-2	LCS							
Silver (Ag)			104.8		%		70-130	05-JUN-17
Arsenic (As)			95.9		%		70-130	05-JUN-17
Boron (B)			95.7		%		70-130	05-JUN-17
Barium (Ba)			95.7		%		70-130	05-JUN-17
Cadmium (Cd)			96.5		%		70-130	05-JUN-17
Chromium (Cr)			94.7		%		70-130	05-JUN-17
Lead (Pb)			99.7		%		70-130	05-JUN-17
Selenium (Se)			98.7		%		70-130	05-JUN-17
Uranium (U)			102.0		%		70-130	05-JUN-17
WG2541137-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	05-JUN-17
Arsenic (As)			<0.050		mg/L		0.05	05-JUN-17
Boron (B)			<2.5		mg/L		2.5	05-JUN-17
Barium (Ba)			<0.50		mg/L		0.5	05-JUN-17
Cadmium (Cd)			<0.0050		mg/L		0.005	05-JUN-17
Chromium (Cr)			<0.050		mg/L		0.05	05-JUN-17
Lead (Pb)			<0.050		mg/L		0.05	05-JUN-17
Selenium (Se)			<0.025		mg/L		0.025	05-JUN-17
Uranium (U)			<0.25		mg/L		0.25	05-JUN-17
WG2541137-5	MS	WG2541137-3						
Silver (Ag)			122.0		%		50-150	05-JUN-17
Arsenic (As)			106.6		%		50-150	05-JUN-17
Boron (B)			92.5		%		50-150	05-JUN-17
Barium (Ba)			104.3		%		50-150	05-JUN-17
Cadmium (Cd)			98.5		%		50-150	05-JUN-17
Chromium (Cr)			103.5		%		50-150	05-JUN-17
Lead (Pb)			96.1		%		50-150	05-JUN-17
Selenium (Se)			102.8		%		50-150	05-JUN-17
Uranium (U)			99.8		%		50-150	05-JUN-17

Quality Control Report

Workorder: L1933805

Report Date: 05-JUN-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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.

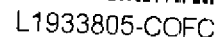
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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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COC Number: 15 -

Page 1 of 1

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

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OCTOBER 2015 FROM



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 06-JUN-17
Report Date: 19-JUN-17 07:20 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1940428
Project P.O. #: 4500027854
Job Reference: MP-ASH-200
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1940428

Report Date: 19-JUN-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3748978							
WG2548958-3	DUP	L1941926-2						
% Moisture		10.2	10.2		%	0.3	20	15-JUN-17
WG2548958-2	LCS							
% Moisture			99.9		%		90-110	15-JUN-17
WG2548958-1	MB							
% Moisture			<0.10		%		0.1	15-JUN-17
HG-TCLP-WT		Waste						
Batch	R3748440							
WG2549154-3	DUP	L1941307-9						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	15-JUN-17
WG2549154-2	LCS							
Mercury (Hg)			101.0		%		70-130	15-JUN-17
WG2549154-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	15-JUN-17
WG2549154-4	MS	L1940428-1						
Mercury (Hg)			92.5		%		50-140	15-JUN-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3748997							
WG2549174-4	DUP	WG2549174-3						
Zinc (Zn)-Total		6.5	6.5		mg/L	0.2	30	15-JUN-17
WG2549174-2	LCS							
Zinc (Zn)-Total			94.2		%		70-130	16-JUN-17
WG2549174-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	15-JUN-17
WG2549174-5	MS	WG2549174-3						
Zinc (Zn)-Total			93.1		%		70-130	15-JUN-17
MET-TCLP-WT		Waste						
Batch	R3748997							
WG2549174-4	DUP	WG2549174-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	15-JUN-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	15-JUN-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	15-JUN-17
Barium (Ba)		0.62	0.65		mg/L	4.0	40	15-JUN-17
Cadmium (Cd)		0.0570	0.0600		mg/L	5.1	40	15-JUN-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	15-JUN-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	15-JUN-17

Quality Control Report

Workorder: L1940428

Report Date: 19-JUN-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3748997							
WG2549174-4	DUP	WG2549174-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	15-JUN-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	15-JUN-17
WG2549174-2	LCS							
Silver (Ag)			102.1		%		70-130	15-JUN-17
Arsenic (As)			98.3		%		70-130	15-JUN-17
Boron (B)			93.9		%		70-130	15-JUN-17
Barium (Ba)			103.2		%		70-130	15-JUN-17
Cadmium (Cd)			94.8		%		70-130	15-JUN-17
Chromium (Cr)			95.9		%		70-130	15-JUN-17
Lead (Pb)			101.6		%		70-130	15-JUN-17
Selenium (Se)			95.7		%		70-130	15-JUN-17
Uranium (U)			98.4		%		70-130	15-JUN-17
WG2549174-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	15-JUN-17
Arsenic (As)			<0.050		mg/L		0.05	15-JUN-17
Boron (B)			<2.5		mg/L		2.5	15-JUN-17
Barium (Ba)			<0.50		mg/L		0.5	15-JUN-17
Cadmium (Cd)			<0.0050		mg/L		0.005	15-JUN-17
Chromium (Cr)			<0.050		mg/L		0.05	15-JUN-17
Lead (Pb)			<0.050		mg/L		0.05	15-JUN-17
Selenium (Se)			<0.025		mg/L		0.025	15-JUN-17
Uranium (U)			<0.25		mg/L		0.25	15-JUN-17
WG2549174-5	MS	WG2549174-3						
Silver (Ag)			88.9		%		50-150	15-JUN-17
Arsenic (As)			101.0		%		50-150	15-JUN-17
Boron (B)			79.9		%		50-150	15-JUN-17
Barium (Ba)			97.7		%		50-150	15-JUN-17
Cadmium (Cd)			88.5		%		50-150	15-JUN-17
Chromium (Cr)			95.4		%		50-150	15-JUN-17
Lead (Pb)			85.9		%		50-150	15-JUN-17
Selenium (Se)			97.9		%		50-150	15-JUN-17
Uranium (U)			88.5		%		50-150	15-JUN-17

Quality Control Report

Workorder: L1940428

Report Date: 19-JUN-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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.

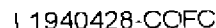
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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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COC Number: 15 -

Page 1 of 1

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 FRIDAY



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 06-JUL-17
Report Date: 10-JUL-17 13:13 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1954151
Project P.O. #: 4500027854
Job Reference: MS-ASH-150
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chromium (Cr)	MS-B	L1954151-1

Sample Parameter Qualifier key listed:

Qualifier	Description
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**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1954151

Report Date: 10-JUL-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3767715							
WG2565009-3	DUP	L1954710-1						
% Moisture		20.4	20.4		%	0.1	20	08-JUL-17
WG2565009-2	LCS							
% Moisture			101.1		%		90-110	08-JUL-17
WG2565009-1	MB							
% Moisture			<0.10		%		0.1	08-JUL-17
HG-TCLP-WT		Waste						
Batch	R3767198							
WG2565125-3	DUP	L1953366-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	07-JUL-17
WG2565125-2	LCS							
Mercury (Hg)			102.0		%		70-130	07-JUL-17
WG2565125-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	07-JUL-17
WG2565125-4	MS	L1953892-1						
Mercury (Hg)			88.6		%		50-140	07-JUL-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	07-JUL-17
WG2565095-2	LCS							
Zinc (Zn)-Total			93.3		%		70-130	07-JUL-17
WG2565095-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	07-JUL-17
WG2565095-5	MS	WG2565095-3						
Zinc (Zn)-Total			109.4		%		70-130	07-JUL-17
MET-TCLP-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	07-JUL-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	07-JUL-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	07-JUL-17
Barium (Ba)		0.95	0.93		mg/L	2.2	40	07-JUL-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	07-JUL-17
Chromium (Cr)		1.50	1.49		mg/L	0.3	40	07-JUL-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	07-JUL-17

Quality Control Report

Workorder: L1954151

Report Date: 10-JUL-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	07-JUL-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	07-JUL-17
WG2565095-2	LCS							
Silver (Ag)			105.8		%		70-130	07-JUL-17
Arsenic (As)			100.4		%		70-130	07-JUL-17
Boron (B)			96.6		%		70-130	07-JUL-17
Barium (Ba)			104.3		%		70-130	07-JUL-17
Cadmium (Cd)			99.7		%		70-130	07-JUL-17
Chromium (Cr)			100.6		%		70-130	07-JUL-17
Lead (Pb)			99.5		%		70-130	07-JUL-17
Selenium (Se)			104.7		%		70-130	07-JUL-17
Uranium (U)			101.8		%		70-130	07-JUL-17
WG2565095-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	07-JUL-17
Arsenic (As)			<0.050		mg/L		0.05	07-JUL-17
Boron (B)			<2.5		mg/L		2.5	07-JUL-17
Barium (Ba)			<0.50		mg/L		0.5	07-JUL-17
Cadmium (Cd)			<0.0050		mg/L		0.005	07-JUL-17
Chromium (Cr)			<0.050		mg/L		0.05	07-JUL-17
Lead (Pb)			<0.050		mg/L		0.05	07-JUL-17
Selenium (Se)			<0.025		mg/L		0.025	07-JUL-17
Uranium (U)			<0.25		mg/L		0.25	07-JUL-17
WG2565095-5	MS	WG2565095-3						
Silver (Ag)			126.4		%		50-150	07-JUL-17
Arsenic (As)			113.5		%		50-150	07-JUL-17
Boron (B)			101.0		%		50-150	07-JUL-17
Barium (Ba)			114.1		%		50-150	07-JUL-17
Cadmium (Cd)			106.9		%		50-150	07-JUL-17
Chromium (Cr)			N/A	MS-B	%		-	07-JUL-17
Lead (Pb)			104.2		%		50-150	07-JUL-17
Selenium (Se)			116.0		%		50-150	07-JUL-17
Uranium (U)			108.4		%		50-150	07-JUL-17

Quality Control Report

Workorder: L1954151

Report Date: 10-JUL-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Allan Knight

Page 3 of 3

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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.

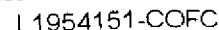
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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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Page 1 of 1



REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 EDITION



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 03-AUG-17
Report Date: 15-AUG-17 07:48 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1969598
Project P.O. #: 4500027854
Job Reference: MS-ASH-151
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Zinc (Zn)-Total	MS-B	L1969598-1
Matrix Spike	Selenium (Se)	MS-B	L1969598-1

Sample Parameter Qualifier key listed:

Qualifier	Description
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**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample
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: L1969598

Report Date: 15-AUG-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3799449							
WG2591265-3	DUP	L1973880-7						
% Moisture		16.7	16.4		%	2.1	20	15-AUG-17
WG2591265-2	LCS							
% Moisture			99.5		%		90-110	15-AUG-17
WG2591265-1	MB							
% Moisture			<0.10		%		0.1	15-AUG-17
HG-TCLP-WT		Waste						
Batch	R3797527							
WG2591389-3	DUP	L1971090-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	14-AUG-17
WG2591389-2	LCS							
Mercury (Hg)			101.0		%		70-130	14-AUG-17
WG2591389-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	14-AUG-17
WG2591389-4	MS	L1971291-1						
Mercury (Hg)			92.8		%		50-140	14-AUG-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3796057							
WG2590295-4	DUP	WG2590295-3						
Zinc (Zn)-Total		127	119		mg/L	6.5	30	11-AUG-17
WG2590295-2	LCS							
Zinc (Zn)-Total			99.5		%		70-130	11-AUG-17
WG2590295-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	11-AUG-17
WG2590295-5	MS	WG2590295-3						
Zinc (Zn)-Total			N/A	MS-B	%		-	11-AUG-17
MET-TCLP-WT		Waste						
Batch	R3796057							
WG2590295-4	DUP	WG2590295-3						
Silver (Ag)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	11-AUG-17
Arsenic (As)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	11-AUG-17
Boron (B)		<25	<25	RPD-NA	mg/L	N/A	40	11-AUG-17
Barium (Ba)		<5.0	<5.0	RPD-NA	mg/L	N/A	40	11-AUG-17
Cadmium (Cd)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	11-AUG-17
Chromium (Cr)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	11-AUG-17
Lead (Pb)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	11-AUG-17



Quality Control Report

Workorder: L1969598

Report Date: 15-AUG-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3796057							
WG2590295-4	DUP	WG2590295-3						
Selenium (Se)		39.0	36.6		mg/L	6.3	40	11-AUG-17
Uranium (U)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	11-AUG-17
WG2590295-2	LCS							
Silver (Ag)			109.7		%		70-130	11-AUG-17
Arsenic (As)			104.1		%		70-130	11-AUG-17
Boron (B)			97.1		%		70-130	11-AUG-17
Barium (Ba)			105.1		%		70-130	11-AUG-17
Cadmium (Cd)			102.4		%		70-130	11-AUG-17
Chromium (Cr)			102.4		%		70-130	11-AUG-17
Lead (Pb)			105.6		%		70-130	11-AUG-17
Selenium (Se)			101.0		%		70-130	11-AUG-17
Uranium (U)			110.2		%		70-130	11-AUG-17
WG2590295-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	11-AUG-17
Arsenic (As)			<0.050		mg/L		0.05	11-AUG-17
Boron (B)			<2.5		mg/L		2.5	11-AUG-17
Barium (Ba)			<0.50		mg/L		0.5	11-AUG-17
Cadmium (Cd)			<0.0050		mg/L		0.005	11-AUG-17
Chromium (Cr)			<0.050		mg/L		0.05	11-AUG-17
Lead (Pb)			<0.050		mg/L		0.05	11-AUG-17
Selenium (Se)			<0.025		mg/L		0.025	11-AUG-17
Uranium (U)			<0.25		mg/L		0.25	11-AUG-17
WG2590295-5	MS	WG2590295-3						
Silver (Ag)			85.1		%		50-150	11-AUG-17
Arsenic (As)			82.9		%		50-150	11-AUG-17
Boron (B)			78.3		%		50-150	11-AUG-17
Barium (Ba)			81.6		%		50-150	11-AUG-17
Cadmium (Cd)			80.4		%		50-150	11-AUG-17
Chromium (Cr)			82.5		%		50-150	11-AUG-17
Lead (Pb)			83.1		%		50-150	11-AUG-17
Selenium (Se)			N/A	MS-B	%		-	11-AUG-17
Uranium (U)			83.2		%		50-150	11-AUG-17

Quality Control Report

Workorder: L1969598

Report Date: 15-AUG-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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 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.



ALS Environmental

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1969598-COFC

COC Number: 15 -

Page 1 of 1

Report To Contact and company name below will appear on the final report		Report Format / Distribution Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL) Quality Control (QC) Report with Report ☒ YES ☐ NO ☐ Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		all E&P TATs with your AM - surcharges will apply Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply 4 day [P4] ☐ 3 day [P3] ☐ 2 day [P2] ☐ 1 Business day [E1] ☐ Same Day, Weekend or Statutory holiday [E0] ☐ Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm For tests that can not be performed according to the service level selected, you will be contacted.	
Company: Baffinland Iron Mines Corp. Contact: Allan Knight Phone: 647-253-0596 EXT 6010 Company address below will appear on the final report Street: 2275 Upper Middle Rd. E., Suite #300 City/Province: Oakville, ON Postal Code: L6H 0C3		Email 1 or Fax: bimcore@alsglobal.com Email 2: bimww@alsglobal.com Email 3:		Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	
Invoice To: Same as Report To ☒ YES ☐ NO Copy of Invoice with Report ☐ YES ☒ NO Company: Contact:		Invoice Distribution Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: ap@baffinland.com Email 2: commercial@baffinland.com		BIM-TCLP-MET1-WT (TCLP Hg,Ag,As,Ba,Cd,Cr,Pb,Se,Zn) Number of Containers	
Project Information ALS Account # / Quote #: 23642 / Q42455 Job #: MS-ASH-151 PO / AFE: 4500027854 LSD:		Oil and Gas Required Fields (client use) AFE/Cost Center: PO# Major/Minor Code: Routing Code: Requisitioner: Location:			
ALS Lab Work Order # (lab use only) L1969598		ALS Contact: Sampler: ES/KB			
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)		
1	MS-ASH-151	2-Aug-17	10:30	Waste	R
Drinking Water (DW) Samples¹ (client use) Are samples taken from a Regulated DW System? ☐ YES ☒ NO Are samples for human drinking water use? ☐ YES ☒ NO		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)		SAMPLE CONDITION AS RECEIVED (lab use only) Frozen ☐ SIF Observations Yes ☐ No ☐ Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐ Cooling Initiated ☐ INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 10.3	
SHIPMENT RELEASE (client use) Released By: Bryan Lukeman Date: 17 08 03 Time: 12:00		INITIAL SHIPMENT RECEPTION (lab use only) Received by: Date: Time:		FINAL SHIPMENT RECEPTION (lab use only) Received by: 8/10 Aug 17 Date: 10 Aug 17 Time: 930	

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

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OCTOBER 2015 FRONT

AP



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 19-OCT-17
Report Date: 24-OCT-17 07:20 (MT)
Version: FINAL REV. 2

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2009650
Project P.O. #: 4500027854
Job Reference: MS-ASH-153
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2009650-1	MS-ASH-153							
Sampled By:	DS/AD on 17-OCT-17 @ 12:00							
Matrix:	SOIL							
Sample Preparation								
Initial pH		12.00		0.10	pH units		21-OCT-17	R3862362
Final pH		8.47		0.10	pH units		21-OCT-17	R3862362
Physical Tests								
% Moisture		<0.10		0.10	%	21-OCT-17	21-OCT-17	R3862816
TCLP Metals								
Arsenic (As)		<0.050		0.050	mg/L		23-OCT-17	R3863204
Barium (Ba)		<0.50		0.50	mg/L		23-OCT-17	R3863204
Boron (B)		3.5		2.5	mg/L		23-OCT-17	R3863204
Cadmium (Cd)		<0.0050		0.0050	mg/L		23-OCT-17	R3863204
Chromium (Cr)		<0.050		0.050	mg/L		23-OCT-17	R3863204
Lead (Pb)		<0.050		0.050	mg/L		23-OCT-17	R3863204
Mercury (Hg)		<0.00010		0.00010	mg/L		23-OCT-17	R3863111
Selenium (Se)		<0.025		0.025	mg/L		23-OCT-17	R3863204
Silver (Ag)		<0.0050		0.0050	mg/L		23-OCT-17	R3863204
Uranium (U)		<0.25		0.25	mg/L		23-OCT-17	R3863204
Zinc (Zn)-Total		<1.0		1.0	mg/L		23-OCT-17	R3863204

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2009650

Report Date: 24-OCT-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3862816							
WG2645275-3	DUP	L2010577-1						
% Moisture		3.38	3.04		%	11	20	21-OCT-17
WG2645275-2	LCS							
% Moisture			99.5		%		90-110	21-OCT-17
WG2645275-1	MB							
% Moisture			<0.10		%		0.1	21-OCT-17
HG-TCLP-WT		Waste						
Batch	R3863111							
WG2646000-3	DUP	L2009658-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	23-OCT-17
WG2646000-2	LCS							
Mercury (Hg)			92.4		%		70-130	23-OCT-17
WG2646000-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	23-OCT-17
WG2646000-4	MS	L2009658-1						
Mercury (Hg)			82.3		%		50-140	23-OCT-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3863204							
WG2645831-4	DUP	WG2645831-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	23-OCT-17
WG2645831-2	LCS							
Zinc (Zn)-Total			92.9		%		70-130	23-OCT-17
WG2645831-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	23-OCT-17
WG2645831-5	MS	WG2645831-3						
Zinc (Zn)-Total			101.5		%		70-130	23-OCT-17
MET-TCLP-WT		Waste						
Batch	R3863204							
WG2645831-4	DUP	WG2645831-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	23-OCT-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	23-OCT-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	23-OCT-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	23-OCT-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	23-OCT-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	23-OCT-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	23-OCT-17



Quality Control Report

Workorder: L2009650

Report Date: 24-OCT-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3863204							
WG2645831-4	DUP	WG2645831-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	23-OCT-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	23-OCT-17
WG2645831-2	LCS							
Silver (Ag)			99.96		%		70-130	23-OCT-17
Arsenic (As)			99.2		%		70-130	23-OCT-17
Boron (B)			92.8		%		70-130	23-OCT-17
Barium (Ba)			100.2		%		70-130	23-OCT-17
Cadmium (Cd)			97.5		%		70-130	23-OCT-17
Chromium (Cr)			98.8		%		70-130	23-OCT-17
Lead (Pb)			100.5		%		70-130	23-OCT-17
Selenium (Se)			99.97		%		70-130	23-OCT-17
Uranium (U)			97.0		%		70-130	23-OCT-17
WG2645831-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	23-OCT-17
Arsenic (As)			<0.050		mg/L		0.05	23-OCT-17
Boron (B)			<2.5		mg/L		2.5	23-OCT-17
Barium (Ba)			<0.50		mg/L		0.5	23-OCT-17
Cadmium (Cd)			<0.0050		mg/L		0.005	23-OCT-17
Chromium (Cr)			<0.050		mg/L		0.05	23-OCT-17
Lead (Pb)			<0.050		mg/L		0.05	23-OCT-17
Selenium (Se)			<0.025		mg/L		0.025	23-OCT-17
Uranium (U)			<0.25		mg/L		0.25	23-OCT-17
WG2645831-5	MS	WG2645831-3						
Silver (Ag)			126.9		%		50-150	23-OCT-17
Arsenic (As)			103.6		%		50-150	23-OCT-17
Boron (B)			91.7		%		50-150	23-OCT-17
Barium (Ba)			100.8		%		50-150	23-OCT-17
Cadmium (Cd)			103.8		%		50-150	23-OCT-17
Chromium (Cr)			102.1		%		50-150	23-OCT-17
Lead (Pb)			97.7		%		50-150	23-OCT-17
Selenium (Se)			105.6		%		50-150	23-OCT-17
Uranium (U)			99.1		%		50-150	23-OCT-17

Quality Control Report

Workorder: L2009650

Report Date: 24-OCT-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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.



www.alsglobal.com

Report To		Report Format / Distribution			Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply													
Company:	Baffinland Iron Mines Corp.	Select Report Format:	☒ PDF	☒ EXCEL	☒ EDD (DIGITAL)	Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply												
Contact:	Allan Knight	Quality Control (QC) Report with Report	☒ YES	☐ NO		PROPERTY (Business Days)		4 day [P4]		☐	EMERGENCY		1 Business day [E1]		☐			
Phone:	647-253-0596 EXT 6010	☐ Compare Results to Criteria on Report - provide details below if box checked				3 day [P3]		☐			Same Day, Weekend or Statutory holiday [E0]		☐					
Company address below will appear on the final report		Select Distribution:	☒ EMAIL	☐ MAIL	☐ FAX	2 day [P2]		☐										
Street:	2275 Upper Middle Rd. E., Suite #300	Email 1 or Fax	bimcore@alsglobal.com			Date and Time Required for all E&P TATs:					dd-mmm-yy hh:mm							
City/Province:	Oakville, ON	Email 2	bimwww@alsglobal.com			For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code:	L6H 0C3	Email 3				Analysis Request												
Invoice To	Same as Report To ☒ YES ☐ NO	Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below													
	Copy of Invoice with Report ☐ YES ☒ NO	Select Invoice Distribution:	☒ EMAIL	☐ MAIL	☐ FAX													
Company:		Email 1 or Fax	ap@baffinland.com			BIM-TCLP-MET1-WT (TCLP Hg, Ag, As, Ba, Cd, Cr, Pb, Sn, Zn) -												
Contact:		Email 2	commercial@baffinland.com															
Project Information		Oil and Gas Required Fields (client use)																
ALS Account # / Quote #:	23642 /Q42455	AFE/Cost Center:	PO#															
Job #:	MS-ASH-152	Major/Minor Code:	Routing Code:		Number of Containers													
PO / AFE:	4500027854	Requisitioner:																
LSD:		Location:																
ALS Lab Work Order # (lab use only)	L2009650AR	ALS Contact:	Sampler: DS/AD															
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type														
	MS-ASH-153	17-Oct-17	12:00	Soil	R													
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)													
Are samples taken from a Regulated DW System? ☐ YES ☒ NO					Frozen ☒ SIF Observations Yes ☐ No ☐													
Are samples for human drinking water use? ☐ YES ☒ NO					Ice Packs ☒ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐													
					Cooling Initiated ☒													
					INITIAL COOLER TEMPERATURES °C													
					FINAL COOLER TEMPERATURES °C													
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)													
Bryan Lukeman	October 17, 2017; 15:00	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:										

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2014 (CONT.)

2



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 19-SEP-17
Report Date: 22-SEP-17 11:03 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1993244
Project P.O. #: 4500027854
Job Reference: MS-ASH-152
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1993244

Report Date: 22-SEP-17

Page 1 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3835506							
WG2621658-3	DUP	L1992988-11						
% Moisture		4.50	4.38		%	2.7	20	21-SEP-17
WG2621658-2	LCS							
% Moisture			98.6		%		90-110	21-SEP-17
WG2621658-1	MB							
% Moisture			<0.10		%		0.1	21-SEP-17
HG-TCLP-WT		Waste						
Batch	R3834833							
WG2621394-3	DUP	L1993109-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	21-SEP-17
WG2621394-2	LCS							
Mercury (Hg)			98.4		%		70-130	21-SEP-17
WG2621394-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	21-SEP-17
WG2621394-4	MS	L1993149-1						
Mercury (Hg)			92.8		%		50-140	21-SEP-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3833515							
WG2620451-4	DUP	WG2620451-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	20-SEP-17
WG2620451-2	LCS							
Zinc (Zn)-Total			93.7		%		70-130	20-SEP-17
WG2620451-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	20-SEP-17
WG2620451-5	MS	WG2620451-3						
Zinc (Zn)-Total			100.9		%		70-130	20-SEP-17
MET-TCLP-WT		Waste						
Batch	R3833515							
WG2620451-4	DUP	WG2620451-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	20-SEP-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	20-SEP-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	20-SEP-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	20-SEP-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	20-SEP-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	20-SEP-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	20-SEP-17



Quality Control Report

Workorder: L1993244

Report Date: 22-SEP-17

Page 2 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3833515							
WG2620451-4	DUP	WG2620451-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	20-SEP-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	20-SEP-17
WG2620451-2	LCS							
Silver (Ag)			100.0		%		70-130	20-SEP-17
Arsenic (As)			100.8		%		70-130	20-SEP-17
Boron (B)			88.1		%		70-130	20-SEP-17
Barium (Ba)			101.0		%		70-130	20-SEP-17
Cadmium (Cd)			93.1		%		70-130	20-SEP-17
Chromium (Cr)			100.2		%		70-130	20-SEP-17
Lead (Pb)			96.5		%		70-130	20-SEP-17
Selenium (Se)			94.7		%		70-130	20-SEP-17
Uranium (U)			97.7		%		70-130	20-SEP-17
WG2620451-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	20-SEP-17
Arsenic (As)			<0.050		mg/L		0.05	20-SEP-17
Boron (B)			<2.5		mg/L		2.5	20-SEP-17
Barium (Ba)			<0.50		mg/L		0.5	20-SEP-17
Cadmium (Cd)			<0.0050		mg/L		0.005	20-SEP-17
Chromium (Cr)			<0.050		mg/L		0.05	20-SEP-17
Lead (Pb)			<0.050		mg/L		0.05	20-SEP-17
Selenium (Se)			<0.025		mg/L		0.025	20-SEP-17
Uranium (U)			<0.25		mg/L		0.25	20-SEP-17
WG2620451-5	MS	WG2620451-3						
Silver (Ag)			122.7		%		50-150	20-SEP-17
Arsenic (As)			106.8		%		50-150	20-SEP-17
Boron (B)			87.8		%		50-150	20-SEP-17
Barium (Ba)			103.3		%		50-150	20-SEP-17
Cadmium (Cd)			102.1		%		50-150	20-SEP-17
Chromium (Cr)			103.5		%		50-150	20-SEP-17
Lead (Pb)			96.3		%		50-150	20-SEP-17
Selenium (Se)			103.8		%		50-150	20-SEP-17
Uranium (U)			96.5		%		50-150	20-SEP-17

Quality Control Report

Workorder: L1993244

Report Date: 22-SEP-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 4

Contact: Allan Knight

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: L1993244

Report Date: 22-SEP-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Allan Knight

Page 4 of 4

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
% Moisture	1	02-SEP-17 15:00	21-SEP-17 15:18	14	19	days	EHTR

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 L1993244 were received on 19-SEP-17 10:00.

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.



Canada Toll Free: 1 800 668 9878

L1993244-COFC

Page 1 of 1

Report To Contact and company name below will appear on the final report		Report Format / Distribution				Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply															
Company: Baffinland Iron Mines Corp.		Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL)				Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply															
Contact: Allan Knight		Quality Control (QC) Report with Report ☒ YES ☐ NO				PRIORITY (Business Days)															
Phone: 647-253-0596 EXT 6010		☐ Compare Results to Criteria on Report - provide details below if box checked				4 day [P4] ☐															
Company address below will appear on the final report		Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX				3 day [P3] ☐															
Street: 2275 Upper Middle Rd. E., Suite #300		Email 1 or Fax bimcore@alsglobal.com				2 day [P2] ☐															
City/Province: Oakville, ON		Email 2 bimww@alsglobal.com				EMERGENCY															
Postal Code: L6H 0C3		Email 3				1 Business day [E1] ☐															
Invoice To Same as Report To ☒ YES ☐ NO		Invoice Distribution				Same Day, Weekend or Statutory holiday [E0] ☐															
Copy of Invoice with Report ☐ YES ☒ NO		Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX				Date and Time Required for all E&P TATs: dd-mmm-yy hh-mm															
Company:		Email 1 or Fax ap@baffinland.com				For tests that can not be performed according to the service level selected, you will be contacted.															
Contact:		Email 2 commercial@baffinland.com				Analysis Request															
Project Information		Oil and Gas Required Fields (client use)				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below															
ALS Account # / Quote #: 23642 /Q42455		AFE/Cost Center: PO#				BIM-TCPL-MET1-WT (TCLP Hg Ag As Ba Cd Cr Pb Se Zn)															
Job #: MS-ASH-152		Major/Minor Code: Routing Code:																			
PO / AFE: 4500027854		Requisitioner:																			
LSD:		Location:																			
ALS Lab Work Order # (lab use only) 11993244		ALS Contact:		Sampler: BP		Number of Containers															
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)														Time (hh:mm)		Sample Type	
MS-ASH-152				2-Sep-17														15:00		Soil	
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)				SAMPLE CONDITION AS RECEIVED (lab use only)															
Are samples taken from a Regulated DW System? ☐ YES ☒ NO						Frozen ☐ SIF Observations Yes ☐ No ☐															
Are samples for human drinking water use? ☐ YES ☒ NO						Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐															
						Cooling Initiated ☐															
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)				INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 19.2															
Brendan Peachey		Sept 3 2017; 15:00		Time:		Received by:		Date:		Time:		Received by:		Date:		Time:					

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 EDITION



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 15-DEC-17
Report Date: 21-DEC-17 08:38 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2035939
Project P.O. #: 4500027854
Job Reference: MS-ASH-154
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2035939-1	MS-ASH-154							
Sampled By:	K.B. on 12-DEC-17 @ 11:00							
Matrix:	SOIL							
Sample Preparation								
Initial pH		12.24		0.10	pH units		19-DEC-17	R3916591
Final pH		7.35		0.10	pH units		19-DEC-17	R3916591
Physical Tests								
% Moisture		11.9		0.10	%	15-DEC-17	15-DEC-17	R3914940
TCLP Metals								
Arsenic (As)		<0.050		0.050	mg/L		19-DEC-17	R3916218
Barium (Ba)		<0.50		0.50	mg/L		19-DEC-17	R3916218
Boron (B)		3.1		2.5	mg/L		19-DEC-17	R3916218
Cadmium (Cd)		<0.0050		0.0050	mg/L		19-DEC-17	R3916218
Chromium (Cr)		0.761		0.050	mg/L		19-DEC-17	R3916218
Lead (Pb)		<0.050		0.050	mg/L		19-DEC-17	R3916218
Mercury (Hg)		<0.00010		0.00010	mg/L		20-DEC-17	R3916530
Selenium (Se)		<0.025		0.025	mg/L		19-DEC-17	R3916218
Silver (Ag)		<0.0050		0.0050	mg/L		19-DEC-17	R3916218
Uranium (U)		<0.25		0.25	mg/L		19-DEC-17	R3916218
Zinc (Zn)-Total		<1.0		1.0	mg/L		19-DEC-17	R3916218

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2035939

Report Date: 21-DEC-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3914940							
WG2685236-3	DUP	L2035047-2						
% Moisture		14.8	14.4		%	2.5	20	15-DEC-17
WG2685236-2	LCS							
% Moisture			99.8		%		90-110	15-DEC-17
WG2685236-1	MB							
% Moisture			<0.10		%		0.1	15-DEC-17
HG-TCLP-WT		Waste						
Batch	R3916530							
WG2687127-3	DUP	L2036506-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	20-DEC-17
WG2687127-2	LCS							
Mercury (Hg)			102.0		%		70-130	20-DEC-17
WG2687127-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	20-DEC-17
WG2687127-4	MS	L2036506-1						
Mercury (Hg)			96.8		%		50-140	20-DEC-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3916218							
WG2687217-4	DUP	WG2687217-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	19-DEC-17
WG2687217-2	LCS							
Zinc (Zn)-Total			102.4		%		70-130	19-DEC-17
WG2687217-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	19-DEC-17
WG2687217-5	MS	WG2687217-3						
Zinc (Zn)-Total			91.1		%		70-130	19-DEC-17
MET-TCLP-WT		Waste						
Batch	R3916218							
WG2687217-4	DUP	WG2687217-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	19-DEC-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	19-DEC-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	19-DEC-17
Barium (Ba)		1.35	1.10		mg/L	20	40	19-DEC-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	19-DEC-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	19-DEC-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	19-DEC-17

Quality Control Report

Workorder: L2035939

Report Date: 21-DEC-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3916218							
WG2687217-4	DUP	WG2687217-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	19-DEC-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	19-DEC-17
WG2687217-2	LCS							
Silver (Ag)			107.7		%		70-130	19-DEC-17
Arsenic (As)			105.2		%		70-130	19-DEC-17
Boron (B)			94.3		%		70-130	19-DEC-17
Barium (Ba)			111.7		%		70-130	19-DEC-17
Cadmium (Cd)			107.6		%		70-130	19-DEC-17
Chromium (Cr)			106.4		%		70-130	19-DEC-17
Lead (Pb)			105.4		%		70-130	19-DEC-17
Selenium (Se)			104.6		%		70-130	19-DEC-17
Uranium (U)			108.4		%		70-130	19-DEC-17
WG2687217-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	19-DEC-17
Arsenic (As)			<0.050		mg/L		0.05	19-DEC-17
Boron (B)			<2.5		mg/L		2.5	19-DEC-17
Barium (Ba)			<0.50		mg/L		0.5	19-DEC-17
Cadmium (Cd)			<0.0050		mg/L		0.005	19-DEC-17
Chromium (Cr)			<0.050		mg/L		0.05	19-DEC-17
Lead (Pb)			<0.050		mg/L		0.05	19-DEC-17
Selenium (Se)			<0.025		mg/L		0.025	19-DEC-17
Uranium (U)			<0.25		mg/L		0.25	19-DEC-17
WG2687217-5	MS	WG2687217-3						
Silver (Ag)			112.6		%		50-150	19-DEC-17
Arsenic (As)			95.3		%		50-150	19-DEC-17
Boron (B)			83.8		%		50-150	19-DEC-17
Barium (Ba)			97.5		%		50-150	19-DEC-17
Cadmium (Cd)			97.4		%		50-150	19-DEC-17
Chromium (Cr)			94.9		%		50-150	19-DEC-17
Lead (Pb)			91.5		%		50-150	19-DEC-17
Selenium (Se)			97.0		%		50-150	19-DEC-17
Uranium (U)			91.9		%		50-150	19-DEC-17

Quality Control Report

Workorder: L2035939

Report Date: 21-DEC-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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.



Canada Toll Free: 1 800 668 9878



L2035939-COFC

Page 1 of 1

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 ERM



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Jim Millard
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 26-JAN-17
Report Date: 30-JAN-17 15:50 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1883733
Project P.O. #: 4500017476
Job Reference: MP-ASH-195
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1883733-1	MP-ASH-195							
Sampled By:	KB on 21-JAN-17 @ 14:00							
Matrix:	SOIL							
Sample Preparation								
Initial pH		12.26		0.10	pH units		26-JAN-17	R3642796
Final pH		10.80		0.10	pH units		26-JAN-17	R3642796
Physical Tests								
% Moisture		0.76		0.10	%	27-JAN-17	27-JAN-17	R3641721
TCLP Metals								
Arsenic (As)		<0.050		0.050	mg/L		28-JAN-17	R3641975
Barium (Ba)		0.82		0.50	mg/L		28-JAN-17	R3641975
Boron (B)		<2.5		2.5	mg/L		28-JAN-17	R3641975
Cadmium (Cd)		<0.0090	DLUI	0.0090	mg/L		28-JAN-17	R3641975
Chromium (Cr)		3.70		0.050	mg/L		28-JAN-17	R3641975
Lead (Pb)		<0.050		0.050	mg/L		28-JAN-17	R3641975
Mercury (Hg)		<0.00010		0.00010	mg/L		27-JAN-17	R3641466
Selenium (Se)		<0.025		0.025	mg/L		28-JAN-17	R3641975
Silver (Ag)		<0.0050		0.0050	mg/L		28-JAN-17	R3641975
Uranium (U)		<0.25		0.25	mg/L		28-JAN-17	R3641975
Zinc (Zn)-Total		<1.0		1.0	mg/L		28-JAN-17	R3641975

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

Sample Parameter Qualifier key listed:

Qualifier	Description
DLUI	Detection Limit Raised: Unknown Interference generated an apparent false positive test result.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1883733

Report Date: 30-JAN-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Jim Millard

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3641721							
WG2470660-3	DUP	L1883945-5						
% Moisture		21.3	21.7		%	1.8	20	27-JAN-17
WG2470660-2	LCS							
% Moisture			99.8		%		90-110	27-JAN-17
WG2470660-1	MB							
% Moisture			<0.10		%		0.1	27-JAN-17
HG-TCLP-WT		Waste						
Batch	R3641466							
WG2470922-3	DUP	L1883066-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	27-JAN-17
WG2470922-2	LCS							
Mercury (Hg)			102.0		%		70-130	27-JAN-17
WG2470922-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	27-JAN-17
WG2470922-4	MS	L1882501-1						
Mercury (Hg)			96.7		%		50-140	27-JAN-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	28-JAN-17
WG2471016-2	LCS							
Zinc (Zn)-Total			92.8		%		70-130	28-JAN-17
WG2471016-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	28-JAN-17
WG2471016-5	MS	WG2471016-3						
Zinc (Zn)-Total			99.3		%		70-130	28-JAN-17
MET-TCLP-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	28-JAN-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	28-JAN-17
Barium (Ba)		0.57	0.56		mg/L	0.9	40	28-JAN-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	28-JAN-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	28-JAN-17



Quality Control Report

Workorder: L1883733

Report Date: 30-JAN-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Jim Millard

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3641975							
WG2471016-4	DUP	WG2471016-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	28-JAN-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	28-JAN-17
WG2471016-2	LCS							
Silver (Ag)			100.6		%		70-130	28-JAN-17
Arsenic (As)			97.0		%		70-130	28-JAN-17
Boron (B)			100.4		%		70-130	28-JAN-17
Barium (Ba)			95.8		%		70-130	28-JAN-17
Cadmium (Cd)			95.9		%		70-130	28-JAN-17
Chromium (Cr)			97.5		%		70-130	28-JAN-17
Lead (Pb)			97.9		%		70-130	28-JAN-17
Selenium (Se)			97.6		%		70-130	28-JAN-17
Uranium (U)			97.0		%		70-130	28-JAN-17
WG2471016-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	28-JAN-17
Arsenic (As)			<0.050		mg/L		0.05	28-JAN-17
Boron (B)			<2.5		mg/L		2.5	28-JAN-17
Barium (Ba)			<0.50		mg/L		0.5	28-JAN-17
Cadmium (Cd)			<0.0050		mg/L		0.005	28-JAN-17
Chromium (Cr)			<0.050		mg/L		0.05	28-JAN-17
Lead (Pb)			<0.050		mg/L		0.05	28-JAN-17
Selenium (Se)			<0.025		mg/L		0.025	28-JAN-17
Uranium (U)			<0.25		mg/L		0.25	28-JAN-17
WG2471016-5	MS	WG2471016-3						
Silver (Ag)			125.7		%		50-150	28-JAN-17
Arsenic (As)			104.7		%		50-150	28-JAN-17
Boron (B)			104.4		%		50-150	28-JAN-17
Barium (Ba)			100.3		%		50-150	28-JAN-17
Cadmium (Cd)			103.5		%		50-150	28-JAN-17
Chromium (Cr)			103.5		%		50-150	28-JAN-17
Lead (Pb)			96.9		%		50-150	28-JAN-17
Selenium (Se)			104.8		%		50-150	28-JAN-17
Uranium (U)			95.0		%		50-150	28-JAN-17

Quality Control Report

Workorder: L1883733

Report Date: 30-JAN-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Jim Millard

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.

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.

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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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L1883733-COFC

COC Number: 14 -

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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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NA FM 0376-109 Encl 52 January 20

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 23-FEB-17
Report Date: 27-FEB-17 15:01 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1893696
Project P.O. #: 4500017476
Job Reference: MP-ASH-196
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1893696-1	MP-ASH-196							
Sampled By:	KB on 15-FEB-17 @ 11:00							
Matrix:	SOIL							
Sample Preparation								
Initial pH		12.11		0.10	pH units		24-FEB-17	R3662058
Final pH		12.38		0.10	pH units		24-FEB-17	R3662058
Physical Tests								
% Moisture		<0.10		0.10	%	23-FEB-17	24-FEB-17	R3660703
TCLP Metals								
Arsenic (As)		<0.050		0.050	mg/L		27-FEB-17	R3662151
Barium (Ba)		0.80		0.50	mg/L		27-FEB-17	R3662151
Boron (B)		<2.5		2.5	mg/L		27-FEB-17	R3662151
Cadmium (Cd)		<0.0050		0.0050	mg/L		27-FEB-17	R3662151
Chromium (Cr)		1.22		0.050	mg/L		27-FEB-17	R3662151
Lead (Pb)		<0.050		0.050	mg/L		27-FEB-17	R3662151
Mercury (Hg)		<0.00010		0.00010	mg/L		27-FEB-17	R3662178
Selenium (Se)		<0.025		0.025	mg/L		27-FEB-17	R3662151
Silver (Ag)		<0.0050		0.0050	mg/L		27-FEB-17	R3662151
Uranium (U)		<0.25		0.25	mg/L		27-FEB-17	R3662151
Zinc (Zn)-Total		<1.0		1.0	mg/L		27-FEB-17	R3662151

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1893696

Report Date: 27-FEB-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3660703							
WG2484322-3	DUP	L1892718-8						
% Moisture		1.97	1.92		%	2.4	20	24-FEB-17
WG2484322-2	LCS							
% Moisture			99.96		%		90-110	24-FEB-17
WG2484322-1	MB							
% Moisture			<0.10		%		0.1	24-FEB-17
HG-TCLP-WT		Waste						
Batch	R3662178							
WG2485649-3	DUP	L1894115-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	27-FEB-17
WG2485649-2	LCS							
Mercury (Hg)			102.0		%		70-130	27-FEB-17
WG2485649-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	27-FEB-17
WG2485649-4	MS	L1894115-1						
Mercury (Hg)			95.7		%		50-140	27-FEB-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-FEB-17
WG2485559-2	LCS							
Zinc (Zn)-Total			92.8		%		70-130	27-FEB-17
WG2485559-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	27-FEB-17
WG2485559-5	MS	WG2485559-3						
Zinc (Zn)-Total			112.2		%		70-130	27-FEB-17
MET-TCLP-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-FEB-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	27-FEB-17
Barium (Ba)		1.16	1.11		mg/L	4.4	40	27-FEB-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-FEB-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-FEB-17



Environmental

Quality Control Report

Workorder: L1893696

Report Date: 27-FEB-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3662151							
WG2485559-4	DUP	WG2485559-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	27-FEB-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	27-FEB-17
WG2485559-2	LCS							
Silver (Ag)			103.0		%		70-130	27-FEB-17
Arsenic (As)			97.6		%		70-130	27-FEB-17
Boron (B)			96.3		%		70-130	27-FEB-17
Barium (Ba)			100.5		%		70-130	27-FEB-17
Cadmium (Cd)			98.0		%		70-130	27-FEB-17
Chromium (Cr)			96.3		%		70-130	27-FEB-17
Lead (Pb)			102.7		%		70-130	27-FEB-17
Selenium (Se)			97.1		%		70-130	27-FEB-17
Uranium (U)			100.6		%		70-130	27-FEB-17
WG2485559-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	27-FEB-17
Arsenic (As)			<0.050		mg/L		0.05	27-FEB-17
Boron (B)			<2.5		mg/L		2.5	27-FEB-17
Barium (Ba)			<0.50		mg/L		0.5	27-FEB-17
Cadmium (Cd)			<0.0050		mg/L		0.005	27-FEB-17
Chromium (Cr)			<0.050		mg/L		0.05	27-FEB-17
Lead (Pb)			<0.050		mg/L		0.05	27-FEB-17
Selenium (Se)			<0.025		mg/L		0.025	27-FEB-17
Uranium (U)			<0.25		mg/L		0.25	27-FEB-17
WG2485559-5	MS	WG2485559-3						
Silver (Ag)			131.5		%		50-150	27-FEB-17
Arsenic (As)			117.1		%		50-150	27-FEB-17
Boron (B)			103.6		%		50-150	27-FEB-17
Barium (Ba)			95.7		%		50-150	27-FEB-17
Cadmium (Cd)			113.0		%		50-150	27-FEB-17
Chromium (Cr)			115.1		%		50-150	27-FEB-17
Lead (Pb)			115.4		%		50-150	27-FEB-17
Selenium (Se)			113.9		%		50-150	27-FEB-17
Uranium (U)			116.9		%		50-150	27-FEB-17

Quality Control Report

Workorder: L1893696

Report Date: 27-FEB-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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.

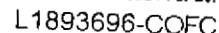
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M4-BIA-03364 v00 FrontFM January 2011

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 09-MAR-17
Report Date: 12-MAR-17 10:55 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1898971
Project P.O. #: 4500017476
Job Reference: MP-ASH-197
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1898971-1 Sampled By: MP-ASH-197 EA on 03-MAR-17 @ 11:43 Matrix: SOIL Sample Preparation Initial pH Final pH Physical Tests % Moisture TCLP Metals Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (Cr) Lead (Pb) Mercury (Hg) Selenium (Se) Silver (Ag) Uranium (U) Zinc (Zn)-Total								

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

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chromium (Cr)	MS-B	L1898971-1

Sample Parameter Qualifier key listed:

Qualifier	Description
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**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

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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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

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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 weight of sample

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.

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Quality Control Report

Workorder: L1898971

Report Date: 12-MAR-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3673492							
WG2491983-3	DUP	L1898790-4						
% Moisture		11.5	12.4		%	7.8	20	11-MAR-17
WG2491983-2	LCS							
% Moisture			96.5		%		90-110	11-MAR-17
WG2491983-1	MB							
% Moisture			<0.10		%		0.1	11-MAR-17
HG-TCLP-WT		Waste						
Batch	R3673089							
WG2492053-3	DUP	L1898701-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	10-MAR-17
WG2492053-2	LCS							
Mercury (Hg)			100.0		%		70-130	10-MAR-17
WG2492053-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	10-MAR-17
WG2492053-4	MS	L1898971-1						
Mercury (Hg)			91.0		%		50-140	10-MAR-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3673210							
WG2492043-4	DUP	WG2492043-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	10-MAR-17
WG2492043-2	LCS							
Zinc (Zn)-Total			90.0		%		70-130	10-MAR-17
WG2492043-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	10-MAR-17
WG2492043-5	MS	WG2492043-3						
Zinc (Zn)-Total			97.3		%		70-130	10-MAR-17
MET-TCLP-WT		Waste						
Batch	R3673210							
WG2492043-4	DUP	WG2492043-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	10-MAR-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	10-MAR-17
Boron (B)		2.8	2.9		mg/L	5.3	40	10-MAR-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	10-MAR-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	10-MAR-17
Chromium (Cr)		3.39	3.52		mg/L	3.6	40	10-MAR-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	10-MAR-17



Environmental

Quality Control Report

Workorder: L1898971

Report Date: 12-MAR-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3673210							
WG2492043-4	DUP	WG2492043-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	10-MAR-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	10-MAR-17
WG2492043-2	LCS							
Silver (Ag)			98.0		%		70-130	10-MAR-17
Arsenic (As)			99.2		%		70-130	10-MAR-17
Boron (B)			94.1		%		70-130	10-MAR-17
Barium (Ba)			105.1		%		70-130	10-MAR-17
Cadmium (Cd)			96.0		%		70-130	10-MAR-17
Chromium (Cr)			94.7		%		70-130	10-MAR-17
Lead (Pb)			101.3		%		70-130	10-MAR-17
Selenium (Se)			94.0		%		70-130	10-MAR-17
Uranium (U)			98.9		%		70-130	10-MAR-17
WG2492043-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	10-MAR-17
Arsenic (As)			<0.050		mg/L		0.05	10-MAR-17
Boron (B)			<2.5		mg/L		2.5	10-MAR-17
Barium (Ba)			<0.50		mg/L		0.5	10-MAR-17
Cadmium (Cd)			<0.0050		mg/L		0.005	10-MAR-17
Chromium (Cr)			<0.050		mg/L		0.05	10-MAR-17
Lead (Pb)			<0.050		mg/L		0.05	10-MAR-17
Selenium (Se)			<0.025		mg/L		0.025	10-MAR-17
Uranium (U)			<0.25		mg/L		0.25	10-MAR-17
WG2492043-5	MS	WG2492043-3						
Silver (Ag)			120.2		%		50-150	10-MAR-17
Arsenic (As)			105.6		%		50-150	10-MAR-17
Boron (B)			98.7		%		50-150	10-MAR-17
Barium (Ba)			110.6		%		50-150	10-MAR-17
Cadmium (Cd)			100.4		%		50-150	10-MAR-17
Chromium (Cr)			N/A	MS-B	%		-	10-MAR-17
Lead (Pb)			94.5		%		50-150	10-MAR-17
Selenium (Se)			99.6		%		50-150	10-MAR-17
Uranium (U)			98.2		%		50-150	10-MAR-17

Quality Control Report

Workorder: L1898971

Report Date: 12-MAR-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1898971-COFC

COC Number: 14 -

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MA-E4-0328a v03 ExemptA - June 2010 20

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Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 30-MAR-17
Report Date: 03-APR-17 13:56 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1906892
Project P.O. #: 4500027854
Job Reference: MP-ASH-198
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1906892-1	MP-ASH-198							
Sampled By:	KB on 27-MAR-17 @ 13:15							
Matrix:	SOIL							
Sample Preparation								
Initial pH		11.84		0.10	pH units		31-MAR-17	R3691163
Final pH		9.55		0.10	pH units		31-MAR-17	R3691163
Physical Tests								
% Moisture		<0.10		0.10	%	30-MAR-17	31-MAR-17	R3688369
TCLP Metals								
Arsenic (As)		<0.050		0.050	mg/L		03-APR-17	R3691616
Barium (Ba)		<0.50		0.50	mg/L		03-APR-17	R3691616
Boron (B)		<2.5		2.5	mg/L		03-APR-17	R3691616
Cadmium (Cd)		<0.0050		0.0050	mg/L		03-APR-17	R3691616
Chromium (Cr)		<0.050		0.050	mg/L		03-APR-17	R3691616
Lead (Pb)		<0.050		0.050	mg/L		03-APR-17	R3691616
Mercury (Hg)		<0.00010		0.00010	mg/L		03-APR-17	R3691186
Selenium (Se)		<0.025		0.025	mg/L		03-APR-17	R3691616
Silver (Ag)		<0.0050		0.0050	mg/L		03-APR-17	R3691616
Uranium (U)		<0.25		0.25	mg/L		03-APR-17	R3691616
Zinc (Zn)-Total		<1.0		1.0	mg/L		03-APR-17	R3691616

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

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
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Sample Parameter Qualifier key listed:

Qualifier	Description
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Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample
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: L1906892

Report Date: 03-APR-17

Page 1 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3688369							
WG2502810-3	DUP	L1906616-13						
% Moisture		15.5	15.2		%	1.8	20	31-MAR-17
WG2502810-2	LCS							
% Moisture			101.0		%		90-110	31-MAR-17
WG2502810-1	MB							
% Moisture			<0.10		%		0.1	31-MAR-17
HG-TCLP-WT		Waste						
Batch	R3691186							
WG2504475-8	DUP	L1906770-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	03-APR-17
WG2504475-6	LCS							
Mercury (Hg)			99.3		%		70-130	03-APR-17
WG2504475-5	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	03-APR-17
WG2504475-7	MS	L1906187-3						
Mercury (Hg)			99.7		%		50-140	03-APR-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3691616							
WG2504341-4	DUP	WG2504341-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	03-APR-17
WG2504341-2	LCS							
Zinc (Zn)-Total			90.7		%		70-130	03-APR-17
WG2504341-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	03-APR-17
WG2504341-5	MS	WG2504341-3						
Zinc (Zn)-Total			101.1		%		70-130	03-APR-17
MET-TCLP-WT		Waste						
Batch	R3691616							
WG2504341-4	DUP	WG2504341-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	03-APR-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	03-APR-17
Barium (Ba)		0.57	0.57		mg/L	0.9	40	03-APR-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	03-APR-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17



Quality Control Report

Workorder: L1906892

Report Date: 03-APR-17

Page 2 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3691616							
WG2504341-4	DUP	WG2504341-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	03-APR-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	03-APR-17
WG2504341-6	DUP	L1906770-1						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	03-APR-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	03-APR-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	03-APR-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	03-APR-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	03-APR-17
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	03-APR-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	03-APR-17
WG2504341-2	LCS							
Silver (Ag)			98.6		%		70-130	03-APR-17
Arsenic (As)			93.3		%		70-130	03-APR-17
Boron (B)			89.5		%		70-130	03-APR-17
Barium (Ba)			100.3		%		70-130	03-APR-17
Cadmium (Cd)			99.7		%		70-130	03-APR-17
Chromium (Cr)			93.4		%		70-130	03-APR-17
Lead (Pb)			96.9		%		70-130	03-APR-17
Selenium (Se)			93.2		%		70-130	03-APR-17
Uranium (U)			100.8		%		70-130	03-APR-17
WG2504341-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	03-APR-17
Arsenic (As)			<0.050		mg/L		0.05	03-APR-17
Boron (B)			<2.5		mg/L		2.5	03-APR-17
Barium (Ba)			<0.50		mg/L		0.5	03-APR-17
Cadmium (Cd)			<0.0050		mg/L		0.005	03-APR-17
Chromium (Cr)			<0.050		mg/L		0.05	03-APR-17
Lead (Pb)			<0.050		mg/L		0.05	03-APR-17
Selenium (Se)			<0.025		mg/L		0.025	03-APR-17
Uranium (U)			<0.25		mg/L		0.25	03-APR-17
WG2504341-5	MS	WG2504341-3						
Silver (Ag)			129.4		%		50-150	03-APR-17



Quality Control Report

Workorder: L1906892

Report Date: 03-APR-17

Page 3 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3691616							
WG2504341-5	MS	WG2504341-3						
Arsenic (As)			107.6		%		50-150	03-APR-17
Boron (B)			96.5		%		50-150	03-APR-17
Barium (Ba)			110.2		%		50-150	03-APR-17
Cadmium (Cd)			110.9		%		50-150	03-APR-17
Chromium (Cr)			105.5		%		50-150	03-APR-17
Lead (Pb)			105.6		%		50-150	03-APR-17
Selenium (Se)			105.9		%		50-150	03-APR-17
Uranium (U)			107.8		%		50-150	03-APR-17

Quality Control Report

Workorder: L1906892

Report Date: 03-APR-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 4 of 4

Contact: Allan Knight

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
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. 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.

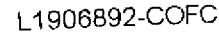
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



Canada Toll Free: 1 800 668 9878



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[illegible]

NA-FM-CTG6 v09 Édition 04 - January 2014

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 29-APR-17
Report Date: 05-MAY-17 14:19 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1920533
Project P.O. #: 4500027854
Job Reference: MP-ASH-196
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1920533

Report Date: 05-MAY-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3715309							
WG2522373-3	DUP	L1921275-1						
% Moisture		4.35	4.19		%	3.8	20	05-MAY-17
WG2522373-2	LCS							
% Moisture			99.8		%		90-110	05-MAY-17
WG2522373-1	MB							
% Moisture			<0.10		%		0.1	05-MAY-17
HG-TCLP-WT		Waste						
Batch	R3715561							
WG2522744-3	DUP	L1920357-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	05-MAY-17
WG2522744-2	LCS							
Mercury (Hg)			96.4		%		70-130	05-MAY-17
WG2522744-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	05-MAY-17
WG2522744-4	MS	L1920533-1						
Mercury (Hg)			91.3		%		50-140	05-MAY-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3715589							
WG2522756-4	DUP	WG2522756-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	05-MAY-17
WG2522756-2	LCS							
Zinc (Zn)-Total			96.8		%		70-130	05-MAY-17
WG2522756-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	05-MAY-17
WG2522756-5	MS	WG2522756-3						
Zinc (Zn)-Total			100.4		%		70-130	05-MAY-17
MET-TCLP-WT		Waste						
Batch	R3715589							
WG2522756-4	DUP	WG2522756-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	05-MAY-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	05-MAY-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	05-MAY-17
Barium (Ba)		0.57	0.71		mg/L	22	40	05-MAY-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	05-MAY-17
Chromium (Cr)		0.917	1.18		mg/L	25	40	05-MAY-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	05-MAY-17

Quality Control Report

Workorder: L1920533

Report Date: 05-MAY-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3715589							
WG2522756-4	DUP	WG2522756-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	05-MAY-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	05-MAY-17
WG2522756-2	LCS							
Silver (Ag)			102.0		%		70-130	05-MAY-17
Arsenic (As)			100.5		%		70-130	05-MAY-17
Boron (B)			95.5		%		70-130	05-MAY-17
Barium (Ba)			101.2		%		70-130	05-MAY-17
Cadmium (Cd)			101.4		%		70-130	05-MAY-17
Chromium (Cr)			101.6		%		70-130	05-MAY-17
Lead (Pb)			97.7		%		70-130	05-MAY-17
Selenium (Se)			100.9		%		70-130	05-MAY-17
Uranium (U)			103.2		%		70-130	05-MAY-17
WG2522756-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	05-MAY-17
Arsenic (As)			<0.050		mg/L		0.05	05-MAY-17
Boron (B)			<2.5		mg/L		2.5	05-MAY-17
Barium (Ba)			<0.50		mg/L		0.5	05-MAY-17
Cadmium (Cd)			<0.0050		mg/L		0.005	05-MAY-17
Chromium (Cr)			<0.050		mg/L		0.05	05-MAY-17
Lead (Pb)			<0.050		mg/L		0.05	05-MAY-17
Selenium (Se)			<0.025		mg/L		0.025	05-MAY-17
Uranium (U)			<0.25		mg/L		0.25	05-MAY-17
WG2522756-5	MS	WG2522756-3						
Silver (Ag)			119.4		%		50-150	05-MAY-17
Arsenic (As)			105.8		%		50-150	05-MAY-17
Boron (B)			97.4		%		50-150	05-MAY-17
Barium (Ba)			102.1		%		50-150	05-MAY-17
Cadmium (Cd)			98.6		%		50-150	05-MAY-17
Chromium (Cr)			104.5		%		50-150	05-MAY-17
Lead (Pb)			93.4		%		50-150	05-MAY-17
Selenium (Se)			101.6		%		50-150	05-MAY-17
Uranium (U)			100.7		%		50-150	05-MAY-17

Quality Control Report

Workorder: L1920533

Report Date: 05-MAY-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

Hold Time Exceedances:

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

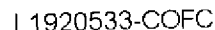
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where 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 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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COC Number: 14 -

Page 1 of 1

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REFER TO BACK PAGE FOR ALL LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

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NA-EIA-0075a v02 Final/EI, 09/14/04 204



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 03-JUN-17
Report Date: 13-JUN-17 16:15 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1937989
Project P.O. #: 4500027854
Job Reference: MP-ASH-200
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1937989

Report Date: 13-JUN-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3743304							
WG2544287-3	DUP	L1935779-21						
% Moisture		5.76	5.89		%	2.3	20	09-JUN-17
WG2544287-2	LCS							
% Moisture			100.2		%		90-110	09-JUN-17
WG2544287-1	MB							
% Moisture			<0.10		%		0.1	09-JUN-17
HG-TCLP-WT		Waste						
Batch	R3743530							
WG2544888-3	DUP	L1938446-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	09-JUN-17
WG2544888-2	LCS							
Mercury (Hg)			101.0		%		70-130	09-JUN-17
WG2544888-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	09-JUN-17
WG2544888-4	MS	L1937989-1						
Mercury (Hg)			88.7		%		50-140	09-JUN-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3744567							
WG2545171-4	DUP	WG2545171-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	09-JUN-17
WG2545171-2	LCS							
Zinc (Zn)-Total			92.4		%		70-130	09-JUN-17
WG2545171-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	09-JUN-17
WG2545171-5	MS	WG2545171-3						
Zinc (Zn)-Total			95.7		%		70-130	09-JUN-17
MET-TCLP-WT		Waste						
Batch	R3744567							
WG2545171-4	DUP	WG2545171-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	09-JUN-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	09-JUN-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	09-JUN-17
Barium (Ba)		0.70	0.69		mg/L	1.1	40	09-JUN-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	09-JUN-17
Chromium (Cr)		0.259	0.257		mg/L	0.5	40	09-JUN-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	09-JUN-17



Quality Control Report

Workorder: L1937989

Report Date: 13-JUN-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3744567							
WG2545171-4	DUP	WG2545171-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	09-JUN-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	09-JUN-17
WG2545171-2	LCS							
Silver (Ag)			104.5		%		70-130	09-JUN-17
Arsenic (As)			96.9		%		70-130	09-JUN-17
Boron (B)			94.3		%		70-130	09-JUN-17
Barium (Ba)			97.7		%		70-130	09-JUN-17
Cadmium (Cd)			97.9		%		70-130	09-JUN-17
Chromium (Cr)			94.7		%		70-130	09-JUN-17
Lead (Pb)			90.9		%		70-130	09-JUN-17
Selenium (Se)			94.9		%		70-130	09-JUN-17
Uranium (U)			94.4		%		70-130	09-JUN-17
WG2545171-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	09-JUN-17
Arsenic (As)			<0.050		mg/L		0.05	09-JUN-17
Boron (B)			<2.5		mg/L		2.5	09-JUN-17
Barium (Ba)			<0.50		mg/L		0.5	09-JUN-17
Cadmium (Cd)			<0.0050		mg/L		0.005	09-JUN-17
Chromium (Cr)			<0.050		mg/L		0.05	09-JUN-17
Lead (Pb)			<0.050		mg/L		0.05	09-JUN-17
Selenium (Se)			<0.025		mg/L		0.025	09-JUN-17
Uranium (U)			<0.25		mg/L		0.25	09-JUN-17
WG2545171-5	MS	WG2545171-3						
Silver (Ag)			116.8		%		50-150	09-JUN-17
Arsenic (As)			99.4		%		50-150	09-JUN-17
Boron (B)			101.3		%		50-150	09-JUN-17
Barium (Ba)			96.7		%		50-150	09-JUN-17
Cadmium (Cd)			98.4		%		50-150	09-JUN-17
Chromium (Cr)			95.0		%		50-150	09-JUN-17
Lead (Pb)			94.3		%		50-150	09-JUN-17
Selenium (Se)			96.3		%		50-150	09-JUN-17
Uranium (U)			97.2		%		50-150	09-JUN-17

Quality Control Report

Workorder: L1937989

Report Date: 13-JUN-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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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L1937989-COFC

Page 1 of 1

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OCTOBER 2015 PAGE 10

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Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 06-JUL-17
Report Date: 10-JUL-17 13:12 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1953892
Project P.O. #: 4500027854
Job Reference: MP-ASH-201
C of C Numbers:
Legal Site Desc:

Wayne Smith, C.Chem., C.E.T.
Client Services Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1953892-1 Sampled By: BP/DS on 30-JUN-17 @ 17:30 Matrix: WATER Sample Preparation Initial pH Final pH Physical Tests % Moisture TCLP Metals Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (Cr) Lead (Pb) Mercury (Hg) Selenium (Se) Silver (Ag) Uranium (U) Zinc (Zn)-Total	MP-ASH-201							

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

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chromium (Cr)	MS-B	L1953892-1

Sample Parameter Qualifier key listed:

Qualifier	Description
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**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1953892

Report Date: 10-JUL-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3766962							
WG2564411-3	DUP	L1953985-3						
% Moisture		8.20	7.99		%	2.6	20	07-JUL-17
WG2564411-2	LCS							
% Moisture			100.1		%		90-110	07-JUL-17
WG2564411-1	MB							
% Moisture			<0.10		%		0.1	07-JUL-17
HG-TCLP-WT		Waste						
Batch	R3767198							
WG2565125-3	DUP	L1953366-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	07-JUL-17
WG2565125-2	LCS							
Mercury (Hg)			102.0		%		70-130	07-JUL-17
WG2565125-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	07-JUL-17
WG2565125-4	MS	L1953892-1						
Mercury (Hg)			88.6		%		50-140	07-JUL-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	07-JUL-17
WG2565095-2	LCS							
Zinc (Zn)-Total			93.3		%		70-130	07-JUL-17
WG2565095-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	07-JUL-17
WG2565095-5	MS	WG2565095-3						
Zinc (Zn)-Total			109.4		%		70-130	07-JUL-17
MET-TCLP-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	07-JUL-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	07-JUL-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	07-JUL-17
Barium (Ba)		0.95	0.93		mg/L	2.2	40	07-JUL-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	07-JUL-17
Chromium (Cr)		1.50	1.49		mg/L	0.3	40	07-JUL-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	07-JUL-17



Environmental

Quality Control Report

Workorder: L1953892

Report Date: 10-JUL-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3767646							
WG2565095-4	DUP	WG2565095-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	07-JUL-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	07-JUL-17
WG2565095-2	LCS							
Silver (Ag)			105.8		%		70-130	07-JUL-17
Arsenic (As)			100.4		%		70-130	07-JUL-17
Boron (B)			96.6		%		70-130	07-JUL-17
Barium (Ba)			104.3		%		70-130	07-JUL-17
Cadmium (Cd)			99.7		%		70-130	07-JUL-17
Chromium (Cr)			100.6		%		70-130	07-JUL-17
Lead (Pb)			99.5		%		70-130	07-JUL-17
Selenium (Se)			104.7		%		70-130	07-JUL-17
Uranium (U)			101.8		%		70-130	07-JUL-17
WG2565095-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	07-JUL-17
Arsenic (As)			<0.050		mg/L		0.05	07-JUL-17
Boron (B)			<2.5		mg/L		2.5	07-JUL-17
Barium (Ba)			<0.50		mg/L		0.5	07-JUL-17
Cadmium (Cd)			<0.0050		mg/L		0.005	07-JUL-17
Chromium (Cr)			<0.050		mg/L		0.05	07-JUL-17
Lead (Pb)			<0.050		mg/L		0.05	07-JUL-17
Selenium (Se)			<0.025		mg/L		0.025	07-JUL-17
Uranium (U)			<0.25		mg/L		0.25	07-JUL-17
WG2565095-5	MS	WG2565095-3						
Silver (Ag)			126.4		%		50-150	07-JUL-17
Arsenic (As)			113.5		%		50-150	07-JUL-17
Boron (B)			101.0		%		50-150	07-JUL-17
Barium (Ba)			114.1		%		50-150	07-JUL-17
Cadmium (Cd)			106.9		%		50-150	07-JUL-17
Chromium (Cr)			N/A	MS-B	%		-	07-JUL-17
Lead (Pb)			104.2		%		50-150	07-JUL-17
Selenium (Se)			116.0		%		50-150	07-JUL-17
Uranium (U)			108.4		%		50-150	07-JUL-17

Quality Control Report

Workorder: L1953892

Report Date: 10-JUL-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3
Contact: Allan Knight

Page 3 of 3

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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.

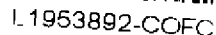
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Page 1 of 1

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OCTOBER 2015 FROM

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 16-AUG-17
Report Date: 21-AUG-17 13:11 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1973854
Project P.O. #: 4500027854
Job Reference: MP-ASH-202
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

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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 weight of sample

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: L1973854

Report Date: 21-AUG-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3803028							
WG2594228-3	DUP	L1972101-13						
% Moisture		8.33	8.60		%	3.2	20	17-AUG-17
WG2594228-2	LCS							
% Moisture			99.6		%		90-110	17-AUG-17
WG2594228-1	MB							
% Moisture			<0.10		%		0.1	17-AUG-17
HG-TCLP-WT		Waste						
Batch	R3803407							
WG2595575-3	DUP	L1973854-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	18-AUG-17
WG2595575-2	LCS							
Mercury (Hg)			96.8		%		70-130	18-AUG-17
WG2595575-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	18-AUG-17
WG2595575-4	MS	L1975876-2						
Mercury (Hg)			93.0		%		50-140	18-AUG-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3804754							
WG2596887-4	DUP	WG2596887-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	21-AUG-17
WG2596887-2	LCS							
Zinc (Zn)-Total			96.2		%		70-130	21-AUG-17
WG2596887-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	21-AUG-17
WG2596887-5	MS	WG2596887-3						
Zinc (Zn)-Total			96.2		%		70-130	21-AUG-17
MET-TCLP-WT		Waste						
Batch	R3804754							
WG2596887-4	DUP	WG2596887-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	21-AUG-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	21-AUG-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	21-AUG-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	21-AUG-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	21-AUG-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	21-AUG-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	21-AUG-17

Quality Control Report

Workorder: L1973854

Report Date: 21-AUG-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3804754							
WG2596887-4	DUP	WG2596887-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	21-AUG-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	21-AUG-17
WG2596887-2	LCS							
Silver (Ag)			102.6		%		70-130	21-AUG-17
Arsenic (As)			97.2		%		70-130	21-AUG-17
Boron (B)			95.9		%		70-130	21-AUG-17
Barium (Ba)			97.7		%		70-130	21-AUG-17
Cadmium (Cd)			99.5		%		70-130	21-AUG-17
Chromium (Cr)			100.2		%		70-130	21-AUG-17
Lead (Pb)			98.9		%		70-130	21-AUG-17
Selenium (Se)			96.9		%		70-130	21-AUG-17
Uranium (U)			100.3		%		70-130	21-AUG-17
WG2596887-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	21-AUG-17
Arsenic (As)			<0.050		mg/L		0.05	21-AUG-17
Boron (B)			<2.5		mg/L		2.5	21-AUG-17
Barium (Ba)			<0.50		mg/L		0.5	21-AUG-17
Cadmium (Cd)			<0.0050		mg/L		0.005	21-AUG-17
Chromium (Cr)			<0.050		mg/L		0.05	21-AUG-17
Lead (Pb)			<0.050		mg/L		0.05	21-AUG-17
Selenium (Se)			<0.025		mg/L		0.025	21-AUG-17
Uranium (U)			<0.25		mg/L		0.25	21-AUG-17
WG2596887-5	MS	WG2596887-3						
Silver (Ag)			117.1		%		50-150	21-AUG-17
Arsenic (As)			100.5		%		50-150	21-AUG-17
Boron (B)			98.6		%		50-150	21-AUG-17
Barium (Ba)			97.9		%		50-150	21-AUG-17
Cadmium (Cd)			101.9		%		50-150	21-AUG-17
Chromium (Cr)			99.3		%		50-150	21-AUG-17
Lead (Pb)			92.2		%		50-150	21-AUG-17
Selenium (Se)			101.8		%		50-150	21-AUG-17
Uranium (U)			96.1		%		50-150	21-AUG-17

Quality Control Report

Workorder: L1973854

Report Date: 21-AUG-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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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L1973854-COFC

Report To Contact and company name below will appear on the final report Company: Baffinland Iron Mines Corp. Contact: Allan Knight Phone: 647-253-0596 EXT 6010 Company address below will appear on the final report Street: 2275 Upper Middle Rd. E., Suite #300 City/Province: Oakville, ON Postal Code: L6H 0C3 Invoice To: Same as Report To ☒ YES ☐ NO Copy of Invoice with Report ☐ YES ☒ NO Company: Contact:			Report Format / Distribution Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL) Quality Control (QC) Report with Report ☒ YES ☐ NO ☐ Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: bimcore@alsglobal.com Email 2: bimwww@alsglobal.com Email 3:			CHECK OFF THIS LIST FOR ALL E&P TATs with your AM - surcharges will apply <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply</td> </tr> <tr> <td>4 day [P4] ☐</td> <td>1 Business day [E1] ☐</td> </tr> <tr> <td>3 day [P3] ☐</td> <td>Same Day, Weekend or Statutory holiday [E0] ☐</td> </tr> <tr> <td>2 day [P2] ☒</td> <td></td> </tr> </table> Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm For tests that can not be performed according to the service level selected, you will be contacted.			Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply		4 day [P4] ☐	1 Business day [E1] ☐	3 day [P3] ☐	Same Day, Weekend or Statutory holiday [E0] ☐	2 day [P2] ☒	
Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply																
4 day [P4] ☐	1 Business day [E1] ☐															
3 day [P3] ☐	Same Day, Weekend or Statutory holiday [E0] ☐															
2 day [P2] ☒																
Project Information ALS Account # / Quote #: 23642 / Q42455 Job #: MP-ASH-202 PO / AFE: 4500027854 LSD:			Oil and Gas Required Fields (client use) AFE/Cost Center: PO# Major/Minor Code: Routing Code: Requisitioner: Location:													
ALS Lab Work Order # (lab use only) L1973854			ALS Contact: Sampler: DR/LM													
ALS Sample # (lab use only) 1	Sample Identification and/or Coordinates (This description will appear on the report) MP-ASH-202	Date (dd-mmm-yy) 9-Aug-17	Time (hh:mm) 18:30	Sample Type Waste	BIM-TCLP-MET1-WT TCLP Hg, Ag, As, Ba, Cd, Cr, Pb, Se, Zn P2											
					Number of Containers 2											
Drinking Water (DW) Samples¹ (client use) Are samples taken from a Regulated DW System? ☐ YES ☒ NO Are samples for human drinking water use? ☐ YES ☒ NO			Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)													
SHIPMENT RELEASE (client use) Released by: Dominic Ritgen Date: 17 08 09 / 20:00 Time:			INITIAL SHIPMENT RECEPTION (lab use only) Received by: Date: Time:													
FINAL SHIPMENT RECEPTION (lab use only) Received by: 16 Aug 17 Date: 16 Aug 17 Time: 15:00																

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 FRONT



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 31-AUG-17
Report Date: 08-SEP-17 11:40 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L1984233
Project P.O. #: 4500027854
Job Reference: MP-ASH-203
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L1984233

Report Date: 08-SEP-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3818214							
WG2606797-3	DUP	L1984396-3						
% Moisture		3.87	3.98		%	2.8	20	01-SEP-17
WG2606797-2	LCS							
% Moisture			100.4		%		90-110	01-SEP-17
WG2606797-1	MB							
% Moisture			<0.10		%		0.1	01-SEP-17
HG-TCLP-WT		Waste						
Batch	R3820528							
WG2609316-3	DUP	L1984233-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	06-SEP-17
WG2609316-2	LCS							
Mercury (Hg)			104.0		%		70-130	06-SEP-17
WG2609316-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	06-SEP-17
WG2609316-4	MS	L1984233-1						
Mercury (Hg)			92.1		%		50-140	06-SEP-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3820772							
WG2609151-4	DUP	WG2609151-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	06-SEP-17
WG2609151-2	LCS							
Zinc (Zn)-Total			91.0		%		70-130	06-SEP-17
WG2609151-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	06-SEP-17
WG2609151-5	MS	WG2609151-3						
Zinc (Zn)-Total			91.5		%		70-130	06-SEP-17
MET-TCLP-WT		Waste						
Batch	R3820772							
WG2609151-4	DUP	WG2609151-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	06-SEP-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	06-SEP-17
Boron (B)		3.3	3.2		mg/L	3.0	40	06-SEP-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	06-SEP-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	06-SEP-17
Chromium (Cr)		1.07	1.08		mg/L	1.1	40	06-SEP-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	06-SEP-17



Quality Control Report

Workorder: L1984233

Report Date: 08-SEP-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3820772							
WG2609151-4	DUP	WG2609151-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	06-SEP-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	06-SEP-17
WG2609151-2	LCS							
Silver (Ag)			98.4		%		70-130	06-SEP-17
Arsenic (As)			98.5		%		70-130	06-SEP-17
Boron (B)			92.7		%		70-130	06-SEP-17
Barium (Ba)			97.5		%		70-130	06-SEP-17
Cadmium (Cd)			97.1		%		70-130	06-SEP-17
Chromium (Cr)			95.9		%		70-130	06-SEP-17
Lead (Pb)			97.8		%		70-130	06-SEP-17
Selenium (Se)			93.7		%		70-130	06-SEP-17
Uranium (U)			99.7		%		70-130	06-SEP-17
WG2609151-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	06-SEP-17
Arsenic (As)			<0.050		mg/L		0.05	06-SEP-17
Boron (B)			<2.5		mg/L		2.5	06-SEP-17
Barium (Ba)			<0.50		mg/L		0.5	06-SEP-17
Cadmium (Cd)			<0.0050		mg/L		0.005	06-SEP-17
Chromium (Cr)			<0.050		mg/L		0.05	06-SEP-17
Lead (Pb)			<0.050		mg/L		0.05	06-SEP-17
Selenium (Se)			<0.025		mg/L		0.025	06-SEP-17
Uranium (U)			<0.25		mg/L		0.25	06-SEP-17
WG2609151-5	MS	WG2609151-3						
Silver (Ag)			119.9		%		50-150	06-SEP-17
Arsenic (As)			98.4		%		50-150	06-SEP-17
Boron (B)			90.3		%		50-150	06-SEP-17
Barium (Ba)			98.4		%		50-150	06-SEP-17
Cadmium (Cd)			94.1		%		50-150	06-SEP-17
Chromium (Cr)			93.8		%		50-150	06-SEP-17
Lead (Pb)			91.7		%		50-150	06-SEP-17
Selenium (Se)			97.7		%		50-150	06-SEP-17
Uranium (U)			92.9		%		50-150	06-SEP-17

Quality Control Report

Workorder: L1984233

Report Date: 08-SEP-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

Hold Time Exceedances:

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

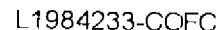
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



Canada Toll Free: 1 800 668 9878



COC Number: 14 -

Page 1 of 1

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[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-EH-932a v09 Final Ed January 2011

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 19-OCT-17
Report Date: 23-OCT-17 13:48 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2009658
Project P.O. #: 4500027854
Job Reference: MP-ASH-204
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chromium (Cr)	MS-B	L2009658-1

Sample Parameter Qualifier key listed:

Qualifier	Description
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**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).			
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2009658

Report Date: 23-OCT-17

Page 1 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3860211							
WG2643803-3	DUP	L2008518-2						
% Moisture		5.13	4.98		%	3.0	20	19-OCT-17
WG2643803-2	LCS							
% Moisture			97.2		%		90-110	19-OCT-17
WG2643803-1	MB							
% Moisture			<0.10		%		0.1	19-OCT-17
HG-TCLP-WT		Waste						
Batch	R3863111							
WG2646000-3	DUP	L2009658-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	23-OCT-17
WG2646000-2	LCS							
Mercury (Hg)			92.4		%		70-130	23-OCT-17
WG2646000-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	23-OCT-17
WG2646000-4	MS	L2009658-1						
Mercury (Hg)			82.3		%		50-140	23-OCT-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3863201							
WG2645830-4	DUP	WG2645830-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	23-OCT-17
WG2645830-2	LCS							
Zinc (Zn)-Total			97.6		%		70-130	23-OCT-17
WG2645830-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	23-OCT-17
WG2645830-5	MS	WG2645830-3						
Zinc (Zn)-Total			95.4		%		70-130	23-OCT-17
MET-TCLP-WT		Waste						
Batch	R3863201							
WG2645830-4	DUP	WG2645830-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	23-OCT-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	23-OCT-17
Boron (B)		2.9	3.0		mg/L	4.5	40	23-OCT-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	23-OCT-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	23-OCT-17
Chromium (Cr)		2.51	2.53		mg/L	0.8	40	23-OCT-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	23-OCT-17



Quality Control Report

Workorder: L2009658

Report Date: 23-OCT-17

Page 2 of 4

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3863201							
WG2645830-4	DUP	WG2645830-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	23-OCT-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	23-OCT-17
WG2645830-2	LCS							
Silver (Ag)			105.7		%		70-130	23-OCT-17
Arsenic (As)			101.0		%		70-130	23-OCT-17
Boron (B)			93.0		%		70-130	23-OCT-17
Barium (Ba)			102.9		%		70-130	23-OCT-17
Cadmium (Cd)			101.7		%		70-130	23-OCT-17
Chromium (Cr)			100.9		%		70-130	23-OCT-17
Lead (Pb)			105.5		%		70-130	23-OCT-17
Selenium (Se)			101.2		%		70-130	23-OCT-17
Uranium (U)			104.1		%		70-130	23-OCT-17
WG2645830-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	23-OCT-17
Arsenic (As)			<0.050		mg/L		0.05	23-OCT-17
Boron (B)			<2.5		mg/L		2.5	23-OCT-17
Barium (Ba)			<0.50		mg/L		0.5	23-OCT-17
Cadmium (Cd)			<0.0050		mg/L		0.005	23-OCT-17
Chromium (Cr)			<0.050		mg/L		0.05	23-OCT-17
Lead (Pb)			<0.050		mg/L		0.05	23-OCT-17
Selenium (Se)			<0.025		mg/L		0.025	23-OCT-17
Uranium (U)			<0.25		mg/L		0.25	23-OCT-17
WG2645830-5	MS	WG2645830-3						
Silver (Ag)			125.9		%		50-150	23-OCT-17
Arsenic (As)			101.7		%		50-150	23-OCT-17
Boron (B)			89.8		%		50-150	23-OCT-17
Barium (Ba)			100.8		%		50-150	23-OCT-17
Cadmium (Cd)			105.6		%		50-150	23-OCT-17
Chromium (Cr)			N/A	MS-B	%		-	23-OCT-17
Lead (Pb)			97.1		%		50-150	23-OCT-17
Selenium (Se)			104.1		%		50-150	23-OCT-17
Uranium (U)			96.1		%		50-150	23-OCT-17

Quality Control Report

Workorder: L2009658

Report Date: 23-OCT-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 4

Contact: Allan Knight

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2009658

Report Date: 23-OCT-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 4 of 4

Contact: Allan Knight

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
% Moisture	1	29-SEP-17 13:40	19-OCT-17 15:01	14	20	days	EHTR

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 L2009658 were received on 19-OCT-17 09:00.

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.



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2009658-COFC

COC Number: 15 -

Page 1 of 1

www.alsglobal.com

Report To Contact and company name below will appear on the final report		Report Format / Distribution Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL) Quality Control (QC) Report with Report ☒ YES ☐ NO ☐ Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX			Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply Priority (Business Day) 4 day [P4] ☐ 3 day [P3] ☐ 2 day [P2] ☐ EMERGENCY 1 Business day [E1] ☒ Same Day, Weekend or Statutory holiday [E0] ☐ Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm For tests that can not be performed according to the service level selected, you will be contacted.																		
Company: Baffinland Iron Mines Corp. Contact: Allan Knight Phone: 647-253-0596 EXT 6010 Company address below will appear on the final report Street: 2275 Upper Middle Rd. E., Suite #300 City/Province: Oakville, ON Postal Code: L6H 0C3		Email 1 or Fax: bimcore@alsglobal.com Email 2: bimwww@alsglobal.com Email 3:			Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below Number of Containers																		
Invoice To: Same as Report To ☒ YES ☐ NO Copy of Invoice with Report ☐ YES ☒ NO Company: Contact:		Invoice Distribution Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: ap@baffinland.com Email 2: commercial@baffinland.com Oil and Gas Required Fields (client use) AFE/Cost Center: PO# Major/Minor Code: Routing Code: Requisitioner: Location:			BIM-TCCLP-MET1-WT (TCLP Hg, Ag, As, Ba, Cd, Cr, Pb, Se, Zn)																		
Project Information ALS Account # / Quote #: 23642 / Q42455 Job #: MP-ASH-204 PO / AFE: 4500027854 LSD:		ALS Contact: Sampler: SS																					
ALS Lab Work Order # (lab use only) L20096584																							
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)																					
Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)			Time (hh:mm)			Sample Type															
MP-ASH-204		29-Sep-17			13:40			Soil			2												
Drinking Water (DW) Samples ¹ (client use) Are samples taken from a Regulated DW System? ☐ YES ☒ NO Are samples for human drinking water use? ☐ YES ☒ NO		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only) Frozen ☐ SIF Observations Yes ☐ No ☐ Ice Packs ☒ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐ Cooling Initiated ☒ INITIAL COOLER TEMPERATURES °C FINAL COOLER TEMPERATURES °C 20.1																		
SHIPMENT RELEASE (client use) Released by: Bryan Lukeman 10/14/2017 15:50 Time:		INITIAL SHIPMENT RECEPTION (lab use only) Received by: Date:			FINAL SHIPMENT RECEPTION (lab use only) Received by: R 19-OCT-17 9:00 Time:																		

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 FROM



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 26-OCT-17
Report Date: 01-NOV-17 09:20 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2013421
Project P.O. #: 4500027854
Job Reference: MP-ASH-205
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2013421

Report Date: 01-NOV-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3871437							
WG2652730-3	DUP	L2014790-1						
% Moisture		13.1	13.0		%	1.3	20	31-OCT-17
WG2652730-2	LCS							
% Moisture			97.5		%		90-110	31-OCT-17
WG2652730-1	MB							
% Moisture			<0.10		%		0.1	31-OCT-17
HG-TCLP-WT		Waste						
Batch	R3869401							
WG2651820-3	DUP	L2012777-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	30-OCT-17
WG2651820-2	LCS							
Mercury (Hg)			97.2		%		70-130	30-OCT-17
WG2651820-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	30-OCT-17
WG2651820-4	MS	L2012907-12						
Mercury (Hg)			91.9		%		50-140	30-OCT-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3868463							
WG2650789-4	DUP	WG2650789-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-OCT-17
WG2650789-2	LCS							
Zinc (Zn)-Total			105.1		%		70-130	27-OCT-17
WG2650789-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	27-OCT-17
WG2650789-5	MS	WG2650789-3						
Zinc (Zn)-Total			111.5		%		70-130	27-OCT-17
MET-TCLP-WT		Waste						
Batch	R3868463							
WG2650789-4	DUP	WG2650789-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-OCT-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-OCT-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	27-OCT-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	27-OCT-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-OCT-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-OCT-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-OCT-17

Quality Control Report

Workorder: L2013421

Report Date: 01-NOV-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3868463							
WG2650789-4	DUP	WG2650789-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	27-OCT-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	27-OCT-17
WG2650789-2	LCS							
Silver (Ag)			96.7		%		70-130	27-OCT-17
Arsenic (As)			96.8		%		70-130	27-OCT-17
Boron (B)			86.5		%		70-130	27-OCT-17
Barium (Ba)			99.2		%		70-130	27-OCT-17
Cadmium (Cd)			100.0		%		70-130	27-OCT-17
Chromium (Cr)			95.9		%		70-130	27-OCT-17
Lead (Pb)			96.7		%		70-130	27-OCT-17
Selenium (Se)			95.4		%		70-130	27-OCT-17
Uranium (U)			96.2		%		70-130	27-OCT-17
WG2650789-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	27-OCT-17
Arsenic (As)			<0.050		mg/L		0.05	27-OCT-17
Boron (B)			<2.5		mg/L		2.5	27-OCT-17
Barium (Ba)			<0.50		mg/L		0.5	27-OCT-17
Cadmium (Cd)			<0.0050		mg/L		0.005	27-OCT-17
Chromium (Cr)			<0.050		mg/L		0.05	27-OCT-17
Lead (Pb)			<0.050		mg/L		0.05	27-OCT-17
Selenium (Se)			<0.025		mg/L		0.025	27-OCT-17
Uranium (U)			<0.25		mg/L		0.25	27-OCT-17
WG2650789-5	MS	WG2650789-3						
Silver (Ag)			136.9		%		50-150	27-OCT-17
Arsenic (As)			117.7		%		50-150	27-OCT-17
Boron (B)			115.0		%		50-150	27-OCT-17
Barium (Ba)			115.2		%		50-150	27-OCT-17
Cadmium (Cd)			117.9		%		50-150	27-OCT-17
Chromium (Cr)			119.0		%		50-150	27-OCT-17
Lead (Pb)			108.5		%		50-150	27-OCT-17
Selenium (Se)			119.4		%		50-150	27-OCT-17
Uranium (U)			109.2		%		50-150	27-OCT-17

Quality Control Report

Workorder: L2013421

Report Date: 01-NOV-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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.



2016 FRONT.



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 24-NOV-17
Report Date: 29-NOV-17 14:12 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2026748
Project P.O. #: 4500027854
Job Reference: MP-ASH-206
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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
L2026748-1 Sampled By: SS on 18-NOV-17 @ 09:00 Matrix: SOIL Sample Preparation Initial pH Final pH Physical Tests % Moisture TCLP Metals Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (Cr) Lead (Pb) Mercury (Hg) Selenium (Se) Silver (Ag) Uranium (U) Zinc (Zn)-Total	MP-ASH-206							

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2026748

Report Date: 29-NOV-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3897638							
WG2673468-3	DUP	L2026690-1						
% Moisture		4.54	4.67		%	2.8	20	28-NOV-17
WG2673468-2	LCS							
% Moisture			99.0		%		90-110	28-NOV-17
WG2673468-1	MB							
% Moisture			<0.10		%		0.1	28-NOV-17
HG-TCLP-WT		Waste						
Batch	R3896131							
WG2672197-3	DUP	L2026577-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	27-NOV-17
WG2672197-2	LCS							
Mercury (Hg)			103.0		%		70-130	27-NOV-17
WG2672197-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	27-NOV-17
WG2672197-4	MS	L2026420-1						
Mercury (Hg)			98.9		%		50-140	27-NOV-17
MET-TCLP-EXTRA-WT		Waste						
Batch	R3896464							
WG2671933-4	DUP	WG2671933-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-NOV-17
WG2671933-2	LCS							
Zinc (Zn)-Total			96.5		%		70-130	27-NOV-17
WG2671933-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	27-NOV-17
WG2671933-5	MS	WG2671933-3						
Zinc (Zn)-Total			97.6		%		70-130	27-NOV-17
MET-TCLP-WT		Waste						
Batch	R3896464							
WG2671933-4	DUP	WG2671933-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-NOV-17
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-NOV-17
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	27-NOV-17
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	27-NOV-17
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	27-NOV-17
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-NOV-17
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	27-NOV-17



Quality Control Report

Workorder: L2026748

Report Date: 29-NOV-17

Page 2 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3896464							
WG2671933-4	DUP	WG2671933-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	27-NOV-17
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	27-NOV-17
WG2671933-2	LCS							
Silver (Ag)			97.8		%		70-130	27-NOV-17
Arsenic (As)			99.8		%		70-130	27-NOV-17
Boron (B)			96.4		%		70-130	27-NOV-17
Barium (Ba)			99.4		%		70-130	27-NOV-17
Cadmium (Cd)			98.6		%		70-130	27-NOV-17
Chromium (Cr)			98.7		%		70-130	27-NOV-17
Lead (Pb)			98.8		%		70-130	27-NOV-17
Selenium (Se)			98.9		%		70-130	27-NOV-17
Uranium (U)			97.4		%		70-130	27-NOV-17
WG2671933-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	27-NOV-17
Arsenic (As)			<0.050		mg/L		0.05	27-NOV-17
Boron (B)			<2.5		mg/L		2.5	27-NOV-17
Barium (Ba)			<0.50		mg/L		0.5	27-NOV-17
Cadmium (Cd)			<0.0050		mg/L		0.005	27-NOV-17
Chromium (Cr)			<0.050		mg/L		0.05	27-NOV-17
Lead (Pb)			<0.050		mg/L		0.05	27-NOV-17
Selenium (Se)			<0.025		mg/L		0.025	27-NOV-17
Uranium (U)			<0.25		mg/L		0.25	27-NOV-17
WG2671933-5	MS	WG2671933-3						
Silver (Ag)			118.6		%		50-150	27-NOV-17
Arsenic (As)			102.8		%		50-150	27-NOV-17
Boron (B)			101.8		%		50-150	27-NOV-17
Barium (Ba)			104.2		%		50-150	27-NOV-17
Cadmium (Cd)			101.7		%		50-150	27-NOV-17
Chromium (Cr)			101.3		%		50-150	27-NOV-17
Lead (Pb)			96.8		%		50-150	27-NOV-17
Selenium (Se)			104.0		%		50-150	27-NOV-17
Uranium (U)			96.6		%		50-150	27-NOV-17

Quality Control Report

Workorder: L2026748

Report Date: 29-NOV-17

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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.

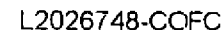
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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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DOC Number: 15 -

Page 1 of 1

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white-report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 9, 2014 (WED)

OCTOBER 20 1961



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 28-DEC-17
Report Date: 02-JAN-18 13:09 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2039645
Project P.O. #: 4500027854
Job Reference: MP-ASH-207
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

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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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS
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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 weight of sample
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.
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Quality Control Report

Workorder: L2039645

Report Date: 02-JAN-18

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3924327							
WG2691527-3	DUP	L2038835-6						
% Moisture		10.3	10.9		%	5.5	20	30-DEC-17
WG2691527-2	LCS							
% Moisture			99.5		%		90-110	30-DEC-17
WG2691527-1	MB							
% Moisture			<0.10		%		0.1	30-DEC-17
HG-TCLP-WT		Waste						
Batch	R3927170							
WG2692400-3	DUP	L2039003-2						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	02-JAN-18
WG2692400-2	LCS							
Mercury (Hg)			96.8		%		70-130	02-JAN-18
WG2692400-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	02-JAN-18
WG2692400-4	MS	L2039834-2						
Mercury (Hg)			83.5		%		50-140	02-JAN-18
MET-TCLP-EXTRA-WT		Waste						
Batch	R3927290							
WG2692253-4	DUP	WG2692253-3						
Zinc (Zn)-Total		<1.0	<1.0	RPD-NA	mg/L	N/A	30	02-JAN-18
WG2692253-2	LCS							
Zinc (Zn)-Total			93.3		%		70-130	02-JAN-18
WG2692253-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	02-JAN-18
WG2692253-5	MS	WG2692253-3						
Zinc (Zn)-Total			88.9		%		70-130	02-JAN-18
MET-TCLP-WT		Waste						
Batch	R3927290							
WG2692253-4	DUP	WG2692253-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	02-JAN-18
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	02-JAN-18
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	02-JAN-18
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	40	02-JAN-18
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	02-JAN-18
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	02-JAN-18
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	02-JAN-18



Quality Control Report

Workorder: L2039645

Report Date: 02-JAN-18

Page 2 of 3

Client:

Baffinland Iron Mine's Corporation (Oakville)
 2275 Upper Middle Rd. E. Suite #300
 Oakville ON L6H 0C3

Contact:

Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3927290							
WG2692253-4	DUP	WG2692253-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	02-JAN-18
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	02-JAN-18
WG2692253-2	LCS							
Silver (Ag)			99.8		%		70-130	02-JAN-18
Arsenic (As)			97.4		%		70-130	02-JAN-18
Boron (B)			101.0		%		70-130	02-JAN-18
Barium (Ba)			101.5		%		70-130	02-JAN-18
Cadmium (Cd)			100.3		%		70-130	02-JAN-18
Chromium (Cr)			96.0		%		70-130	02-JAN-18
Lead (Pb)			100.6		%		70-130	02-JAN-18
Selenium (Se)			96.8		%		70-130	02-JAN-18
Uranium (U)			101.9		%		70-130	02-JAN-18
WG2692253-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	02-JAN-18
Arsenic (As)			<0.050		mg/L		0.05	02-JAN-18
Boron (B)			<2.5		mg/L		2.5	02-JAN-18
Barium (Ba)			<0.50		mg/L		0.5	02-JAN-18
Cadmium (Cd)			<0.0050		mg/L		0.005	02-JAN-18
Chromium (Cr)			<0.050		mg/L		0.05	02-JAN-18
Lead (Pb)			<0.050		mg/L		0.05	02-JAN-18
Selenium (Se)			<0.025		mg/L		0.025	02-JAN-18
Uranium (U)			<0.25		mg/L		0.25	02-JAN-18
WG2692253-5	MS	WG2692253-3						
Silver (Ag)			114.9		%		50-150	02-JAN-18
Arsenic (As)			96.4		%		50-150	02-JAN-18
Boron (B)			93.6		%		50-150	02-JAN-18
Barium (Ba)			98.7		%		50-150	02-JAN-18
Cadmium (Cd)			100.1		%		50-150	02-JAN-18
Chromium (Cr)			94.1		%		50-150	02-JAN-18
Lead (Pb)			90.7		%		50-150	02-JAN-18
Selenium (Se)			95.2		%		50-150	02-JAN-18
Uranium (U)			95.8		%		50-150	02-JAN-18

Quality Control Report

Workorder: L2039645

Report Date: 02-JAN-18

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

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.

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 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.



Canada Toll Free: 1 800 668 9878



Page 1 of 1

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 FRONT

DA



Baffinland Iron Mine's Corporation
(Oakville)
ATTN: Allan Knight
2275 Upper Middle Rd. E.
Suite #300
Oakville ON L6H 0C3

Date Received: 11 -JAN-18
Report Date: 15 -JAN-18 13:56 (MT)
Version: FINAL

Client Phone: 416-364-8820

Certificate of Analysis

Lab Work Order #: L2043775

Project P.O. #: 4500027854
Job Reference: MP-ASH-207-COMP
C of C Numbers:
Legal Site Desc:

Rick Hawthorne
Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047
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
L2043775-1MP-ASH-207-COMP1 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Sample Preparation Initial pH12.130.10pH units12-JAN-18R3934149 Final pH6.670.10pH units12-JAN-18R3934149 Physical Tests % Moisture6.400.10%12-JAN-1813-JAN-18R3934459 TCLP Metals Arsenic (As)<0.0500.050mg/L12-JAN-18R3933859 Barium (Ba)<0.500.50mg/L12-JAN-18R3933859 Boron (B)2.82.5mg/L12-JAN-18R3933859 Cadmium (Cd)<0.00500.0050mg/L12-JAN-18R3933859 Chromium (Cr)<0.0500.050mg/L12-JAN-18R3933859 Lead (Pb)<0.0500.050mg/L12-JAN-18R3933859 Mercury (Hg)<0.000100.00010mg/L12-JAN-18R3933702 Selenium (Se)<0.0250.025mg/L12-JAN-18R3933859 Silver (Ag)<0.00500.0050mg/L12-JAN-18R3933859 Uranium (U)<0.250.25mg/L12-JAN-18R3933859 Zinc (Zn)-Total<1.01.0mg/L12-JAN-18R3933859								
L2043775-2MP-ASH-207-COMP2 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Sample Preparation Initial pH11.800.10pH units12-JAN-18R3934149 Final pH6.490.10pH units12-JAN-18R3934149 Physical Tests % Moisture29.30.10%12-JAN-1813-JAN-18R3934459 TCLP Metals Arsenic (As)<0.0500.050mg/L12-JAN-18R3933859 Barium (Ba)<0.500.50mg/L12-JAN-18R3933859 Boron (B)<2.52.5mg/L12-JAN-18R3933859 Cadmium (Cd)<0.00500.0050mg/L12-JAN-18R3933859 Chromium (Cr)<0.0500.050mg/L12-JAN-18R3933859 Lead (Pb)<0.0500.050mg/L12-JAN-18R3933859 Mercury (Hg)<0.000100.00010mg/L12-JAN-18R3933702 Selenium (Se)<0.0250.025mg/L12-JAN-18R3933859 Silver (Ag)<0.00500.0050mg/L12-JAN-18R3933859 Uranium (U)<0.250.25mg/L12-JAN-18R3933859 Zinc (Zn)-Total<1.01.0mg/L12-JAN-18R3933859								
L2043775-3MP-ASH-207-COMP3 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Sample Preparation Initial pH12.120.10pH units12-JAN-18R3934149 Final pH6.890.10pH units12-JAN-18R3934149 Physical Tests								

* 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
L2043775-3MP-ASH-207-COMP3 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Physical Tests % Moisture TCLP Metals Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (Cr) Lead (Pb) Mercury (Hg) Selenium (Se) Silver (Ag) Uranium (U) Zinc (Zn)-Total	11.5		0.10	%	12-JAN-18	13-JAN-18	R3934459
L2043775-4MP-ASH-207-COMP4 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Sample Preparation Initial pH Final pH Physical Tests % Moisture TCLP Metals Arsenic (As) Barium (Ba) Boron (B) Cadmium (Cd) Chromium (Cr) Lead (Pb) Mercury (Hg) Selenium (Se) Silver (Ag) Uranium (U) Zinc (Zn)-Total	12.12 7.52 4.38		0.10 0.10 0.10	pH units pH units %	12-JAN-18	13-JAN-18	R3934149 R3934149 R3934459
L2043775-5MP-ASH-207-COMP5 Sampled By: KB/BL on 07-JAN-18 @ 14:00 Matrix: SOIL Sample Preparation Initial pH Final pH Physical Tests % Moisture TCLP Metals Arsenic (As)	12.19 7.19 10.7 <0.050		0.10 0.10 0.10 0.050	pH units pH units % mg/L	12-JAN-18	13-JAN-18	R3934149 R3934149 R3934459 R3933859

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

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2043775-5	MP-ASH-207-COMP5							
Sampled By:	KB/BL on 07-JAN-18 @ 14:00							
Matrix:	SOIL							
TCLP Metals								
Barium (Ba)		0.75		0.50	mg/L		12-JAN-18	R3933859
Boron (B)		<2.5		2.5	mg/L		12-JAN-18	R3933859
Cadmium (Cd)		<0.0050		0.0050	mg/L		12-JAN-18	R3933859
Chromium (Cr)		<0.050		0.050	mg/L		12-JAN-18	R3933859
Lead (Pb)		0.059		0.050	mg/L		12-JAN-18	R3933859
Mercury (Hg)		<0.00010		0.00010	mg/L		12-JAN-18	R3933702
Selenium (Se)		<0.025		0.025	mg/L		12-JAN-18	R3933859
Silver (Ag)		<0.0050		0.0050	mg/L		12-JAN-18	R3933859
Uranium (U)		<0.25		0.25	mg/L		12-JAN-18	R3933859
Zinc (Zn)-Total		<1.0		1.0	mg/L		12-JAN-18	R3933859

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

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-TCLP-WT	Waste	Mercury (CVAA) for O.Reg 347	SW846 7470A
LEACH-TCLP-WT	Waste	Leachate Procedure for Reg 347	EPA 1311
		Inorganic and Semi-Volatile Organic contaminants are leached from waste samples in strict accordance with US EPA Method 1311, "Toxicity Characteristic Leaching Procedure" (TCLP). Test results are reported in leachate concentration units (normally mg/L).	
MET-TCLP-EXTRA-WT	Waste	O. Reg 347 Extra Metals on TCLP Leachate	EPA 200.8
MET-TCLP-WT	Waste	O.Reg 347 TCLP Leachable Metals	EPA 200.8
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** 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
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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 weight of sample

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: L2043775

Report Date: 15-JAN-18

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Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R3934459							
WG2697756-3	DUP	L2044083-1						
% Moisture		72.0	72.4		%	0.6	20	13-JAN-18
WG2697756-2	LCS							
% Moisture			99.8		%		90-110	13-JAN-18
WG2697756-1	MB							
% Moisture			<0.10		%		0.1	13-JAN-18
HG-TCLP-WT		Waste						
Batch	R3933702							
WG2697581-3	DUP	L2043379-1						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	12-JAN-18
WG2697581-2	LCS							
Mercury (Hg)			95.7		%		70-130	12-JAN-18
WG2697581-1	MB							
Mercury (Hg)			<0.00010		mg/L		0.0001	12-JAN-18
WG2697581-4	MS	L2043379-1						
Mercury (Hg)			92.8		%		50-140	12-JAN-18
MET-TCLP-EXTRA-WT		Waste						
Batch	R3933859							
WG2697625-4	DUP	WG2697625-3						
Zinc (Zn)-Total		2.3	2.3		mg/L	3.6	30	12-JAN-18
WG2697625-2	LCS							
Zinc (Zn)-Total			91.6		%		70-130	12-JAN-18
WG2697625-1	MB							
Zinc (Zn)-Total			<1.0		mg/L		1	12-JAN-18
WG2697625-5	MS	WG2697625-3						
Zinc (Zn)-Total			94.3		%		70-130	12-JAN-18
MET-TCLP-WT		Waste						
Batch	R3933859							
WG2697625-4	DUP	WG2697625-3						
Silver (Ag)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	12-JAN-18
Arsenic (As)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	12-JAN-18
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	40	12-JAN-18
Barium (Ba)		1.14	1.20		mg/L	4.5	40	12-JAN-18
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	40	12-JAN-18
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	40	12-JAN-18
Lead (Pb)		0.064	0.064		mg/L	0.6	40	12-JAN-18



Quality Control Report

Workorder: L2043775

Report Date: 15-JAN-18

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Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT		Waste						
Batch	R3933859							
WG2697625-4	DUP	WG2697625-3						
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	40	12-JAN-18
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	40	12-JAN-18
WG2697625-2	LCS							
Silver (Ag)			92.4		%		70-130	12-JAN-18
Arsenic (As)			93.9		%		70-130	12-JAN-18
Boron (B)			90.6		%		70-130	12-JAN-18
Barium (Ba)			95.8		%		70-130	12-JAN-18
Cadmium (Cd)			94.9		%		70-130	12-JAN-18
Chromium (Cr)			96.0		%		70-130	12-JAN-18
Lead (Pb)			98.9		%		70-130	12-JAN-18
Selenium (Se)			91.9		%		70-130	12-JAN-18
Uranium (U)			97.4		%		70-130	12-JAN-18
WG2697625-1	MB							
Silver (Ag)			<0.0050		mg/L		0.005	12-JAN-18
Arsenic (As)			<0.050		mg/L		0.05	12-JAN-18
Boron (B)			<2.5		mg/L		2.5	12-JAN-18
Barium (Ba)			<0.50		mg/L		0.5	12-JAN-18
Cadmium (Cd)			<0.0050		mg/L		0.005	12-JAN-18
Chromium (Cr)			<0.050		mg/L		0.05	12-JAN-18
Lead (Pb)			<0.050		mg/L		0.05	12-JAN-18
Selenium (Se)			<0.025		mg/L		0.025	12-JAN-18
Uranium (U)			<0.25		mg/L		0.25	12-JAN-18
WG2697625-5	MS	WG2697625-3						
Silver (Ag)			114.4		%		50-150	12-JAN-18
Arsenic (As)			95.5		%		50-150	12-JAN-18
Boron (B)			88.3		%		50-150	12-JAN-18
Barium (Ba)			97.2		%		50-150	12-JAN-18
Cadmium (Cd)			95.6		%		50-150	12-JAN-18
Chromium (Cr)			95.6		%		50-150	12-JAN-18
Lead (Pb)			97.9		%		50-150	12-JAN-18
Selenium (Se)			94.0		%		50-150	12-JAN-18
Uranium (U)			94.7		%		50-150	12-JAN-18

Quality Control Report

Workorder: L2043775

Report Date: 15-JAN-18

Client: Baffinland Iron Mine's Corporation (Oakville)
2275 Upper Middle Rd. E. Suite #300
Oakville ON L6H 0C3

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Contact: Allan Knight

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.

Hold Time Exceedances:

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

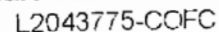
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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