

**ENVIRONMENTAL PREVIEW REPORT
PURSUANT TO THE NEWFOUNDLAND
AND LABRADOR *ENVIRONMENTAL
PROTECTION ACT***

**AGS Fluorspar Project
St. Lawrence, NL Volume
2 , Appendix E-2**

Submitted to:

Newfoundland and Labrador Department of Environment
and Conservation, Environmental Assessment Division

Submitted by:

Canada Fluorspar (NL) Inc.



September 2015



APPENDIX E-2

Phase 1 Hydrogeology Program





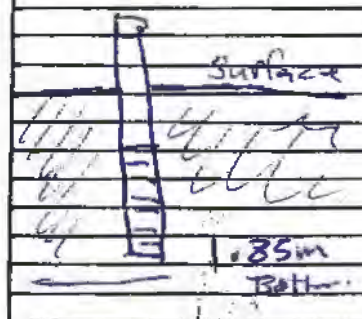
APPENDIX B

Test Pit Record and Images; Gradation Curves

FIELD TEST PIT LOG

JOB NUMBER 1407707 JOB NAME Canada Fluorspar - Phase I DATE October 20, 2014
 TEST PIT NUMBER TP14-01 TEST PIT SIZE 1.5 x 3 m ELEVATION _____
 MACHINE TYPE CAT 320B CONTRACTOR SPRINGDALE DIAMOND DRILLING WGS-84
 TEMPERATURE ~ 6 °C WEATHER Overcast

DEPTH (m)		SOIL DESCRIPTION	SAMPLES		IN-SITU DENSITY TEST		REMARKS
FROM	TO		No.	DEPTH	No.	DEPTH	
0	0.70	Dark brown, silty clay soil with rootlets; with some cobbles and boulder	—	—	—	—	
0.70	2.0	Brownish grey, compact Gravelly SAND with silt. Angular stones of 0cm to 30cm; wet.	①	~2m	—	—	
	2:00	Bucket refusal - very hard.					Installed STAND PIPE - Piezo 1.5-inch diameter 1.5 m screen 12-slot



LOCATION SKETCH

WGS84
 617465mE / 5195550mN.
 Road.

 ~35m from Road.
 Road.

Water conditions in Test Pit.

~slow seepage into pit.

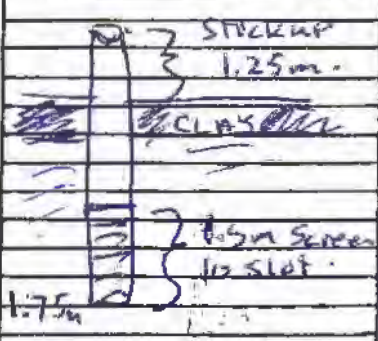
Test Pit dry.

Stick-up: 1.5m
 about
 ground
 surface

JOB No. 1407707
 TEST PIT No. TP14-01
 ENGINEER R. IVANOFF

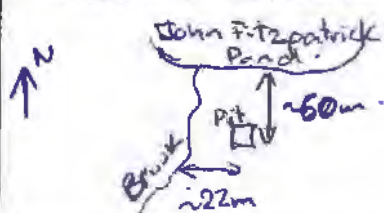
FIELD TEST PIT LOG

JOB NUMBER 1407707 JOB NAME Canada Fluorspar - Phase I DATE October 21, 2014
 TEST PIT NUMBER TP14-02 TEST PIT SIZE 1.5 x 3m ELEVATION _____
 MACHINE TYPE CAT 320B CONTRACTOR SPRINGDALE DIAMOND DRILLING LTD. WGS-84
 TEMPERATURE ~ 6 °C WEATHER Overcast

DEPTH (m)		SOIL DESCRIPTION	SAMPLES		IN SITU DENSITY TEST		REMARKS
FROM	TO		No.	DEPTH	No.	DEPTH	
0	1.0	Dark-brown, CLAY, organic soil, moist					
1.0	1.5	Brown, Stony, SAND and GRAVEL with silt and cobbles + very moist. Angular stones					
1.5	1.90	Grey-brown, Silty fine SAND with Gravel, v. moist. Sub-angular to subrounded gravel	①	1.5-1.9m	-	-	MW14-02B STAND PIPE Piezometer installed. 

LOCATION SKETCH

WGS-84 617101mE / 5196293mN.



Water conditions in Test Pit.

Groundwater slowly seeping into pit from 1.0m and bottom.

Test Pit dry.

JOB No. 1407707
 TEST PIT No. TP14-02
 ENGINEER A. IVANOFF

FIELD TEST PIT LOG

JOB NUMBER 1407707 JOB NAME Canada Fluorspar - Phase I DATE October 23, 2014
 TEST PIT NUMBER TP14-04 TEST PIT SIZE 1.5 x 3 m ELEVATION _____
 MACHINE TYPE CAT 320B CONTRACTOR SPRINGDALE DIAMOND DRILL DATUM WGS-84
 TEMPERATURE ~ 8 °C WEATHER overcast - partly sunny

DEPTH (m)		SOIL DESCRIPTION	SAMPLES		IN-SITU DENSITY TEST		REMARKS	
FROM	TO		No.	DEPTH	No.	DEPTH		
0	0.5	Dark-brown, CLAY, organic soil						
0.5	1.5	GRAVEL + Cobble + Boulders angular to sub-rounded	①	0.5-1.5m	-	-		
	1.6	Bedrock Appears to be Bedrock - Grey-green Bucket refusal						
							MW 14-04 B STAND PIPE PIECE installed in Pit.	
LOCATION SKETCH WGS 84 615671mE / 5196693mN.			Water conditions in Test Pit. Water flowing into pit at 0.5m <input type="checkbox"/> Test Pit dry.			1.6m		

JOB No. 1407707
 TEST PIT No. TP14-04
 ENGINEER A. IVANOFF



TP14-01

WGS84-UTM
617465 m E
5195550 m N

Completed on:
Oct. 20, 2014.





TP14-02

Completed on:
Oct. 21, 2014.

WGS84-UTM
617101 m E
5196293 m N



TP14-03

Completed on:
Oct. 22, 2014.





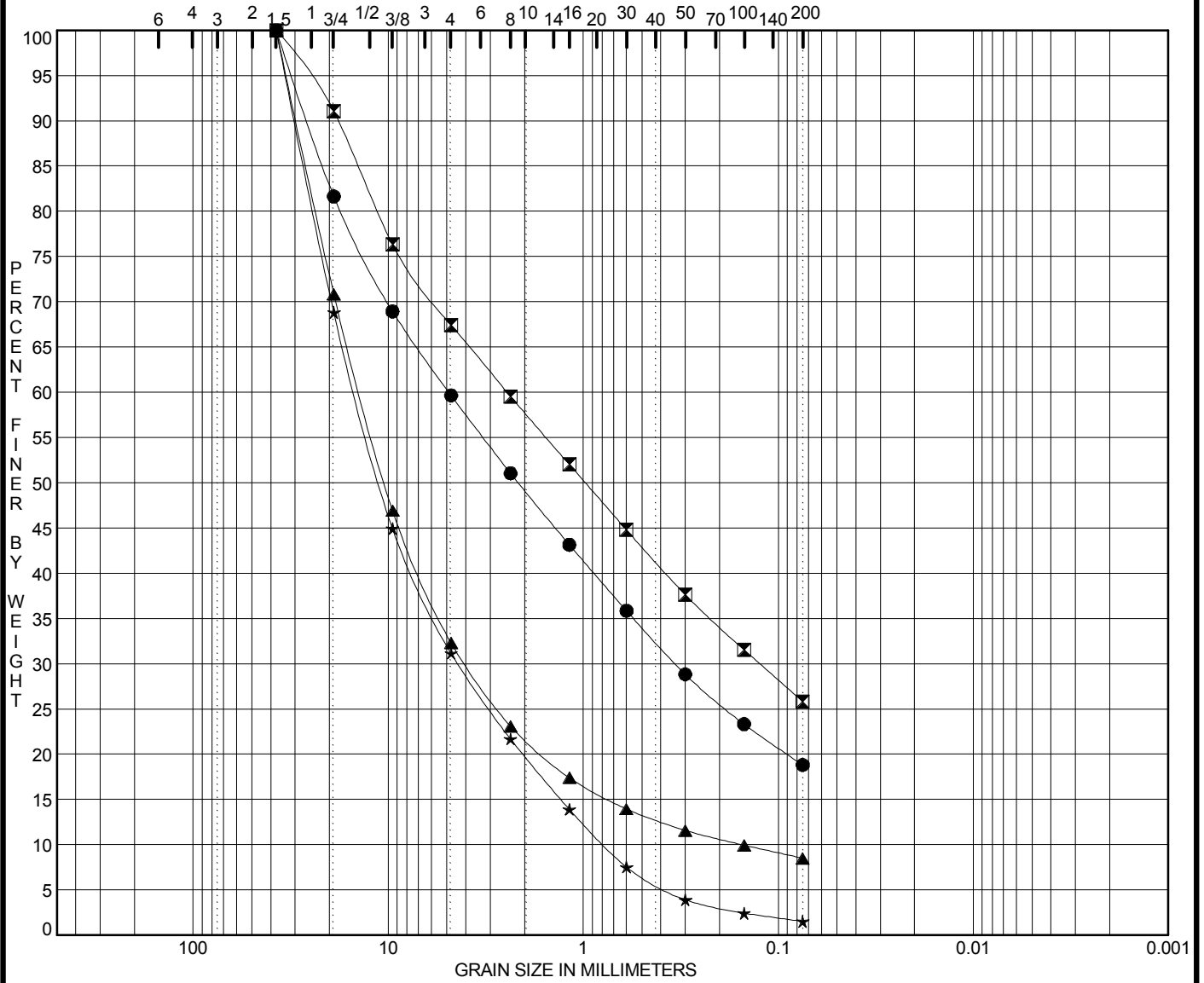
TP14-04

Completed on:
Oct. 23, 2014.

U.S. SIEVE OPENING IN INCHES

U.S. SIEVE NUMBERS

HYDROMETER



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Location	Depth (m)	Classification (USCS)	MC%	LL	PL	PI	Cc	Cu
●	TP14-01	0.0	SAND and GRAVEL; some silt (SM)	14.3				
☒	TP14-02	0.0	Gravelly; silty SAND (SM)	8.9				
▲	TP14-03	0.0	Sandy GRAVEL; trace silt (GP-GM)	6.5			7.47	90.3
★	TP14-04	0.0	Sandy GRAVEL; trace silt (GW)	12.5			1.67	18.9

Location	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	TP14-01	0.0	37.50	4.88	0.337	40.4	40.8	18.8	
☒	TP14-02	0.0	37.50	2.46	0.125	32.6	41.6	25.8	
▲	TP14-03	0.0	37.50	13.89	3.994	0.1538	67.7	23.8	8.5
★	TP14-04	0.0	37.50	14.72	4.373	0.7799	68.9	29.6	1.5

PROJECT **Golder and Associates Ltd. - CFI - Hydrogeology**
Phase 1, St. Lawrence, NL (Project No. 1407707)

JOB NO. **SJN-00222217-A0**
 DATE **03-11-14**

GRADATION CURVES

exp Services Inc.
 St. John's, NL



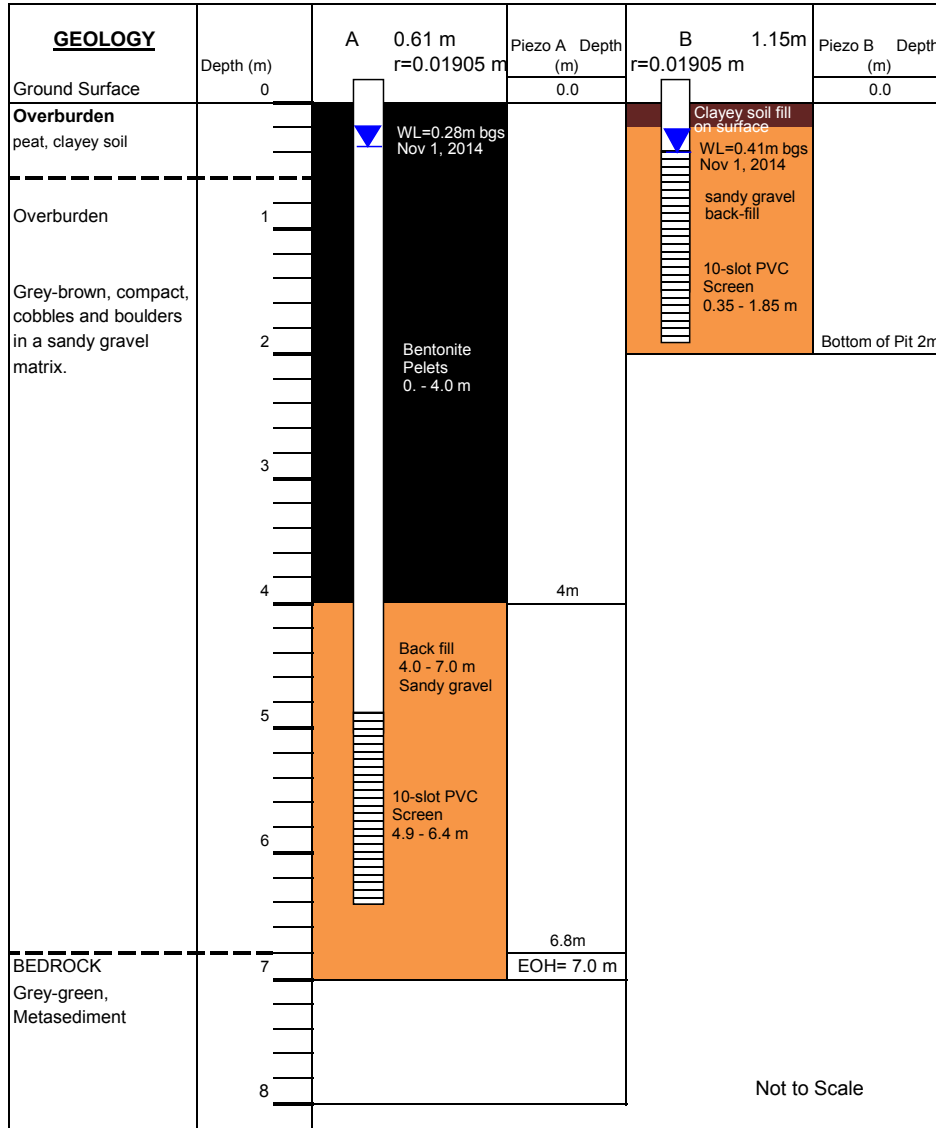
APPENDIX C

Monitoring Well Installation Record; Monitoring Well Completion Images; Monitoring Well/Stream Gauge Survey Data



Monitoring Well Installation Record MW14-01

Project: Canada Fluorspar Inc-Phase I Hydrogeology Project No. 1407707
 Drilling Contractor: Springdale Drilling Completion Date: 20-Oct-14
 Drilling Method and Equipment Used: Duralite 800 - diamond drill - track mounted



Note:

After coring with NQ rods, material fell in borehole when NQ rods were removed. Driller reamed borehole with HQ rods (surface casing) and piezometer was installed within HQ rods. Driller was unable to keep borehole open to allow placement of filter sand and the natural material was allowed to fill the annular space within the screen and borehole wall.

Bedrock was encountered at 6.8m bgs. Large boulders lead driller to believe that we were coring bedrock.

Piezometers are 10.75m apart and approximately 35m from edge of Lake.

Piezometers completed with locking cap on November 1, 2014.
 Four-inch borehole diameter.

GPS Coordinates:

MW14-01A: 617458 mE / 5195561 WGS84 Datum
 MW14-01B: 617465 mE / 5195550 WGS84 Datum

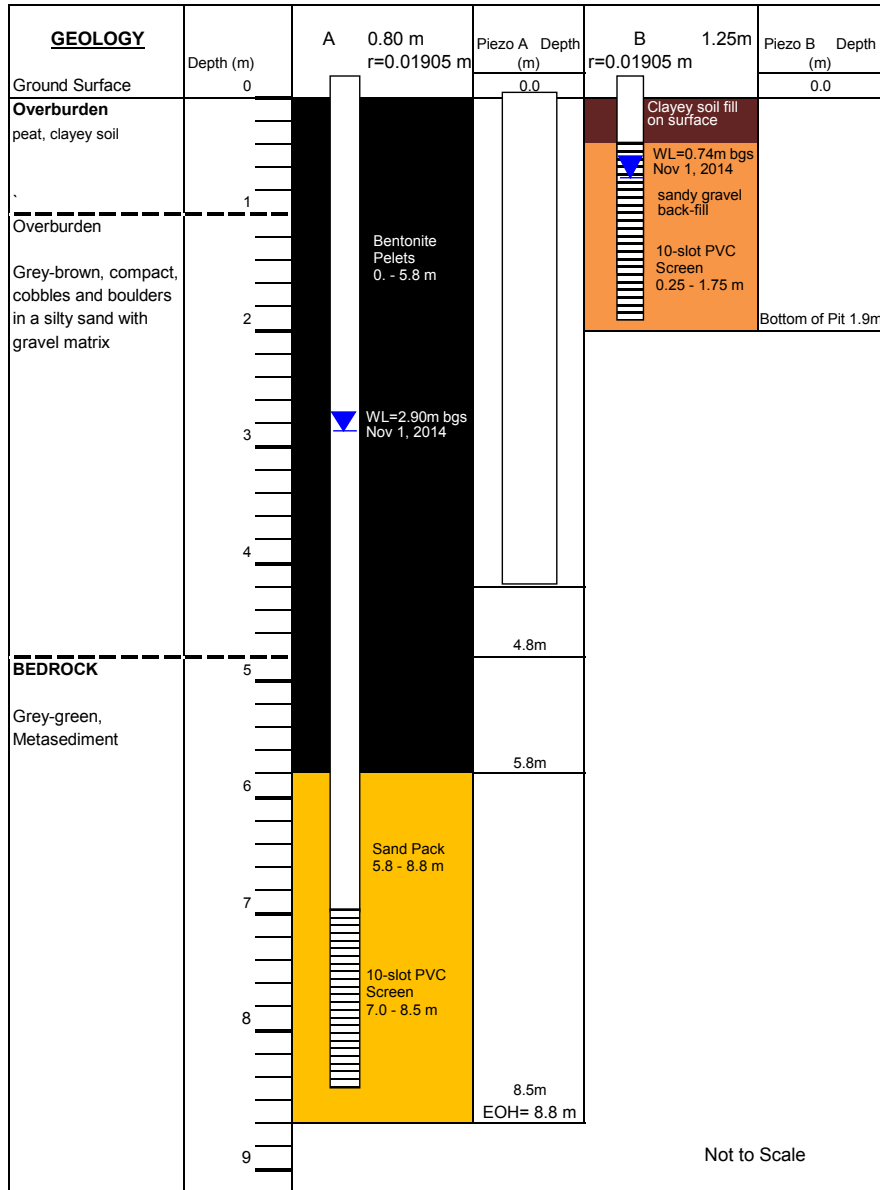
Field Hydrogeologist: A. Ivanoff

Checked: _____



Monitoring Well Installation Record MW14-02

Project: Canada Fluorspar Inc-Phase I Hydrogeology	Project No. 1407707
Drilling Contractor: Springdale Drilling	Completion Date: 21-Oct-14
Drilling Method and Equipment Used: Duralite 800 - diamond drill - track mounted	



Note:
 After coring with NQ rods, borehole was washed with fresh water for 30 minutes and NQ rods were removed. Piezometer was installed in open hole.
 HQ surface casing to 4.2m bgs remains in borehole to anchor protective well casing.

Bedrock was encountered at 4.8m bgs. Large boulders and cobbles observed at bedrock surface.

Piezometers A and B are 5.15m apart and approximately 64m and 59m from edge of pond respectively. Piezometers A and B are approximately 22m from centre of stream located to the west of the well.

Piezometers completed with locking cap on November 1, 2014.
 Four-inch borehole diameter.

GPS Coordinates:
 MW14-01A: 617096 mE / 5196293 WGS84 Datum
 MW14-01B: 617101 mE / 5196293 WGS84 Datum

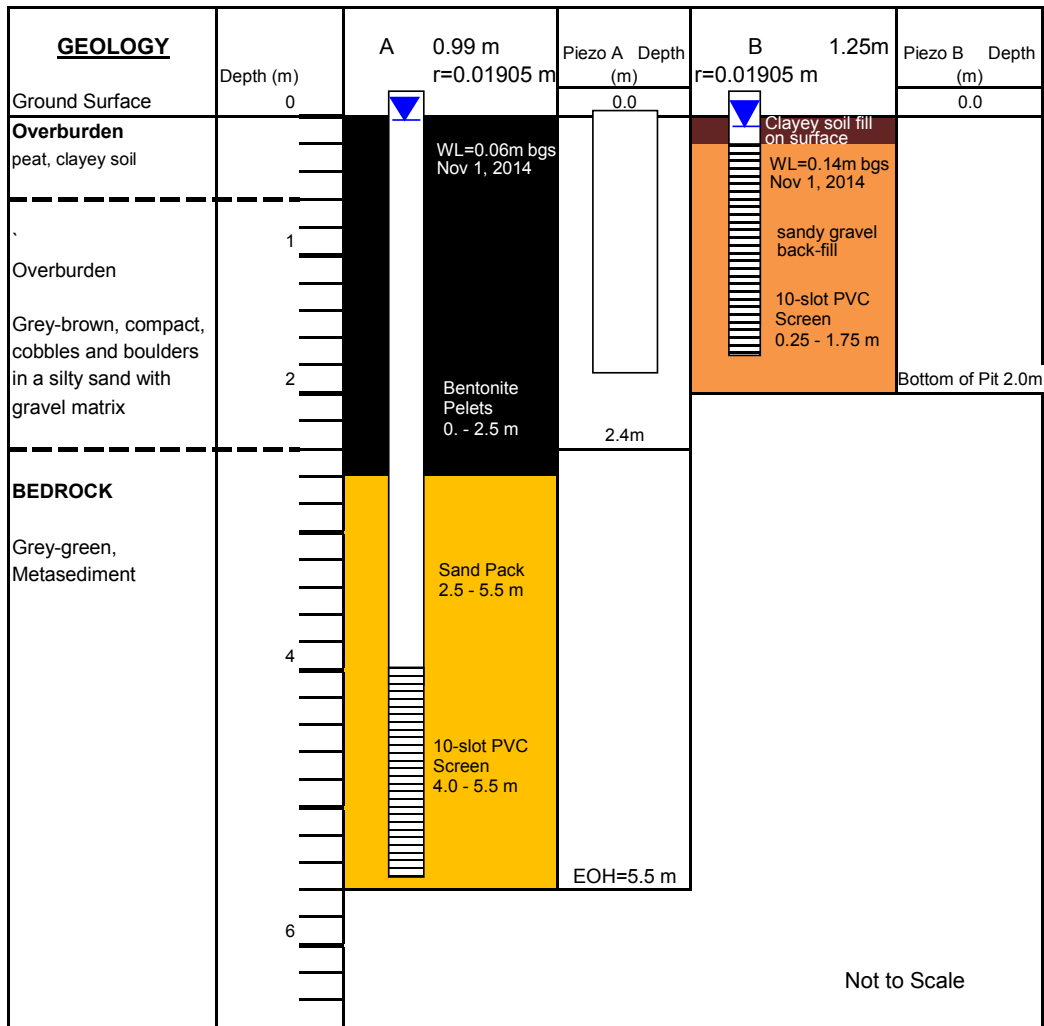
Field Hydrogeologist: A.Ivanoff

Checked: _____



Monitoring Well Installation Record MW14-03

Project: Canada Fluorspar Inc-Phase I Hydrogeology Project No. 1407707
 Drilling Contractor: Springdale Drilling Completion Date: 22-Oct-14
 Drilling Method and Equipment Used: Duralite 800 - diamond drill - track mounted



Note:

After coring with NQ rods, borehole was washed with fresh water for 30 minutes and NQ rods were removed. Piezometer was installed in open hole. HQ surface casing to 1.8m bgs remains in borehole to anchor protective well casing.

Bedrock was encountered at 2.4m bgs. Large boulders and cobbles observed at bedrock surface.

Piezometers A and B are 2.95m apart and approximately 33m from edge of pond.

Piezometers completed with locking cap on November 1, 2014. Four-inch borehole diameter.

GPS Coordinates:

MW14-01A: 616285 mE / 5196552 WGS84 Datum
 MW14-01B: 616284 mE / 5196552 WGS84 Datum

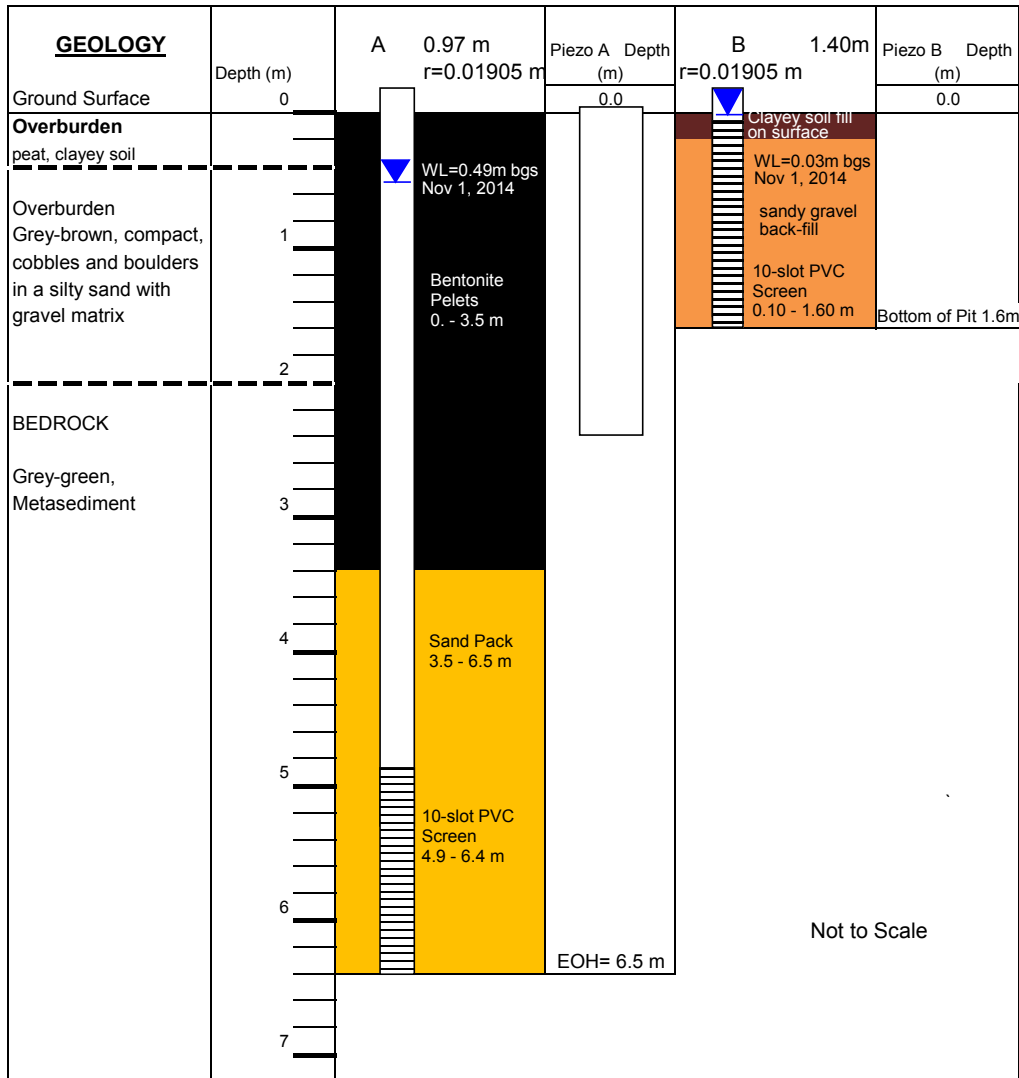
Field Hydrogeologist: A.Ivanoff

Checked: _____



Monitoring Well Installation Record
MW14-04

Project: Canada Fluorspar Inc-Phase I Hydrogeology Project No. 1407707
 Drilling Contractor: Springdale Drilling Completion Date: 23-Oct-14
 Drilling Method and Equipment Used: Duralite 800 - diamond drill - track mounted



Note:
 After coring with NQ rods, borehole was washed with fresh water for 30 minutes and NQ rods were removed
 Piezometer was installed in open hole.
 HQ surface casing to 2.4m bgs remains in borehole to anchor protective well casing.

Bedrock was encountered at 2.0m bgs. Large boulders and cobbles observed at bedrock surface.

Piezometers A and B are 3.50m apart.

Piezometers completed with locking cap on November 1, 2014.
 Four-inch borehole diameter.

GPS Coordinates:
 MW14-04A: 615673 mE / 5196695 WGS84 Datum
 MW14-04B: 615671 mE / 5196693 WGS84 Datum

Field Hydrogeologist: A.Ivanoff

Checked: _____

Completed Monitoring Well Site (MW14-01AB) – photo taken on Nov 1, 2014.

Piezometers are 10.75m apart and approximately 35m from edge of Lake.



Completed Monitoring Well Site (MW14-02AB) – photo taken on Nov 1, 2014.

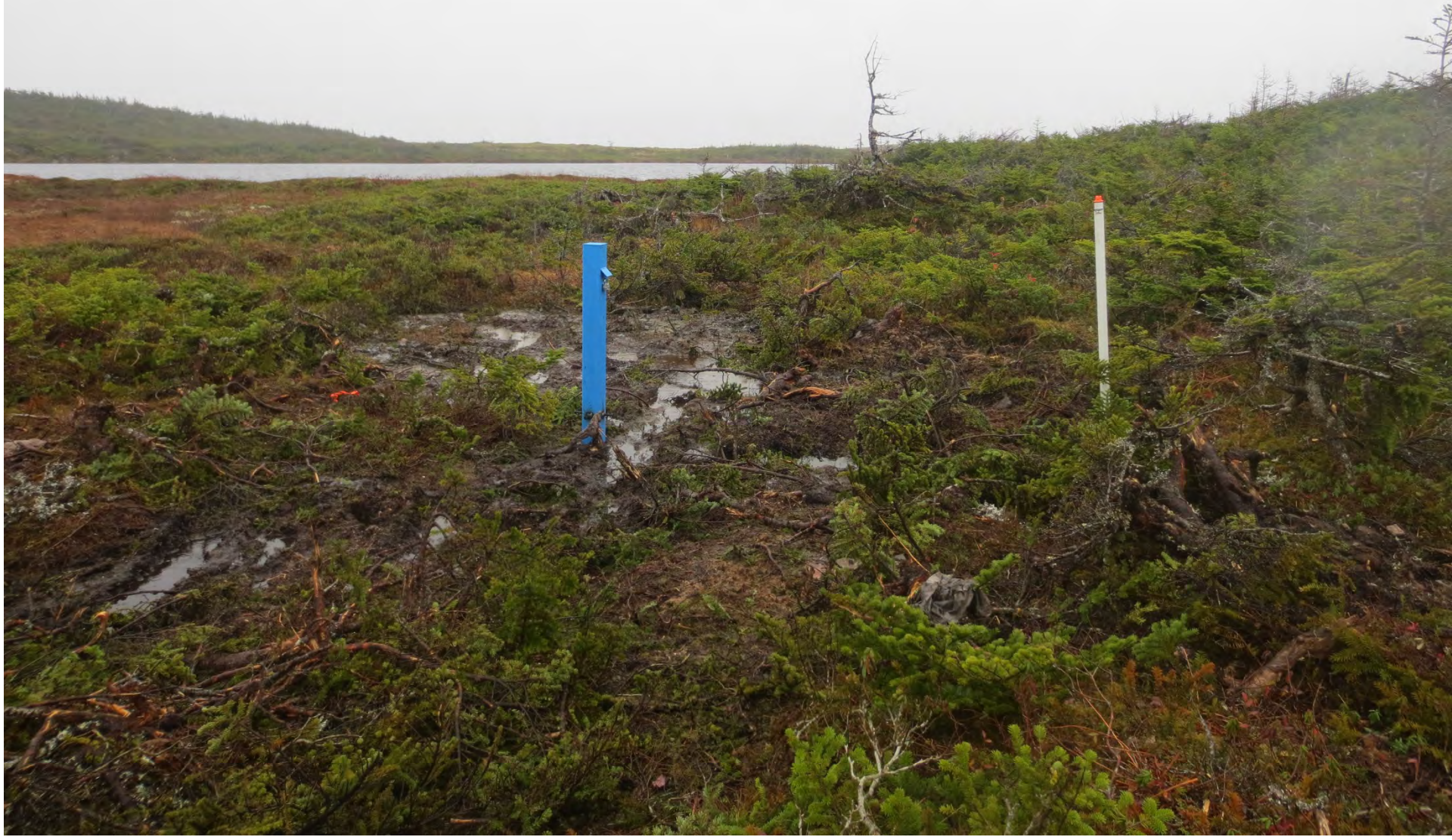
Piezometers are 5.15m apart .

Approximately 59 and 64 m from edge of Pond.

Approximately 22m to center line of brook.



Completed Monitoring Well Site (MW14-03AB) – photo taken on Nov 1, 2014
Piezometers are 2.95 m apart and about 33 m from edge of Pond..



Completed Monitoring Well Site (MW14-04AB) – photo taken on Nov 1, 2014.
Piezometers are 3.5 meters apart.



NOVEMBER 11, 2014 – MONITORING WELL/STREAM GAUGE OBSERVATIONS				
COORDINATE SYSTEM – NAD83 UTM ZONE 21 C.M. = 57° W				
MONITORING WELL	NORTHING	EASTING	ELEVATION	DESCRIPTION
MW14-01 (A)	5195558.718	617456.865	113.534	MONITORING WELL
MW14-01 (B)	5195550.960	617463.835	113.918	MONITORING WELL
MW14-02 (A)	5196291.427	617092.933	111.874	MONITORING WELL
MW14-02 (B)	5196291.582	617098.095	111.976	MONITORING WELL
MW14-03 (A)	5196549.293	616283.015	119.212	MONITORING WELL
MW14-03 (B)	5196546.639	616283.094	119.554	MONITORING WELL
MW14-04 (A)	5196693.053	615671.982	94.857	MONITORING WELL
MW14-04 (B)	5196689.723	615672.293	94.915	MONITORING WELL
STREAM GAUGE				
SW-01	5195035.386	617427.587	110.526	BENCHMARK
SW-02	5196702.319	617019.837	107.580	BENCHMARK
SW-03	5196632.485	616282.166	115.909	BENCHMARK
SW-01-TOS	5195030.643	617429.174	111.535	TOP OF STEEL
SW-02-TOS	5196703.585	617017.206	108.813	TOP OF STEEL
SW-03-TOS	5196633.252	616281.737	116.866	TOP OF STEEL
EXPLORATION BOREHOLES				
pGS-124	5196080.056	616377.195	123.347	BOREHOLE
pGS-93b	–	–	–	NO OBSERVATION

EDWARDS AND ASSOCIATES LTD.

LAND SURVEYING, ENGINEERING, CONSULTING, INFORMATION MANAGEMENT
 BOX 158, MARYSTOWN, NF, AOE 2M0, TEL 709-279-1990, FAX 709-279-2185

MONITORING WELLS/STREAM GAUGES – FIELD OBSERVATIONS

CANADA FLUORSPAR INC.

ST. LAWRENCE, NEWFOUNDLAND AND LABRADOR

SCALE: N/A

SURVEY BY: I.E./R.B.

DATE: NOVEMBER 19, 2014

JOB NO. 6159



APPENDIX D

Water Quality Analysis Report

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)		Y13664	Y13665	Y13666	Y13666	Y13667	Y13668	Y13669	Y13670	Y13670	Y13671	Y13672	Y13673	Y13673	Y13674	Y13675	Y13676															
Maxam ID	Sampling Date	2014/11/03 13:35	2014/11/03 14:00	2014/11/03 14:55	2014/11/03 14:55	2014/11/03 16:00	2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10	2014/11/04 10:10	2014/11/04 10:20	2014/11/04 11:15	2014/11/04 11:50	2014/11/04 11:50	2014/11/04 12:15	2014/11/04 14:50	2014/11/04 15:15															
COC Number		B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128763	B 128763															
	Units	Criteria A	AO	WS-2	WS-5	QC Batch	WS-10	WS-10 Lab-Dup	QC Batch	WQ STA-2	WQ STA-9	WQ STA-8	RDL	QC Batch	WQ STA-3	WQ STA-3 Lab-Dup	QC Batch	WQ STA-4	QC Batch	MW14-04A	RDL	QC Batch	WQ STN-1	WQ STN-1 Lab-Dup	QC Batch	WQ STN-7	QC Batch	WQ STN-6	WQ STN-5	RDL	QC Batch	
Calculated Parameters																																
Anion Sum	me/L	-	500	1.00	1.06	3813787	0.490		3813787	0.380	0.360	0.360	N/A	3813787	0.380		3813787	0.410	0.410	3813787	2.74	N/A	3813787	0.390		3813787	0.420	3813787	0.270	0.290	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	24	22	3813784	5.7		3813784	<1.0	<1.0	<1.0	0.360	N/A	3813784	<1.0		3813784	<1.0	0.410	3813784	93	1.0	3813784	<1.0		3813784	<1.0	3813784	<1.0	<1.0	1.0	3813784
Calculated TDS	mg/L	-	58	63	3813791	31		3813791	27	24	23	1.0	3813791	25	26	3813791	190	1.0	3813791	190	1.0	3813791	28	28	3813791	29	3813791	21	21	21	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	<1.0	<1.0	3813784	<1.0		3813784	<1.0	<1.0	<1.0	1.0	3813784	<1.0		3813784	<1.0	1.0	3813784	<1.0	1.0	3813784	<1.0	<1.0	3813784	<1.0	3813784	<1.0	<1.0	1.0	3813784	
Cation Sum	me/L	-	1.08	1.18	3813787	0.570		3813787	0.540	0.470	0.470	N/A	3813787	0.490		3813787	0.490	0.490	3813787	2.54	N/A	3813787	0.550		3813787	0.540	3813787	0.420	0.410	N/A	3813787	
Hardness (CaCO3)	mg/L	-	3.4	3.36	3813785	1.11		3813785	7.7	4.5	4.5	1.0	3813785	6.6	6.7	3813785	6.7	1.0	3813785	9.25	1.0	3813785	7.8	7.8	3813785	7.8	3813785	6.5	6.3	1.0	3813785	
Ion Balance (% Difference)	%	-	3.85	5.36	3813786	7.55		3813786	17.4	13.3	13.3	N/A	3813786	12.6	8.89	3813786	8.89	3.79	N/A	3813786	3.79	N/A	3813786	17.0		3813786	12.5	3813786	21.7	17.1	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-1.57	-1.73	3813789	-3.60		3813789	NC	NC	NC	NC	3813789	NC	-0.327	3813789	NC	3813789	NC	3813789	-0.327	3813789	NC	NC	3813789	NC	3813789	NC	NC	NC	3813789	
Langelier Index (@ 4C)	N/A	-	-1.82	-1.99	3813790	-3.85		3813790	NC	NC	NC	NC	3813790	NC	-0.577	3813790	NC	3813790	NC	3813790	-0.577	3813790	NC	NC	3813790	NC	3813790	NC	NC	NC	3813790	
Nitrate (N)	mg/L	10	0.082	0.087	3813329	0.067		3813329	0.058	<0.050	<0.050	0.050	3813329	<0.050	0.050	3813329	<0.050	0.050	3813329	<0.050	0.050	3813329	<0.050	<0.050	3813329	<0.050	3813329	<0.050	<0.050	0.050	0.050	3813329
Saturation pH (@ 20C)	N/A	-	8.86	9.00	3813789	10.1		3813789	NC	NC	NC	NC	3813789	NC	7.90	3813789	NC	3813789	NC	3813789	7.90	NC	3813789	NC	NC	3813789	NC	3813789	NC	NC	3813789	
Saturation pH (@ 4C)	N/A	-	9.11	9.26	3813790	10.3		3813790	NC	NC	NC	NC	3813790	NC	8.15	3813790	NC	3813790	NC	3813790	8.15	NC	3813790	NC	NC	3813790	NC	3813790	NC	NC	3813790	
Total Alkalinity (Total as CaCO3)	mg/L	-	24	22	3823280	5.7		3823280	<5.0	<5.0	<5.0	5.0	3823280	<5.0		3823280	<5.0	5.0	3823280	93	5.0	3823280	<5.0		3823280	<5.0	3823280	<5.0	<5.0	5.0	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	15	19	3823281	12		3823281	13	13	13	1.0	3823281	13	14	3823281	15	13	3823281	16	1.0	3823281	15	13	3823281	14	3823281	9.7	10	10	1.0	3823281
Colour	TCU	-	260	92	3823284	140		3823284	69	67	73	25	3823284	31	34	3823284	34	3823284	34	3823284	34	3823284	34	120	3823284	89	3823284	69	65	25	3823284	
Nitrate + Nitrite	mg/L	-	0.082	0.087	3823286	0.067		3823286	0.058	<0.050	<0.050	0.050	3823286	<0.050	0.050	3823286	<0.050	0.050	3823286	<0.050	0.050	3823286	<0.050	<0.050	3823286	<0.050	3823286	<0.050	<0.050	0.050	0.050	3823286
Nitrite (N)	mg/L	1	<0.010	<0.010	3823287	<0.010		3823287	<0.010	<0.010	<0.010	0.010	3823287	<0.010	0.010	3823287	<0.010	0.010	3823287	<0.010	0.010	3823287	<0.010	<0.010	3823287	<0.010	3823287	<0.010	<0.010	0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	<0.050	<0.050	3823460	<0.050		3823460	<0.050	<0.050	<0.050	0.050	3823460	<0.050	0.050	3823460	<0.050	0.050	3823460	<0.050	0.050	3823460	<0.050	0.052	3823460	<0.050	3823460	<0.050	<0.050	0.050	0.050	3823460
Total Organic Carbon (C)	mg/L	-	9.1	10	3821731	11		3821731	6.9	7.5	6.6	0.50	3821731	4.1	4.0	3821731	4.2	0.50	3821731	4.1	0.50	3821731	11	11	3821731	9.3	3821731	6.9	6.9	6.9	1.0	3821731
Orthophosphate (P)	mg/L	-	<0.010	<0.010	3823285	<0.010		3823285	<0.010	<0.010	<0.010	0.010	3823285	<0.010	0.010	3823285	<0.010	0.010	3823285	<0.010	0.010	3823285	<0.010	<0.010	3823285	<0.010	3823285	<0.010	<0.010	0.010	0.010	3823285
pH	pH	-	8.5	8.5	3823284	6.50		3823284	6.15	5.16	4.98	N/A	3823284	5.65	5.65	3823284	5.65	7.57	N/A	3823284	7.57	N/A	3823284	5.88		3823284	5.92	3823284	6.02	6.03	N/A	3823284
Reactive Silica (SiO2)	mg/L	-	3.9	3.8	3823283	2.5		3823283	2.2	0.67	0.60	0.50	3823283	0.84	0.85	3823283	0.85	7.6	0.50	3823283	7.6	0.50	3823283	2.8		3823283	2.3	3823283	1.9	1.9	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	3823282	<2.0		3823282	<2.0	<2.0	<2.0	<2.0	3823282	<2.0	16	2.0	3823282	<2.0	16	2.0	3823282	<2.0	<2.0	3823282	<2.0	3823282	<2.0	3823282	<2.0	<2.0	2.0	3823282
Turbidity	NTU	0.3	1.3	2.5	3825931	1.5		3825931	1.0	0.60	0.64	0.10	3825931	0.92	0.95	3825931	0.63	0.63	3825931	6.0	2.0	3825931	2.9	2.9	3825931	2.6	3825931	1.0	4.0	0.83	0.10	3825931
Conductivity	uS/cm	-	110	110	3823285	55		3823285	54	54	53	1.0	3823285	52	52	3823285	52	250	1.0	3823285	250	1.0	3823285	56		3823285	54	3823285	40	39	1.0	3823285
Metals																																
Total Aluminum (Al)	ug/L	-	100	310	3815304	290		3815304	330	170	290	5.0	3815304	170	180	3815304	170	5.0	3815304	170	5.0	3815304	610		3815304	460	3815304	130	130	5.0	3815304	
Total Antimony (Sb)	ug/L	-	<1.0	<1.0	3815304	<1.0		3815304	<1.0	<1.0	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	<1.0	3815304	<1.0	3815304	<1.0	<1.0	1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	<1.0	<1.0	3815304	<1.0		3815304	<1.0	<1.0	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.2	3815304	1.1	3815304	<1.0	<1.0	1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	97	110	3815304	19		3815304	3.7	2.8	3.1	1.0	3815304	3.2	3.1	3815304	3.1	3815304	3.1	3815304	97	1.0	3815304	8.3		3815304	8.5	3815304	13	14	1.0	3815304
Total Beryllium (Be)	ug/L	-	<1.0	<1.0	3815304	<1.0		3815304	<1.0	<1.0	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	1.0	3815304	<1.0	<1.0	3815304	<1.0	3815304	<1.0	<1.0	1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	<2.0	<2.0	3815304	<2.0		3815304	<2.0	<2.0	<2.0	2.0	3815304	<2.0	2.0	3815304	<2.0	2.0	3815304	<2.0	2.0	3815304	<2.0	<2.0	3815304	<2.0	3815304	<2.0				

Maxxam Job #: B4K8828
 Report Date: 2014/11/24

Golder Associates Ltd
 Client Project #: 1407707
 Site Location: CFI/ST.LAWRENCE,NL
 Sampler Initials: AI

RESULTS OF ANALYSES OF

Maxxam ID				YI3664	YI3664		YI3665	YI3666	YI3666	YI3667	YI3668	YI3669	YI3670		YI3671			YI3672		YI3673	YI3674	YI3675	YI3675	YI3676			
Sampling Date				2014/11/03 13:35	2014/11/03 13:35		2014/11/03 14:00	2014/11/03 14:55	2014/11/03 14:55	2014/11/03 16:00	2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10		2014/11/04 10:20			2014/11/04 11:15		2014/11/04 11:50	2014/11/04 12:15	2014/11/04 14:50	2014/11/04 14:50	2014/11/04 15:15			
COC Number				B 128762	B		B 128762	B 128762	B 128762	B 128762	B 128762	B 128762	B 128762		B 128762			B 128762		B 128762	B 128763	B 128763	B 128763	B 128763	B 128763		
	Units	Criteria A	AO	WS-2	WS-2 Lab-Dup	RDL	WS-5	WS-10	WS-10 Lab-Dup	WQ STA-2	WQ STA-9	WQ STA-8	WQ STA-3	QC Batch	WQ STA-4	RDL	QC Batch	MW14-04A	RDL	WQ STN-1	WQ STN-7	WQ STN-6	WQ STN-6 Lab-Dup	WQ STN-5	RDL	QC Batch	
Field Measurements																											
Field pH	pH	-	-	6.00		N/A	6.23	6.11		5.95	3.70	3.94	4.69	ONSITE	4.76	N/A	ONSITE	6.22	N/A	5.92	5.94	5.68		5.53	N/A	ONSITE	
Inorganics																											
Total Dissolved Solids	mg/L	-	500	52		20	85	48		49	36	37	38	3821546	38	10	3821546	170	20	63	61	51		46	20	3823470	
Dissolved Fluoride (F-)	mg/L	1.5	-	1.6		0.10	1.5	0.41	0.40	0.24	<0.10	<0.10	0.16	3815638	0.16	0.10	3815638	1.7	0.10	0.22	0.21	<0.10		<0.10	0.10	3815638	
Dissolved Organic Carbon (C)	mg/L	-	-	8.9		0.50	9.7	11		7.2	7.5	7.0	4.1	3821726	4.3	0.50	3825851	3.5	0.50	12	9.6	6.6		6.7	0.50	3825851	
Total Phosphorus	mg/L	-	-	<0.020		0.020	<0.020	0.029		<0.020	<0.020	0.030	<0.020	3823358	0.030	0.020	3823358	0.028	0.020	0.027	0.031	0.025		0.025	0.020	3823358	
Total Suspended Solids	mg/L	-	-	1.6		1.0	3.6	3.6		1.4	<1.0	<1.0	1.0	3817326	<1.0	1.0	3817326	7.9	2.0	1.6	1.2	1.4		1.4	1.0	3817326	
Sulphide	mg/L	-	0.05	<0.020	<0.020	0.020	<0.020	<0.020		<0.020	<0.020	<0.020	<0.020	3816944	<0.020	0.020	3816944	<0.020	0.020	<0.020	<0.020	<0.020		<0.020	0.020	3816944	
Bromide (Br-)	mg/L	-	-	<1.0		1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	3817015	<1.0	1.0	3817015	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	3817015	

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 EDL = Estimated Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
 Report Date: 2014/11/28

Golder Associates Ltd
 Client Project #: 1407707/4
 Site Location: CFI/ST.LAWRENCE,NL
 Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4528	YE4528	YE4529		YE4530	YE4530			YE4531			YE4532			YI3672			
Sampling Date				2014/10/24 11:30	2014/10/24 11:30	2014/10/24 13:20		2014/10/24 15:00	2014/10/24 15:00			2014/10/25 11:45			2014/10/26 15:10			2014/11/04 11:15			
COC Number				B 128761	B 128761	B 128761		B 128761	B 128761			B 128761			B 128761			B 128762			
	Units	Criteria A	AO	MW14-01A	MW14-01A Lab-Dup	MW14-02A	RDL	QC Batch	MW14-03A	MW14-03A Lab-Dup	RDL	QC Batch	PGS-93B	RDL	QC Batch	PGS-124	RDL	QC Batch	MW14-04A	RDL	QC Batch
Calculated Parameters																					
Anion Sum	me/L	-	-	1.25		2.08	N/A	3801231	0.720		N/A	3801231	1.93	N/A	3801231	1.26	N/A	3801231	2.74	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	36		72	1.0	3801228	11		1.0	3801228	61	1.0	3801228	13	1.0	3801228	93	1.0	3813784
Calculated TDS	mg/L	-	500	74		120	1.0	3801237	70		1.0	3801237	110	1.0	3801237	170	1.0	3801237	150	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		<1.0	1.0	3801228	<1.0		1.0	3801228	<1.0	1.0	3801228	<1.0	1.0	3801228	<1.0	1.0	3813784
Cation Sum	me/L	-	-	1.25		1.96	N/A	3801231	1.49		N/A	3801231	1.90	N/A	3801231	4.47	N/A	3801231	2.54	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	39		64	1.0	3801229	19		1.0	3801229	64	1.0	3801229	80	1.0	3801229	92	1.0	3813785
Ion Balance (% Difference)	%	-	-	0.00		2.97	N/A	3801230	34.8		N/A	3801230	0.780	N/A	3801230	56.0	N/A	3801230	3.79	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	-1.30		-0.557		3801235	-3.30			3801235	-0.167		3801235	-2.33		3801235	-0.327		3813789
Langelier Index (@ 4C)	N/A	-	-	-1.55		-0.807		3801236	-3.55			3801236	-0.418		3801236	-2.58		3801236	-0.577		3813790
Nitrate (N)	mg/L	10	-	<0.050		<0.050	0.050	3801232	<0.050		0.050	3801232	<0.050	0.050	3801232	0.17	0.050	3801232	<0.050	0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	8.66		8.19		3801235	9.81			3801235	8.19		3801235	9.13		3801235	7.90		3813789
Saturation pH (@ 4C)	N/A	-	-	8.91		8.44		3801236	10.1			3801236	8.44		3801236	9.38		3801236	8.15		3813790
Inorganics																					
Total Alkalinity (Total as CaCO3)	mg/L	-	-	36	36	73	5.0	3803507	11		5.0	3803507	62	5.0	3803507	13	5.0	3803507	93	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	15	14	17	1.0	3803513	17		1.0	3803513	14	1.0	3803513	25	1.0	3803513	16	1.0	3823281
Colour	TCU	-	15	<5.0	<5.0	8.5	5.0	3803517	160		25	3803517	<5.0	5.0	3803517	95	25	3803517	10	5.0	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050	<0.050	<0.050	0.050	3803519	<0.050		0.050	3803519	<0.050	0.050	3803519	0.17	0.050	3803519	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	<0.010	<0.010	0.010	3803520	<0.010		0.010	3803520	<0.010	0.010	3803520	<0.010	0.010	3803520	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	0.061		<0.050	0.050	3804761	0.085		0.050	3804761	<0.050	0.050	3804761	0.060	0.050	3809291	0.075	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	3.5		8.7	0.50	3813443	38 (1)		5.0	3801325	<0.50	0.50	3801325	21 (1)	5.0	3801325	4.2	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	<0.010	0.010	3803518	0.011		0.010	3803518	<0.010	0.010	3803518	<0.010	0.010	3803518	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	7.36		7.63	N/A	3810222	6.51		6.51	3802765	8.02	N/A	3810222	6.80	N/A	3810222	7.57	N/A	3823423
Reactive Silica (SiO2)	mg/L	-	-	6.7	6.7	11	0.50	3803516	9.9		0.50	3803516	9.7	0.50	3803516	19	0.50	3803516	7.6	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	4.0	3.9	4.6	2.0	3803514	<2.0		2.0	3803514	8.2	2.0	3803514	10	2.0	3803514	16	2.0	3823282
Turbidity	NTU	0.3	-	27		13	0.10	3810731	150		0.50	3810731	7.6	0.10	3810731	660	5.0	3810731	6.0	0.10	3825931
Conductivity	uS/cm	-	-	120		180	1.0	3810230	83		83	3802766	180	1.0	3810230	130	1.0	3810230	250	1.0	3823429
Metals																					
Total Aluminum (Al)	ug/L	-	100	610		710	5.0	3802699	15000		5.0	3802699	580	5.0	3802699	39000	5.0	3802699	170	5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0		<1.0	1.0	3802699	4.0		1.0	3802699	<1.0	1.0	3802699	<1.0	1.0	3802699	<1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	-	4.8		<1.0	1.0	3802699	120		1.0	3802699	26	1.0	3802699	23	1.0	3802699	<1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	-	74		42	1.0	3802699	190		1.0	3802699	32	1.0	3802699	740	1.0	3802699	97	1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0		<1.0	1.0	3802699	3.0		1.0	3802699	<1.0	1.0	3802699	3.6	1.0	3802699	<1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0		<2.0	2.0	3802699	<2.0		2.0	3802699	<2.0	2.0	3802699	<2.0	2.0	3802699	<2.0	2.0	3815304
Total Boron (B)	ug/L	5000	-	<50		<50	50	3802699	<50		50	3802699	<50	50	3802699	<50	50	3802699	<50	50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.24		0.99	0.010	3802699	3.2		0.010	3802699	0.11	0.010	3802699	2.6	0.010	3802699	0.25	0.010	3815304
Total Calcium (Ca)	ug/L	-	-	13000		21000	100	3802699	3500		100	3802699	24000	100	3802699	13000	100	3802699	32000	100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0		<1.0	1.0	3802699	12		1.0	3802699	<1.0	1.0	3802699	56	1.0	3802699	2.7	1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40		0.98	0.40	3802699	8.6		0.40	3802699	<0.40	0.40	3802699	26	0.40	3802699	0.75	0.40	3815304
Total Copper (Cu)	ug/L	-	1000	5.2		4.4	2.0	3802699	110		2.0	3802699	3.1	2.0	3802699	120	2.0	3802699	7.8	2.0	3815304
Total Iron (Fe)	ug/L	-	300	490		670	50	3802699	15000		50	3802699	640	50	3802699	53000	50	3802699	340	50	3815304
Total Lead (Pb)	ug/L	10	-	7.3		4.4	0.50	3802699	1000		0.50	3802699	4.6	0.50	3802699	250	0.50	3802699	2.9	0.50	3815304
Total Lithium (Li)	ug/L	-	-	8.3		13	2.0	3802699	30		2.0	3802699	65	2.0	3802699	140	2.0	3802699	17	2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	1500		3100	100	3802699	2400		100	3802699	1000	100	3802699	11000	100	3802699	2600	100	3815304
Total Manganese (Mn)	ug/L	-	50	44		120	2.0	3802699	800		2.0	3802699	19	2.0	3802699	1100	2.0	3802699	170	2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	2.1		<2.0	2.0	3802699	7.6		2.0	3802699	7.1	2.0	3802699	9.2	2.0	3802699	13	2.0	3815304
Total Nickel (Ni)	ug/L	-	-	<2.0		3.6	2.0	3802699	12		2.0	3802699	<2.0	2.0	3802699	52	2.0	3802699	3.9	2.0	3815304
Total Phosphorus (P)	ug/L	-	-	100		<100	100	3802699	380		100	3802699	100	100	3802699	840	100	3802699	<100	100	3815304
Total Potassium (K)	ug/L	-	-	1400		1400	100	3802699	1800		100	3802699	1200	100	3802699	10000	100	3802699	1300	100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0		<1.0	1.0	3802699	1.0		1.0	3802699	<1.0	1.0	3802699	1.1	1.0	3802699	<1.0	1.0	3815304
Total Silicon (Si)	ug/L	-	-	3400		5500	500	3802699	9900		500	3802699	5000	500	3802699	39000	500	3802699	3500	500	3815304
Total Silver (Ag)	ug/L	-	-	0.10		0.15	0.10	3802699	0.86		0.10	3802699	0.17	0.10	3802699	13	0.10	3802699	<0.10	0.10	3815304
Total Sodium (Na)	ug/L	-	200000	9700		14000	100	3802699	12000		100	3802699	13000	100	3802699	16000	100	3802699	15000	100	3815304
Total Strontium (Sr)	ug/L	-	-																		

Maxxam Job #: B4K1255
 Report Date: 2014/11/28

Golder Associates Ltd
 Client Project #: 1407707/4
 Site Location: CFI/ST.LAWRENCE,NL
 Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4528	YE4528	YE4529			YE4530	YE4530			YE4531			YE4532			Y13672			
Sampling Date				2014/10/24 11:30	2014/10/24 11:30	2014/10/24 13:20			2014/10/24 15:00	2014/10/24 15:00			2014/10/25 11:45			2014/10/26 15:10			2014/11/04 11:15			
COC Number				B 128761	B 128761	B 128761			B 128761	B 128761			B 128761			B 128761			B 128762			
	Units	Criteria A	AO	MW14-01A	MW14-01A Lab-Dup	MW14-02A	RDL	QC Batch	MW14-03A	MW14-03A Lab-Dup	RDL	QC Batch	PGS-93B	RDL	QC Batch	PGS-124	RDL	QC Batch	MW14-04A	RDL	QC Batch	
Total Uranium (U)	ug/L	20	-	0.43	0.54	0.10	3802699	6.1	0.10	3802699	3.6	0.10	3802699	3.5	0.10	3802699	5.1	0.10	3815304	5.1	0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0		<2.0	2.0	3802699	22		2.0	3802699	<2.0	2.0	3802699	47	2.0	3802699	<2.0	2.0	3815304	
Total Zirconium (Zr)	ug/L	-	-	<2.0		<2.0	2.0	3802699	3.3		2.0	3802699	<2.0	2.0	3802699	3.6	2.0	3802699	<2.0	2.0	3815304	
Total Zinc (Zn)	ug/L	-	5000	48		64	5.0	3802699	380		5.0	3802699	25	5.0	3802699	540	5.0	3802699	800	5.0	3815304	

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 EDL = Estimated Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

(1) Reporting limit was increased due to turbidity.

Maxxam Job #: B4K1255
 Report Date: 2014/11/28

Golder Associates Ltd
 Client Project #: 1407707/4
 Site Location: CFI/ST.LAWRENCE,NL
 Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YE4528		YE4529			YE4530		YE4531	YE4531		YE4532			YI3672			
Sampling Date				2014/10/24 11:30		2014/10/24 13:20			2014/10/24 15:00		2014/10/25 11:45	2014/10/25 11:45		2014/10/26 15:10			2014/11/04 11:15			
COC Number				B 128761		B 128761			B 128761		B 128761	B 128761		B 128761			B 128762			
	Units	Criteria A	AO	MW14-01A	RDL	MW14-02A	RDL	QC Batch	MW14-03A	RDL	PGS-93B	PGS-93B Lab-Dup	RDL	PGS-124	RDL	QC Batch	MW14-04A	RDL	QC Batch	
Field Measurements																				
Field pH	pH	-	-														N/A	6.22	N/A	ONSITE
Inorganics																				
Total Dissolved Solids	mg/L	-	500	97	20	150	20	3811569	210	40	110		20	140	20	3811569	170	20	3823470	
Dissolved Fluoride (F-)	mg/L	1.5	-	0.55	0.10	0.80	0.10	3806847	0.28	0.10	2.6		0.10	1.3	0.10	3806847	1.7	0.10	3815638	
Dissolved Organic Carbon (C)	mg/L	-	-	7.8	0.50	11	0.50	3813442	29 (1)	5.0	<0.50		0.50	11	0.50	3801537	3.5	0.50	3825851	
Total Phosphorus	mg/L	-	-	0.026	0.020	0.027	0.020	3810800	0.24	0.020	0.028		0.020	0.81	0.10	3810800	0.028	0.020	3823358	
Total Suspended Solids	mg/L	-	-	<10	10	<5.0	5.0	3806746	55	5.0	15		2.0	1100	20	3806746	7.9	2.0	3817326	
Sulphide	mg/L	-	0.05	<0.020	0.020	<0.020	0.020	3804000	0.025	0.020	<0.020		0.020	<0.020	0.020	3804000	<0.020	0.020	3816944	
Bromide (Br-)	mg/L	-	-	<1.0	1.0	<1.0	1.0	3806128	<1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0	3806128	<1.0	1.0	3817015	

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 EDL = Estimated Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

(1) Elevated reporting limit due to sample matrix.

Your Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128762, B 128763

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/24
Report #: R3231712
Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4K8828

Received: 2014/11/06, 10:07

Sample Matrix: Water
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Carbonate, Bicarbonate and Hydroxide	3	N/A	2014/11/14	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	10	N/A	2014/11/17	N/A	SM 22 4500-CO2 D
Alkalinity	13	N/A	2014/11/19	ATL SOP 00013	EPA 310.2 R1974 m
Anions (1)	13	N/A	2014/11/10	CAM SOP-00435	SM 22 4110 B m
Chloride	13	N/A	2014/11/18	ATL SOP 00014	SM 22 4500-CI- E m
Colour	13	N/A	2014/11/17	ATL SOP 00020	SM 22 2120C m
Organic carbon - Diss (DOC) (2)	7	N/A	2014/11/13	ATL SOP 00037	SM 22 5310C m
Organic carbon - Diss (DOC) (2)	6	N/A	2014/11/17	ATL SOP 00037	SM 22 5310C m
Conductance - water	13	N/A	2014/11/14	ATL SOP 00004	SM 22 2510B m
Fluoride	13	N/A	2014/11/07	ATL SOP 00043	SM 22 4500-F- C m
Hardness (calculated as CaCO3)	11	N/A	2014/11/10	ATL SOP 00048	SM 22 2340 B
Hardness (calculated as CaCO3)	2	N/A	2014/11/13	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL)	1	2014/11/10	2014/11/17	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	11	2014/11/12	2014/11/13	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	1	2014/11/17	2014/11/17	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS (3)	11	2014/11/07	2014/11/08	ATL SOP 00058	EPA 6020A R1 m
Metals Water Total MS (3)	2	2014/11/10	2014/11/12	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	13	N/A	2014/11/19		Auto Calc.
Anion and Cation Sum	3	N/A	2014/11/17		Auto Calc.
Anion and Cation Sum	10	N/A	2014/11/18		Auto Calc.
Nitrogen Ammonia - water	3	N/A	2014/11/14	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	10	N/A	2014/11/17	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	13	N/A	2014/11/18	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite	13	N/A	2014/11/17	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N)	13	N/A	2014/11/18	ATL SOP 00018	ASTM D3867
pH - On-Site	13	N/A	2014/11/06		
pH (4)	13	N/A	2014/11/14	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho	13	N/A	2014/11/17	ATL SOP 00021	EPA 365.2 m
Sat. pH and Langelier Index (@ 20C)	13	N/A	2014/11/19	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	13	N/A	2014/11/19	ATL SOP 00049	Auto Calc.
Reactive Silica	13	N/A	2014/11/17	ATL SOP 00022	EPA 366.0 m
Sulphate	13	N/A	2014/11/18	ATL SOP 00023	EPA 375.4 R1978 m
Sulphide (1)	13	N/A	2014/11/09	CAM SOP-00455	SM 22 4500-S G m
Total Dissolved Solids (Filt. Residue)	8	N/A	2014/11/14	ATL SOP 00009	EPA 160.1 m

Your Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128762, B 128763

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/24
Report #: R3231712
Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT

-2-

Sample Matrix: Water
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Total Dissolved Solids (Filt. Residue)	5	N/A	2014/11/17	ATL SOP 00009	EPA 160.1 m
Total Dissolved Solids (TDS calc)	13	N/A	2014/11/19		Auto Calc.
Organic carbon - Total (TOC) (2)	13	N/A	2014/11/13	ATL SOP 00037	SM 22 5310C m
Total Phosphorus (Colourimetric) (1)	13	2014/11/14	2014/11/14	CAM SOP-00407	SM 4500 P B F m
Total Suspended Solids	13	N/A	2014/11/12	ATL SOP 00007	EPA 160.2 m
Turbidity	13	N/A	2014/11/17	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Analytics Mississauga

- (2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.
- (3) New RDLs in effect due to release of NS Contaminated Sites Regulations. Reduced RDL based on MDL study performance. Low level analytical run checks being implemented.
- (4) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Heather Macumber Heather Macumber
24 Nov 2014 13:46:43 -04:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Heather Macumber, Project Manager
Email: HMacumber@maxxam.ca
Phone# (902) 420-0203 Ext:226

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Page 3 of 57

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3664	YI3665		
Sampling Date				2014/11/03 13:35	2014/11/03 14:00		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-2	WS-5	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	-	-	1.00	1.06	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	24	22	1.0	3813784
Calculated TDS	mg/L	-	500	58	63	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	<1.0	1.0	3813784
Cation Sum	me/L	-	-	1.08	1.18	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	34	31	1.0	3813785
Ion Balance (% Difference)	%	-	-	3.85	5.36	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	-1.57	-1.73		3813789
Langelier Index (@ 4C)	N/A	-	-	-1.82	-1.98		3813790
Nitrate (N)	mg/L	10	-	0.082	0.087	0.050	3813329
Saturation pH (@ 20C)	N/A	-	-	8.86	9.00		3813789
Saturation pH (@ 4C)	N/A	-	-	9.11	9.26		3813790
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	-	-	24	22	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	15	19	1.0	3823281
Colour	TCU	-	15	90	100	25	3823284
Nitrate + Nitrite	mg/L	-	-	0.082	0.087	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	<0.050	0.050	3823460
Total Organic Carbon (C)	mg/L	-	-	9.1	10	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	7.29	7.28	N/A	3823264

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3664	YI3665		
Sampling Date				2014/11/03 13:35	2014/11/03 14:00		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-2	WS-5	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	3.9	3.8	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	<2.0	2.0	3823282
Turbidity	NTU	0.3	-	1.3	2.5	0.10	3825930
Conductivity	uS/cm	-	-	99	110	1.0	3823265
Metals							
Total Aluminum (Al)	ug/L	-	100	310	430	5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0	<1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0	<1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	-	97	110	1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0	<1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Boron (B)	ug/L	5000	-	<50	<50	50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.043	0.052	0.010	3815304
Total Calcium (Ca)	ug/L	-	-	12000	9900	100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0	<1.0	1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40	<0.40	0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0	2.6	2.0	3815304
Total Iron (Fe)	ug/L	-	300	300	440	50	3815304
Total Lead (Pb)	ug/L	10	-	2.7	5.5	0.50	3815304
Total Lithium (Li)	ug/L	-	-	<2.0	2.1	2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	1000	1400	100	3815304
Total Manganese (Mn)	ug/L	-	50	18	64	2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	2.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3664	YI3665		
Sampling Date				2014/11/03 13:35	2014/11/03 14:00		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-2	WS-5	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100	<100	100	3815304
Total Potassium (K)	ug/L	-	-	470	700	100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0	<1.0	1.0	3815304
Total Silicon (Si)	ug/L	-	-	1900	2000	500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10	<0.10	0.10	3815304
Total Sodium (Na)	ug/L	-	200000	8900	12000	100	3815304
Total Strontium (Sr)	ug/L	-	-	21	25	2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000	<5000	5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Titanium (Ti)	ug/L	-	-	5.6	6.0	2.0	3815304
Total Uranium (U)	ug/L	20	-	0.58	0.74	0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0	<2.0	2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	5.4	9.5	5.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3666	YI3666		
Sampling Date				2014/11/03 14:55	2014/11/03 14:55		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-10	WS-10 Lab-Dup	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	-	-	0.490		N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	5.7		1.0	3813784
Calculated TDS	mg/L	-	500	31		1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3813784
Cation Sum	me/L	-	-	0.570		N/A	3813787
Hardness (CaCO3)	mg/L	-	-	11		1.0	3813785
Ion Balance (% Difference)	%	-	-	7.55		N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	-3.60			3813789
Langelier Index (@ 4C)	N/A	-	-	-3.85			3813790
Nitrate (N)	mg/L	10	-	0.067		0.050	3813329
Saturation pH (@ 20C)	N/A	-	-	10.1			3813789
Saturation pH (@ 4C)	N/A	-	-	10.3			3813790
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	-	-	5.7	5.3	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	12	12	1.0	3823281
Colour	TCU	-	15	140	140	25	3823284
Nitrate + Nitrite	mg/L	-	-	0.067	0.067	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050		0.050	3823460
Total Organic Carbon (C)	mg/L	-	-	11		0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	6.50		N/A	3823264

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3666	YI3666		
Sampling Date				2014/11/03 14:55	2014/11/03 14:55		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-10	WS-10 Lab-Dup	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	2.5	2.6	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	<2.0	2.0	3823282
Turbidity	NTU	0.3	-	1.5		0.10	3825931
Conductivity	uS/cm	-	-	55		1.0	3823265
Metals							
Total Aluminum (Al)	ug/L	-	100	290		5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0		1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0		1.0	3815304
Total Barium (Ba)	ug/L	1000	-	19		1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0		1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0		2.0	3815304
Total Boron (B)	ug/L	5000	-	<50		50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.047		0.010	3815304
Total Calcium (Ca)	ug/L	-	-	2900		100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0		1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40		0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0		2.0	3815304
Total Iron (Fe)	ug/L	-	300	620		50	3815304
Total Lead (Pb)	ug/L	10	-	1.3		0.50	3815304
Total Lithium (Li)	ug/L	-	-	<2.0		2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	890		100	3815304
Total Manganese (Mn)	ug/L	-	50	75		2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0		2.0	3815304

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3666	YI3666		
Sampling Date				2014/11/03 14:55	2014/11/03 14:55		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WS-10	WS-10 Lab-Dup	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	<2.0		2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100		100	3815304
Total Potassium (K)	ug/L	-	-	390		100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0		1.0	3815304
Total Silicon (Si)	ug/L	-	-	1200		500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10		0.10	3815304
Total Sodium (Na)	ug/L	-	200000	7400		100	3815304
Total Strontium (Sr)	ug/L	-	-	14		2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000		5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0		2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10		0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0		2.0	3815304
Total Titanium (Ti)	ug/L	-	-	3.9		2.0	3815304
Total Uranium (U)	ug/L	20	-	0.46		0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0		2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0		2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	6.0		5.0	3815304

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3667	YI3668	YI3669		
Sampling Date				2014/11/03 16:00	2014/11/04 08:45	2014/11/04 09:05		
COC Number				B 128762	B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-2	WQ STA-9	WQ STA-8	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	-	-	0.380	0.360	0.360	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	<1.0	<1.0	1.0	3813784
Calculated TDS	mg/L	-	500	27	24	23	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	<1.0	<1.0	1.0	3813784
Cation Sum	me/L	-	-	0.540	0.470	0.470	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	7.7	4.5	4.6	1.0	3813785
Ion Balance (% Difference)	%	-	-	17.4	13.3	13.3	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC	NC	NC		3813789
Langelier Index (@ 4C)	N/A	-	-	NC	NC	NC		3813790
Nitrate (N)	mg/L	10	-	0.058	<0.050	<0.050	0.050	3813329
Saturation pH (@ 20C)	N/A	-	-	NC	NC	NC		3813789
Saturation pH (@ 4C)	N/A	-	-	NC	NC	NC		3813790
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0	<5.0	<5.0	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	13	13	13	1.0	3823281
Colour	TCU	-	15	69	67	73	25	3823284
Nitrate + Nitrite	mg/L	-	-	0.058	<0.050	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	<0.010	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	<0.050	<0.050	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	6.9	7.5	6.6	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	6.15	5.16	4.98	N/A	3823423
Reactive Silica (SiO2)	mg/L	-	-	2.2	0.67	0.60	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	<2.0	<2.0	2.0	3823282

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3667	YI3668	YI3669		
Sampling Date				2014/11/03 16:00	2014/11/04 08:45	2014/11/04 09:05		
COC Number				B 128762	B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-2	WQ STA-9	WQ STA-8	RDL	QC Batch

Turbidity	NTU	0.3	-	1.0	0.60	0.64	0.10	3825931
Conductivity	uS/cm	-	-	54	54	53	1.0	3823429
Metals								
Total Aluminum (Al)	ug/L	-	100	330	280	290	5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0	<1.0	<1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0	<1.0	<1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	-	3.7	2.6	3.1	1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0	<1.0	<1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Boron (B)	ug/L	5000	-	<50	<50	<50	50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.030	0.040	0.044	0.010	3815304
Total Calcium (Ca)	ug/L	-	-	1400	380	380	100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0	<1.0	<1.0	1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40	<0.40	<0.40	0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0	<2.0	<2.0	2.0	3815304
Total Iron (Fe)	ug/L	-	300	440	200	150	50	3815304
Total Lead (Pb)	ug/L	10	-	0.88	0.68	0.96	0.50	3815304
Total Lithium (Li)	ug/L	-	-	2.1	<2.0	<2.0	2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	1000	860	890	100	3815304
Total Manganese (Mn)	ug/L	-	50	19	35	34	2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	100	3815304
Total Potassium (K)	ug/L	-	-	400	270	250	100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0	<1.0	<1.0	1.0	3815304

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3667	YI3668	YI3669		
Sampling Date				2014/11/03 16:00	2014/11/04 08:45	2014/11/04 09:05		
COC Number				B 128762	B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-2	WQ STA-9	WQ STA-8	RDL	QC Batch

Total Silicon (Si)	ug/L	-	-	1100	<500	<500	500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	0.10	3815304
Total Sodium (Na)	ug/L	-	200000	8300	8300	8200	100	3815304
Total Strontium (Sr)	ug/L	-	-	9.6	5.3	5.7	2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000	<5000	<5000	5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Titanium (Ti)	ug/L	-	-	2.8	2.5	2.9	2.0	3815304
Total Uranium (U)	ug/L	20	-	<0.10	<0.10	<0.10	0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	6.3	7.7	8.9	5.0	3815304

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3670	YI3670		
Sampling Date				2014/11/04 10:10	2014/11/04 10:10		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-3	WQ STA-3 Lab-Dup	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	-	-	0.380		N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3813784
Calculated TDS	mg/L	-	500	25		1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3813784
Cation Sum	me/L	-	-	0.490		N/A	3813787
Hardness (CaCO3)	mg/L	-	-	6.6		1.0	3813785
Ion Balance (% Difference)	%	-	-	12.6		N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC			3813789
Langelier Index (@ 4C)	N/A	-	-	NC			3813790
Nitrate (N)	mg/L	10	-	<0.050		0.050	3813329
Saturation pH (@ 20C)	N/A	-	-	NC			3813789
Saturation pH (@ 4C)	N/A	-	-	NC			3813790
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0		5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	13		1.0	3823281
Colour	TCU	-	15	31		5.0	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050		0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010		0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050		0.050	3821900
Total Organic Carbon (C)	mg/L	-	-	4.1	4.0	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010		0.010	3823285
pH	pH	-	6.5 : 8.5	5.65		N/A	3823423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3670	YI3670		
Sampling Date				2014/11/04 10:10	2014/11/04 10:10		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-3	WQ STA-3 Lab-Dup	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	0.84		0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0		2.0	3823282
Turbidity	NTU	0.3	-	0.92	0.95	0.10	3825931
Conductivity	uS/cm	-	-	52		1.0	3823429
Metals							
Total Aluminum (Al)	ug/L	-	100	170		5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0		1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0		1.0	3815304
Total Barium (Ba)	ug/L	1000	-	3.2		1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0		1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0		2.0	3815304
Total Boron (B)	ug/L	5000	-	<50		50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.017		0.010	3815304
Total Calcium (Ca)	ug/L	-	-	1100		100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0		1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40		0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0		2.0	3815304
Total Iron (Fe)	ug/L	-	300	140		50	3815304
Total Lead (Pb)	ug/L	10	-	<0.50		0.50	3815304
Total Lithium (Li)	ug/L	-	-	<2.0		2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	960		100	3815304
Total Manganese (Mn)	ug/L	-	50	6.1		2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0		2.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3670	YI3670		
Sampling Date				2014/11/04 10:10	2014/11/04 10:10		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-3	WQ STA-3 Lab-Dup	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	<2.0		2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100		100	3815304
Total Potassium (K)	ug/L	-	-	300		100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0		1.0	3815304
Total Silicon (Si)	ug/L	-	-	<500		500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10		0.10	3815304
Total Sodium (Na)	ug/L	-	200000	7900		100	3815304
Total Strontium (Sr)	ug/L	-	-	8.3		2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000		5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0		2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10		0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0		2.0	3815304
Total Titanium (Ti)	ug/L	-	-	<2.0		2.0	3815304
Total Uranium (U)	ug/L	20	-	<0.10		0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0		2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0		2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	<5.0		5.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3671		YI3672		
Sampling Date				2014/11/04 10:20		2014/11/04 11:15		
COC Number				B 128762		B 128762		
	Units	Criteria A	AO	WQ STA-4	QC Batch	MW14-04A	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	-	-	0.410	3813787	2.74	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	3813784	93	1.0	3813784
Calculated TDS	mg/L	-	500	26	3813791	150	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	3813784	<1.0	1.0	3813784
Cation Sum	me/L	-	-	0.490	3813787	2.54	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	6.7	3813785	92	1.0	3813785
Ion Balance (% Difference)	%	-	-	8.89	3813786	3.79	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC	3813789	-0.327		3813789
Langelier Index (@ 4C)	N/A	-	-	NC	3813790	-0.577		3813790
Nitrate (N)	mg/L	10	-	<0.050	3813788	<0.050	0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	NC	3813789	7.90		3813789
Saturation pH (@ 4C)	N/A	-	-	NC	3813790	8.15		3813790
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0	3823280	93	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	14	3823281	16	1.0	3823281
Colour	TCU	-	15	34	3823284	10	5.0	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050	3823286	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	3823287	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	3821900	0.075	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	4.1	3821731	4.2	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	3823285	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	5.65	3823423	7.57	N/A	3823423
Reactive Silica (SiO2)	mg/L	-	-	0.90	3823283	7.6	0.50	3823283

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3671		YI3672		
Sampling Date				2014/11/04 10:20		2014/11/04 11:15		
COC Number				B 128762		B 128762		
	Units	Criteria A	AO	WQ STA-4	QC Batch	MW14-04A	RDL	QC Batch

Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	3823282	16	2.0	3823282
Turbidity	NTU	0.3	-	0.63	3825931	6.0	0.10	3825931
Conductivity	uS/cm	-	-	52	3823429	250	1.0	3823429
Metals								
Total Aluminum (Al)	ug/L	-	100	180	3815304	170	5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0	3815304	<1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0	3815304	<1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	-	3.1	3815304	97	1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0	3815304	<1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3815304
Total Boron (B)	ug/L	5000	-	<50	3815304	<50	50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.022	3815304	0.25	0.010	3815304
Total Calcium (Ca)	ug/L	-	-	1100	3815304	32000	100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0	3815304	2.7	1.0	3815304
Total Cobalt (Co)	ug/L	-	-	<0.40	3815304	0.75	0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0	3815304	7.8	2.0	3815304
Total Iron (Fe)	ug/L	-	300	140	3815304	340	50	3815304
Total Lead (Pb)	ug/L	10	-	<0.50	3815304	2.9	0.50	3815304
Total Lithium (Li)	ug/L	-	-	<2.0	3815304	17	2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	980	3815304	2600	100	3815304
Total Manganese (Mn)	ug/L	-	50	6.9	3815304	170	2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0	3815304	13	2.0	3815304
Total Nickel (Ni)	ug/L	-	-	<2.0	3815304	3.9	2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100	3815304	<100	100	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3671		YI3672		
Sampling Date				2014/11/04 10:20		2014/11/04 11:15		
COC Number				B 128762		B 128762		
	Units	Criteria A	AO	WQ STA-4	QC Batch	MW14-04A	RDL	QC Batch

Total Potassium (K)	ug/L	-	-	290	3815304	1300	100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0	3815304	<1.0	1.0	3815304
Total Silicon (Si)	ug/L	-	-	<500	3815304	3500	500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10	3815304	<0.10	0.10	3815304
Total Sodium (Na)	ug/L	-	200000	7800	3815304	15000	100	3815304
Total Strontium (Sr)	ug/L	-	-	8.4	3815304	140	2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000	3815304	<5000	5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10	3815304	<0.10	0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0	3815304	2.7	2.0	3815304
Total Titanium (Ti)	ug/L	-	-	<2.0	3815304	6.3	2.0	3815304
Total Uranium (U)	ug/L	20	-	<0.10	3815304	5.1	0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	<5.0	3815304	800	5.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3673	YI3673		
Sampling Date				2014/11/04 11:50	2014/11/04 11:50		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STN-1	WQ STN-1 Lab-Dup	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	-	-	0.390		N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3813784
Calculated TDS	mg/L	-	500	28		1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3813784
Cation Sum	me/L	-	-	0.550		N/A	3813787
Hardness (CaCO3)	mg/L	-	-	7.8		1.0	3813785
Ion Balance (% Difference)	%	-	-	17.0		N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC			3813789
Langelier Index (@ 4C)	N/A	-	-	NC			3813790
Nitrate (N)	mg/L	10	-	<0.050		0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	NC			3813789
Saturation pH (@ 4C)	N/A	-	-	NC			3813790
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0		5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	13		1.0	3823281
Colour	TCU	-	15	120		25	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050		0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010		0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.052	0.050	3821900
Total Organic Carbon (C)	mg/L	-	-	11		0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010		0.010	3823285
pH	pH	-	6.5 : 8.5	5.88		N/A	3823423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3673	YI3673		
Sampling Date				2014/11/04 11:50	2014/11/04 11:50		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STN-1	WQ STN-1 Lab-Dup	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	2.8		0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0		2.0	3823282
Turbidity	NTU	0.3	-	2.9		0.10	3825931
Conductivity	uS/cm	-	-	56		1.0	3823429
Metals							
Total Aluminum (Al)	ug/L	-	100	610		5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0		1.0	3815304
Total Arsenic (As)	ug/L	10	-	1.2		1.0	3815304
Total Barium (Ba)	ug/L	1000	-	8.3		1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0		1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0		2.0	3815304
Total Boron (B)	ug/L	5000	-	<50		50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.037		0.010	3815304
Total Calcium (Ca)	ug/L	-	-	1400		100	3815304
Total Chromium (Cr)	ug/L	50	-	<1.0		1.0	3815304
Total Cobalt (Co)	ug/L	-	-	0.54		0.40	3815304
Total Copper (Cu)	ug/L	-	1000	<2.0		2.0	3815304
Total Iron (Fe)	ug/L	-	300	660		50	3815304
Total Lead (Pb)	ug/L	10	-	1.4		0.50	3815304
Total Lithium (Li)	ug/L	-	-	2.7		2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	1000		100	3815304
Total Manganese (Mn)	ug/L	-	50	22		2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	<2.0		2.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
 Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3673	YI3673		
Sampling Date				2014/11/04 11:50	2014/11/04 11:50		
COC Number				B 128762	B 128762		
	Units	Criteria A	AO	WQ STN-1	WQ STN-1 Lab-Dup	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	<2.0		2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100		100	3815304
Total Potassium (K)	ug/L	-	-	490		100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0		1.0	3815304
Total Silicon (Si)	ug/L	-	-	1500		500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10		0.10	3815304
Total Sodium (Na)	ug/L	-	200000	8300		100	3815304
Total Strontium (Sr)	ug/L	-	-	10		2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000		5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0		2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10		0.10	3815304
Total Tin (Sn)	ug/L	-	-	<2.0		2.0	3815304
Total Titanium (Ti)	ug/L	-	-	7.2		2.0	3815304
Total Uranium (U)	ug/L	20	-	<0.10		0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0		2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0		2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	8.9		5.0	3815304

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13674		Y13675		
Sampling Date				2014/11/04 12:15		2014/11/04 14:50		
COC Number				B 128763		B 128763		
	Units	Criteria A	AO	WQ STN-7	QC Batch	WQ STN-6	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	-	-	0.420	3813787	0.270	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	3813784	<1.0	1.0	3813784
Calculated TDS	mg/L	-	500	29	3813791	21	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	3813784	<1.0	1.0	3813784
Cation Sum	me/L	-	-	0.540	3813787	0.420	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	7.8	3813785	6.5	1.0	3813785
Ion Balance (% Difference)	%	-	-	12.5	3813786	21.7	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC	3813789	NC		3813789
Langelier Index (@ 4C)	N/A	-	-	NC	3813790	NC		3813790
Nitrate (N)	mg/L	10	-	<0.050	3813788	<0.050	0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	NC	3813789	NC		3813789
Saturation pH (@ 4C)	N/A	-	-	NC	3813790	NC		3813790
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0	3823280	<5.0	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	14	3823281	9.7	1.0	3823281
Colour	TCU	-	15	89	3823284	69	25	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050	3823286	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	3823287	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	3823467	<0.050	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	9.3	3821731	6.9	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	3823285	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	5.92	3823423	6.02	N/A	3823423
Reactive Silica (SiO2)	mg/L	-	-	2.3	3823283	1.9	0.50	3823283

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3674		YI3675		
Sampling Date				2014/11/04 12:15		2014/11/04 14:50		
COC Number				B 128763		B 128763		
	Units	Criteria A	AO	WQ STN-7	QC Batch	WQ STN-6	RDL	QC Batch

Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	3823282	<2.0	2.0	3823282
Turbidity	NTU	0.3	-	2.6	3825931	1.0	0.10	3825931
Conductivity	uS/cm	-	-	54	3823429	40	1.0	3823429
Metals								
Total Aluminum (Al)	ug/L	-	100	460	3815304	130	5.0	3817191
Total Antimony (Sb)	ug/L	6	-	<1.0	3815304	<1.0	1.0	3817191
Total Arsenic (As)	ug/L	10	-	1.1	3815304	<1.0	1.0	3817191
Total Barium (Ba)	ug/L	1000	-	8.5	3815304	13	1.0	3817191
Total Beryllium (Be)	ug/L	-	-	<1.0	3815304	<1.0	1.0	3817191
Total Bismuth (Bi)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Boron (B)	ug/L	5000	-	<50	3815304	<50	50	3817191
Total Cadmium (Cd)	ug/L	5	-	0.029	3815304	0.025	0.010	3817191
Total Calcium (Ca)	ug/L	-	-	1400	3815304	1500	100	3817191
Total Chromium (Cr)	ug/L	50	-	<1.0	3815304	<1.0	1.0	3817191
Total Cobalt (Co)	ug/L	-	-	<0.40	3815304	<0.40	0.40	3817191
Total Copper (Cu)	ug/L	-	1000	<2.0	3815304	<2.0	2.0	3817191
Total Iron (Fe)	ug/L	-	300	520	3815304	530	50	3817191
Total Lead (Pb)	ug/L	10	-	0.92	3815304	<0.50	0.50	3817191
Total Lithium (Li)	ug/L	-	-	2.2	3815304	<2.0	2.0	3817191
Total Magnesium (Mg)	ug/L	-	-	1000	3815304	680	100	3817191
Total Manganese (Mn)	ug/L	-	50	11	3815304	24	2.0	3817191
Total Molybdenum (Mo)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Nickel (Ni)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Phosphorus (P)	ug/L	-	-	<100	3815304	<100	100	3817191

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YI3674		YI3675		
Sampling Date				2014/11/04 12:15		2014/11/04 14:50		
COC Number				B 128763		B 128763		
	Units	Criteria A	AO	WQ STN-7	QC Batch	WQ STN-6	RDL	QC Batch

Total Potassium (K)	ug/L	-	-	400	3815304	300	100	3817191
Total Selenium (Se)	ug/L	50	-	<1.0	3815304	<1.0	1.0	3817191
Total Silicon (Si)	ug/L	-	-	1200	3815304	880	500	3817191
Total Silver (Ag)	ug/L	-	-	<0.10	3815304	<0.10	0.10	3817191
Total Sodium (Na)	ug/L	-	200000	8200	3815304	6100	100	3817191
Total Strontium (Sr)	ug/L	-	-	9.8	3815304	12	2.0	3817191
Total Sulphur (S)	ug/L	-	-	<5000	3815304	<5000	5000	3817191
Total Tellurium (Te)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Thallium (Tl)	ug/L	-	-	<0.10	3815304	<0.10	0.10	3817191
Total Tin (Sn)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Titanium (Ti)	ug/L	-	-	3.7	3815304	<2.0	2.0	3817191
Total Uranium (U)	ug/L	20	-	<0.10	3815304	0.21	0.10	3817191
Total Vanadium (V)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Zirconium (Zr)	ug/L	-	-	<2.0	3815304	<2.0	2.0	3817191
Total Zinc (Zn)	ug/L	-	5000	5.0	3815304	<5.0	5.0	3817191

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13676		
Sampling Date				2014/11/04 15:15		
COC Number				B 128763		
	Units	Criteria A	AO	WQ STN-5	RDL	QC Batch

Calculated Parameters						
Anion Sum	me/L	-	-	0.290	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	3813784
Calculated TDS	mg/L	-	500	21	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	3813784
Cation Sum	me/L	-	-	0.410	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	6.3	1.0	3813785
Ion Balance (% Difference)	%	-	-	17.1	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	NC		3813789
Langelier Index (@ 4C)	N/A	-	-	NC		3813790
Nitrate (N)	mg/L	10	-	<0.050	0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	NC		3813789
Saturation pH (@ 4C)	N/A	-	-	NC		3813790
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	-	-	<5.0	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	10	1.0	3823281
Colour	TCU	-	15	65	25	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	6.9	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	6.03	N/A	3823423

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13676		
Sampling Date				2014/11/04 15:15		
COC Number				B 128763		
	Units	Criteria A	AO	WQ STN-5	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	1.9	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	2.0	3823282
Turbidity	NTU	0.3	-	0.83	0.10	3825931
Conductivity	uS/cm	-	-	39	1.0	3823429
Metals						
Total Aluminum (Al)	ug/L	-	100	130	5.0	3817191
Total Antimony (Sb)	ug/L	6	-	<1.0	1.0	3817191
Total Arsenic (As)	ug/L	10	-	<1.0	1.0	3817191
Total Barium (Ba)	ug/L	1000	-	14	1.0	3817191
Total Beryllium (Be)	ug/L	-	-	<1.0	1.0	3817191
Total Bismuth (Bi)	ug/L	-	-	<2.0	2.0	3817191
Total Boron (B)	ug/L	5000	-	<50	50	3817191
Total Cadmium (Cd)	ug/L	5	-	0.021	0.010	3817191
Total Calcium (Ca)	ug/L	-	-	1500	100	3817191
Total Chromium (Cr)	ug/L	50	-	<1.0	1.0	3817191
Total Cobalt (Co)	ug/L	-	-	<0.40	0.40	3817191
Total Copper (Cu)	ug/L	-	1000	<2.0	2.0	3817191
Total Iron (Fe)	ug/L	-	300	530	50	3817191
Total Lead (Pb)	ug/L	10	-	<0.50	0.50	3817191
Total Lithium (Li)	ug/L	-	-	<2.0	2.0	3817191
Total Magnesium (Mg)	ug/L	-	-	640	100	3817191
Total Manganese (Mn)	ug/L	-	50	25	2.0	3817191
Total Molybdenum (Mo)	ug/L	-	-	<2.0	2.0	3817191

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13676		
Sampling Date				2014/11/04 15:15		
COC Number				B 128763		
	Units	Criteria A	AO	WQ STN-5	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	<2.0	2.0	3817191
Total Phosphorus (P)	ug/L	-	-	<100	100	3817191
Total Potassium (K)	ug/L	-	-	320	100	3817191
Total Selenium (Se)	ug/L	50	-	<1.0	1.0	3817191
Total Silicon (Si)	ug/L	-	-	830	500	3817191
Total Silver (Ag)	ug/L	-	-	<0.10	0.10	3817191
Total Sodium (Na)	ug/L	-	200000	5900	100	3817191
Total Strontium (Sr)	ug/L	-	-	11	2.0	3817191
Total Sulphur (S)	ug/L	-	-	<5000	5000	3817191
Total Tellurium (Te)	ug/L	-	-	<2.0	2.0	3817191
Total Thallium (Tl)	ug/L	-	-	<0.10	0.10	3817191
Total Tin (Sn)	ug/L	-	-	<2.0	2.0	3817191
Total Titanium (Ti)	ug/L	-	-	2.5	2.0	3817191
Total Uranium (U)	ug/L	20	-	0.19	0.10	3817191
Total Vanadium (V)	ug/L	-	-	<2.0	2.0	3817191
Total Zirconium (Zr)	ug/L	-	-	<2.0	2.0	3817191
Total Zinc (Zn)	ug/L	-	5000	<5.0	5.0	3817191

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
 Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YI3664	YI3664		YI3665		
Sampling Date				2014/11/03 13:35	2014/11/03 13:35		2014/11/03 14:00		
COC Number				B 128762	B 128762		B 128762		
	Units	Criteria A	AO	WS-2	WS-2 Lab-Dup	RDL	WS-5	RDL	QC Batch

Field Measurements									
Field pH	pH	-	-	6.00		N/A	6.23	N/A	ONSITE
Inorganics									
Total Dissolved Solids	mg/L	-	500	52		20	85	10	3821546
Dissolved Fluoride (F-)	mg/L	1.5	-	1.6		0.10	1.5	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	8.9		0.50	9.7	0.50	3821726
Total Phosphorus	mg/L	-	-	<0.020		0.020	<0.020	0.020	3823358
Total Suspended Solids	mg/L	-	-	1.6		1.0	3.6	1.0	3817326
Sulphide	mg/L	-	0.05	<0.020	<0.020	0.020	<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0		1.0	<1.0	1.0	3817015

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YI3666	YI3666	YI3667		
Sampling Date				2014/11/03 14:55	2014/11/03 14:55	2014/11/03 16:00		
COC Number				B 128762	B 128762	B 128762		
	Units	Criteria A	AO	WS-10	WS-10 Lab-Dup	WQ STA-2	RDL	QC Batch

Field Measurements								
Field pH	pH	-	-	6.11		5.95	N/A	ONSITE
Inorganics								
Total Dissolved Solids	mg/L	-	500	48		49	10	3821546
Dissolved Fluoride (F-)	mg/L	1.5	-	0.41	0.40	0.24	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	11		7.2	0.50	3821726
Total Phosphorus	mg/L	-	-	0.029		<0.020	0.020	3823358
Total Suspended Solids	mg/L	-	-	3.6		1.4	1.0	3817326
Sulphide	mg/L	-	0.05	<0.020		<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0		<1.0	1.0	3817015

RDL = Reportable Detection Limit
 Lab-Dup = Laboratory Initiated Duplicate
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
 Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YI3668	YI3669	YI3670		
Sampling Date				2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10		
COC Number				B 128762	B 128762	B 128762		
	Units	Criteria A	AO	WQ STA-9	WQ STA-8	WQ STA-3	RDL	QC Batch

Field Measurements								
Field pH	pH	-	-	3.70	3.94	4.69	N/A	ONSITE
Inorganics								
Total Dissolved Solids	mg/L	-	500	36	37	38	10	3821546
Dissolved Fluoride (F-)	mg/L	1.5	-	<0.10	<0.10	0.16	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	7.5	7.0	4.1	0.50	3821726
Total Phosphorus	mg/L	-	-	<0.020	0.030	<0.020	0.020	3823358
Total Suspended Solids	mg/L	-	-	<1.0	<1.0	1.0	1.0	3817326
Sulphide	mg/L	-	0.05	<0.020	<0.020	<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0	<1.0	<1.0	1.0	3817015

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				Y13671			Y13672		
Sampling Date				2014/11/04 10:20			2014/11/04 11:15		
COC Number				B 128762			B 128762		
	Units	Criteria A	AO	WQ STA-4	RDL	QC Batch	MW14-04A	RDL	QC Batch

Field Measurements									
Field pH	pH	-	-	4.76	N/A	ONSITE	6.22	N/A	ONSITE
Inorganics									
Total Dissolved Solids	mg/L	-	500	38	10	3821546	170	20	3823470
Dissolved Fluoride (F-)	mg/L	1.5	-	0.16	0.10	3815638	1.7	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	4.3	0.50	3825851	3.5	0.50	3825851
Total Phosphorus	mg/L	-	-	0.030	0.020	3823358	0.028	0.020	3823358
Total Suspended Solids	mg/L	-	-	<1.0	1.0	3817326	7.9	2.0	3817326
Sulphide	mg/L	-	0.05	<0.020	0.020	3816944	<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0	1.0	3817015	<1.0	1.0	3817015

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YI3673	YI3674	YI3675		
Sampling Date				2014/11/04 11:50	2014/11/04 12:15	2014/11/04 14:50		
COC Number				B 128762	B 128763	B 128763		
	Units	Criteria A	AO	WQ STN-1	WQ STN-7	WQ STN-6	RDL	QC Batch

Field Measurements								
Field pH	pH	-	-	5.92	5.94	5.68	N/A	ONSITE
Inorganics								
Total Dissolved Solids	mg/L	-	500	63	61	51	20	3823470
Dissolved Fluoride (F-)	mg/L	1.5	-	0.22	0.21	<0.10	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	12	9.6	6.6	0.50	3825851
Total Phosphorus	mg/L	-	-	0.027	0.031	0.025	0.020	3823358
Total Suspended Solids	mg/L	-	-	1.6	1.2	1.4	1.0	3817326
Sulphide	mg/L	-	0.05	<0.020	<0.020	<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0	<1.0	<1.0	1.0	3817015

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YI3675	YI3676		
Sampling Date				2014/11/04 14:50	2014/11/04 15:15		
COC Number				B 128763	B 128763		
	Units	Criteria A	AO	WQ STN-6 Lab-Dup	WQ STN-5	RDL	QC Batch

Field Measurements							
Field pH	pH	-	-		5.53	N/A	ONSITE
Inorganics							
Total Dissolved Solids	mg/L	-	500		46	20	3823470
Dissolved Fluoride (F-)	mg/L	1.5	-		<0.10	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-		6.7	0.50	3825851
Total Phosphorus	mg/L	-	-		0.025	0.020	3823358
Total Suspended Solids	mg/L	-	-		1.4	1.0	3817326
Sulphide	mg/L	-	0.05		<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0	<1.0	1.0	3817015

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID			YI3664	YI3665	YI3666	YI3667		
Sampling Date			2014/11/03 13:35	2014/11/03 14:00	2014/11/03 14:55	2014/11/03 16:00		
COC Number			B 128762	B 128762	B 128762	B 128762		
	Units	MAC	WS-2	WS-5	WS-10	WQ STA-2	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	1	<0.013	<0.013	<0.013	<0.013	0.013	3817872
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.</p> <p>A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU. Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p>								

Maxxam ID			YI3668	YI3669	YI3670	YI3671		
Sampling Date			2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10	2014/11/04 10:20		
COC Number			B 128762	B 128762	B 128762	B 128762		
	Units	MAC	WQ STA-9	WQ STA-8	WQ STA-3	WQ STA-4	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	1	<0.013	<0.013	<0.013	<0.013	0.013	3817872
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.</p> <p>A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU. Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p>								

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID			Y13672	Y13673	Y13674		Y13675		
Sampling Date			2014/11/04 11:15	2014/11/04 11:50	2014/11/04 12:15		2014/11/04 14:50		
COC Number			B 128762	B 128762	B 128763		B 128763		
	Units	MAC	MW14-04A	WQ STN-1	WQ STN-7	QC Batch	WQ STN-6	RDL	QC Batch

Metals									
Total Mercury (Hg)	ug/L	1	<0.013	<0.013	<0.013	3817872	<0.013	0.013	3825963

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID			Y13676		
Sampling Date			2014/11/04 15:15		
COC Number			B 128763		
	Units	MAC	WQ STN-5	RDL	QC Batch

Metals					
Total Mercury (Hg)	ug/L	1	<0.013	0.013	3825966
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.</p> <p>A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.</p> <p>Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p>					

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YI3664
Sample ID WS-2
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/14	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823265	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823460	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823264	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825930	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3664 Dup
Sample ID WS-2
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake

Maxxam ID YI3665
Sample ID WS-5
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/14	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823265	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823460	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823264	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825930	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3666
Sample ID WS-10
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/14	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823265	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823460	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823264	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3666 Dup
Sample ID WS-10
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey

Maxxam ID YI3667
Sample ID WQ STA-2
Matrix Water

Collected 2014/11/03
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YI3668
Sample ID WQ STA-9
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3669
Sample ID WQ STA-8
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3670
Sample ID WQ STA-3
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3821726	N/A	2014/11/13	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/17	Automated Statchk
Nitrogen Ammonia - water	AC	3821900	N/A	2014/11/14	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813329	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YI3670 Dup
Sample ID WQ STA-3
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3671
Sample ID WQ STA-4
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/17	Automated Statchk
Nitrogen Ammonia - water	AC	3821900	N/A	2014/11/14	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3821546	N/A	2014/11/14	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3672
Sample ID MW14-04A
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID Y13673
Sample ID WQ STN-1
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/17	Automated Statchk
Nitrogen Ammonia - water	AC	3821900	N/A	2014/11/14	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3673 Dup
Sample ID WQ STN-1
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Nitrogen Ammonia - water	AC	3821900	N/A	2014/11/14	Arlene Rossiter

Maxxam ID YI3674
Sample ID WQ STN-7
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHEL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHEL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YI3675
Sample ID WQ STN-6
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/13	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3825963	2014/11/10	2014/11/17	Adam Logan
Metals Water Total MS	CICP/MS	3817191	2014/11/10	2014/11/12	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam ID YI3675 Dup
Sample ID WQ STN-6
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi

Maxxam ID YI3676
Sample ID WQ STN-5
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/11/06

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Hardness (calculated as CaCO ₃)		3813785	N/A	2014/11/13	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3825966	2014/11/17	2014/11/17	Adam Logan
Metals Water Total MS	CICP/MS	3817191	2014/11/10	2014/11/12	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam Job #: B4K8828
Report Date: 2014/11/24

Golder Associates Ltd
Client Project #: 1407707
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

GENERAL COMMENTS

Reissued report to include CWQG. HM Nov 24/14

Sample YI3665-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3666-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3667-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3668-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3669-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3670-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3671-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3673-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3674-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3675-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample YI3676-01: RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Phyllis McCrindle
 Client Project #: 1407707
 P.O. #:
 Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report
 Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3815304 DLB	Matrix Spike	Total Aluminum (Al)	2014/11/08		105	%	80 - 120
		Total Antimony (Sb)	2014/11/08		99	%	80 - 120
		Total Arsenic (As)	2014/11/08		101	%	80 - 120
		Total Barium (Ba)	2014/11/08		96	%	80 - 120
		Total Beryllium (Be)	2014/11/08		100	%	80 - 120
		Total Bismuth (Bi)	2014/11/08		100	%	80 - 120
		Total Boron (B)	2014/11/08		100	%	80 - 120
		Total Cadmium (Cd)	2014/11/08		97	%	80 - 120
		Total Calcium (Ca)	2014/11/08		99	%	80 - 120
		Total Chromium (Cr)	2014/11/08		98	%	80 - 120
		Total Cobalt (Co)	2014/11/08		98	%	80 - 120
		Total Copper (Cu)	2014/11/08		97	%	80 - 120
		Total Iron (Fe)	2014/11/08		105	%	80 - 120
		Total Lead (Pb)	2014/11/08		97	%	80 - 120
		Total Lithium (Li)	2014/11/08		103	%	80 - 120
		Total Magnesium (Mg)	2014/11/08		NC	%	80 - 120
		Total Manganese (Mn)	2014/11/08		103	%	80 - 120
		Total Molybdenum (Mo)	2014/11/08		102	%	80 - 120
		Total Nickel (Ni)	2014/11/08		101	%	80 - 120
		Total Phosphorus (P)	2014/11/08		108	%	80 - 120
		Total Potassium (K)	2014/11/08		107	%	80 - 120
		Total Selenium (Se)	2014/11/08		101	%	80 - 120
		Total Silicon (Si)	2014/11/08		NC	%	80 - 120
		Total Silver (Ag)	2014/11/08		100	%	80 - 120
		Total Sodium (Na)	2014/11/08		114	%	80 - 120
		Total Strontium (Sr)	2014/11/08		99	%	80 - 120
		Total Sulphur (S)	2014/11/08		109	%	80 - 120
		Total Tellurium (Te)	2014/11/08		93	%	80 - 120
		Total Thallium (Tl)	2014/11/08		100	%	80 - 120
		Total Tin (Sn)	2014/11/08		101	%	80 - 120
		Total Titanium (Ti)	2014/11/08		104	%	80 - 120
		Total Uranium (U)	2014/11/08		106	%	80 - 120
		Total Vanadium (V)	2014/11/08		100	%	80 - 120
Total Zirconium (Zr)	2014/11/08		103	%	80 - 120		
Total Zinc (Zn)	2014/11/08		99	%	80 - 120		
Spiked Blank		Total Aluminum (Al)	2014/11/07		103	%	80 - 120
		Total Antimony (Sb)	2014/11/07		99	%	80 - 120
		Total Arsenic (As)	2014/11/07		100	%	80 - 120
		Total Barium (Ba)	2014/11/07		97	%	80 - 120
		Total Beryllium (Be)	2014/11/07		100	%	80 - 120
		Total Bismuth (Bi)	2014/11/07		100	%	80 - 120
		Total Boron (B)	2014/11/07		100	%	80 - 120
		Total Cadmium (Cd)	2014/11/07		97	%	80 - 120
		Total Calcium (Ca)	2014/11/07		97	%	80 - 120
		Total Chromium (Cr)	2014/11/07		98	%	80 - 120
		Total Cobalt (Co)	2014/11/07		99	%	80 - 120
		Total Copper (Cu)	2014/11/07		98	%	80 - 120
		Total Iron (Fe)	2014/11/07		103	%	80 - 120
		Total Lead (Pb)	2014/11/07		96	%	80 - 120
		Total Lithium (Li)	2014/11/07		102	%	80 - 120
		Total Magnesium (Mg)	2014/11/07		108	%	80 - 120
		Total Manganese (Mn)	2014/11/07		102	%	80 - 120
Total Molybdenum (Mo)	2014/11/07		100	%	80 - 120		
Total Nickel (Ni)	2014/11/07		101	%	80 - 120		
Total Phosphorus (P)	2014/11/07		105	%	80 - 120		

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits		
3815304 DLB	Spiked Blank	Total Potassium (K)	2014/11/07		105	%	80 - 120		
		Total Selenium (Se)	2014/11/07		100	%	80 - 120		
		Total Silicon (Si)	2014/11/07		103	%	80 - 120		
		Total Silver (Ag)	2014/11/07		99	%	80 - 120		
		Total Sodium (Na)	2014/11/07		110	%	80 - 120		
		Total Strontium (Sr)	2014/11/07		98	%	80 - 120		
		Total Sulphur (S)	2014/11/07		91	%	80 - 120		
		Total Tellurium (Te)	2014/11/07		96	%	80 - 120		
		Total Thallium (Tl)	2014/11/07		99	%	80 - 120		
		Total Tin (Sn)	2014/11/07		99	%	80 - 120		
		Total Titanium (Ti)	2014/11/07		105	%	80 - 120		
		Total Uranium (U)	2014/11/07		105	%	80 - 120		
		Total Vanadium (V)	2014/11/07		98	%	80 - 120		
		Total Zirconium (Zr)	2014/11/07		103	%	80 - 120		
		Total Zinc (Zn)	2014/11/07		97	%	80 - 120		
		Method Blank		Total Aluminum (Al)	2014/11/07	<5.0		ug/L	
				Total Antimony (Sb)	2014/11/07	<1.0		ug/L	
				Total Arsenic (As)	2014/11/07	<1.0		ug/L	
				Total Barium (Ba)	2014/11/07	<1.0		ug/L	
				Total Beryllium (Be)	2014/11/07	<1.0		ug/L	
Total Bismuth (Bi)	2014/11/07			<2.0		ug/L			
Total Boron (B)	2014/11/07			<50		ug/L			
Total Cadmium (Cd)	2014/11/07			<0.010		ug/L			
Total Calcium (Ca)	2014/11/07			<100		ug/L			
Total Chromium (Cr)	2014/11/07			<1.0		ug/L			
Total Cobalt (Co)	2014/11/07			<0.40		ug/L			
Total Copper (Cu)	2014/11/07			<2.0		ug/L			
Total Iron (Fe)	2014/11/07			<50		ug/L			
Total Lead (Pb)	2014/11/07			<0.50		ug/L			
Total Lithium (Li)	2014/11/07			<2.0		ug/L			
Total Magnesium (Mg)	2014/11/07			<100		ug/L			
Total Manganese (Mn)	2014/11/07			<2.0		ug/L			
Total Molybdenum (Mo)	2014/11/07			<2.0		ug/L			
Total Nickel (Ni)	2014/11/07			<2.0		ug/L			
Total Phosphorus (P)	2014/11/07			<100		ug/L			
Total Potassium (K)	2014/11/07			<100		ug/L			
Total Selenium (Se)	2014/11/07			<1.0		ug/L			
Total Silicon (Si)	2014/11/07			<500		ug/L			
Total Silver (Ag)	2014/11/07			<0.10		ug/L			
Total Sodium (Na)	2014/11/07			<100		ug/L			
Total Strontium (Sr)	2014/11/07			<2.0		ug/L			
Total Sulphur (S)	2014/11/07			<5000		ug/L			
Total Tellurium (Te)	2014/11/07			<2.0		ug/L			
Total Thallium (Tl)	2014/11/07			<0.10		ug/L			
Total Tin (Sn)	2014/11/07			<2.0		ug/L			
Total Titanium (Ti)	2014/11/07			<2.0		ug/L			
Total Uranium (U)	2014/11/07			<0.10		ug/L			
Total Vanadium (V)	2014/11/07			<2.0		ug/L			
Total Zirconium (Zr)	2014/11/07			<2.0		ug/L			
Total Zinc (Zn)	2014/11/07	<5.0		ug/L					
RPD		Total Arsenic (As)	2014/11/07	NC		%	20		
		Total Copper (Cu)	2014/11/07	NC		%	20		
		Total Lead (Pb)	2014/11/07	NC		%	20		
		Total Manganese (Mn)	2014/11/07	1.4		%	20		
		Total Nickel (Ni)	2014/11/07	NC		%	20		

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3815304 DLB	RPD	Total Zinc (Zn)	2014/11/07	NC		%	20
3815638 TPE	Matrix Spike [Y13666-03]	Dissolved Fluoride (F-)	2014/11/07		101	%	80 - 120
	Spiked Blank	Dissolved Fluoride (F-)	2014/11/07		103	%	80 - 120
	Method Blank	Dissolved Fluoride (F-)	2014/11/07	<0.10		mg/L	
	RPD [Y13666-03]	Dissolved Fluoride (F-)	2014/11/07	NC		%	25
3816944 NYS	Matrix Spike [Y13664-02]	Sulphide	2014/11/09		86	%	80 - 120
	Spiked Blank	Sulphide	2014/11/09		89	%	80 - 120
	Method Blank	Sulphide	2014/11/09	<0.020		mg/L	
	RPD [Y13664-02]	Sulphide	2014/11/09	NC		%	20
3817015 FD	Matrix Spike [Y13675-04]	Bromide (Br-)	2014/11/10		104	%	80 - 120
	Spiked Blank	Bromide (Br-)	2014/11/10		100	%	80 - 120
	Method Blank	Bromide (Br-)	2014/11/10	<1.0		mg/L	
	RPD [Y13675-04]	Bromide (Br-)	2014/11/10	NC		%	20
3817191 DLB	Matrix Spike	Total Aluminum (Al)	2014/11/11		102	%	80 - 120
		Total Antimony (Sb)	2014/11/11		101	%	80 - 120
		Total Arsenic (As)	2014/11/11		102	%	80 - 120
		Total Barium (Ba)	2014/11/11		100	%	80 - 120
		Total Beryllium (Be)	2014/11/11		102	%	80 - 120
		Total Bismuth (Bi)	2014/11/11		101	%	80 - 120
		Total Boron (B)	2014/11/11		99	%	80 - 120
		Total Cadmium (Cd)	2014/11/11		99	%	80 - 120
		Total Calcium (Ca)	2014/11/11		95	%	80 - 120
		Total Chromium (Cr)	2014/11/11		101	%	80 - 120
		Total Cobalt (Co)	2014/11/11		100	%	80 - 120
		Total Copper (Cu)	2014/11/11		99	%	80 - 120
		Total Iron (Fe)	2014/11/11		105	%	80 - 120
		Total Lead (Pb)	2014/11/11		99	%	80 - 120
		Total Lithium (Li)	2014/11/11		107	%	80 - 120
		Total Magnesium (Mg)	2014/11/11		110	%	80 - 120
		Total Manganese (Mn)	2014/11/11		105	%	80 - 120
		Total Molybdenum (Mo)	2014/11/11		104	%	80 - 120
		Total Nickel (Ni)	2014/11/11		103	%	80 - 120
		Total Phosphorus (P)	2014/11/11		106	%	80 - 120
		Total Potassium (K)	2014/11/11		107	%	80 - 120
		Total Selenium (Se)	2014/11/11		100	%	80 - 120
		Total Silicon (Si)	2014/11/11		NC	%	80 - 120
		Total Silver (Ag)	2014/11/11		102	%	80 - 120
		Total Sodium (Na)	2014/11/11		NC	%	80 - 120
		Total Strontium (Sr)	2014/11/11		101	%	80 - 120
		Total Sulphur (S)	2014/11/11		106	%	80 - 120
		Total Tellurium (Te)	2014/11/11		94	%	80 - 120
		Total Thallium (Tl)	2014/11/11		101	%	80 - 120
		Total Tin (Sn)	2014/11/11		104	%	80 - 120
		Total Titanium (Ti)	2014/11/11		107	%	80 - 120
		Total Uranium (U)	2014/11/11		110	%	80 - 120
		Total Vanadium (V)	2014/11/11		102	%	80 - 120
		Total Zirconium (Zr)	2014/11/11		107	%	80 - 120
		Total Zinc (Zn)	2014/11/11		102	%	80 - 120
	Spiked Blank	Total Aluminum (Al)	2014/11/11		103	%	80 - 120
		Total Antimony (Sb)	2014/11/11		101	%	80 - 120
		Total Arsenic (As)	2014/11/11		101	%	80 - 120
		Total Barium (Ba)	2014/11/11		101	%	80 - 120

Golder Associates Ltd
 Attention: Phyllis McCrindle
 Client Project #: 1407707
 P.O. #:
 Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3817191	DLB	Spiked Blank					
		Total Beryllium (Be)	2014/11/11		101	%	80 - 120
		Total Bismuth (Bi)	2014/11/11		103	%	80 - 120
		Total Boron (B)	2014/11/11		97	%	80 - 120
		Total Cadmium (Cd)	2014/11/11		99	%	80 - 120
		Total Calcium (Ca)	2014/11/11		94	%	80 - 120
		Total Chromium (Cr)	2014/11/11		103	%	80 - 120
		Total Cobalt (Co)	2014/11/11		102	%	80 - 120
		Total Copper (Cu)	2014/11/11		100	%	80 - 120
		Total Iron (Fe)	2014/11/11		107	%	80 - 120
		Total Lead (Pb)	2014/11/11		99	%	80 - 120
		Total Lithium (Li)	2014/11/11		106	%	80 - 120
		Total Magnesium (Mg)	2014/11/11		109	%	80 - 120
		Total Manganese (Mn)	2014/11/11		107	%	80 - 120
		Total Molybdenum (Mo)	2014/11/11		104	%	80 - 120
		Total Nickel (Ni)	2014/11/11		105	%	80 - 120
		Total Phosphorus (P)	2014/11/11		105	%	80 - 120
		Total Potassium (K)	2014/11/11		105	%	80 - 120
		Total Selenium (Se)	2014/11/11		99	%	80 - 120
		Total Silicon (Si)	2014/11/11		99	%	80 - 120
		Total Silver (Ag)	2014/11/11		101	%	80 - 120
		Total Sodium (Na)	2014/11/11		110	%	80 - 120
		Total Strontium (Sr)	2014/11/11		103	%	80 - 120
		Total Sulphur (S)	2014/11/11		100	%	80 - 120
		Total Tellurium (Te)	2014/11/11		92	%	80 - 120
		Total Thallium (Tl)	2014/11/11		101	%	80 - 120
		Total Tin (Sn)	2014/11/11		102	%	80 - 120
		Total Titanium (Ti)	2014/11/11		107	%	80 - 120
		Total Uranium (U)	2014/11/11		111	%	80 - 120
		Total Vanadium (V)	2014/11/11		103	%	80 - 120
		Total Zirconium (Zr)	2014/11/11		108	%	80 - 120
		Total Zinc (Zn)	2014/11/11		103	%	80 - 120
	Method Blank	Total Aluminum (Al)	2014/11/11	<5.0		ug/L	
		Total Antimony (Sb)	2014/11/11	<1.0		ug/L	
		Total Arsenic (As)	2014/11/11	<1.0		ug/L	
		Total Barium (Ba)	2014/11/11	<1.0		ug/L	
		Total Beryllium (Be)	2014/11/11	<1.0		ug/L	
		Total Bismuth (Bi)	2014/11/11	<2.0		ug/L	
		Total Boron (B)	2014/11/11	<50		ug/L	
		Total Cadmium (Cd)	2014/11/11	0.017, RDL=0.010		ug/L	
		Total Calcium (Ca)	2014/11/11	<100		ug/L	
		Total Chromium (Cr)	2014/11/11	<1.0		ug/L	
		Total Cobalt (Co)	2014/11/11	<0.40		ug/L	
		Total Copper (Cu)	2014/11/11	<2.0		ug/L	
		Total Iron (Fe)	2014/11/11	<50		ug/L	
		Total Lead (Pb)	2014/11/11	<0.50		ug/L	
		Total Lithium (Li)	2014/11/11	<2.0		ug/L	
		Total Magnesium (Mg)	2014/11/11	<100		ug/L	
		Total Manganese (Mn)	2014/11/11	<2.0		ug/L	
		Total Molybdenum (Mo)	2014/11/11	<2.0		ug/L	
		Total Nickel (Ni)	2014/11/11	<2.0		ug/L	
		Total Phosphorus (P)	2014/11/11	<100		ug/L	
		Total Potassium (K)	2014/11/11	<100		ug/L	
		Total Selenium (Se)	2014/11/11	<1.0		ug/L	
		Total Silicon (Si)	2014/11/11	<500		ug/L	
		Total Silver (Ag)	2014/11/11	<0.10		ug/L	

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3817191 DLB	Method Blank	Total Sodium (Na)	2014/11/11	<100		ug/L	
		Total Strontium (Sr)	2014/11/11	<2.0		ug/L	
		Total Sulphur (S)	2014/11/11	<5000		ug/L	
		Total Tellurium (Te)	2014/11/11	<2.0		ug/L	
		Total Thallium (Tl)	2014/11/11	<0.10		ug/L	
		Total Tin (Sn)	2014/11/11	<2.0		ug/L	
		Total Titanium (Ti)	2014/11/11	<2.0		ug/L	
		Total Uranium (U)	2014/11/11	0.14, RDL=0.10		ug/L	
		Total Vanadium (V)	2014/11/11	<2.0		ug/L	
		Total Zirconium (Zr)	2014/11/11	<2.0		ug/L	
		Total Zinc (Zn)	2014/11/11	<5.0		ug/L	
	RPD	Total Aluminum (Al)	2014/11/12	NC		%	20
		Total Antimony (Sb)	2014/11/12	NC		%	20
		Total Arsenic (As)	2014/11/12	NC		%	20
		Total Barium (Ba)	2014/11/12	1.0		%	20
		Total Beryllium (Be)	2014/11/12	NC		%	20
		Total Bismuth (Bi)	2014/11/12	NC		%	20
		Total Boron (B)	2014/11/12	NC		%	20
		Total Cadmium (Cd)	2014/11/12	NC		%	20
		Total Calcium (Ca)	2014/11/12	1.2		%	20
		Total Chromium (Cr)	2014/11/12	NC		%	20
		Total Cobalt (Co)	2014/11/12	NC		%	20
		Total Copper (Cu)	2014/11/12	NC		%	20
		Total Iron (Fe)	2014/11/12	NC		%	20
		Total Lead (Pb)	2014/11/12	NC		%	20
		Total Magnesium (Mg)	2014/11/12	1.1		%	20
		Total Manganese (Mn)	2014/11/12	NC		%	20
		Total Molybdenum (Mo)	2014/11/12	NC		%	20
		Total Nickel (Ni)	2014/11/12	NC		%	20
		Total Phosphorus (P)	2014/11/12	NC		%	20
		Total Potassium (K)	2014/11/12	NC		%	20
		Total Selenium (Se)	2014/11/12	NC		%	20
		Total Silver (Ag)	2014/11/12	NC		%	20
		Total Sodium (Na)	2014/11/12	0.02		%	20
		Total Strontium (Sr)	2014/11/12	1.7		%	20
		Total Thallium (Tl)	2014/11/12	NC		%	20
		Total Tin (Sn)	2014/11/12	NC		%	20
		Total Titanium (Ti)	2014/11/12	NC		%	20
		Total Uranium (U)	2014/11/12	7.0		%	20
		Total Vanadium (V)	2014/11/12	NC		%	20
		Total Zinc (Zn)	2014/11/12	NC		%	20
3817326 AYN	QC Standard	Total Suspended Solids	2014/11/12		103	%	80 - 120
	Method Blank	Total Suspended Solids	2014/11/12	<1.0		mg/L	
	RPD	Total Suspended Solids	2014/11/12	13.9		%	25
3817872 ALG	Matrix Spike	Total Mercury (Hg)	2014/11/13		95	%	80 - 120
	Spiked Blank	Total Mercury (Hg)	2014/11/13		94	%	80 - 120
	Method Blank	Total Mercury (Hg)	2014/11/13	<0.013		ug/L	
	RPD	Total Mercury (Hg)	2014/11/13	NC		%	20
3821546 AYN	QC Standard	Total Dissolved Solids	2014/11/14		93	%	80 - 120
	Method Blank	Total Dissolved Solids	2014/11/14	<10		mg/L	
	RPD	Total Dissolved Solids	2014/11/14	3.5		%	25
3821726 MCY	Matrix Spike	Dissolved Organic Carbon (C)	2014/11/13		95	%	80 - 120
	Spiked Blank	Dissolved Organic Carbon (C)	2014/11/13		107	%	80 - 120
	Method Blank	Dissolved Organic Carbon (C)	2014/11/13	<0.50		mg/L	
	RPD	Dissolved Organic Carbon (C)	2014/11/13	6.1		%	20

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3821731 MCY	Matrix Spike [Y13670-06]	Total Organic Carbon (C)	2014/11/13		93	%	80 - 120
	Spiked Blank	Total Organic Carbon (C)	2014/11/13		103	%	80 - 120
	Method Blank	Total Organic Carbon (C)	2014/11/13	<0.50		mg/L	
	RPD [Y13670-06]	Total Organic Carbon (C)	2014/11/13	2.4		%	20
3821900 ARS	Matrix Spike [Y13673-06]	Nitrogen (Ammonia Nitrogen)	2014/11/14		99	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/14		106	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/14	<0.050		mg/L	
	RPD [Y13673-06]	Nitrogen (Ammonia Nitrogen)	2014/11/14	NC		%	25
3823264 KSR	QC Standard	pH	2014/11/14		100	%	97 - 103
	RPD	pH	2014/11/14	1		%	N/A
3823265 KSR	Spiked Blank	Conductivity	2014/11/14		99	%	80 - 120
	Method Blank	Conductivity	2014/11/14	1.1, RDL=1.0		uS/cm	
	RPD	Conductivity	2014/11/14	0.5		%	25
3823280 ARS	Matrix Spike [Y13666-03]	Total Alkalinity (Total as CaCO3)	2014/11/19		110	%	80 - 120
	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/11/19		112	%	80 - 120
	Method Blank	Total Alkalinity (Total as CaCO3)	2014/11/19	<5.0		mg/L	
	RPD [Y13666-03]	Total Alkalinity (Total as CaCO3)	2014/11/19	NC		%	25
3823281 MCN	Matrix Spike [Y13666-03]	Dissolved Chloride (Cl)	2014/11/18		NC	%	80 - 120
	QC Standard	Dissolved Chloride (Cl)	2014/11/18		112	%	80 - 120
	Spiked Blank	Dissolved Chloride (Cl)	2014/11/18		96	%	80 - 120
	Method Blank	Dissolved Chloride (Cl)	2014/11/18	<1.0		mg/L	
	RPD [Y13666-03]	Dissolved Chloride (Cl)	2014/11/18	5.0		%	25
3823282 MCN	Matrix Spike [Y13666-03]	Dissolved Sulphate (SO4)	2014/11/18		109	%	80 - 120
	Spiked Blank	Dissolved Sulphate (SO4)	2014/11/18		103	%	80 - 120
	Method Blank	Dissolved Sulphate (SO4)	2014/11/18	<2.0		mg/L	
	RPD [Y13666-03]	Dissolved Sulphate (SO4)	2014/11/18	NC		%	25
3823283 ARS	Matrix Spike [Y13666-03]	Reactive Silica (SiO2)	2014/11/17		111	%	80 - 120
	Spiked Blank	Reactive Silica (SiO2)	2014/11/17		101	%	80 - 120
	Method Blank	Reactive Silica (SiO2)	2014/11/17	<0.50		mg/L	
	RPD [Y13666-03]	Reactive Silica (SiO2)	2014/11/17	2.3		%	25
3823284 MCN	Spiked Blank	Colour	2014/11/17		103	%	80 - 120
	Method Blank	Colour	2014/11/17	<5.0		TCU	
	RPD [Y13666-03]	Colour	2014/11/17	3.0		%	25
3823285 MCN	Matrix Spike [Y13666-03]	Orthophosphate (P)	2014/11/17		92	%	80 - 120
	Spiked Blank	Orthophosphate (P)	2014/11/17		98	%	80 - 120
	Method Blank	Orthophosphate (P)	2014/11/17	<0.010		mg/L	
	RPD [Y13666-03]	Orthophosphate (P)	2014/11/17	NC		%	25
3823286 ARS	Matrix Spike [Y13666-03]	Nitrate + Nitrite	2014/11/18		96	%	80 - 120
	Spiked Blank	Nitrate + Nitrite	2014/11/18		100	%	80 - 120
	Method Blank	Nitrate + Nitrite	2014/11/18	<0.050		mg/L	
	RPD [Y13666-03]	Nitrate + Nitrite	2014/11/18	NC		%	25
3823287 MCN	Matrix Spike [Y13666-03]	Nitrite (N)	2014/11/17		83	%	80 - 120
	Spiked Blank	Nitrite (N)	2014/11/17		93	%	80 - 120
	Method Blank	Nitrite (N)	2014/11/17	<0.010		mg/L	
	RPD [Y13666-03]	Nitrite (N)	2014/11/17	NC		%	25
3823358 VRO	Matrix Spike	Total Phosphorus	2014/11/14		96	%	80 - 120

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: ZB4K8828

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3823358 VRO	QC Standard	Total Phosphorus	2014/11/14		100	%	80 - 120
	Spiked Blank	Total Phosphorus	2014/11/14		98	%	80 - 120
	Method Blank	Total Phosphorus	2014/11/14	<0.020		mg/L	
	RPD	Total Phosphorus	2014/11/14	0.5		%	20
3823423 KSR	QC Standard	pH	2014/11/14		100	%	97 - 103
	RPD	pH	2014/11/14	2.0		%	N/A
3823429 KSR	Spiked Blank	Conductivity	2014/11/14		101	%	80 - 120
	Method Blank	Conductivity	2014/11/14	1.1, RDL=1.0		uS/cm	
	RPD	Conductivity	2014/11/14	0		%	25
3823460 ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/11/17		107	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17		107	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17	<0.050		mg/L	
	RPD	Nitrogen (Ammonia Nitrogen)	2014/11/17	NC		%	25
3823467 ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/11/18		124 (1)	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17		107	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17	<0.050		mg/L	
	RPD	Nitrogen (Ammonia Nitrogen)	2014/11/17	6.0		%	25
3823470 AYN	QC Standard	Total Dissolved Solids	2014/11/17		103	%	80 - 120
	Method Blank	Total Dissolved Solids	2014/11/17	<20 (2)		mg/L	
	RPD	Total Dissolved Solids	2014/11/17	2.9		%	25
3825851 MCY	Matrix Spike	Dissolved Organic Carbon (C)	2014/11/17		94	%	80 - 120
	Spiked Blank	Dissolved Organic Carbon (C)	2014/11/17		100	%	80 - 120
	Method Blank	Dissolved Organic Carbon (C)	2014/11/17	<0.50		mg/L	
	RPD	Dissolved Organic Carbon (C)	2014/11/17	NC		%	20
3825930 KSR	QC Standard	Turbidity	2014/11/17		100	%	80 - 120
	Method Blank	Turbidity	2014/11/17	<0.10		NTU	
	RPD	Turbidity	2014/11/17	7.9		%	25
3825931 KSR	QC Standard	Turbidity	2014/11/17		102	%	80 - 120
	Method Blank	Turbidity	2014/11/17	<0.10		NTU	
	RPD [YI3670-03]	Turbidity	2014/11/17	3.2		%	25
3825963 ALG	Matrix Spike	Total Mercury (Hg)	2014/11/17		89	%	80 - 120
	Spiked Blank	Total Mercury (Hg)	2014/11/17		99	%	80 - 120
	Method Blank	Total Mercury (Hg)	2014/11/17	<0.013		ug/L	
	RPD	Total Mercury (Hg)	2014/11/17	NC		%	20
3825966 ALG	Matrix Spike	Total Mercury (Hg)	2014/11/17		87	%	80 - 120
	Spiked Blank	Total Mercury (Hg)	2014/11/17		97	%	80 - 120
	Method Blank	Total Mercury (Hg)	2014/11/17	<0.013		ug/L	
	RPD	Total Mercury (Hg)	2014/11/17	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).



(1) Matrix spike recovery outside of acceptance range due to sample matrix.

(2) Elevated TDS RDL due to method blank performance.

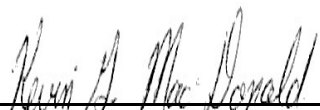
Validation Signature Page

Maxxam Job #: B4K8828

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

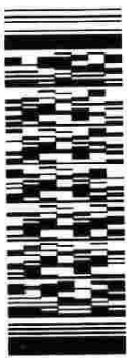
Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist



Kevin MacDonal, Inorganics Supervisor

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

This column for lab use only:				INVOICE INFORMATION:				REPORT INFORMATION (if differs from invoice):				TURNAROUND TIME							
Client Code				Company Name: Golder Associates				Company Name:				PO #							
Maxxam Job # B4K8828				Contact Name: Phyllis McCrindle				Contact Name:				Project # / Phase # 1407707							
Cooler ID				Address: 6925 Century Ave, Suite 100				Address:				Project Name / Site Location CFI / St. Lawrence, NL							
Seal Present				Mississauga, ON Postal Code L5N 7K2				Postal Code				Quote							
Seal Intact				Email: Phyllis_McCrindle@golder.com				Email: Cell # 647-278-1056				Site #							
Temp 1				Ph: 905-567-4444 Fax: 905-567-6561				Ph:				Task Order #							
Temp 2				Guideline Requirements / Detection Limits / Special Instructions				Sampled by Alex IVANOFF				Pre-schedule rush work							
Temp 3				See attached Parameters Sheet.				Field Filtered & Preserved				Charge for # Jars used but not submitted							
Average Temp								Lab Filtration Required				Choose Total or Diss Metals							
Integrity				*Specify Matrix: Surface/Salt/Ground/Tapwater/Sewage/Effluent/Potable/NonPotable/Tissue/Soil/Sludge/Metal/Seawater				Choose Total or Diss Metals				Total Digest (Default Method) for well water, surface water							
YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>				Field Sample Identification				Metals Water				Metals Soil							
Labelled by				Matrix*				Date/Time Sampled				# & type of bottles							
Location / Bin #				1 WS-2				Surface				Nov 3 13:35				9 N			
Integrity Checklist by				2 WS-5				↓				Nov 3 14:00				↓			
Integrity Checklist by				3 WS-10				↓				Nov 3 14:55				↓			
Integrity Checklist by				4 WQ STA-2				↓				Nov 3 16:00				↓			
Integrity Checklist by				5 WQ STA-9				↓				Nov 4 8:45 AM				↓			
Integrity Checklist by				6 WQ STA-8				↓				Nov 4 9:05 AM				↓			
Integrity Checklist by				7 WQ STA-3				↓				Nov 4 10:10 AM				↓			
Integrity Checklist by				8 WQ STA-4				↓				Nov 4 10:20 AM				↓			
Integrity Checklist by				9 MW14-04A				GW				Nov 4 11:15				↓			
Integrity Checklist by				10 WQ STN-1				Surface				Nov 4 11:50				↓			
Integrity Checklist by				pH: 6.0 / cond = 0.10 mS.															
Integrity Checklist by				pH: 6.23 / cond = 0.13 mS.															
Integrity Checklist by				pH: 6.11 / cond = 0.06 mS.															
Integrity Checklist by				pH: 5.95 / cond = 0.04 mS.															
Integrity Checklist by				pH: 3.70 / cond 0.04 mS.															
Integrity Checklist by				pH: 3.94 / cond 0.04 mS.															
Integrity Checklist by				pH: 4.69 / cond 0.04 mS.															
Integrity Checklist by				pH: 4.76 / cond 0.02 mS.															
Integrity Checklist by				pH: 6.22 / cond 0.22 mS.															
Integrity Checklist by				pH: 5.92 / cond 0.04 mS.															
Relinquished by: (Signature/Print)				Date				Time				Received by: (Signature/Print)				Date			
Alex Ivanoff				2014/11/05				2:50				Sara Nelson				SARA NELSON			
Alex Ivanoff P.																			



SHIPPED FROM
 05-11-2014
 MAXXAM NL



200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
 49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
 90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
 www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: **B 128763** Page _____ of _____

This column for lab use only:

Client Code
 Maxxam Job #
B4K8028

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
			0.8	0.9	1.1	

Integrity YES/NO **YES**
 Integrity / Checklist by **AI**

Labelled by _____ Location / Bin # _____

INVOICE INFORMATION:
 Company Name: **Goldier Associates**
 Contact Name: **Phyllis McCrindle**
 Address: **6925 Century Ave, Suite 60**
Mississauga ON Postal Code L5N 7K2
 Email: **Phyllis-McCrindle@golder.com**
 Ph: **905-567-4444** Fax: **905-567-6561**

REPORT INFORMATION (if differs from invoice):
 Company Name: _____
 Contact Name: _____
 Address: _____
 Postal Code: _____
 Email: **cell # 647-278-1056**
 Ph: _____ Fax: _____

PO #
 Project # / Phase # **1407707**
 Project Name / Site Location **CFI / St. Lawrence NL**
 Quote _____
 Site # _____
 Task Order # _____
 Sampled by **ALEX IVANOFF**

TURNAROUND TIME
 Standard
 10 day
 IF RUSH Specify Date: _____
 Pre-schedule rush work _____
 Charge for # Jars used but not submitted _____

Guideline Requirements / Detection Limits / Special Instructions
 *Specify Matrix: Surface/Salt/Ground/Tapwater/Sewage/Effluent/
 Potable/NonPotable/Tissue/Soil/Sludge/Metal/Seawater

Field Filtered & Preserved
 Lab Filtration Required
 RCAP-30 Choose Total or Diss Metals
 RCAP-MS Choose Total or Diss Metals
 Total Digest (Default Method) for well water, surface water
 Dissolved for ground water
 Mercury
 Metals & Mercury Default Available Digest Method
 Metals Total Digest - for Ocean sediments (HNO3/HF/HClO4)
 Mercury Low level by Cold Vapour AA
 Selenium (low level) Req'd for CCME Residential, Parklands, Agricultural
 Hot Water soluble Boron (required for CCME Agriculture)
 RBGA Hydrocarbons (BTEX, C6-C9)
 Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy, Low Level BTEX, C6-C9
 NB Potable Water
 BTEX, VPH, Low level T.E.H.
 TPH Fractionation
 PAH's
 PAH's with Acridine, Quinolins

Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30	RCAP-MS	Metals Water	Metals Soil	Hydrocarbons
1 WQ STN 7	Surface	Nov 4 12:15 PM	9	N						pH: 5.94 Cond = 0.04ms
2 WQ STN 6	↓	Nov 4 14:50	↓	↓						pH: 5.68 Cond = 0.01ms
3 WQ STN 5	↓	Nov 4 15:15	↓	↓						pH: 5.53 Cond = 0.01ms
4										
5										
6										
7										
8										
9										
10										

SHIPPED FROM
 03-11-2014
 MAXXAM NL

2014 NOV 6 10:07

RELINQUISHED BY: (Signature/Print) **Alex Ivanoff** Date _____ Time _____
 RECEIVED BY: (Signature/Print) **Sara Mason** Date **2014/11/05** Time **2:50**

Your Project #: B4K8828
Your C.O.C. #: NA

Attention: Heather Macumber

Maxxam Analytics
200 Bluewater road
Bedford, NS
CANADA B4B 1G9

Report Date: 2014/11/18
Report #: R1945303
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B471636

Received: 2014/11/11, 08:30

Sample Matrix: WATER
Samples Received: 26

Analyses	Date		Laboratory Method	Primary Reference
	Quantity Extracted	Date Analyzed		
Weak Acid Dissociable Cyanides*	13	2014/11/17	2014/11/17 STL SOP-00035	MA300-CN 1.2 R2 m
Total Extractable Metals (Low Level)*	13	2014/11/13	2014/11/13 STL SOP-00006	MA200-Mét 1.2 R4 m

Note: RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

* Maxxam is accredited as per the MDDELCC program.

Encryption Key



Rodrigo Caffarengo
18 Nov 2014 14:38:36 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Rodrigo Caffarengo, Customer Service
Email: RCaffarengo@maxxam.ca
Phone# (514)448-9001 Ext:4336

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

TOTAL EXTRACTABLE METALS (WATER)

Maxxam ID		AF8559	AF8560	AF8561	AF8562		
Sampling Date		2014/11/03 13:35	2014/11/03 14:00	2014/11/03 14:55	2014/11/03 16:00		
COC Number		NA	NA	NA	NA		
	Units	YI3664-04R/WS-2	YI3665-04R/WS-5	YI3666-04R/WS-10	YI3667-04R/WQ STA-2	RDL	QC Batch
METALS ICP-MS							
Thorium (Th)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	1388584
Tungsten (W)	ug/L	<10	<10	<10	<10	10	1388584
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam ID		AF8563	AF8564	AF8565	AF8566		
Sampling Date		2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10	2014/11/04 10:20		
COC Number		NA	NA	NA	NA		
	Units	YI3668-04R/WQ STA-9	YI3669-04R/WQ STA-8	YI3670-04R/WQ STA-3	YI3671-04R/WQ STA-4	RDL	QC Batch
METALS ICP-MS							
Thorium (Th)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	1388584
Tungsten (W)	ug/L	<10	<10	<10	<10	10	1388584
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam ID		AF8567	AF8568	AF8569	AF8570		
Sampling Date		2014/11/04 11:15	2014/11/04 11:50	2014/11/04 12:15	2014/11/04 14:50		
COC Number		NA	NA	NA	NA		
	Units	YI3672-04R/MW14-04A	YI3673-04R/WQ STN-1	YI3674-04R/WQ STN-7	YI3675-04R/WQ STN-6	RDL	QC Batch
METALS ICP-MS							
Thorium (Th)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	1388584
Tungsten (W)	ug/L	<10	<10	<10	<10	10	1388584
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam ID		AF8571		
Sampling Date		2014/11/04 15:15		
COC Number		NA		
	Units	YI3676-04R/WQ STN-S	RDL	QC Batch
METALS ICP-MS				
Thorium (Th)	ug/L	<1.0	1.0	1388584
Tungsten (W)	ug/L	<10	10	1388584
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

CONVENTIONAL PARAMETERS (WATER)

Maxxam ID		AF8572	AF8573	AF8574	AF8575		
Sampling Date		2014/11/03 13:35	2014/11/03 14:00	2014/11/03 14:55	2014/11/03 16:00		
COC Number		NA	NA	NA	NA		
	Units	YI3664-08R/WS-2	YI3665-08R/WS-5	YI3666-08R/WS-10	YI3667-08R/WQ STA-2	RDL	QC Batch

CONVENTIONALS							
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	<0.003	0.003	1389819
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

Maxxam ID		AF8576	AF8577	AF8578		
Sampling Date		2014/11/04 08:45	2014/11/04 09:05	2014/11/04 10:10		
COC Number		NA	NA	NA		
	Units	YI3668-08R/WQ STA-9	YI3669-08R/WQ STA-8	YI3670-08R/WQ STA-3	RDL	QC Batch

CONVENTIONALS							
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	0.003	1389819	
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

Maxxam ID		AF8579	AF8580	AF8581		
Sampling Date		2014/11/04 10:20	2014/11/04 11:15	2014/11/04 11:50		
COC Number		NA	NA	NA		
	Units	YI3671-08R/WQ STA-4	YI3672-08R/MW14-04A	YI3673-08R/WQ STN-1	RDL	QC Batch

CONVENTIONALS							
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	0.003	1389819	
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

Maxxam ID		AF8581	AF8582	AF8583		
Sampling Date		2014/11/04 11:50	2014/11/04 12:15	2014/11/04 14:50		
COC Number		NA	NA	NA		
	Units	YI3673-08R/WQ STN-1 Lab-Dup	YI3674-08R/WQ STN-7	YI3675-08R/WQ STN-6	RDL	QC Batch

CONVENTIONALS							
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	0.003	1389819	
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

CONVENTIONAL PARAMETERS (WATER)

Maxxam ID		AF8584		
Sampling Date		2014/11/04 15:15		
COC Number		NA		
	Units	Y13676-08R/WQ STN-5	RDL	QC Batch

CONVENTIONALS				
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	0.003	1389819
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

Total Extractable Metals (Low Level): Arrived unpreserved, preserved upon reception at the laboratory.: AF8559, AF8560, AF8561, AF8562, AF8563, AF8564, AF8565, AF8566, AF8567, AF8568, AF8569, AF8570, AF8571

TOTAL EXTRACTABLE METALS (WATER)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

CONVENTIONAL PARAMETERS (WATER)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

Q /QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1388584	AL5		Spiked Blank	Thorium (Th)	2014/11/13		94	%	80 - 120
				Tungsten (W)	2014/11/13		102	%	80 - 120
1388584	AL5		Method Blank	Thorium (Th)	2014/11/13	<1.0		ug/L	
				Tungsten (W)	2014/11/13	<10		ug/L	
1389819	DB2		QC Standard	Weak Acid Dissociable Cyanide (CN-)	2014/11/17		88	%	80 - 120
1389819	DB2		Spiked Blank	Weak Acid Dissociable Cyanide (CN-)	2014/11/17		103	%	75 - 125
1389819	DB2		Method Blank	Weak Acid Dissociable Cyanide (CN-)	2014/11/17	<0.003		mg/L	

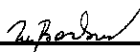

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Delia Barbul, B.Sc., Chemist

Jonathan Fauvel, B.Sc, Chimiste, Analyste II

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128761, B 128762

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/28
Report #: R3237394
Version: 3R

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4K1255

Received: 2014/10/28, 09:17

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Carbonate, Bicarbonate and Hydroxide	1	N/A	2014/10/30	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	4	N/A	2014/11/05	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2014/11/17	N/A	SM 22 4500-CO2 D
Alkalinity	5	N/A	2014/10/30	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	1	N/A	2014/11/19	ATL SOP 00013	EPA 310.2 R1974 m
Anions (1)	5	N/A	2014/11/05	CAM SOP-00435	SM 22 4110 B m
Anions (1)	1	N/A	2014/11/10	CAM SOP-00435	SM 22 4110 B m
Chloride	5	N/A	2014/11/03	ATL SOP 00014	SM 22 4500-Cl- E m
Chloride	1	N/A	2014/11/18	ATL SOP 00014	SM 22 4500-Cl- E m
Colour	5	N/A	2014/10/30	ATL SOP 00020	SM 22 2120C m
Colour	1	N/A	2014/11/17	ATL SOP 00020	SM 22 2120C m
Organic carbon - Diss (DOC) (2)	3	N/A	2014/10/28	ATL SOP 00037	SM 22 5310C m
Organic carbon - Diss (DOC) (2)	2	N/A	2014/11/06	ATL SOP 00037	SM 22 5310C m
Organic carbon - Diss (DOC) (2)	1	N/A	2014/11/17	ATL SOP 00037	SM 22 5310C m
Conductance - water	1	N/A	2014/10/29	ATL SOP 00004	SM 22 2510B m
Conductance - water	4	N/A	2014/11/04	ATL SOP 00004	SM 22 2510B m
Conductance - water	1	N/A	2014/11/14	ATL SOP 00004	SM 22 2510B m
Fluoride	5	N/A	2014/10/31	ATL SOP 00043	SM 22 4500-F- C m
Fluoride	1	N/A	2014/11/07	ATL SOP 00043	SM 22 4500-F- C m
Hardness (calculated as CaCO3)	5	N/A	2014/10/30	ATL SOP 00048	SM 22 2340 B
Hardness (calculated as CaCO3)	1	N/A	2014/11/10	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL)	5	2014/10/31	2014/10/31	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	1	2014/11/12	2014/11/13	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS (3)	5	2014/10/29	2014/10/30	ATL SOP 00058	EPA 6020A R1 m
Metals Water Total MS (3)	1	2014/11/07	2014/11/08	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	1	N/A	2014/11/04		Auto Calc.
Ion Balance (% Difference)	4	N/A	2014/11/05		Auto Calc.
Ion Balance (% Difference)	1	N/A	2014/11/19		Auto Calc.
Anion and Cation Sum	1	N/A	2014/11/04		Auto Calc.
Anion and Cation Sum	4	N/A	2014/11/05		Auto Calc.
Anion and Cation Sum	1	N/A	2014/11/18		Auto Calc.
Nitrogen Ammonia - water	5	N/A	2014/11/04	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	1	N/A	2014/11/17	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	5	N/A	2014/10/31	ATL SOP 00016	USGS SOPINCF0452.2 m

Your Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128761, B 128762

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/28
Report #: R3237394
Version: 3R

CERTIFICATE OF ANALYSIS – REVISED REPORT

-2-

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Nitrogen - Nitrate + Nitrite	1	N/A	2014/11/18	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite	5	N/A	2014/10/31	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrite	1	N/A	2014/11/17	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N)	5	N/A	2014/10/31	ATL SOP 00018	ASTM D3867
Nitrogen - Nitrate (as N)	1	N/A	2014/11/18	ATL SOP 00018	ASTM D3867
pH - On-Site	1	N/A	2014/11/06		
pH (4)	1	N/A	2014/10/29	ATL SOP 00003	SM 22 4500-H+ B m
pH (4)	4	N/A	2014/11/04	ATL SOP 00003	SM 22 4500-H+ B m
pH (4)	1	N/A	2014/11/14	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho	5	N/A	2014/10/31	ATL SOP 00021	EPA 365.2 m
Phosphorus - ortho	1	N/A	2014/11/17	ATL SOP 00021	EPA 365.2 m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2014/11/04	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	4	N/A	2014/11/05	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	1	N/A	2014/11/19	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2014/11/04	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	4	N/A	2014/11/05	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2014/11/19	ATL SOP 00049	Auto Calc.
Reactive Silica	5	N/A	2014/10/30	ATL SOP 00022	EPA 366.0 m
Reactive Silica	1	N/A	2014/11/17	ATL SOP 00022	EPA 366.0 m
Sulphate	5	N/A	2014/11/03	ATL SOP 00023	EPA 375.4 R1978 m
Sulphate	1	N/A	2014/11/18	ATL SOP 00023	EPA 375.4 R1978 m
Sulphide (1)	5	N/A	2014/10/29	CAM SOP-00455	SM 22 4500-S G m
Sulphide (1)	1	N/A	2014/11/09	CAM SOP-00455	SM 22 4500-S G m
Total Dissolved Solids (Filt. Residue)	5	N/A	2014/11/06	ATL SOP 00009	EPA 160.1 m
Total Dissolved Solids (Filt. Residue)	1	N/A	2014/11/17	ATL SOP 00009	EPA 160.1 m
Total Dissolved Solids (TDS calc)	4	N/A	2014/11/04		Auto Calc.
Total Dissolved Solids (TDS calc)	1	N/A	2014/11/05		Auto Calc.
Total Dissolved Solids (TDS calc)	1	N/A	2014/11/19		Auto Calc.
Organic carbon - Total (TOC) (2)	3	N/A	2014/10/28	ATL SOP 00037	SM 22 5310C m
Organic carbon - Total (TOC) (2)	2	N/A	2014/11/06	ATL SOP 00037	SM 22 5310C m
Organic carbon - Total (TOC) (2)	1	N/A	2014/11/13	ATL SOP 00037	SM 22 5310C m
Total Phosphorus (Colourimetric) (1)	5	2014/11/04	2014/11/05	CAM SOP-00407	SM 4500 P B F m
Total Phosphorus (Colourimetric) (1)	1	2014/11/14	2014/11/14	CAM SOP-00407	SM 4500 P B F m
Total Suspended Solids	5	N/A	2014/11/03	ATL SOP 00007	EPA 160.2 m
Total Suspended Solids	1	N/A	2014/11/12	ATL SOP 00007	EPA 160.2 m
Turbidity	5	N/A	2014/11/04	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	1	N/A	2014/11/17	ATL SOP 00011	EPA 180.1 R2 m

Your Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128761, B 128762

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/28

CERTIFICATE OF ANALYSIS – REVISED REPORT

-3-

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Maxxam Analytics Mississauga
- (2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.
- (3) New RDLs in effect due to release of NS Contaminated Sites Regulations. Reduced RDL based on MDL study performance. Low level analytical run checks being implemented.
- (4) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Your Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Your C.O.C. #: B 128761, B 128762

Attention: Phyllis McCrindle

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2014/11/28

CERTIFICATE OF ANALYSIS – REVISED REPORT

-4-

Encryption Key

Heather Macumber Heather Macumber
28 Nov 2014 16:30:53 -04:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Mari Kenny, Project Manager
Email: MKenny@maxxam.ca
Phone# (902) 420-0203 Ext:291

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 4

Page 4 of 36

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4528	YE4528	YE4529		
Sampling Date				2014/10/24 11:30	2014/10/24 11:30	2014/10/24 13:20		
COC Number				B 128761	B 128761	B 128761		
	Units	Criteria A	AO	MW14-01A	MW14-01A Lab-Dup	MW14-02A	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	-	-	1.25		2.08	N/A	3801231
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	36		72	1.0	3801228
Calculated TDS	mg/L	-	500	74		120	1.0	3801237
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		<1.0	1.0	3801228
Cation Sum	me/L	-	-	1.25		1.96	N/A	3801231
Hardness (CaCO3)	mg/L	-	-	39		64	1.0	3801229
Ion Balance (% Difference)	%	-	-	0.00		2.97	N/A	3801230
Langelier Index (@ 20C)	N/A	-	-	-1.30		-0.557		3801235
Langelier Index (@ 4C)	N/A	-	-	-1.55		-0.807		3801236
Nitrate (N)	mg/L	10	-	<0.050		<0.050	0.050	3801232
Saturation pH (@ 20C)	N/A	-	-	8.66		8.19		3801235
Saturation pH (@ 4C)	N/A	-	-	8.91		8.44		3801236
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	-	-	36	36	73	5.0	3803507
Dissolved Chloride (Cl)	mg/L	-	250	15	14	17	1.0	3803513
Colour	TCU	-	15	<5.0	<5.0	8.5	5.0	3803517
Nitrate + Nitrite	mg/L	-	-	<0.050	<0.050	<0.050	0.050	3803519
Nitrite (N)	mg/L	1	-	<0.010	<0.010	<0.010	0.010	3803520
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	0.061		<0.050	0.050	3804761
Total Organic Carbon (C)	mg/L	-	-	3.5		8.7	0.50	3813443
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	<0.010	0.010	3803518
pH	pH	-	6.5 : 8.5	7.36		7.63	N/A	3810222
Reactive Silica (SiO2)	mg/L	-	-	6.7	6.7	11	0.50	3803516

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4528	YE4528	YE4529		
Sampling Date				2014/10/24 11:30	2014/10/24 11:30	2014/10/24 13:20		
COC Number				B 128761	B 128761	B 128761		
	Units	Criteria A	AO	MW14-01A	MW14-01A Lab-Dup	MW14-02A	RDL	QC Batch

Dissolved Sulphate (SO4)	mg/L	-	500	4.0	3.9	4.6	2.0	3803514
Turbidity	NTU	0.3	-	27		13	0.10	3810731
Conductivity	uS/cm	-	-	120		180	1.0	3810230
Metals								
Total Aluminum (Al)	ug/L	-	100	610		710	5.0	3802699
Total Antimony (Sb)	ug/L	6	-	<1.0		<1.0	1.0	3802699
Total Arsenic (As)	ug/L	10	-	4.8		<1.0	1.0	3802699
Total Barium (Ba)	ug/L	1000	-	74		42	1.0	3802699
Total Beryllium (Be)	ug/L	-	-	<1.0		<1.0	1.0	3802699
Total Bismuth (Bi)	ug/L	-	-	<2.0		<2.0	2.0	3802699
Total Boron (B)	ug/L	5000	-	<50		<50	50	3802699
Total Cadmium (Cd)	ug/L	5	-	0.24		0.99	0.010	3802699
Total Calcium (Ca)	ug/L	-	-	13000		21000	100	3802699
Total Chromium (Cr)	ug/L	50	-	<1.0		<1.0	1.0	3802699
Total Cobalt (Co)	ug/L	-	-	<0.40		0.98	0.40	3802699
Total Copper (Cu)	ug/L	-	1000	5.2		4.4	2.0	3802699
Total Iron (Fe)	ug/L	-	300	490		670	50	3802699
Total Lead (Pb)	ug/L	10	-	7.3		4.4	0.50	3802699
Total Lithium (Li)	ug/L	-	-	8.3		13	2.0	3802699
Total Magnesium (Mg)	ug/L	-	-	1500		3100	100	3802699
Total Manganese (Mn)	ug/L	-	50	44		120	2.0	3802699
Total Molybdenum (Mo)	ug/L	-	-	2.1		<2.0	2.0	3802699
Total Nickel (Ni)	ug/L	-	-	<2.0		3.6	2.0	3802699
Total Phosphorus (P)	ug/L	-	-	100		<100	100	3802699

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4528	YE4528	YE4529		
Sampling Date				2014/10/24 11:30	2014/10/24 11:30	2014/10/24 13:20		
COC Number				B 128761	B 128761	B 128761		
	Units	Criteria A	AO	MW14-01A	MW14-01A Lab-Dup	MW14-02A	RDL	QC Batch

Total Potassium (K)	ug/L	-	-	1400		1400	100	3802699
Total Selenium (Se)	ug/L	50	-	<1.0		<1.0	1.0	3802699
Total Silicon (Si)	ug/L	-	-	3400		5500	500	3802699
Total Silver (Ag)	ug/L	-	-	0.10		0.15	0.10	3802699
Total Sodium (Na)	ug/L	-	200000	9700		14000	100	3802699
Total Strontium (Sr)	ug/L	-	-	86		87	2.0	3802699
Total Sulphur (S)	ug/L	-	-	<5000		<5000	5000	3802699
Total Tellurium (Te)	ug/L	-	-	<2.0		<2.0	2.0	3802699
Total Thallium (Tl)	ug/L	-	-	<0.10		<0.10	0.10	3802699
Total Tin (Sn)	ug/L	-	-	<2.0		<2.0	2.0	3802699
Total Titanium (Ti)	ug/L	-	-	4.1		6.4	2.0	3802699
Total Uranium (U)	ug/L	20	-	0.43		0.54	0.10	3802699
Total Vanadium (V)	ug/L	-	-	<2.0		<2.0	2.0	3802699
Total Zirconium (Zr)	ug/L	-	-	<2.0		<2.0	2.0	3802699
Total Zinc (Zn)	ug/L	-	5000	48		64	5.0	3802699

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4530	YE4530		
Sampling Date				2014/10/24 15:00	2014/10/24 15:00		
COC Number				B 128761	B 128761		
	Units	Criteria A	AO	MW14-03A	MW14-03A Lab-Dup	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	-	-	0.720		N/A	3801231
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	11		1.0	3801228
Calculated TDS	mg/L	-	500	70		1.0	3801237
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0		1.0	3801228
Cation Sum	me/L	-	-	1.49		N/A	3801231
Hardness (CaCO3)	mg/L	-	-	19		1.0	3801229
Ion Balance (% Difference)	%	-	-	34.8		N/A	3801230
Langelier Index (@ 20C)	N/A	-	-	-3.30			3801235
Langelier Index (@ 4C)	N/A	-	-	-3.55			3801236
Nitrate (N)	mg/L	10	-	<0.050		0.050	3801232
Saturation pH (@ 20C)	N/A	-	-	9.81			3801235
Saturation pH (@ 4C)	N/A	-	-	10.1			3801236
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	-	-	11		5.0	3803507
Dissolved Chloride (Cl)	mg/L	-	250	17		1.0	3803513
Colour	TCU	-	15	160		25	3803517
Nitrate + Nitrite	mg/L	-	-	<0.050		0.050	3803519
Nitrite (N)	mg/L	1	-	<0.010		0.010	3803520
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	0.085		0.050	3804761
Total Organic Carbon (C)	mg/L	-	-	38 (1)		5.0	3801325
Orthophosphate (P)	mg/L	-	-	0.011		0.010	3803518

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
 Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.
 (1) Reporting limit was increased due to turbidity.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4530	YE4530		
Sampling Date				2014/10/24 15:00	2014/10/24 15:00		
COC Number				B 128761	B 128761		
	Units	Criteria A	AO	MW14-03A	MW14-03A Lab-Dup	RDL	QC Batch

pH	pH	-	6.5 : 8.5	6.51	6.51	N/A	3802765
Reactive Silica (SiO2)	mg/L	-	-	9.9		0.50	3803516
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0		2.0	3803514
Turbidity	NTU	0.3	-	150		0.50	3810731
Conductivity	uS/cm	-	-	83	83	1.0	3802766
Metals							
Total Aluminum (Al)	ug/L	-	100	15000		5.0	3802699
Total Antimony (Sb)	ug/L	6	-	4.0		1.0	3802699
Total Arsenic (As)	ug/L	10	-	120		1.0	3802699
Total Barium (Ba)	ug/L	1000	-	190		1.0	3802699
Total Beryllium (Be)	ug/L	-	-	3.0		1.0	3802699
Total Bismuth (Bi)	ug/L	-	-	<2.0		2.0	3802699
Total Boron (B)	ug/L	5000	-	<50		50	3802699
Total Cadmium (Cd)	ug/L	5	-	3.2		0.010	3802699
Total Calcium (Ca)	ug/L	-	-	3500		100	3802699
Total Chromium (Cr)	ug/L	50	-	12		1.0	3802699
Total Cobalt (Co)	ug/L	-	-	8.6		0.40	3802699
Total Copper (Cu)	ug/L	-	1000	110		2.0	3802699
Total Iron (Fe)	ug/L	-	300	15000		50	3802699
Total Lead (Pb)	ug/L	10	-	1000		0.50	3802699
Total Lithium (Li)	ug/L	-	-	30		2.0	3802699
Total Magnesium (Mg)	ug/L	-	-	2400		100	3802699
Total Manganese (Mn)	ug/L	-	50	800		2.0	3802699

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4530	YE4530		
Sampling Date				2014/10/24 15:00	2014/10/24 15:00		
COC Number				B 128761	B 128761		
	Units	Criteria A	AO	MW14-03A	MW14-03A Lab-Dup	RDL	QC Batch

Total Molybdenum (Mo)	ug/L	-	-	7.6		2.0	3802699
Total Nickel (Ni)	ug/L	-	-	12		2.0	3802699
Total Phosphorus (P)	ug/L	-	-	380		100	3802699
Total Potassium (K)	ug/L	-	-	1800		100	3802699
Total Selenium (Se)	ug/L	50	-	1.0		1.0	3802699
Total Silicon (Si)	ug/L	-	-	9900		500	3802699
Total Silver (Ag)	ug/L	-	-	0.86		0.10	3802699
Total Sodium (Na)	ug/L	-	200000	12000		100	3802699
Total Strontium (Sr)	ug/L	-	-	27		2.0	3802699
Total Sulphur (S)	ug/L	-	-	<5000		5000	3802699
Total Tellurium (Te)	ug/L	-	-	<2.0		2.0	3802699
Total Thallium (Tl)	ug/L	-	-	0.24		0.10	3802699
Total Tin (Sn)	ug/L	-	-	<2.0		2.0	3802699
Total Titanium (Ti)	ug/L	-	-	200		2.0	3802699
Total Uranium (U)	ug/L	20	-	6.1		0.10	3802699
Total Vanadium (V)	ug/L	-	-	22		2.0	3802699
Total Zirconium (Zr)	ug/L	-	-	3.3		2.0	3802699
Total Zinc (Zn)	ug/L	-	5000	380		5.0	3802699

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4531			YE4532		
Sampling Date				2014/10/25 11:45			2014/10/26 15:10		
COC Number				B 128761			B 128761		
	Units	Criteria A	AO	PGS-93B	RDL	QC Batch	PGS-124	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	-	-	1.93	N/A	3801231	1.26	N/A	3801231
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	61	1.0	3801228	13	1.0	3801228
Calculated TDS	mg/L	-	500	110	1.0	3801237	170	1.0	3801237
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	3801228	<1.0	1.0	3801228
Cation Sum	me/L	-	-	1.90	N/A	3801231	4.47	N/A	3801231
Hardness (CaCO3)	mg/L	-	-	64	1.0	3801229	80	1.0	3801229
Ion Balance (% Difference)	%	-	-	0.780	N/A	3801230	56.0	N/A	3801230
Langelier Index (@ 20C)	N/A	-	-	-0.167		3801235	-2.33		3801235
Langelier Index (@ 4C)	N/A	-	-	-0.418		3801236	-2.58		3801236
Nitrate (N)	mg/L	10	-	<0.050	0.050	3801232	0.17	0.050	3801232
Saturation pH (@ 20C)	N/A	-	-	8.19		3801235	9.13		3801235
Saturation pH (@ 4C)	N/A	-	-	8.44		3801236	9.38		3801236
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	-	-	62	5.0	3803507	13	5.0	3803507
Dissolved Chloride (Cl)	mg/L	-	250	14	1.0	3803513	25	1.0	3803513
Colour	TCU	-	15	<5.0	5.0	3803517	95	25	3803517
Nitrate + Nitrite	mg/L	-	-	<0.050	0.050	3803519	0.17	0.050	3803519
Nitrite (N)	mg/L	1	-	<0.010	0.010	3803520	<0.010	0.010	3803520
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	3804761	0.060	0.050	3809291
Total Organic Carbon (C)	mg/L	-	-	<0.50	0.50	3801325	21 (1)	5.0	3801325
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	3803518	<0.010	0.010	3803518
pH	pH	-	6.5 : 8.5	8.02	N/A	3810222	6.80	N/A	3810222
Reactive Silica (SiO2)	mg/L	-	-	9.7	0.50	3803516	19	0.50	3803516

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

(1) Reporting limit was increased due to turbidity.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4531			YE4532		
Sampling Date				2014/10/25 11:45			2014/10/26 15:10		
COC Number				B 128761			B 128761		
	Units	Criteria A	AO	PGS-93B	RDL	QC Batch	PGS-124	RDL	QC Batch

Dissolved Sulphate (SO4)	mg/L	-	500	8.2	2.0	3803514	10	2.0	3803514
Turbidity	NTU	0.3	-	7.6	0.10	3810731	660	5.0	3810731
Conductivity	uS/cm	-	-	180	1.0	3810230	130	1.0	3810230
Metals									
Total Aluminum (Al)	ug/L	-	100	580	5.0	3802699	39000	5.0	3802699
Total Antimony (Sb)	ug/L	6	-	<1.0	1.0	3802699	<1.0	1.0	3802699
Total Arsenic (As)	ug/L	10	-	26	1.0	3802699	23	1.0	3802699
Total Barium (Ba)	ug/L	1000	-	32	1.0	3802699	740	1.0	3802699
Total Beryllium (Be)	ug/L	-	-	<1.0	1.0	3802699	3.6	1.0	3802699
Total Bismuth (Bi)	ug/L	-	-	<2.0	2.0	3802699	<2.0	2.0	3802699
Total Boron (B)	ug/L	5000	-	<50	50	3802699	<50	50	3802699
Total Cadmium (Cd)	ug/L	5	-	0.11	0.010	3802699	2.6	0.010	3802699
Total Calcium (Ca)	ug/L	-	-	24000	100	3802699	13000	100	3802699
Total Chromium (Cr)	ug/L	50	-	<1.0	1.0	3802699	56	1.0	3802699
Total Cobalt (Co)	ug/L	-	-	<0.40	0.40	3802699	26	0.40	3802699
Total Copper (Cu)	ug/L	-	1000	3.1	2.0	3802699	120	2.0	3802699
Total Iron (Fe)	ug/L	-	300	640	50	3802699	53000	50	3802699
Total Lead (Pb)	ug/L	10	-	4.6	0.50	3802699	250	0.50	3802699
Total Lithium (Li)	ug/L	-	-	65	2.0	3802699	140	2.0	3802699
Total Magnesium (Mg)	ug/L	-	-	1000	100	3802699	11000	100	3802699
Total Manganese (Mn)	ug/L	-	50	19	2.0	3802699	1100	2.0	3802699
Total Molybdenum (Mo)	ug/L	-	-	7.1	2.0	3802699	9.2	2.0	3802699
Total Nickel (Ni)	ug/L	-	-	<2.0	2.0	3802699	52	2.0	3802699
Total Phosphorus (P)	ug/L	-	-	100	100	3802699	840	100	3802699
Total Potassium (K)	ug/L	-	-	1200	100	3802699	10000	100	3802699

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				YE4531			YE4532		
Sampling Date				2014/10/25 11:45			2014/10/26 15:10		
COC Number				B 128761			B 128761		
	Units	Criteria A	AO	PGS-93B	RDL	QC Batch	PGS-124	RDL	QC Batch

Total Selenium (Se)	ug/L	50	-	<1.0	1.0	3802699	1.1	1.0	3802699
Total Silicon (Si)	ug/L	-	-	5000	500	3802699	39000	500	3802699
Total Silver (Ag)	ug/L	-	-	0.17	0.10	3802699	13	0.10	3802699
Total Sodium (Na)	ug/L	-	200000	13000	100	3802699	16000	100	3802699
Total Strontium (Sr)	ug/L	-	-	270	2.0	3802699	52	2.0	3802699
Total Sulphur (S)	ug/L	-	-	<5000	5000	3802699	<5000	5000	3802699
Total Tellurium (Te)	ug/L	-	-	<2.0	2.0	3802699	<2.0	2.0	3802699
Total Thallium (Tl)	ug/L	-	-	<0.10	0.10	3802699	0.73	0.10	3802699
Total Tin (Sn)	ug/L	-	-	<2.0	2.0	3802699	2.3	2.0	3802699
Total Titanium (Ti)	ug/L	-	-	6.9	2.0	3802699	550	2.0	3802699
Total Uranium (U)	ug/L	20	-	3.6	0.10	3802699	3.5	0.10	3802699
Total Vanadium (V)	ug/L	-	-	<2.0	2.0	3802699	47	2.0	3802699
Total Zirconium (Zr)	ug/L	-	-	<2.0	2.0	3802699	3.6	2.0	3802699
Total Zinc (Zn)	ug/L	-	5000	25	5.0	3802699	540	5.0	3802699

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13672		
Sampling Date				2014/11/04 11:15		
COC Number				B 128762		
	Units	Criteria A	AO	MW14-04A	RDL	QC Batch

Calculated Parameters						
Anion Sum	me/L	-	-	2.74	N/A	3813787
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	93	1.0	3813784
Calculated TDS	mg/L	-	500	150	1.0	3813791
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	3813784
Cation Sum	me/L	-	-	2.54	N/A	3813787
Hardness (CaCO3)	mg/L	-	-	92	1.0	3813785
Ion Balance (% Difference)	%	-	-	3.79	N/A	3813786
Langelier Index (@ 20C)	N/A	-	-	-0.327		3813789
Langelier Index (@ 4C)	N/A	-	-	-0.577		3813790
Nitrate (N)	mg/L	10	-	<0.050	0.050	3813788
Saturation pH (@ 20C)	N/A	-	-	7.90		3813789
Saturation pH (@ 4C)	N/A	-	-	8.15		3813790
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	-	-	93	5.0	3823280
Dissolved Chloride (Cl)	mg/L	-	250	16	1.0	3823281
Colour	TCU	-	15	10	5.0	3823284
Nitrate + Nitrite	mg/L	-	-	<0.050	0.050	3823286
Nitrite (N)	mg/L	1	-	<0.010	0.010	3823287
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	0.075	0.050	3823467
Total Organic Carbon (C)	mg/L	-	-	4.2	0.50	3821731
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	3823285
pH	pH	-	6.5 : 8.5	7.57	N/A	3823423

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13672		
Sampling Date				2014/11/04 11:15		
COC Number				B 128762		
	Units	Criteria A	AO	MW14-04A	RDL	QC Batch

Reactive Silica (SiO2)	mg/L	-	-	7.6	0.50	3823283
Dissolved Sulphate (SO4)	mg/L	-	500	16	2.0	3823282
Turbidity	NTU	0.3	-	6.0	0.10	3825931
Conductivity	uS/cm	-	-	250	1.0	3823429
Metals						
Total Aluminum (Al)	ug/L	-	100	170	5.0	3815304
Total Antimony (Sb)	ug/L	6	-	<1.0	1.0	3815304
Total Arsenic (As)	ug/L	10	-	<1.0	1.0	3815304
Total Barium (Ba)	ug/L	1000	-	97	1.0	3815304
Total Beryllium (Be)	ug/L	-	-	<1.0	1.0	3815304
Total Bismuth (Bi)	ug/L	-	-	<2.0	2.0	3815304
Total Boron (B)	ug/L	5000	-	<50	50	3815304
Total Cadmium (Cd)	ug/L	5	-	0.25	0.010	3815304
Total Calcium (Ca)	ug/L	-	-	32000	100	3815304
Total Chromium (Cr)	ug/L	50	-	2.7	1.0	3815304
Total Cobalt (Co)	ug/L	-	-	0.75	0.40	3815304
Total Copper (Cu)	ug/L	-	1000	7.8	2.0	3815304
Total Iron (Fe)	ug/L	-	300	340	50	3815304
Total Lead (Pb)	ug/L	10	-	2.9	0.50	3815304
Total Lithium (Li)	ug/L	-	-	17	2.0	3815304
Total Magnesium (Mg)	ug/L	-	-	2600	100	3815304
Total Manganese (Mn)	ug/L	-	50	170	2.0	3815304
Total Molybdenum (Mo)	ug/L	-	-	13	2.0	3815304

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID				Y13672		
Sampling Date				2014/11/04 11:15		
COC Number				B 128762		
	Units	Criteria A	AO	MW14-04A	RDL	QC Batch

Total Nickel (Ni)	ug/L	-	-	3.9	2.0	3815304
Total Phosphorus (P)	ug/L	-	-	<100	100	3815304
Total Potassium (K)	ug/L	-	-	1300	100	3815304
Total Selenium (Se)	ug/L	50	-	<1.0	1.0	3815304
Total Silicon (Si)	ug/L	-	-	3500	500	3815304
Total Silver (Ag)	ug/L	-	-	<0.10	0.10	3815304
Total Sodium (Na)	ug/L	-	200000	15000	100	3815304
Total Strontium (Sr)	ug/L	-	-	140	2.0	3815304
Total Sulphur (S)	ug/L	-	-	<5000	5000	3815304
Total Tellurium (Te)	ug/L	-	-	<2.0	2.0	3815304
Total Thallium (Tl)	ug/L	-	-	<0.10	0.10	3815304
Total Tin (Sn)	ug/L	-	-	2.7	2.0	3815304
Total Titanium (Ti)	ug/L	-	-	6.3	2.0	3815304
Total Uranium (U)	ug/L	20	-	5.1	0.10	3815304
Total Vanadium (V)	ug/L	-	-	<2.0	2.0	3815304
Total Zirconium (Zr)	ug/L	-	-	<2.0	2.0	3815304
Total Zinc (Zn)	ug/L	-	5000	800	5.0	3815304

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YE4528		YE4529		
Sampling Date				2014/10/24 11:30		2014/10/24 13:20		
COC Number				B 128761		B 128761		
	Units	Criteria A	AO	MW14-01A	RDL	MW14-02A	RDL	QC Batch

Inorganics								
Total Dissolved Solids	mg/L	-	500	97	20	150	20	3811569
Dissolved Fluoride (F-)	mg/L	1.5	-	0.55	0.10	0.80	0.10	3806847
Dissolved Organic Carbon (C)	mg/L	-	-	7.8	0.50	11	0.50	3813442
Total Phosphorus	mg/L	-	-	0.026	0.020	0.027	0.020	3810800
Total Suspended Solids	mg/L	-	-	<10	10	<5.0	5.0	3806746
Sulphide	mg/L	-	0.05	<0.020	0.020	<0.020	0.020	3804000
Bromide (Br-)	mg/L	-	-	<1.0	1.0	<1.0	1.0	3806128

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YE4530		YE4531	YE4531		
Sampling Date				2014/10/24 15:00		2014/10/25 11:45	2014/10/25 11:45		
COC Number				B 128761		B 128761	B 128761		
	Units	Criteria A	AO	MW14-03A	RDL	PGS-93B	PGS-93B Lab-Dup	RDL	QC Batch

Inorganics									
Total Dissolved Solids	mg/L	-	500	210	40	110		20	3811569
Dissolved Fluoride (F-)	mg/L	1.5	-	0.28	0.10	2.6		0.10	3806847
Dissolved Organic Carbon (C)	mg/L	-	-	29 (1)	5.0	<0.50		0.50	3801537
Total Phosphorus	mg/L	-	-	0.24	0.020	0.028		0.020	3810800
Total Suspended Solids	mg/L	-	-	55	5.0	15		2.0	3806746
Sulphide	mg/L	-	0.05	0.025	0.020	<0.020		0.020	3804000
Bromide (Br-)	mg/L	-	-	<1.0	1.0	<1.0	<1.0	1.0	3806128

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

(1) Elevated reporting limit due to sample matrix.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

RESULTS OF ANALYSES OF WATER

Maxxam ID				YE4532			Y13672		
Sampling Date				2014/10/26 15:10			2014/11/04 11:15		
COC Number				B 128761			B 128762		
	Units	Criteria A	AO	PGS-124	RDL	QC Batch	MW14-04A	RDL	QC Batch

Field Measurements									
Field pH	pH	-	-			N/A	6.22	N/A	ONSITE
Inorganics									
Total Dissolved Solids	mg/L	-	500	140	20	3811569	170	20	3823470
Dissolved Fluoride (F-)	mg/L	1.5	-	1.3	0.10	3806847	1.7	0.10	3815638
Dissolved Organic Carbon (C)	mg/L	-	-	11	0.50	3801537	3.5	0.50	3825851
Total Phosphorus	mg/L	-	-	0.81	0.10	3810800	0.028	0.020	3823358
Total Suspended Solids	mg/L	-	-	1100	20	3806746	7.9	2.0	3817326
Sulphide	mg/L	-	0.05	<0.020	0.020	3804000	<0.020	0.020	3816944
Bromide (Br-)	mg/L	-	-	<1.0	1.0	3806128	<1.0	1.0	3817015

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID			YE4528	YE4529	YE4530	YE4531		
Sampling Date			2014/10/24 11:30	2014/10/24 13:20	2014/10/24 15:00	2014/10/25 11:45		
COC Number			B 128761	B 128761	B 128761	B 128761		
	Units	MAC	MW14-01A	MW14-02A	MW14-03A	PGS-93B	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	1	<0.013	<0.013	0.073	<0.013	0.013	3806358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam ID			YE4532		YI3672		
Sampling Date			2014/10/26 15:10		2014/11/04 11:15		
COC Number			B 128761		B 128762		
	Units	MAC	PGS-124	QC Batch	MW14-04A	RDL	QC Batch

Metals							
Total Mercury (Hg)	ug/L	1	0.033	3806358	<0.013	0.013	3817872

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Oct. 2014.

A= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YE4528
Sample ID MW14-01A
Matrix Water

Collected 2014/10/24
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3801228	N/A	2014/11/05	Automated Statchk
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3813442	N/A	2014/11/06	Megan Cyr
Conductance - water	AT	3810230	N/A	2014/11/04	Kerstin Surgenor
Fluoride	ISE	3806847	N/A	2014/10/31	Tammy Peters
Hardness (calculated as CaCO3)		3801229	N/A	2014/10/30	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3806358	2014/10/31	2014/10/31	Adam Logan
Metals Water Total MS	CICP/MS	3802699	2014/10/29	2014/10/30	Daren Leblanc
Ion Balance (% Difference)	CALC	3801230	N/A	2014/11/05	Automated Statchk
Anion and Cation Sum	CALC	3801231	N/A	2014/11/05	Automated Statchk
Nitrogen Ammonia - water	AC	3804761	N/A	2014/11/04	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3801232	N/A	2014/10/31	Automated Statchk
pH	PHL	3810222	N/A	2014/11/04	Kerstin Surgenor
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Sat. pH and Langelier Index (@ 20C)	CALC	3801235	N/A	2014/11/05	Mike MacGillivray
Sat. pH and Langelier Index (@ 4C)	CALC	3801236	N/A	2014/11/05	Mike MacGillivray
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo
Sulphide	ISE/S	3804000	N/A	2014/10/29	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3811569	N/A	2014/11/06	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3801237	N/A	2014/11/04	Automated Statchk
Organic carbon - Total (TOC)	TECH	3813443	N/A	2014/11/06	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3810800	2014/11/04	2014/11/05	Viorica Rotaru
Total Suspended Solids	SLDS	3806746	N/A	2014/11/03	Leanne Lucas
Turbidity	TURB	3810731	N/A	2014/11/04	Kerstin Surgenor

Maxxam ID YE4528 Dup
Sample ID MW14-01A
Matrix Water

Collected 2014/10/24
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YE4529
Sample ID MW14-02A
Matrix Water

Collected 2014/10/24
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3801228	N/A	2014/11/05	Automated Statchk
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3813442	N/A	2014/11/06	Megan Cyr
Conductance - water	AT	3810230	N/A	2014/11/04	Kerstin Surgenor
Fluoride	ISE	3806847	N/A	2014/10/31	Tammy Peters
Hardness (calculated as CaCO3)		3801229	N/A	2014/10/30	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3806358	2014/10/31	2014/10/31	Adam Logan
Metals Water Total MS	CICP/MS	3802699	2014/10/29	2014/10/30	Daren Leblanc
Ion Balance (% Difference)	CALC	3801230	N/A	2014/11/05	Automated Statchk
Anion and Cation Sum	CALC	3801231	N/A	2014/11/05	Automated Statchk
Nitrogen Ammonia - water	AC	3804761	N/A	2014/11/04	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3801232	N/A	2014/10/31	Automated Statchk
pH	PHL	3810222	N/A	2014/11/04	Kerstin Surgenor
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Sat. pH and Langelier Index (@ 20C)	CALC	3801235	N/A	2014/11/05	Mike MacGillivray
Sat. pH and Langelier Index (@ 4C)	CALC	3801236	N/A	2014/11/05	Mike MacGillivray
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo
Sulphide	ISE/S	3804000	N/A	2014/10/29	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3811569	N/A	2014/11/06	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3801237	N/A	2014/11/04	Automated Statchk
Organic carbon - Total (TOC)	TECH	3813443	N/A	2014/11/06	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3810800	2014/11/04	2014/11/05	Viorica Rotaru
Total Suspended Solids	SLDS	3806746	N/A	2014/11/03	Leanne Lucas
Turbidity	TURB	3810731	N/A	2014/11/04	Kerstin Surgenor

Maxxam ID YE4530
Sample ID MW14-03A
Matrix Water

Collected 2014/10/24
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3801228	N/A	2014/10/30	Automated Statchk
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3801537	N/A	2014/10/28	Megan Cyr
Conductance - water	AT	3802766	N/A	2014/10/29	Kerstin Surgenor
Fluoride	ISE	3806847	N/A	2014/10/31	Tammy Peters
Hardness (calculated as CaCO3)		3801229	N/A	2014/10/30	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3806358	2014/10/31	2014/10/31	Adam Logan
Metals Water Total MS	CICP/MS	3802699	2014/10/29	2014/10/30	Daren Leblanc
Ion Balance (% Difference)	CALC	3801230	N/A	2014/11/04	Automated Statchk
Anion and Cation Sum	CALC	3801231	N/A	2014/11/04	Automated Statchk
Nitrogen Ammonia - water	AC	3804761	N/A	2014/11/04	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3801232	N/A	2014/10/31	Automated Statchk

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

pH	PHEL	3802765	N/A	2014/10/29	Kerstin Surgenor
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Sat. pH and Langelier Index (@ 20C)	CALC	3801235	N/A	2014/11/04	Mike MacGillivray
Sat. pH and Langelier Index (@ 4C)	CALC	3801236	N/A	2014/11/04	Mike MacGillivray
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo
Sulphide	ISE/S	3804000	N/A	2014/10/29	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3811569	N/A	2014/11/06	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3801237	N/A	2014/11/04	Automated Statchk
Organic carbon - Total (TOC)	TECH	3801325	N/A	2014/10/28	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3810800	2014/11/04	2014/11/05	Viorica Rotaru
Total Suspended Solids	SLDS	3806746	N/A	2014/11/03	Leanne Lucas
Turbidity	TURB	3810731	N/A	2014/11/04	Kerstin Surgenor

Maxxam ID YE4530 Dup
Sample ID MW14-03A
Matrix Water

Collected 2014/10/24
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Conductance - water	AT	3802766	N/A	2014/10/29	Kerstin Surgenor
pH	PHEL	3802765	N/A	2014/10/29	Kerstin Surgenor

Maxxam ID YE4531
Sample ID PGS-93B
Matrix Water

Collected 2014/10/25
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3801228	N/A	2014/11/05	Automated Statchk
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3801537	N/A	2014/10/28	Megan Cyr
Conductance - water	AT	3810230	N/A	2014/11/04	Kerstin Surgenor
Fluoride	ISE	3806847	N/A	2014/10/31	Tammy Peters
Hardness (calculated as CaCO3)		3801229	N/A	2014/10/30	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3806358	2014/10/31	2014/10/31	Adam Logan
Metals Water Total MS	CICP/MS	3802699	2014/10/29	2014/10/30	Daren Leblanc
Ion Balance (% Difference)	CALC	3801230	N/A	2014/11/05	Automated Statchk
Anion and Cation Sum	CALC	3801231	N/A	2014/11/05	Automated Statchk
Nitrogen Ammonia - water	AC	3804761	N/A	2014/11/04	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3801232	N/A	2014/10/31	Automated Statchk
pH	PHEL	3810222	N/A	2014/11/04	Kerstin Surgenor
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Sat. pH and Langelier Index (@ 20C)	CALC	3801235	N/A	2014/11/05	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3801236	N/A	2014/11/05	Automated Statchk
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo
Sulphide	ISE/S	3804000	N/A	2014/10/29	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3811569	N/A	2014/11/06	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3801237	N/A	2014/11/04	Automated Statchk
Organic carbon - Total (TOC)	TECH	3801325	N/A	2014/10/28	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3810800	2014/11/04	2014/11/05	Viorica Rotaru
Total Suspended Solids	SLDS	3806746	N/A	2014/11/03	Leanne Lucas
Turbidity	TURB	3810731	N/A	2014/11/04	Kerstin Surgenor

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Maxxam ID YE4531 Dup
Sample ID PGS-93B
Matrix Water

Collected 2014/10/25
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi

Maxxam ID YE4532
Sample ID PGS-124
Matrix Water

Collected 2014/10/26
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3801228	N/A	2014/11/05	Automated Statchk
Alkalinity	AC	3803507	N/A	2014/10/30	Jessica Romo
Anions	IC	3806128	N/A	2014/11/05	Fari Dehdezi
Chloride	AC	3803513	N/A	2014/11/03	Mary Clancey
Colour	AC	3803517	N/A	2014/10/30	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3801537	N/A	2014/10/28	Megan Cyr
Conductance - water	AT	3810230	N/A	2014/11/04	Kerstin Surgenor
Fluoride	ISE	3806847	N/A	2014/10/31	Tammy Peters
Hardness (calculated as CaCO3)		3801229	N/A	2014/10/30	Automated Statchk
Mercury - Total (CVAA,LL)	CVAA	3806358	2014/10/31	2014/10/31	Adam Logan
Metals Water Total MS	CICP/MS	3802699	2014/10/29	2014/10/30	Daren Leblanc
Ion Balance (% Difference)	CALC	3801230	N/A	2014/11/05	Automated Statchk
Anion and Cation Sum	CALC	3801231	N/A	2014/11/05	Automated Statchk
Nitrogen Ammonia - water	AC	3809291	N/A	2014/11/04	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3803519	N/A	2014/10/31	Jessica Romo
Nitrogen - Nitrite	AC	3803520	N/A	2014/10/31	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3801232	N/A	2014/10/31	Automated Statchk
pH	PHLH	3810222	N/A	2014/11/04	Kerstin Surgenor
Phosphorus - ortho	AC	3803518	N/A	2014/10/31	Jessica Romo
Sat. pH and Langelier Index (@ 20C)	CALC	3801235	N/A	2014/11/05	Mike MacGillivray
Sat. pH and Langelier Index (@ 4C)	CALC	3801236	N/A	2014/11/05	Mike MacGillivray
Reactive Silica	AC	3803516	N/A	2014/10/30	Jessica Romo
Sulphate	AC	3803514	N/A	2014/11/03	Jessica Romo
Sulphide	ISE/S	3804000	N/A	2014/10/29	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3811569	N/A	2014/11/06	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3801237	N/A	2014/11/05	Automated Statchk
Organic carbon - Total (TOC)	TECH	3801325	N/A	2014/10/28	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3810800	2014/11/04	2014/11/05	Viorica Rotaru
Total Suspended Solids	SLDS	3806746	N/A	2014/11/03	Leanne Lucas
Turbidity	TURB	3810731	N/A	2014/11/04	Kerstin Surgenor

Maxxam ID YI3672
Sample ID MW14-04A
Matrix Water

Collected 2014/11/04
Shipped
Received 2014/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	3813784	N/A	2014/11/17	Automated Statchk
Alkalinity	AC	3823280	N/A	2014/11/19	Arlene Rossiter
Anions	IC	3817015	N/A	2014/11/10	Fari Dehdezi
Chloride	AC	3823281	N/A	2014/11/18	Mary Clancey
Colour	AC	3823284	N/A	2014/11/17	Mary Clancey
Organic carbon - Diss (DOC)	TECH	3825851	N/A	2014/11/17	Megan Cyr
Conductance - water	AT	3823429	N/A	2014/11/14	Kerstin Surgenor
Fluoride	ISE	3815638	N/A	2014/11/07	Tammy Peters
Hardness (calculated as CaCO3)		3813785	N/A	2014/11/10	Automated Statchk

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

Test Summary

Mercury - Total (CVAA,LL)	CVAA	3817872	2014/11/12	2014/11/13	Adam Logan
Metals Water Total MS	CICP/MS	3815304	2014/11/07	2014/11/08	Daren Leblanc
Ion Balance (% Difference)	CALC	3813786	N/A	2014/11/19	Automated Statchk
Anion and Cation Sum	CALC	3813787	N/A	2014/11/18	Automated Statchk
Nitrogen Ammonia - water	AC	3823467	N/A	2014/11/17	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	AC	3823286	N/A	2014/11/18	Arlene Rossiter
Nitrogen - Nitrite	AC	3823287	N/A	2014/11/17	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	3813788	N/A	2014/11/18	Automated Statchk
pH - On-Site	PHL	ONSITE	N/A	2014/11/06	Tania Sarson
pH	PHL	3823423	N/A	2014/11/14	Kerstin Surgenor
Phosphorus - ortho	AC	3823285	N/A	2014/11/17	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	3813789	N/A	2014/11/19	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	3813790	N/A	2014/11/19	Automated Statchk
Reactive Silica	AC	3823283	N/A	2014/11/17	Arlene Rossiter
Sulphate	AC	3823282	N/A	2014/11/18	Mary Clancey
Sulphide	ISE/S	3816944	N/A	2014/11/09	Neil Dassanayake
Total Dissolved Solids (Filt. Residue)	BAL	3823470	N/A	2014/11/17	Angela Young
Total Dissolved Solids (TDS calc)	CALC	3813791	N/A	2014/11/19	Automated Statchk
Organic carbon - Total (TOC)	TECH	3821731	N/A	2014/11/13	Megan Cyr
Total Phosphorus (Colourimetric)	LACH/P	3823358	2014/11/14	2014/11/14	Viorica Rotaru
Total Suspended Solids	SLDS	3817326	N/A	2014/11/12	Angela Young
Turbidity	TURB	3825931	N/A	2014/11/17	Kerstin Surgenor

Maxxam Job #: B4K1255
Report Date: 2014/11/28

Golder Associates Ltd
Client Project #: 1407707/4
Site Location: CFI/ST.LAWRENCE,NL
Sampler Initials: AI

GENERAL COMMENTS

Re-issued report to include the CWQG as requested by client. HM Nov 20/14

Re-issued report to include only the below samples as per client request: HM Nov 28/14

PGS-93B, PGS-124, MW14-01, MW-02, MW14-03, and MW14-04A.

Sample YE4528-01: DOCCOLB-W DIS Organic Carbon > TOCCOLB-W TOT: Results confirmed through re-analysis.

Sample YE4529-01: DOCCOLB-W DIS Organic Carbon > TOCCOLB-W TOT: Results confirmed through re-analysis.

Sample YE4530-01: Poor RCap Ion Balance due to sample matrix. Excess cations due to presence of turbidity.

Sample YE4532-01: Poor RCap Ion Balance due to sample matrix. Excess cations due to presence of turbidity.

Results relate only to the items tested.

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report
Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
3801325 MCY	Matrix Spike	Total Organic Carbon (C)	2014/10/28		101	%	80 - 120	
	Spiked Blank	Total Organic Carbon (C)	2014/10/28		103	%	80 - 120	
	Method Blank	Total Organic Carbon (C)	2014/10/28	<0.50		mg/L		
	RPD	Total Organic Carbon (C)	2014/10/28	NC		%	20	
3801537 MCY	Matrix Spike	Dissolved Organic Carbon (C)	2014/10/28		96	%	80 - 120	
	[YE4533-03] Spiked Blank	Dissolved Organic Carbon (C)	2014/10/28		98	%	80 - 120	
	Method Blank	Dissolved Organic Carbon (C)	2014/10/28	<0.50		mg/L		
3802699 DLB	Matrix Spike	Total Aluminum (Al)	2014/10/30		103	%	80 - 120	
		Total Antimony (Sb)	2014/10/30		NC	%	80 - 120	
		Total Arsenic (As)	2014/10/30		102	%	80 - 120	
		Total Barium (Ba)	2014/10/30		99	%	80 - 120	
		Total Beryllium (Be)	2014/10/30		99	%	80 - 120	
		Total Bismuth (Bi)	2014/10/30		99	%	80 - 120	
		Total Boron (B)	2014/10/30		95	%	80 - 120	
		Total Cadmium (Cd)	2014/10/30		103	%	80 - 120	
		Total Calcium (Ca)	2014/10/30		NC	%	80 - 120	
		Total Chromium (Cr)	2014/10/30		100	%	80 - 120	
		Total Cobalt (Co)	2014/10/30		100	%	80 - 120	
		Total Copper (Cu)	2014/10/30		100	%	80 - 120	
		Total Iron (Fe)	2014/10/30		104	%	80 - 120	
		Total Lead (Pb)	2014/10/30		100	%	80 - 120	
		Total Lithium (Li)	2014/10/30		104	%	80 - 120	
		Total Magnesium (Mg)	2014/10/30		104	%	80 - 120	
		Total Manganese (Mn)	2014/10/30		NC	%	80 - 120	
		Total Molybdenum (Mo)	2014/10/30		NC	%	80 - 120	
		Total Nickel (Ni)	2014/10/30		101	%	80 - 120	
		Total Phosphorus (P)	2014/10/30		107	%	80 - 120	
		Total Potassium (K)	2014/10/30		NC	%	80 - 120	
		Total Selenium (Se)	2014/10/30		NC	%	80 - 120	
		Total Silicon (Si)	2014/10/30		104	%	80 - 120	
		Total Silver (Ag)	2014/10/30		101	%	80 - 120	
		Total Sodium (Na)	2014/10/30		NC	%	80 - 120	
		Total Strontium (Sr)	2014/10/30		NC	%	80 - 120	
		Total Sulphur (S)	2014/10/30		NC	%	80 - 120	
		Total Tellurium (Te)	2014/10/30		95	%	80 - 120	
		Total Thallium (Tl)	2014/10/30		100	%	80 - 120	
		Total Tin (Sn)	2014/10/30		102	%	80 - 120	
		Total Titanium (Ti)	2014/10/30		100	%	80 - 120	
		Total Uranium (U)	2014/10/30		108	%	80 - 120	
		Total Vanadium (V)	2014/10/30		103	%	80 - 120	
		Total Zirconium (Zr)	2014/10/30		109	%	80 - 120	
		Total Zinc (Zn)	2014/10/30		100	%	80 - 120	
		Spiked Blank	Total Aluminum (Al)	2014/10/30		106	%	80 - 120
			Total Antimony (Sb)	2014/10/30		100	%	80 - 120
			Total Arsenic (As)	2014/10/30		101	%	80 - 120
			Total Barium (Ba)	2014/10/30		95	%	80 - 120
	Total Beryllium (Be)		2014/10/30		97	%	80 - 120	
Total Bismuth (Bi)	2014/10/30			99	%	80 - 120		
Total Boron (B)	2014/10/30			92	%	80 - 120		
Total Cadmium (Cd)	2014/10/30			100	%	80 - 120		
Total Calcium (Ca)	2014/10/30			100	%	80 - 120		
Total Chromium (Cr)	2014/10/30			101	%	80 - 120		
Total Cobalt (Co)	2014/10/30			102	%	80 - 120		
Total Copper (Cu)	2014/10/30		104	%	80 - 120			

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits		
3802699 DLB	Spiked Blank	Total Iron (Fe)	2014/10/30		108	%	80 - 120		
		Total Lead (Pb)	2014/10/30		98	%	80 - 120		
		Total Lithium (Li)	2014/10/30		103	%	80 - 120		
		Total Magnesium (Mg)	2014/10/30		108	%	80 - 120		
		Total Manganese (Mn)	2014/10/30		104	%	80 - 120		
		Total Molybdenum (Mo)	2014/10/30		104	%	80 - 120		
		Total Nickel (Ni)	2014/10/30		104	%	80 - 120		
		Total Phosphorus (P)	2014/10/30		105	%	80 - 120		
		Total Potassium (K)	2014/10/30		97	%	80 - 120		
		Total Selenium (Se)	2014/10/30		101	%	80 - 120		
		Total Silicon (Si)	2014/10/30		96	%	80 - 120		
		Total Silver (Ag)	2014/10/30		102	%	80 - 120		
		Total Sodium (Na)	2014/10/30		107	%	80 - 120		
		Total Strontium (Sr)	2014/10/30		97	%	80 - 120		
		Total Sulphur (S)	2014/10/30		103	%	80 - 120		
		Total Tellurium (Te)	2014/10/30		91	%	80 - 120		
		Total Thallium (Tl)	2014/10/30		99	%	80 - 120		
		Total Tin (Sn)	2014/10/30		98	%	80 - 120		
		Method Blank	Method Blank	Total Titanium (Ti)	2014/10/30		102	%	80 - 120
				Total Uranium (U)	2014/10/30		104	%	80 - 120
Total Vanadium (V)	2014/10/30				102	%	80 - 120		
Total Zirconium (Zr)	2014/10/30				105	%	80 - 120		
Total Zinc (Zn)	2014/10/30				106	%	80 - 120		
Total Aluminum (Al)	2014/10/30			<5.0			ug/L		
Total Antimony (Sb)	2014/10/30			<1.0			ug/L		
Total Arsenic (As)	2014/10/30			<1.0			ug/L		
Total Barium (Ba)	2014/10/30			<1.0			ug/L		
Total Beryllium (Be)	2014/10/30			<1.0			ug/L		
Total Bismuth (Bi)	2014/10/30			<2.0			ug/L		
Total Boron (B)	2014/10/30			<50			ug/L		
Total Cadmium (Cd)	2014/10/30			<0.010			ug/L		
Total Calcium (Ca)	2014/10/30			<100			ug/L		
Total Chromium (Cr)	2014/10/30			<1.0			ug/L		
Total Cobalt (Co)	2014/10/30			<0.40			ug/L		
Total Copper (Cu)	2014/10/30			<2.0			ug/L		
Total Iron (Fe)	2014/10/30			<50			ug/L		
Total Lead (Pb)	2014/10/30			<0.50			ug/L		
Total Lithium (Li)	2014/10/30			<2.0			ug/L		
Total Magnesium (Mg)	2014/10/30	<100			ug/L				
Total Manganese (Mn)	2014/10/30	<2.0			ug/L				
Total Molybdenum (Mo)	2014/10/30	<2.0			ug/L				
Total Nickel (Ni)	2014/10/30	<2.0			ug/L				
Total Phosphorus (P)	2014/10/30	<100			ug/L				
Total Potassium (K)	2014/10/30	<100			ug/L				
Total Selenium (Se)	2014/10/30	<1.0			ug/L				
Total Silicon (Si)	2014/10/30	<500			ug/L				
Total Silver (Ag)	2014/10/30	<0.10			ug/L				
Total Sodium (Na)	2014/10/30	<100			ug/L				
Total Strontium (Sr)	2014/10/30	<2.0			ug/L				
Total Sulphur (S)	2014/10/30	<5000			ug/L				
Total Tellurium (Te)	2014/10/30	<2.0			ug/L				
Total Thallium (Tl)	2014/10/30	<0.10			ug/L				
Total Tin (Sn)	2014/10/30	<2.0			ug/L				
Total Titanium (Ti)	2014/10/30	<2.0			ug/L				
Total Uranium (U)	2014/10/30	<0.10			ug/L				

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3802699 DLB	Method Blank	Total Vanadium (V)	2014/10/30	<2.0		ug/L	
		Total Zirconium (Zr)	2014/10/30	<2.0		ug/L	
		Total Zinc (Zn)	2014/10/30	7.0, RDL=5.0		ug/L	
	RPD	Total Arsenic (As)	2014/10/30	NC		%	20
		Total Copper (Cu)	2014/10/30	1.2		%	20
		Total Lead (Pb)	2014/10/30	NC		%	20
		Total Nickel (Ni)	2014/10/30	2.1		%	20
		Total Zinc (Zn)	2014/10/30	0.4		%	20
3802765 KSR	QC Standard	pH	2014/10/29		101	%	97 - 103
	RPD [YE4530-03]	pH	2014/10/29	0.08		%	N/A
3802766 KSR	Spiked Blank	Conductivity	2014/10/29		99	%	80 - 120
	Method Blank	Conductivity	2014/10/29	<1.0		uS/cm	
	RPD [YE4530-03]	Conductivity	2014/10/29	0.1		%	25
3803507 JRM	Matrix Spike						
	[YE4528-03]	Total Alkalinity (Total as CaCO3)	2014/10/30		NC	%	80 - 120
	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/10/30		103	%	80 - 120
	Method Blank	Total Alkalinity (Total as CaCO3)	2014/10/30	<5.0		mg/L	
	RPD [YE4528-03]	Total Alkalinity (Total as CaCO3)	2014/10/30	0.01		%	25
3803513 MCN	Matrix Spike						
	[YE4528-03]	Dissolved Chloride (Cl)	2014/11/03		NC	%	80 - 120
	QC Standard	Dissolved Chloride (Cl)	2014/11/03		108	%	80 - 120
	Spiked Blank	Dissolved Chloride (Cl)	2014/11/03		108	%	80 - 120
	Method Blank	Dissolved Chloride (Cl)	2014/11/03	<1.0		mg/L	
	RPD [YE4528-03]	Dissolved Chloride (Cl)	2014/11/03	6.2		%	25
3803514 JRM	Matrix Spike						
	[YE4528-03]	Dissolved Sulphate (SO4)	2014/11/03		102	%	80 - 120
	Spiked Blank	Dissolved Sulphate (SO4)	2014/11/03		100	%	80 - 120
	Method Blank	Dissolved Sulphate (SO4)	2014/11/03	<2.0		mg/L	
	RPD [YE4528-03]	Dissolved Sulphate (SO4)	2014/11/03	NC		%	25
3803516 JRM	Matrix Spike						
	[YE4528-03]	Reactive Silica (SiO2)	2014/10/30		NC	%	80 - 120
	Spiked Blank	Reactive Silica (SiO2)	2014/10/31		101	%	80 - 120
	Method Blank	Reactive Silica (SiO2)	2014/10/31	<0.50		mg/L	
	RPD [YE4528-03]	Reactive Silica (SiO2)	2014/10/30	0.5		%	25
3803517 MCN	Spiked Blank	Colour	2014/10/30		97	%	80 - 120
	Method Blank	Colour	2014/10/30	<5.0		TCU	
	RPD [YE4528-03]	Colour	2014/10/30	NC		%	25
3803518 JRM	Matrix Spike						
	[YE4528-03]	Orthophosphate (P)	2014/10/31		95	%	80 - 120
	Spiked Blank	Orthophosphate (P)	2014/10/31		97	%	80 - 120
	Method Blank	Orthophosphate (P)	2014/10/31	<0.010		mg/L	
	RPD [YE4528-03]	Orthophosphate (P)	2014/10/31	NC		%	25
3803519 JRM	Matrix Spike						
	[YE4528-03]	Nitrate + Nitrite	2014/10/31		98	%	80 - 120
	Spiked Blank	Nitrate + Nitrite	2014/10/31		100	%	80 - 120
	Method Blank	Nitrate + Nitrite	2014/10/31	<0.050		mg/L	
	RPD [YE4528-03]	Nitrate + Nitrite	2014/10/31	NC		%	25
3803520 MCN	Matrix Spike						
	[YE4528-03]	Nitrite (N)	2014/10/31		105	%	80 - 120
	Spiked Blank	Nitrite (N)	2014/10/31		107	%	80 - 120
	Method Blank	Nitrite (N)	2014/10/31	<0.010		mg/L	
	RPD [YE4528-03]	Nitrite (N)	2014/10/31	NC		%	25
3804000 NYS	Matrix Spike	Sulphide	2014/10/29		102	%	80 - 120
	Spiked Blank	Sulphide	2014/10/29		95	%	80 - 120
	Method Blank	Sulphide	2014/10/29	<0.020		mg/L	

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3804000 NYS	RPD	Sulphide	2014/10/29	NC		%	20
3804761 ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/11/04		NC	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/04		103	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/04	<0.050		mg/L	
	RPD	Nitrogen (Ammonia Nitrogen)	2014/11/04	3.9		%	25
3806128 FD	Matrix Spike						
	[YE4531-04]	Bromide (Br-)	2014/11/05		99	%	80 - 120
	Spiked Blank	Bromide (Br-)	2014/11/05		98	%	80 - 120
	Method Blank	Bromide (Br-)	2014/11/05	<1.0		mg/L	
	RPD [YE4531-04]	Bromide (Br-)	2014/11/05	NC		%	20
3806358 ALG	Matrix Spike	Total Mercury (Hg)	2014/10/31		89	%	80 - 120
	Spiked Blank	Total Mercury (Hg)	2014/10/31		96	%	80 - 120
	Method Blank	Total Mercury (Hg)	2014/10/31	<0.013		ug/L	
	RPD	Total Mercury (Hg)	2014/10/31	NC		%	20
3806746 LLC	QC Standard	Total Suspended Solids	2014/11/03		96	%	80 - 120
	Method Blank	Total Suspended Solids	2014/11/03	<1.0		mg/L	
	RPD	Total Suspended Solids	2014/11/03	NC		%	25
3806847 TPE	Matrix Spike	Dissolved Fluoride (F-)	2014/10/31		106	%	80 - 120
	Spiked Blank	Dissolved Fluoride (F-)	2014/10/31		104	%	80 - 120
	Method Blank	Dissolved Fluoride (F-)	2014/10/31	<0.10		mg/L	
	RPD	Dissolved Fluoride (F-)	2014/10/31	3.1		%	25
3809291 ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/11/04		NC	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/04		103	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/04	<0.050		mg/L	
	RPD	Nitrogen (Ammonia Nitrogen)	2014/11/04	10		%	25
3810222 KSR	QC Standard	pH	2014/11/04		100	%	97 - 103
	RPD	pH	2014/11/04	0.3		%	N/A
3810230 KSR	Spiked Blank	Conductivity	2014/11/04		100	%	80 - 120
	Method Blank	Conductivity	2014/11/04	1.2, RDL=1.0		uS/cm	
	RPD	Conductivity	2014/11/04	0.1		%	25
3810731 KSR	QC Standard	Turbidity	2014/11/04		101	%	80 - 120
	Method Blank	Turbidity	2014/11/04	<0.10		NTU	
	RPD	Turbidity	2014/11/04	2.6		%	25
3810800 VRO	Matrix Spike	Total Phosphorus	2014/11/05		100	%	80 - 120
	QC Standard	Total Phosphorus	2014/11/05		102	%	80 - 120
	Spiked Blank	Total Phosphorus	2014/11/05		103	%	80 - 120
	Method Blank	Total Phosphorus	2014/11/05	<0.020		mg/L	
	RPD	Total Phosphorus	2014/11/05	0.2		%	20
3811569 AYN	QC Standard	Total Dissolved Solids	2014/11/06		97	%	80 - 120
	Method Blank	Total Dissolved Solids	2014/11/06	<10		mg/L	
	RPD	Total Dissolved Solids	2014/11/06	2.8		%	25
3813442 MCY	Matrix Spike	Dissolved Organic Carbon (C)	2014/11/06		102	%	80 - 120
	Spiked Blank	Dissolved Organic Carbon (C)	2014/11/06		98	%	80 - 120
	Method Blank	Dissolved Organic Carbon (C)	2014/11/06	<0.50		mg/L	
	RPD	Dissolved Organic Carbon (C)	2014/11/06	1.2		%	20
3813443 MCY	Matrix Spike	Total Organic Carbon (C)	2014/11/06		107	%	80 - 120
	Spiked Blank	Total Organic Carbon (C)	2014/11/06		102	%	80 - 120
	Method Blank	Total Organic Carbon (C)	2014/11/06	<0.50		mg/L	
	RPD	Total Organic Carbon (C)	2014/11/06	4.7		%	20
3815304 DLB	Matrix Spike	Total Aluminum (Al)	2014/11/08		105	%	80 - 120
		Total Antimony (Sb)	2014/11/08		99	%	80 - 120
		Total Arsenic (As)	2014/11/08		101	%	80 - 120
		Total Barium (Ba)	2014/11/08		96	%	80 - 120
		Total Beryllium (Be)	2014/11/08		100	%	80 - 120
		Total Bismuth (Bi)	2014/11/08		100	%	80 - 120

Golder Associates Ltd
 Attention: Phyllis McCrindle
 Client Project #: 1407707/4
 P.O. #:
 Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits		
3815304 DLB	Matrix Spike	Total Boron (B)	2014/11/08		100	%	80 - 120		
		Total Cadmium (Cd)	2014/11/08		97	%	80 - 120		
		Total Calcium (Ca)	2014/11/08		99	%	80 - 120		
		Total Chromium (Cr)	2014/11/08		98	%	80 - 120		
		Total Cobalt (Co)	2014/11/08		98	%	80 - 120		
		Total Copper (Cu)	2014/11/08		97	%	80 - 120		
		Total Iron (Fe)	2014/11/08		105	%	80 - 120		
		Total Lead (Pb)	2014/11/08		97	%	80 - 120		
		Total Lithium (Li)	2014/11/08		103	%	80 - 120		
		Total Magnesium (Mg)	2014/11/08		NC	%	80 - 120		
		Total Manganese (Mn)	2014/11/08		103	%	80 - 120		
		Total Molybdenum (Mo)	2014/11/08		102	%	80 - 120		
		Total Nickel (Ni)	2014/11/08		101	%	80 - 120		
		Total Phosphorus (P)	2014/11/08		108	%	80 - 120		
		Total Potassium (K)	2014/11/08		107	%	80 - 120		
		Total Selenium (Se)	2014/11/08		101	%	80 - 120		
		Total Silicon (Si)	2014/11/08		NC	%	80 - 120		
		Total Silver (Ag)	2014/11/08		100	%	80 - 120		
		Total Sodium (Na)	2014/11/08		114	%	80 - 120		
		Total Strontium (Sr)	2014/11/08		99	%	80 - 120		
		Total Sulphur (S)	2014/11/08		109	%	80 - 120		
		Total Tellurium (Te)	2014/11/08		93	%	80 - 120		
		Total Thallium (Tl)	2014/11/08		100	%	80 - 120		
		Total Tin (Sn)	2014/11/08		101	%	80 - 120		
		Total Titanium (Ti)	2014/11/08		104	%	80 - 120		
		Total Uranium (U)	2014/11/08		106	%	80 - 120		
		Total Vanadium (V)	2014/11/08		100	%	80 - 120		
		Total Zirconium (Zr)	2014/11/08		103	%	80 - 120		
		Total Zinc (Zn)	2014/11/08		99	%	80 - 120		
		Spiked Blank		Total Aluminum (Al)	2014/11/07		103	%	80 - 120
				Total Antimony (Sb)	2014/11/07		99	%	80 - 120
				Total Arsenic (As)	2014/11/07		100	%	80 - 120
Total Barium (Ba)	2014/11/07				97	%	80 - 120		
Total Beryllium (Be)	2014/11/07				100	%	80 - 120		
Total Bismuth (Bi)	2014/11/07				100	%	80 - 120		
Total Boron (B)	2014/11/07				100	%	80 - 120		
Total Cadmium (Cd)	2014/11/07				97	%	80 - 120		
Total Calcium (Ca)	2014/11/07				97	%	80 - 120		
Total Chromium (Cr)	2014/11/07				98	%	80 - 120		
Total Cobalt (Co)	2014/11/07				99	%	80 - 120		
Total Copper (Cu)	2014/11/07				98	%	80 - 120		
Total Iron (Fe)	2014/11/07				103	%	80 - 120		
Total Lead (Pb)	2014/11/07				96	%	80 - 120		
Total Lithium (Li)	2014/11/07				102	%	80 - 120		
Total Magnesium (Mg)	2014/11/07				108	%	80 - 120		
Total Manganese (Mn)	2014/11/07				102	%	80 - 120		
Total Molybdenum (Mo)	2014/11/07				100	%	80 - 120		
Total Nickel (Ni)	2014/11/07				101	%	80 - 120		
Total Phosphorus (P)	2014/11/07				105	%	80 - 120		
Total Potassium (K)	2014/11/07				105	%	80 - 120		
Total Selenium (Se)	2014/11/07				100	%	80 - 120		
Total Silicon (Si)	2014/11/07				103	%	80 - 120		
Total Silver (Ag)	2014/11/07				99	%	80 - 120		
Total Sodium (Na)	2014/11/07				110	%	80 - 120		
Total Strontium (Sr)	2014/11/07				98	%	80 - 120		

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
3815304 DLB	Spiked Blank	Total Sulphur (S)	2014/11/07		91	%	80 - 120	
		Total Tellurium (Te)	2014/11/07		96	%	80 - 120	
		Total Thallium (Tl)	2014/11/07		99	%	80 - 120	
		Total Tin (Sn)	2014/11/07		99	%	80 - 120	
		Total Titanium (Ti)	2014/11/07		105	%	80 - 120	
		Total Uranium (U)	2014/11/07		105	%	80 - 120	
		Total Vanadium (V)	2014/11/07		98	%	80 - 120	
		Total Zirconium (Zr)	2014/11/07		103	%	80 - 120	
		Total Zinc (Zn)	2014/11/07		97	%	80 - 120	
	Method Blank	Total Aluminum (Al)	2014/11/07	<5.0			ug/L	
		Total Antimony (Sb)	2014/11/07	<1.0			ug/L	
		Total Arsenic (As)	2014/11/07	<1.0			ug/L	
		Total Barium (Ba)	2014/11/07	<1.0			ug/L	
		Total Beryllium (Be)	2014/11/07	<1.0			ug/L	
		Total Bismuth (Bi)	2014/11/07	<2.0			ug/L	
		Total Boron (B)	2014/11/07	<50			ug/L	
		Total Cadmium (Cd)	2014/11/07	<0.010			ug/L	
		Total Calcium (Ca)	2014/11/07	<100			ug/L	
		Total Chromium (Cr)	2014/11/07	<1.0			ug/L	
		Total Cobalt (Co)	2014/11/07	<0.40			ug/L	
		Total Copper (Cu)	2014/11/07	<2.0			ug/L	
		Total Iron (Fe)	2014/11/07	<50			ug/L	
		Total Lead (Pb)	2014/11/07	<0.50			ug/L	
		Total Lithium (Li)	2014/11/07	<2.0			ug/L	
		Total Magnesium (Mg)	2014/11/07	<100			ug/L	
		Total Manganese (Mn)	2014/11/07	<2.0			ug/L	
		Total Molybdenum (Mo)	2014/11/07	<2.0			ug/L	
		Total Nickel (Ni)	2014/11/07	<2.0			ug/L	
		Total Phosphorus (P)	2014/11/07	<100			ug/L	
		Total Potassium (K)	2014/11/07	<100			ug/L	
		Total Selenium (Se)	2014/11/07	<1.0			ug/L	
		Total Silicon (Si)	2014/11/07	<500			ug/L	
		Total Silver (Ag)	2014/11/07	<0.10			ug/L	
Total Sodium (Na)	2014/11/07	<100			ug/L			
Total Strontium (Sr)	2014/11/07	<2.0			ug/L			
Total Sulphur (S)	2014/11/07	<5000			ug/L			
Total Tellurium (Te)	2014/11/07	<2.0			ug/L			
Total Thallium (Tl)	2014/11/07	<0.10			ug/L			
Total Tin (Sn)	2014/11/07	<2.0			ug/L			
Total Titanium (Ti)	2014/11/07	<2.0			ug/L			
Total Uranium (U)	2014/11/07	<0.10			ug/L			
Total Vanadium (V)	2014/11/07	<2.0			ug/L			
Total Zirconium (Zr)	2014/11/07	<2.0			ug/L			
Total Zinc (Zn)	2014/11/07	<5.0			ug/L			
RPD	Total Arsenic (As)	2014/11/07	NC			%	20	
	Total Copper (Cu)	2014/11/07	NC			%	20	
	Total Lead (Pb)	2014/11/07	NC			%	20	
	Total Manganese (Mn)	2014/11/07	1.4			%	20	
	Total Nickel (Ni)	2014/11/07	NC			%	20	
	Total Zinc (Zn)	2014/11/07	NC			%	20	
3815638 TPE	Matrix Spike	Dissolved Fluoride (F-)	2014/11/07		101	%	80 - 120	
	Spiked Blank	Dissolved Fluoride (F-)	2014/11/07		103	%	80 - 120	
	Method Blank	Dissolved Fluoride (F-)	2014/11/07	<0.10		mg/L		
	RPD	Dissolved Fluoride (F-)	2014/11/07	NC		%	25	
3816944 NYS	Matrix Spike	Sulphide	2014/11/09		86	%	80 - 120	

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3816944 NYS	Spiked Blank	Sulphide	2014/11/09		89	%	80 - 120
	Method Blank	Sulphide	2014/11/09	<0.020		mg/L	
	RPD	Sulphide	2014/11/09	NC		%	20
3817015 FD	Matrix Spike	Bromide (Br-)	2014/11/10		104	%	80 - 120
	Spiked Blank	Bromide (Br-)	2014/11/10		100	%	80 - 120
	Method Blank	Bromide (Br-)	2014/11/10	<1.0		mg/L	
	RPD	Bromide (Br-)	2014/11/10	NC		%	20
3817326 AYN	QC Standard	Total Suspended Solids	2014/11/12		103	%	80 - 120
	Method Blank	Total Suspended Solids	2014/11/12	<1.0		mg/L	
	RPD	Total Suspended Solids	2014/11/12	13.9		%	25
3817872 ALG	Matrix Spike	Total Mercury (Hg)	2014/11/13		95	%	80 - 120
	Spiked Blank	Total Mercury (Hg)	2014/11/13		94	%	80 - 120
	Method Blank	Total Mercury (Hg)	2014/11/13	<0.013		ug/L	
	RPD	Total Mercury (Hg)	2014/11/13	NC		%	20
3821731 MCY	Matrix Spike	Total Organic Carbon (C)	2014/11/13		93	%	80 - 120
	Spiked Blank	Total Organic Carbon (C)	2014/11/13		103	%	80 - 120
	Method Blank	Total Organic Carbon (C)	2014/11/13	<0.50		mg/L	
	RPD	Total Organic Carbon (C)	2014/11/13	2.4		%	20
3823280 ARS	Matrix Spike	Total Alkalinity (Total as CaCO3)	2014/11/19		110	%	80 - 120
	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/11/19		112	%	80 - 120
	Method Blank	Total Alkalinity (Total as CaCO3)	2014/11/19	<5.0		mg/L	
	RPD	Total Alkalinity (Total as CaCO3)	2014/11/19	NC		%	25
3823281 MCN	Matrix Spike	Dissolved Chloride (Cl)	2014/11/18		NC	%	80 - 120
	QC Standard	Dissolved Chloride (Cl)	2014/11/18		112	%	80 - 120
	Spiked Blank	Dissolved Chloride (Cl)	2014/11/18		96	%	80 - 120
	Method Blank	Dissolved Chloride (Cl)	2014/11/18	<1.0		mg/L	
	RPD	Dissolved Chloride (Cl)	2014/11/18	5.0		%	25
3823282 MCN	Matrix Spike	Dissolved Sulphate (SO4)	2014/11/18		109	%	80 - 120
	Spiked Blank	Dissolved Sulphate (SO4)	2014/11/18		103	%	80 - 120
	Method Blank	Dissolved Sulphate (SO4)	2014/11/18	<2.0		mg/L	
	RPD	Dissolved Sulphate (SO4)	2014/11/18	NC		%	25
3823283 ARS	Matrix Spike	Reactive Silica (SiO2)	2014/11/17		111	%	80 - 120
	Spiked Blank	Reactive Silica (SiO2)	2014/11/17		101	%	80 - 120
	Method Blank	Reactive Silica (SiO2)	2014/11/17	<0.50		mg/L	
	RPD	Reactive Silica (SiO2)	2014/11/17	2.3		%	25
3823284 MCN	Spiked Blank	Colour	2014/11/17		103	%	80 - 120
	Method Blank	Colour	2014/11/17	<5.0		TCU	
	RPD	Colour	2014/11/17	3.0		%	25
3823285 MCN	Matrix Spike	Orthophosphate (P)	2014/11/17		92	%	80 - 120
	Spiked Blank	Orthophosphate (P)	2014/11/17		98	%	80 - 120
	Method Blank	Orthophosphate (P)	2014/11/17	<0.010		mg/L	
	RPD	Orthophosphate (P)	2014/11/17	NC		%	25
3823286 ARS	Matrix Spike	Nitrate + Nitrite	2014/11/18		96	%	80 - 120
	Spiked Blank	Nitrate + Nitrite	2014/11/18		100	%	80 - 120
	Method Blank	Nitrate + Nitrite	2014/11/18	<0.050		mg/L	
	RPD	Nitrate + Nitrite	2014/11/18	NC		%	25
3823287 MCN	Matrix Spike	Nitrite (N)	2014/11/17		83	%	80 - 120
	Spiked Blank	Nitrite (N)	2014/11/17		93	%	80 - 120
	Method Blank	Nitrite (N)	2014/11/17	<0.010		mg/L	
	RPD	Nitrite (N)	2014/11/17	NC		%	25
3823358 VRO	Matrix Spike	Total Phosphorus	2014/11/14		96	%	80 - 120
	QC Standard	Total Phosphorus	2014/11/14		100	%	80 - 120
	Spiked Blank	Total Phosphorus	2014/11/14		98	%	80 - 120
	Method Blank	Total Phosphorus	2014/11/14	<0.020		mg/L	
	RPD	Total Phosphorus	2014/11/14	0.5		%	20

Golder Associates Ltd
Attention: Phyllis McCrindle
Client Project #: 1407707/4
P.O. #:
Site Location: CFI/ST.LAWRENCE,NL

Quality Assurance Report (Continued)

Maxxam Job Number: DB4K1255

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3823423 KSR	QC Standard	pH	2014/11/14		100	%	97 - 103
	RPD	pH	2014/11/14	2.0		%	N/A
3823429 KSR	Spiked Blank	Conductivity	2014/11/14		101	%	80 - 120
	Method Blank	Conductivity	2014/11/14	1.1, RDL=1.0		uS/cm	
	RPD	Conductivity	2014/11/14	0		%	25
3823467 ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/11/18		124 (1)	%	80 - 120
	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17		107	%	80 - 120
	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/11/17	<0.050		mg/L	
	RPD	Nitrogen (Ammonia Nitrogen)	2014/11/17	6.0		%	25
3823470 AYN	QC Standard	Total Dissolved Solids	2014/11/17		103	%	80 - 120
	Method Blank	Total Dissolved Solids	2014/11/17	<20 (2)		mg/L	
	RPD	Total Dissolved Solids	2014/11/17	2.9		%	25
3825851 MCY	Matrix Spike	Dissolved Organic Carbon (C)	2014/11/17		94	%	80 - 120
	Spiked Blank	Dissolved Organic Carbon (C)	2014/11/17		100	%	80 - 120
	Method Blank	Dissolved Organic Carbon (C)	2014/11/17	<0.50		mg/L	
	RPD	Dissolved Organic Carbon (C)	2014/11/17	NC		%	20
3825931 KSR	QC Standard	Turbidity	2014/11/17		102	%	80 - 120
	Method Blank	Turbidity	2014/11/17	<0.10		NTU	
	RPD	Turbidity	2014/11/17	3.2		%	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Matrix spike recovery outside of acceptance range due to sample matrix.

(2) Elevated TDS RDL due to method blank performance.

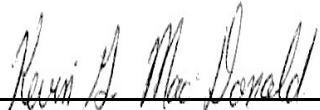
Validation Signature Page

Maxxam Job #: B4K1255

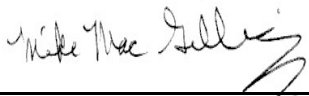
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).




Ewa Pranjin, M.Sc., C.Chem, Scientific Specialist



Kevin MacDonal, Inorganics Supervisor



Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

This column for lab use only:		INVOICE INFORMATION:										REPORT INFORMATION (if differs from invoice):										TURNAROUND TIME						
Client Code		Company Name: Goldier Associates										Company Name:										Project # / Phase # 1407707/4						
Maxxam Job #		Contact Name: Phyllis McCrindle										Contact Name:										Project Name / Site Location CFI / St. Lawrence, NL						
B4K1255		Address: 6925 Century Ave, Suite 100										Address:										Quote						
		Mississauga, Ont Postal Code L5N 7K2										Postal Code										Site #						
Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp	Email: Phyllis_McCrindle@goldier.com										Email:										Task Order #	
			1	2	2		Ph: (905) 567-4444 Fax: (905) 567-6561										OR cell 647-278-1056										Sampled by Alex Ivanoff	
Guideline Requirements / Detection Limits / Special Instructions																		Pre-schedule rush work										
See attached Parameters sheet.																		Charge for # Jars used but not submitted										
Integrity YES <input checked="" type="radio"/> NO <input type="radio"/>		Integrity / Checklist by APG																										
Labelled by		Location / Bin #																										
*Specify Matrix: Surface/Salt/Ground/Tapwater/Sewage/Effluent/Potable/NonPotable/Tissue/Soil/Sludge/Metal/Seawater																												
Field Sample Identification		Matrix*		Date/Time Sampled		# & type of bottles		Field Filtered & Preserved		Lab Filtration Required		RCAP-30 Choose Total or Diss Metals		RCAP-MS Choose Total or Diss Metals		Metals Water		Metals Soil		Hydrocarbons								
1 MW14-01A		GW		Oct 24 11:30 AM		9 N		N												pH=7.38 Cond=0.10 mS								
2 MW14-02A		GW		Oct 24 13:20 hr		9 N		N												pH=7.69 Cond=0.17 mS								
3 MW14-03A		GW		Oct 24 15:00		9 N		N												pH=6.65 Cond=0.07 mS								
4 PGS-93b		GW		Oct 25 11:45 AM		9 N		N												pH=8.05 Cond=0.16 mS								
5 PGS-124		GW		Oct 26 15:10		9 N		N												pH=6.50 Cond=0.12 mS								
6 Duplicate		GW		Oct 25 11:50		9 N		N																				
7																												
8																												
9																												

RELINQUISHED BY: (Signature/Print)	Date	Time	RECEIVED BY: (Signature/Print)	Date	Time
<i>Alex Ivanoff</i>	Oct. 27 2014	AM	<i>SARA MASON</i>		



Your Project #: B4K1255
Your C.O.C. #: n-a

Attention:Bedford Client Svc (SubContr)

Maxxam Analytics
200 Bluewater road
Bedford, NS
CANADA B4B 1G9

Report Date: 2014/11/04
Report #: R1939521
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B468544

Received: 2014/10/29, 08:20

Sample Matrix: WATER
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary Reference
Weak Acid Dissociable Cyanides*	6	2014/10/31	2014/10/31	STL SOP-00035	MA300-CN 1.2 R2 m
Total Extractable Metals (Low Level)*	6	2014/10/30	2014/10/31	STL SOP-00006	MA200-Mét 1.2 R4 m

Note: RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

* Maxxam is accredited as per the MDDELCC program.

Encryption Key



Rodrigo Caffarengo
04 Nov 2014 14:39:03 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Rodrigo Caffarengo, Customer Service
Email: RCaffarengo@maxxam.ca
Phone# (514)448-9001 Ext:4336

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

TOTAL EXTRACTABLE METALS (WATER)

Maxxam ID		AE3179	AE3181	AE3183		
Sampling Date		2014/10/24 11:30	2014/10/24 13:20	2014/10/24 15:00		
COC Number		n-a	n-a	n-a		
	Units	YE4528-04R/MW14-01A	YE4529-04R/MW14-02A	YE4530-04R/MW14-03A	RDL	QC Batch
METALS ICP-MS						
Thorium (Th)	ug/L	<1.0	<1.0	6.0	1.0	1382384
Tungsten (W)	ug/L	<10	<10	13	10	1382384
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam ID		AE3183	AE3185	AE3187	AE3189		
Sampling Date		2014/10/24 15:00	2014/10/25 11:45	2014/10/26 15:10	2014/10/25 11:30		
COC Number		n-a	n-a	n-a	n-a		
	Units	YE4530-04R/MW14-03A Lab-Dup	YE4531-04R/PGS-93B	YE4532-04R/PGS-124	YE4533-04R/DUPLICATE	RDL	QC Batch
METALS ICP-MS							
Thorium (Th)	ug/L	6.3	<1.0	11	<1.0	1.0	1382384
Tungsten (W)	ug/L	14	<10	130	<10	10	1382384
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

CONVENTIONAL PARAMETERS (WATER)

Maxxam ID		AE3180	AE3182	AE3184		
Sampling Date		2014/10/24 11:30	2014/10/24 13:20	2014/10/24 15:00		
COC Number		n-a	n-a	n-a		
	Units	YE4528-08R/MW14-01A	YE4529-08R/MW14-02A	YE4530-08R/MW14-03A	RDL	QC Batch

CONVENTIONALS						
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	0.003	1382929
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						

Maxxam ID		AE3186	AE3188	AE3190		
Sampling Date		2014/10/25 11:45	2014/10/26 15:10	2014/10/25 11:30		
COC Number		n-a	n-a	n-a		
	Units	YE4531-08R/PGS-93B	YE4532-08R/PGS-124	YE4533-08R/DUPLICATE	RDL	QC Batch

CONVENTIONALS						
Weak Acid Dissociable Cyanide (CN-)	mg/L	<0.003	<0.003	<0.003	0.003	1382929
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

Total Extractable Metals (Low Level): Arrived unpreserved, preserved upon reception at the laboratory.: AE3179, AE3181, AE3183, AE3185, AE3187, AE3189

TOTAL EXTRACTABLE METALS (WATER)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

CONVENTIONAL PARAMETERS (WATER)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

Q /QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	Units	QC Limits
1382384	MCA	Spiked Blank	Thorium (Th)	2014/10/31		101	%	80 - 120
			Tungsten (W)	2014/10/31		104	%	80 - 120
1382384	MCA	Method Blank	Thorium (Th)	2014/10/31	<1.0		ug/L	
			Tungsten (W)	2014/10/31	<10		ug/L	
1382929	MH1	QC Standard	Weak Acid Dissociable Cyanide (CN-)	2014/10/31		88	%	80 - 120
1382929	MH1	Spiked Blank	Weak Acid Dissociable Cyanide (CN-)	2014/10/31		102	%	75 - 125
1382929	MH1	Method Blank	Weak Acid Dissociable Cyanide (CN-)	2014/10/31	<0.003		mg/L	

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Jonathan Fauvel

Jonathan Fauvel, B.Sc, Chimiste, Analyste II

Madina Hamrouni



Madina Hamrouni, B.Sc., Chemist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX E

Hydraulic Conductivity Analysis

Well Id	Sample	C	d_{10}	$K=C(d_{10})^2$	$K=C(d_{10})^2$	Field Description	Grain Size Description
			cm	cm/s	m/s		
TP14-01	1	100	0.001800	3.24E-04	3.24E-06	Gravelly SAND with silt	SAND & GRAVEL; some silt (SM)
TP14-02	1	100	0.000500	2.50E-05	2.50E-07	Silty fine SAND with gravel	Gravelly; silty SAND (SM)
TP14-03	1	100	0.015380	2.37E-02	2.37E-04	Sandy GRAVEL with cobbles	Sandy GRAVEL; trace silt (GP-GM)
TP14-04	1	100	0.077990	6.08E-01	6.08E-03	GRAVEL; COBBLES; BOULDERS	Sandy GRAVEL; trace silt (GW)

Hydraulic Conductivity Estimate

Method: Hazen (1892, 1900)

$$K = C (D_{10})^2$$

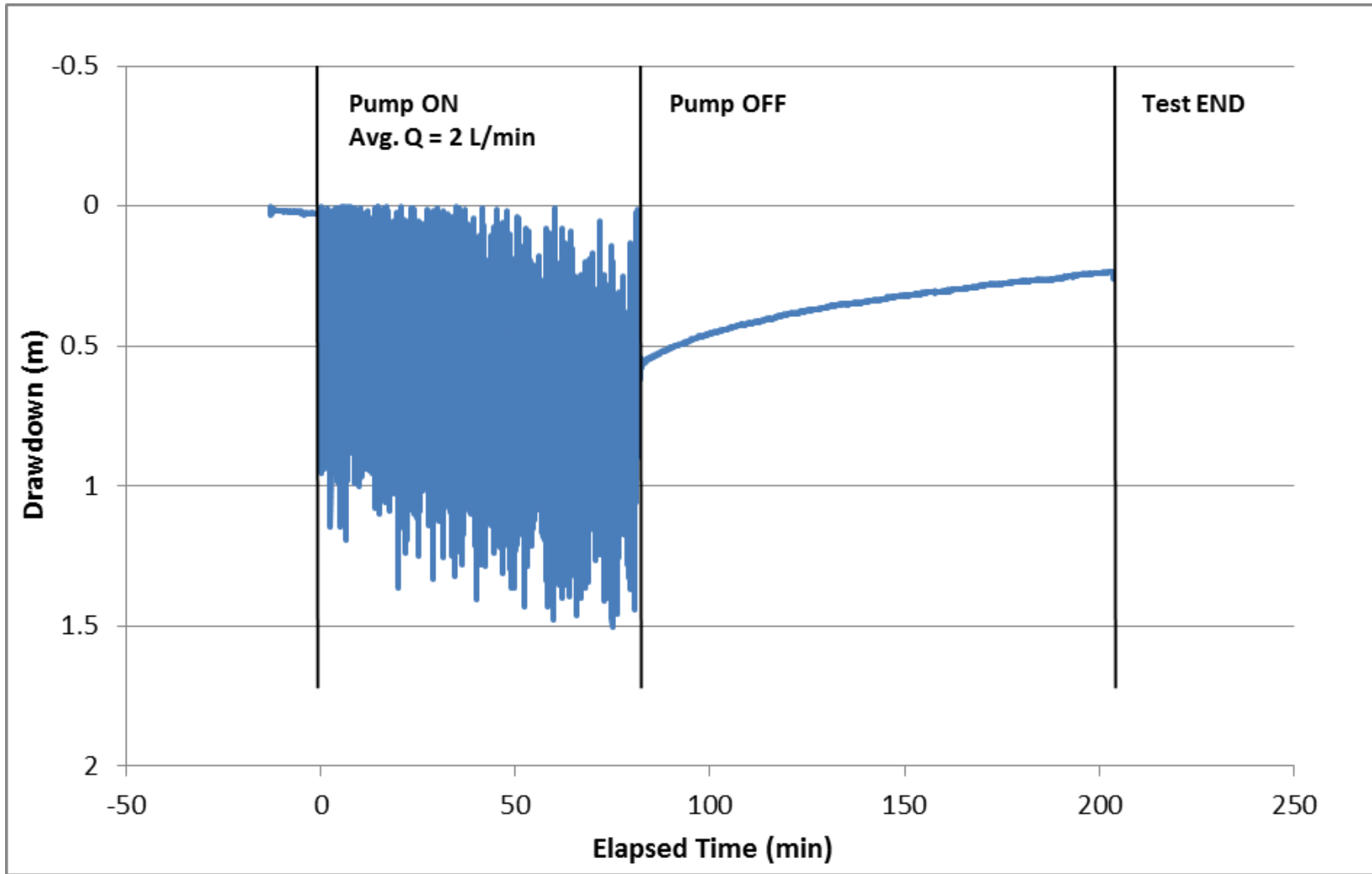
where:

K = Hydraulic conductivity (m/s)

D_{10} = is the effective grain size

C = is a coefficient based on the following table:

Very fine sand, poorly sorted	40-80
Fine sand with appreciable fines	40-80
Medium sand, well sorted	80-120
Coarse sand, poorly sorted	80-120
Coarse sand, well sorted, clean	120-150



CLIENT
CANADA FLUORSPAR INC.

PROJECT
PROPOSED AGS PROJECT

— PGS-93b Drawdown

CONSULTANT



YYYY-MM-DD 2014-11-26

PREPARED NGG

DESIGN NGG

REVIEW AI

APPROVED PMMC

TITLE

SHORT TERM PUMPING TEST – pGS-93b

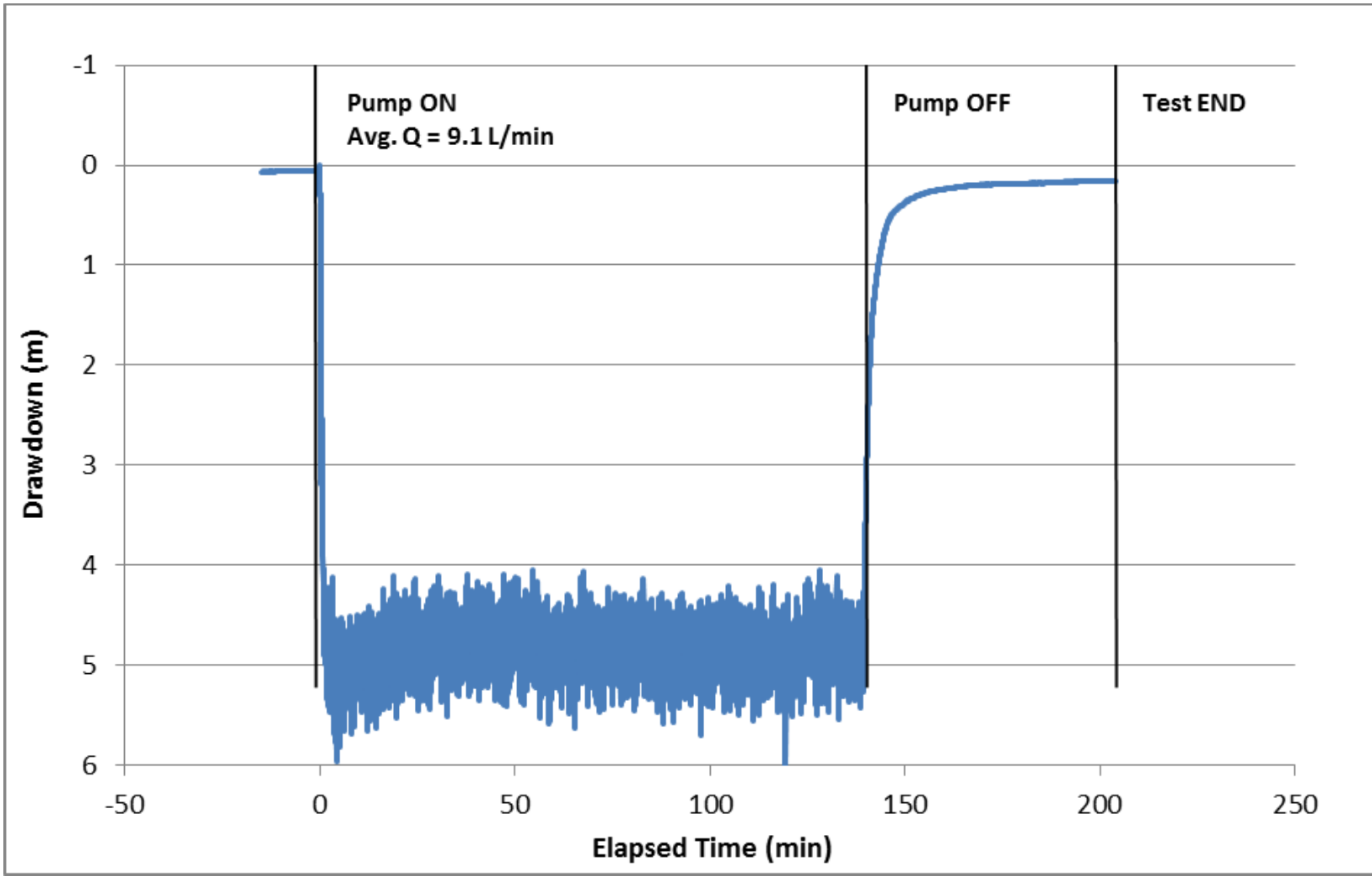
PROJECT No.
1407707

PHASE
1

Rev.
1

FIGURE

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIA/A



— pGS-124 Drawdown

CLIENT
CANADA FLUORSPAR INC.

PROJECT
PROPOSED AGS PROJECT

CONSULTANT

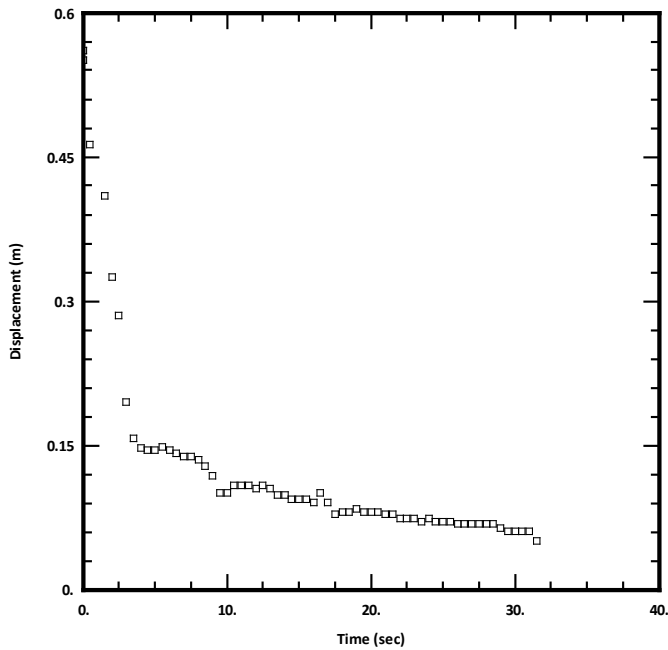


YYYY-MM-DD 2014-11-26
 PREPARED NGG
 DESIGN NGG
 REVIEW AI
 APPROVED PMMC

TITLE
SHORT TERM PUMPING TEST – pGS-124

PROJECT No. 1407707	PHASE 1	Rev. 1	FIGURE
-------------------------------	-------------------	------------------	--------

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIA

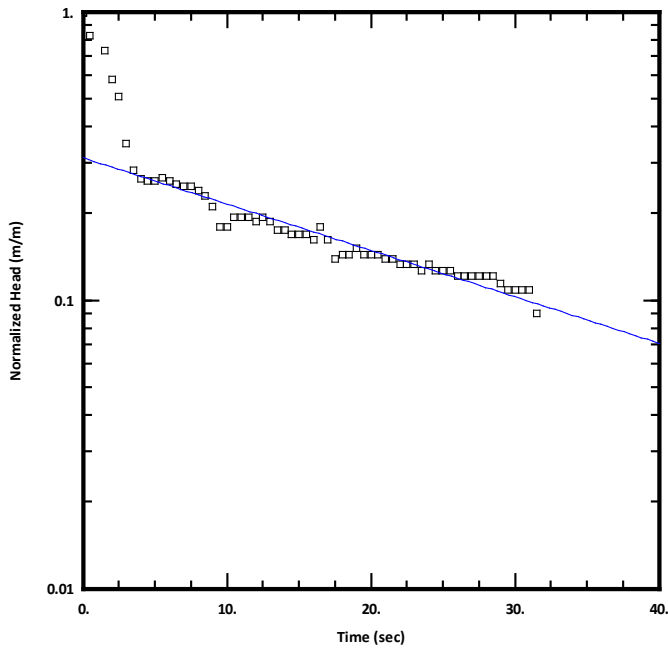


TEST INFORMATION:

Test Well: MW14-01A - Test 5
 Location: Proposed AGS Project
 Time of Test: October 28, 2014
 Test Type: Falling Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.56 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.048 m
 Test Interval Length: 1.5 m

Geology (if known): Cobbles and Boulders in a Sandy Gravel matrix.
 Comments: No filter pack used as hole caved during well installation.



SOLUTION:

Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

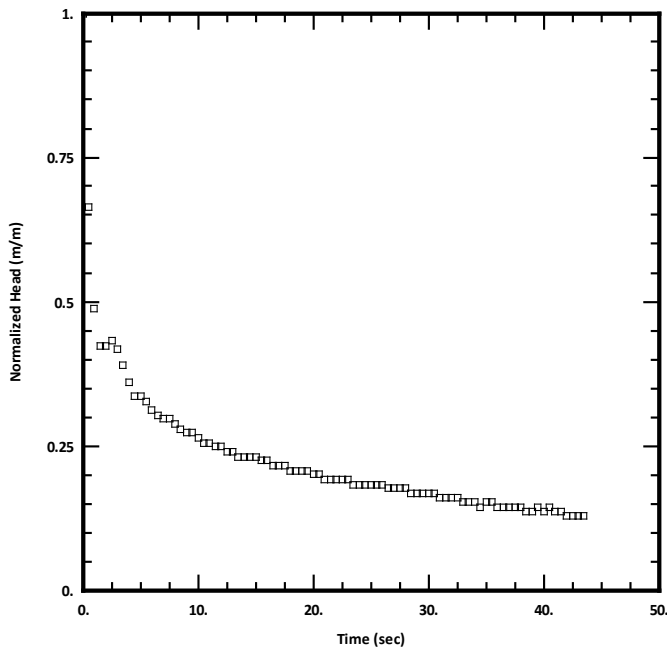
Hydraulic Conductivity (K) =

$2 \times 10^{-5} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-01A TEST 5	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
	DESIGN	NGG	NOV 7, 2014
	GIS	NGG	NOV 7, 2014
	CHECK	AI	NOV 7, 2014
	REVIEW	PMMC	NOV 7, 2014
FIGURE 1			

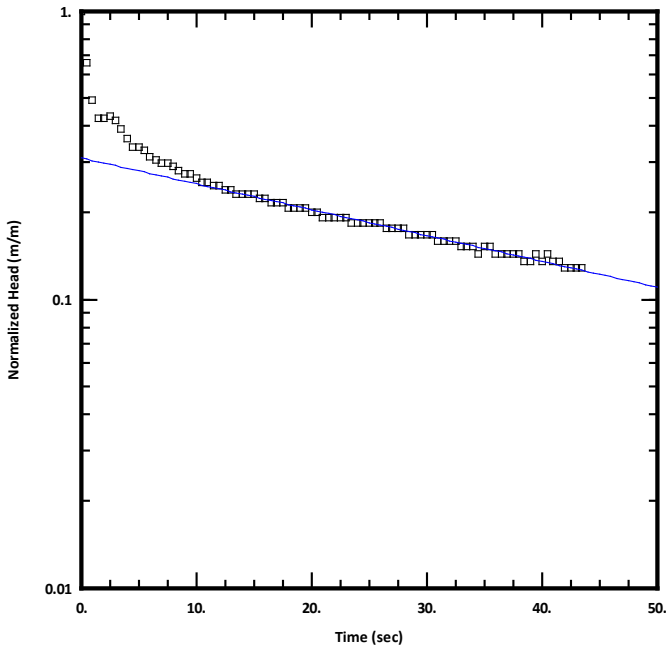


TEST INFORMATION:

Test Well: MW14-01A - Test 6
 Location: Proposed AGS Project
 Time of Test: October 28, 2014
 Test Type: Rising Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.42m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.048 m
 Test Interval Length: 1.5 m

Geology (if known): Cobbles and Boulders in a Sandy Gravel matrix.
 Comments: No filter pack used as hole caved during well installation.



SOLUTION:

Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

Hydraulic Conductivity (K) =

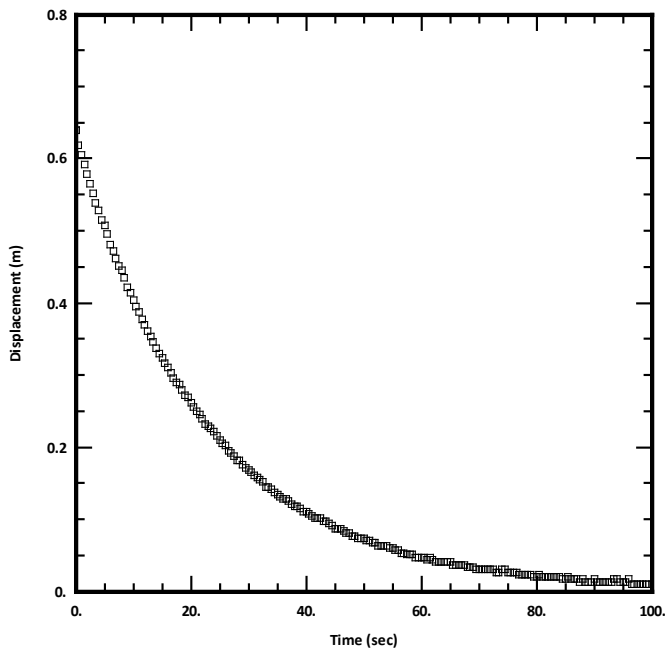
1 x 10⁻⁵ m/s

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-01A TEST 6	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
DESIGN	NGG	NOV 7, 2014	FIGURE 2
GIS	NGG	NOV 7, 2014	
CHECK	AI	NOV 7, 2014	
REVIEW	PMMC	NOV 7, 2014	





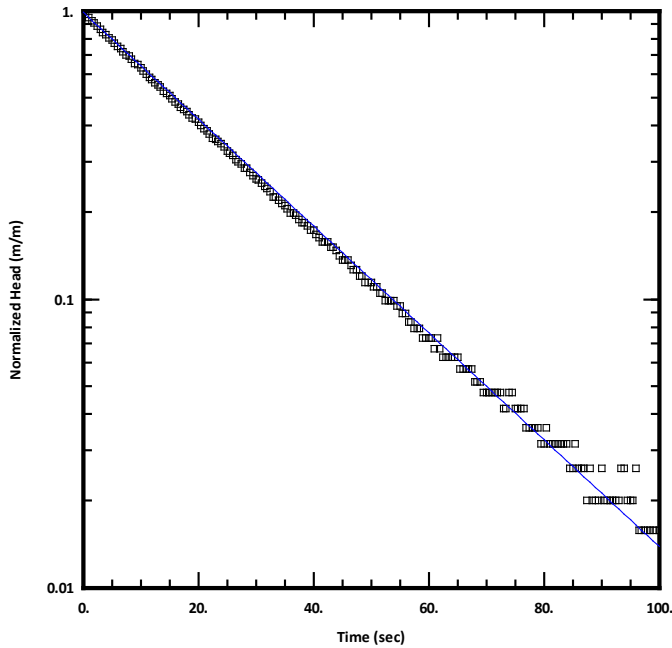
TEST INFORMATION:

Test Well: MW14-02A - Test 5
 Location: Proposed AGS Project
 Time of Test: October 28, 2014
 Test Type: Falling Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.64 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock - Metasediment

Comments:



SOLUTION:

Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

Hydraulic Conductivity (K) =

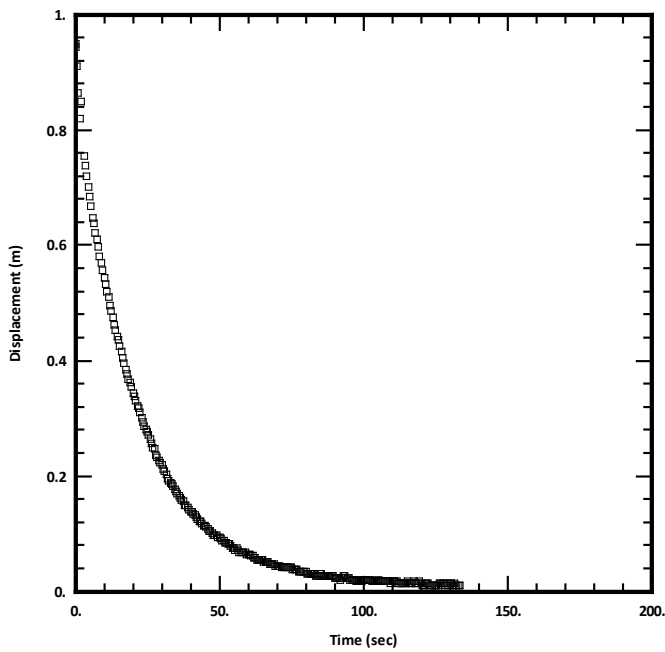
$2 \times 10^{-5} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-02A TEST 5	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
DESIGN	NGG	NOV 7, 2014	FIGURE 3
GIS	NGG	NOV 7, 2014	
CHECK	AI	NOV 7, 2014	
REVIEW	PMMC	NOV 7, 2014	





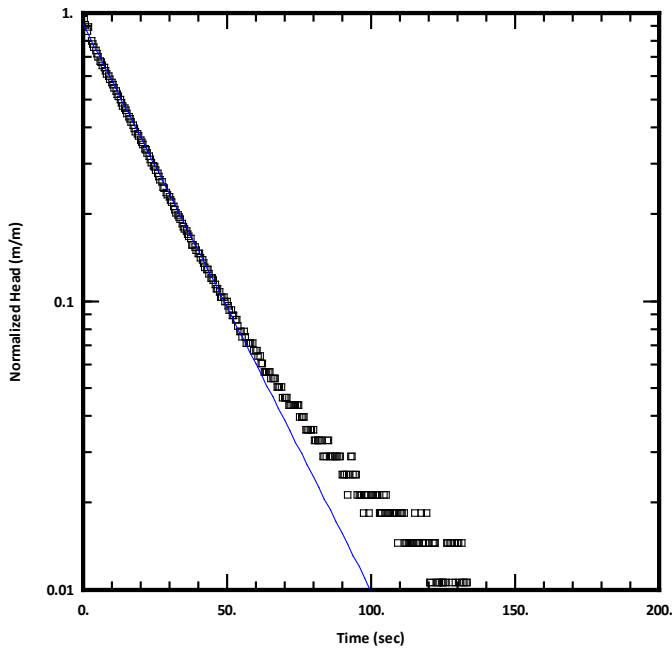
TEST INFORMATION:

Test Well: MW14-02A - Test 6
 Location: Proposed AGS Project
 Time of Test: October 28, 2014
 Test Type: Rising Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.95 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock - Metasediment

Comments:



SOLUTION:


Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

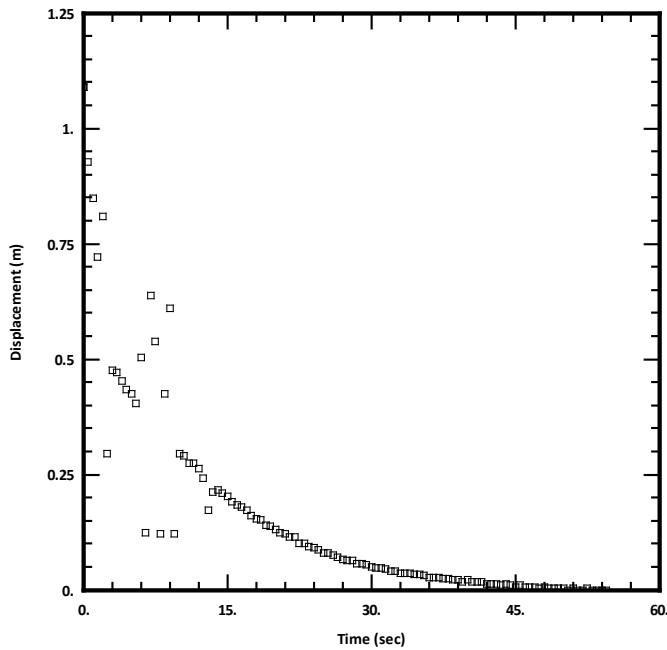
Hydraulic Conductivity (K) =

$2 \times 10^{-5} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-02A TEST 6	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
	DESIGN	NGG	NOV 7, 2014
	GIS	NGG	NOV 7, 2014
	CHECK	AI	NOV 7, 2014
	REVIEW	PMMC	NOV 7, 2014
FIGURE 4			



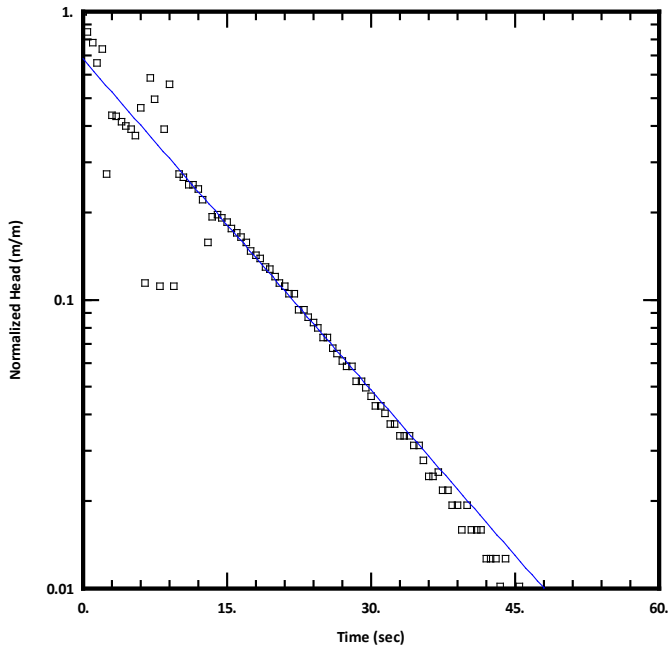
TEST INFORMATION:

Test Well: MW14-03A - Test 3
 Location: Proposed AGS Project
 Time of Test: October 27, 2014
 Test Type: Falling Head Test
 Test Method: Physical Slug
 Initial Displacement: 1.09 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock – Metasediment

Comments:



SOLUTION:

Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

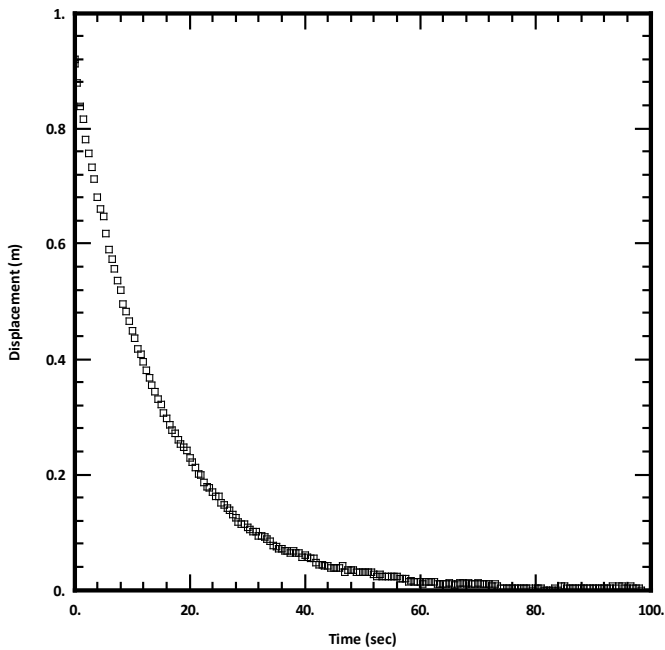
Hydraulic Conductivity (K) =

$5 \times 10^{-5} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-03A TEST 3	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
	DESIGN	NGG	NOV 7, 2014
	GIS	NGG	NOV 7, 2014
	CHECK	AI	NOV 7, 2014
	REVIEW	PMMC	NOV 7, 2014
FIGURE 5			



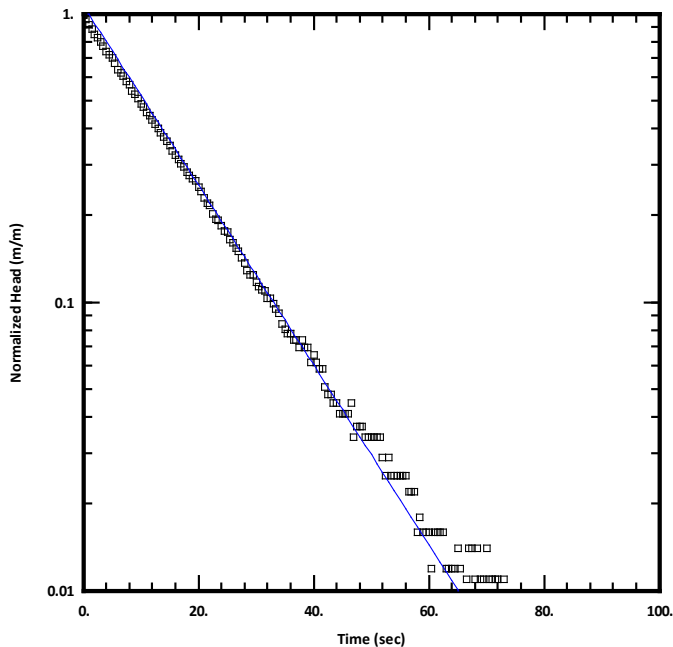
TEST INFORMATION:

Test Well: MW14-03A - Test 6
 Location: Proposed AGS Project
 Time of Test: October 27, 2014
 Test Type: Rising Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.91 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock - Metasediment

Comments:



SOLUTION:


Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

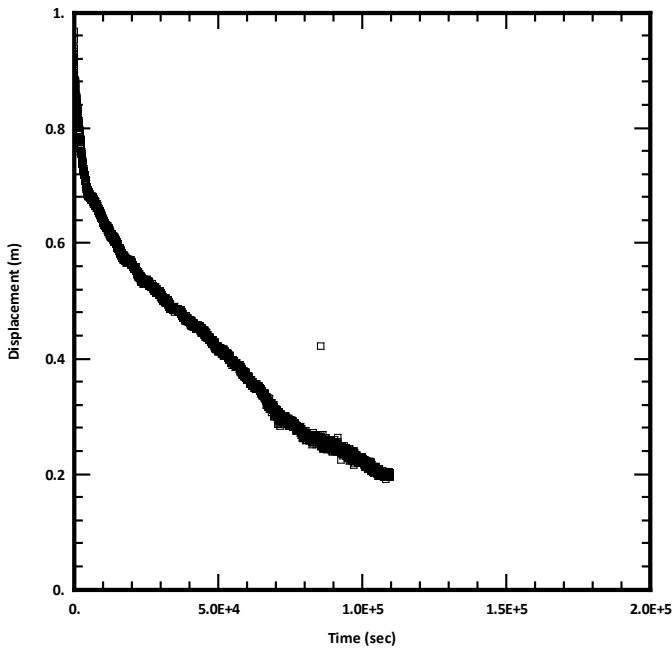
Hydraulic Conductivity (K) =

$4 \times 10^{-5} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-03A TEST 6	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
	DESIGN	NGG	NOV 7, 2014
	GIS	NGG	NOV 7, 2014
	CHECK	AI	NOV 7, 2014
	REVIEW	PMMC	NOV 7, 2014
FIGURE 6			



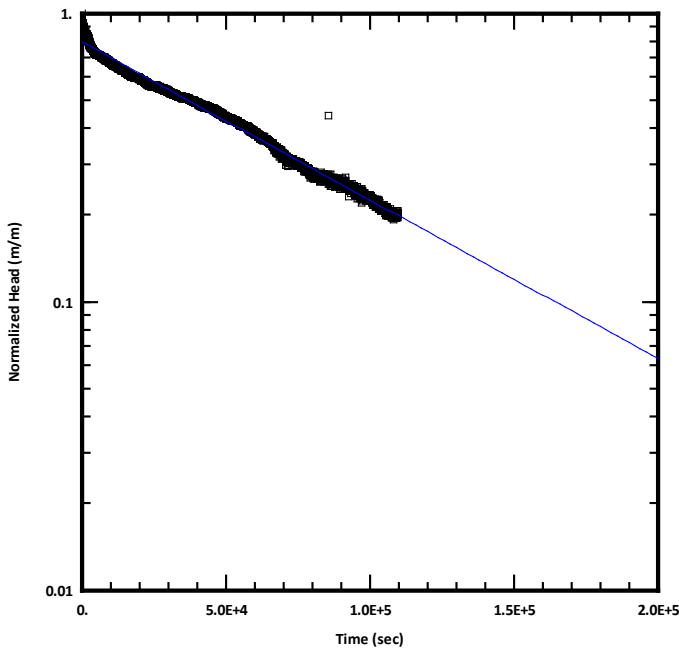
TEST INFORMATION:

Test Well: MW14-04A - Test 1
 Location: Proposed AGS Project
 Time of Test: October 30, 2014
 Test Type: Falling Head Test
 Test Method: Physical Slug
 Initial Displacement: 0.96 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock - Metasediment

Comments: Storage effects likely influencing very early time data.



SOLUTION:

Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

Hydraulic Conductivity (K) =

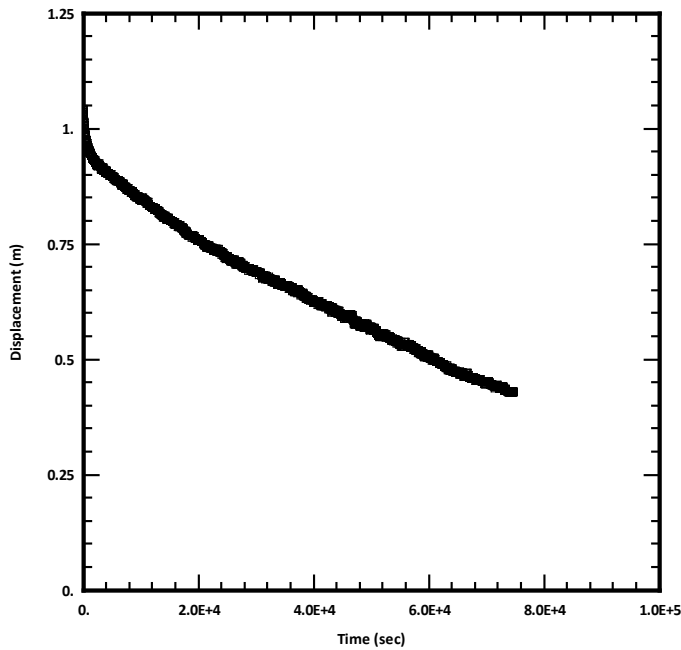
6 x 10⁻⁹ m/s

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-04A TEST 1	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
DESIGN	NGG	NOV 7, 2014	FIGURE 7
GIS	NGG	NOV 7, 2014	
CHECK	AI	NOV 7, 2014	
REVIEW	PMMC	NOV 7, 2014	





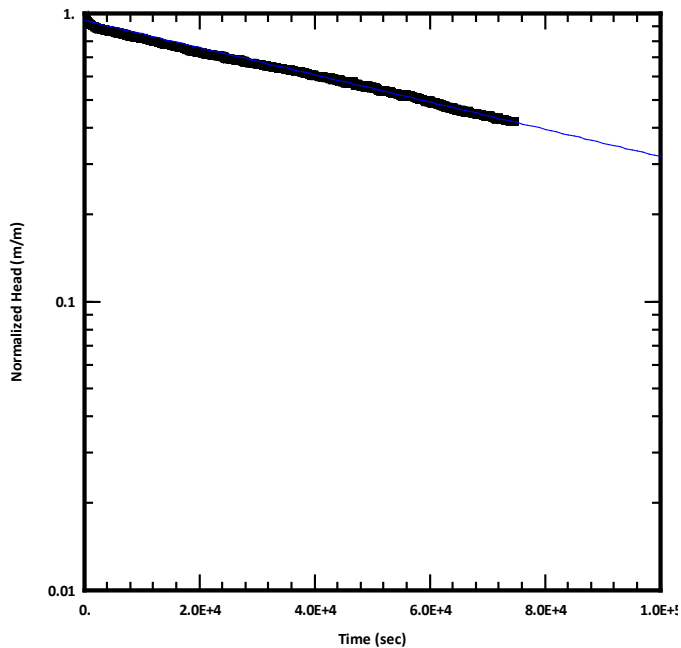
TEST INFORMATION:

Test Well: MW14-04A - Test 2
 Location: Proposed AGS Project
 Time of Test: October 30, 2014
 Test Type: Rising Head Test
 Test Method: Physical Slug
 Initial Displacement: 1.04 m

Well Casing Radius: 0.01905 m
 Borehole Radius: 0.03785 m
 Test Interval Length: 1.5 m

Geology (if known): Rock - Metasediment

Comments: Storage effects likely influencing very early time data.



SOLUTION:


Solution Method: Hvorslev
 Solution Type: Zero Storage
 Aquifer Model: Unconfined

Hydraulic Conductivity (K) =

$5 \times 10^{-9} \text{ m/s}$

LEGEND

- Water Level Measurement
- Solution Match Line

PROJECT		CANADA FLUORSPAR INC. - PROPOSED AGS PROJECT	
TITLE		HYDRAULIC CONDUCTIVITY TEST RESULTS MW14-04A TEST 2	
PROJECT #: 1407707 (4)		SCALE: N/A	REV. 1
	DESIGN	NGG	NOV 7, 2014
	GIS	NGG	NOV 7, 2014
	CHECK	AI	NOV 7, 2014
	REVIEW	PMMC	NOV 7, 2014
FIGURE 8			



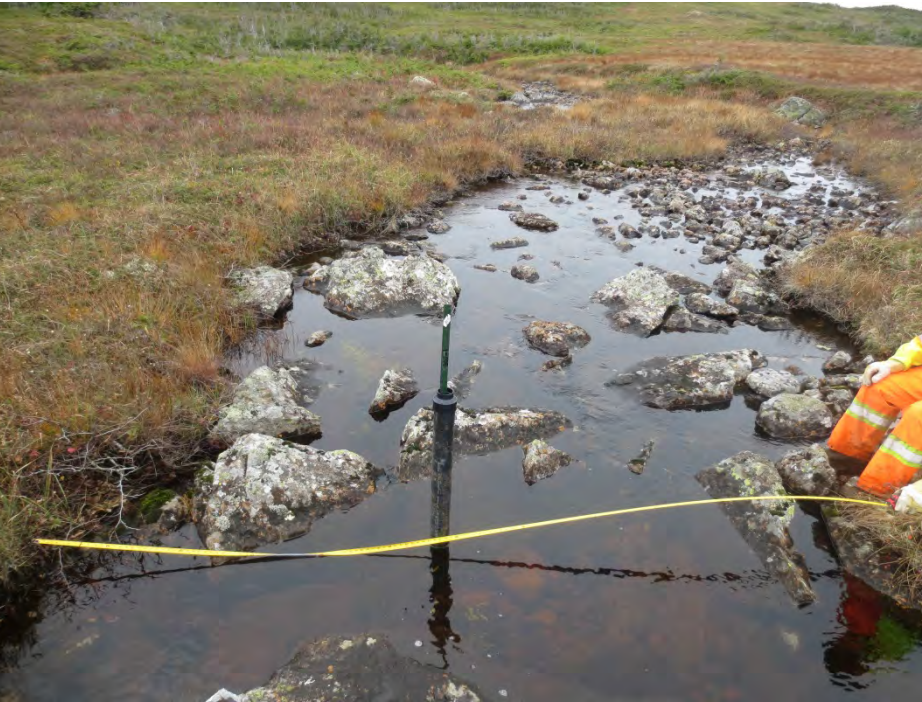
APPENDIX F

Staff Gauge Completion Images

View upstream



View downstream



Staff Gauge SW-1 at WQ STA-1

- Installed on October 29, 2014
- 380 cm wide channel
- Water at staff gauge is 44 cm deep
- Staff gauge located 86 m from Upper Island Pond
- UTM Coordinate: 617429mE / 5195035mN

View upstream



View downstream



Staff Gauge SW-2 at WQ STA-3

- Installed on October 29, 2014
- 350 cm wide channel
- Water at staff gauge is 38 cm deep
- Staff gauge located 36m from John Fitzpatrick Pond
- UTM Coordinate: 617017mE / 5196711mN

Staff Gauge SW-3 at WQ STA-9

SW-3 Staff Gauge View downstream



- Installed on October 29, 2014
- Water at staff gauge is 35 cm deep

SW-3 Staff Gauge View upstream



- Staff gauge located 41m from Pond
- UTM Coordinate: 616281mE / 5196637mN

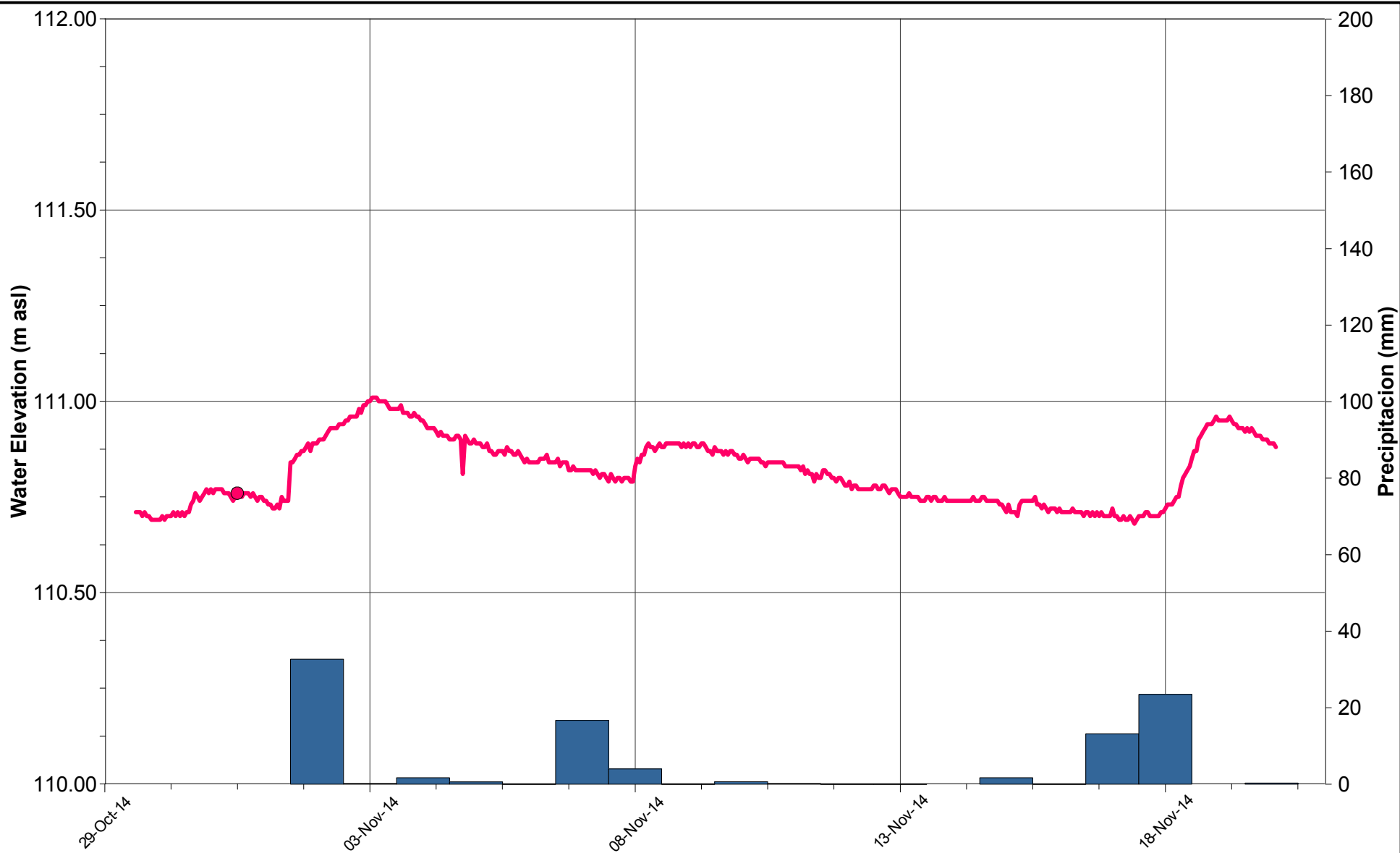
Pond located about 41 m upstream of staff gauge (SW-3)





APPENDIX G

Surface Water and Groundwater Hydrographs



● WQ STA-1 Manual Water Elevation
 — WQ STA-1 Transducer Data Elevation
 ■ Precipitation (mm) St. Lawrence Station

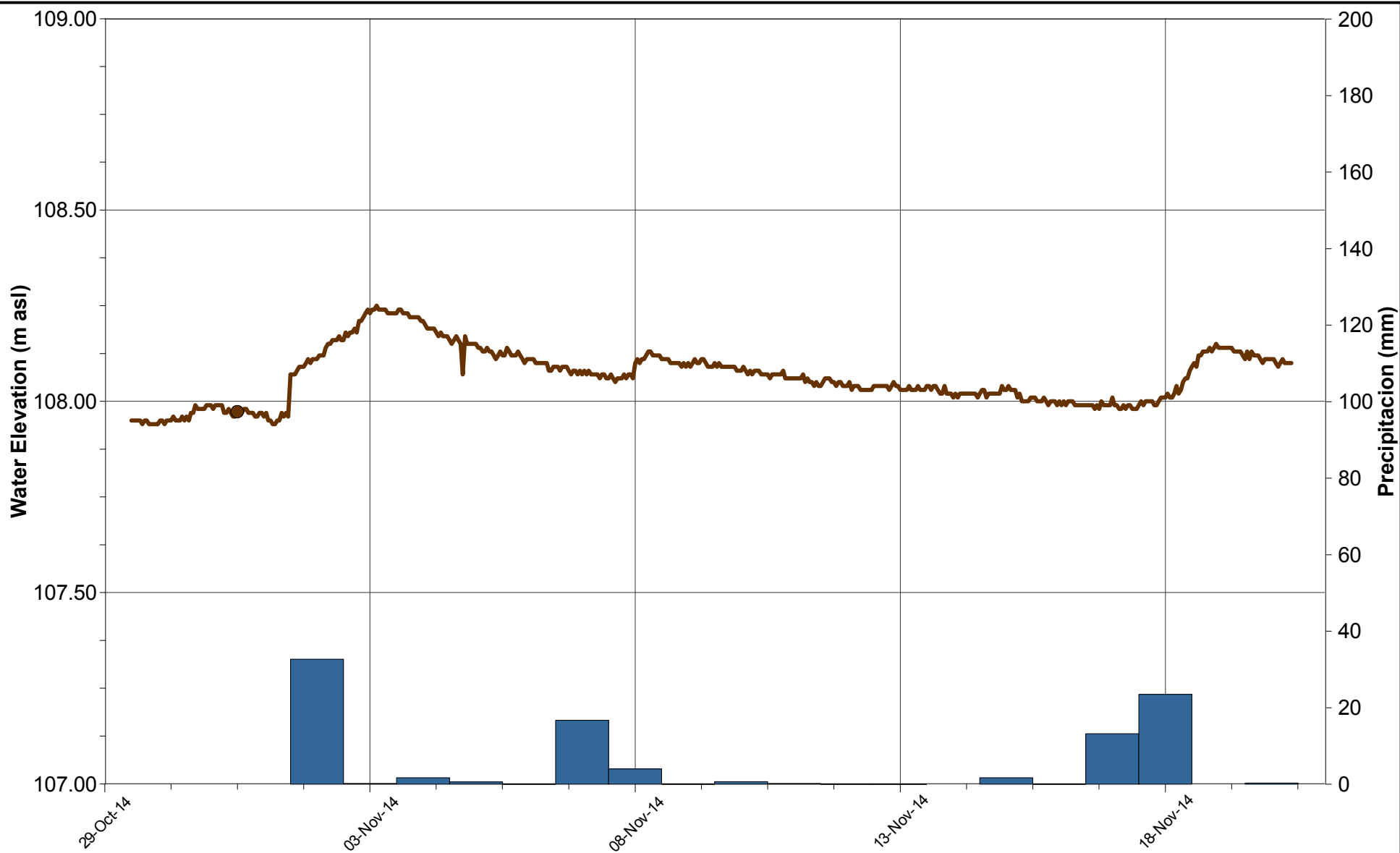
PROJECT **CANADA FLUORSPAR INC.**
 St. Lawrence, NL

TITLE **SURFACE WATER ELEVATION**
WQ STA-1



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 REV 0 FIGURE



● WQ STA-3 Manual Water Elevation
 — WQ STA-3 Transducer Data Elevation
 ■ Precipitation (mm) St. Lawrence Station

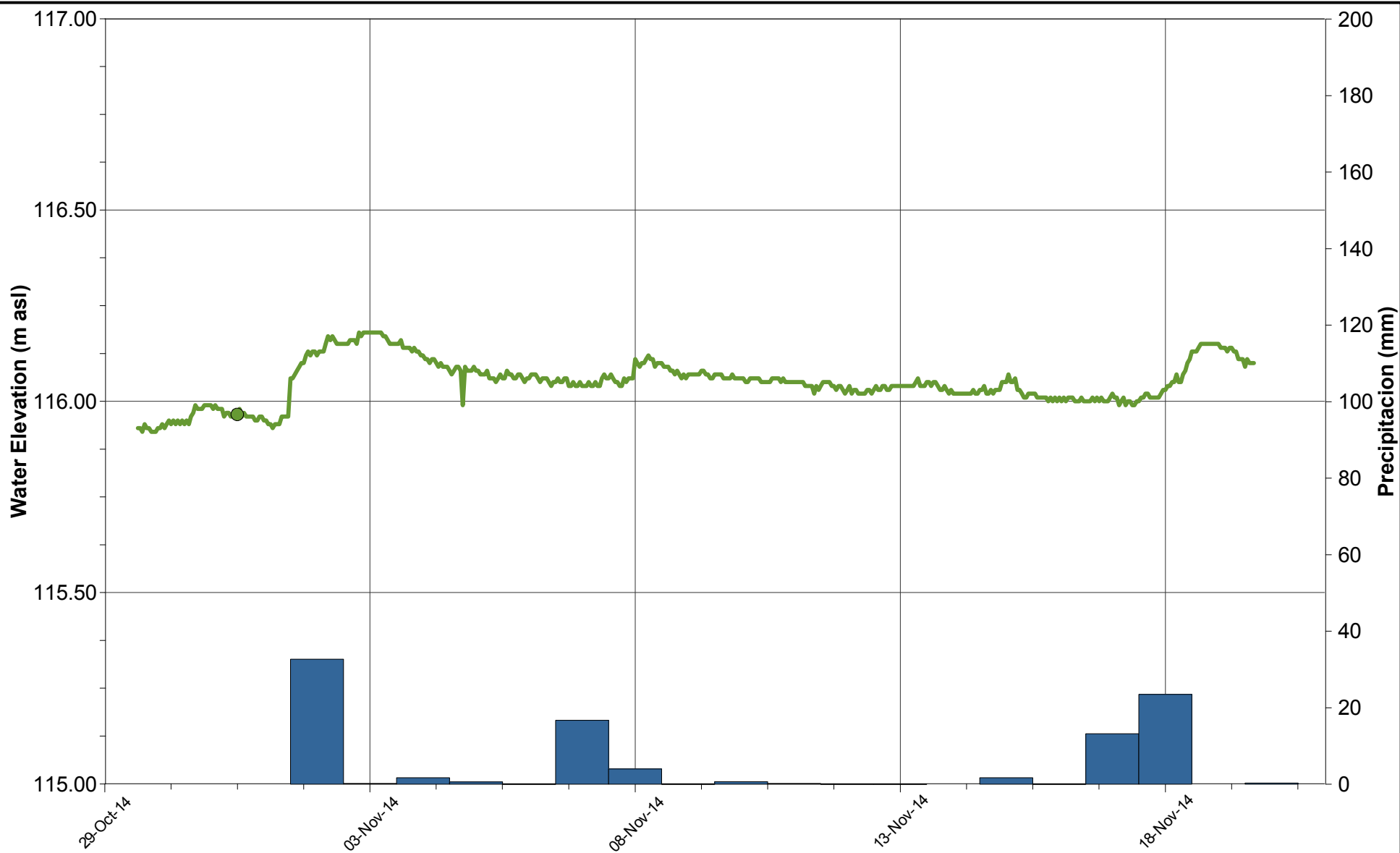
PROJECT
CANADA FLUORSPAR INC.
 St. Lawrence, NL

TITLE
SURFACE WATER ELEVATION
WQ STA-3



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 **REV** 0 **FIGURE**



● WQ STA-9 Manual Water Elevation
 — WQ STA-9 Transducer Data Elevation
 ■ Precipitation (mm) St. Lawrence Station

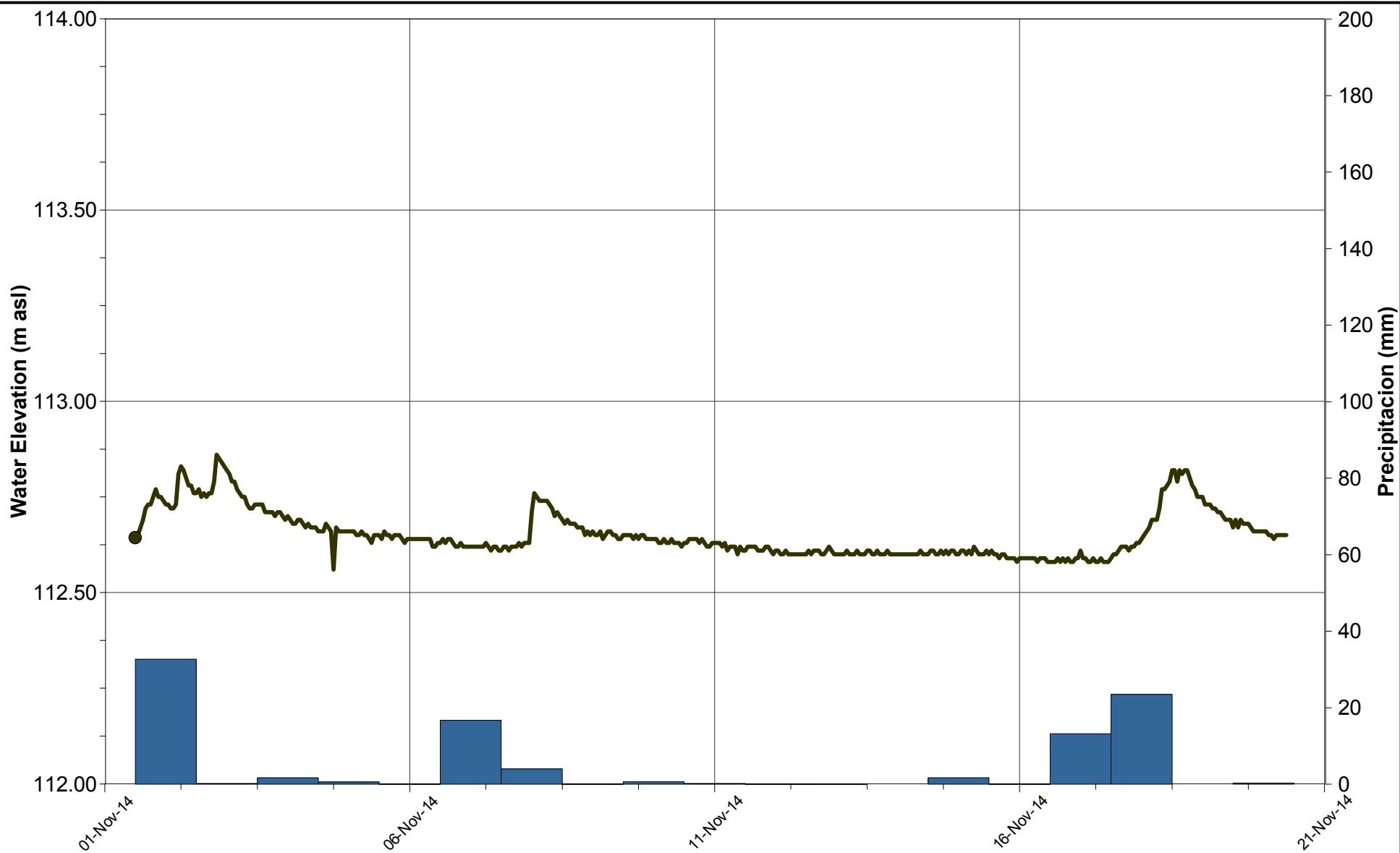
PROJECT
CANADA FLUORSPAR INC.
 St. Lawrence, NL

TITLE
SURFACE WATER ELEVATION
WQ STA-9



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 **REV** 0 **FIGURE**



MW14-01A Manual Water Elevation
 MW14-01A Transducer Data Elevation
 Precipitation (mm) St. Lawrence Station

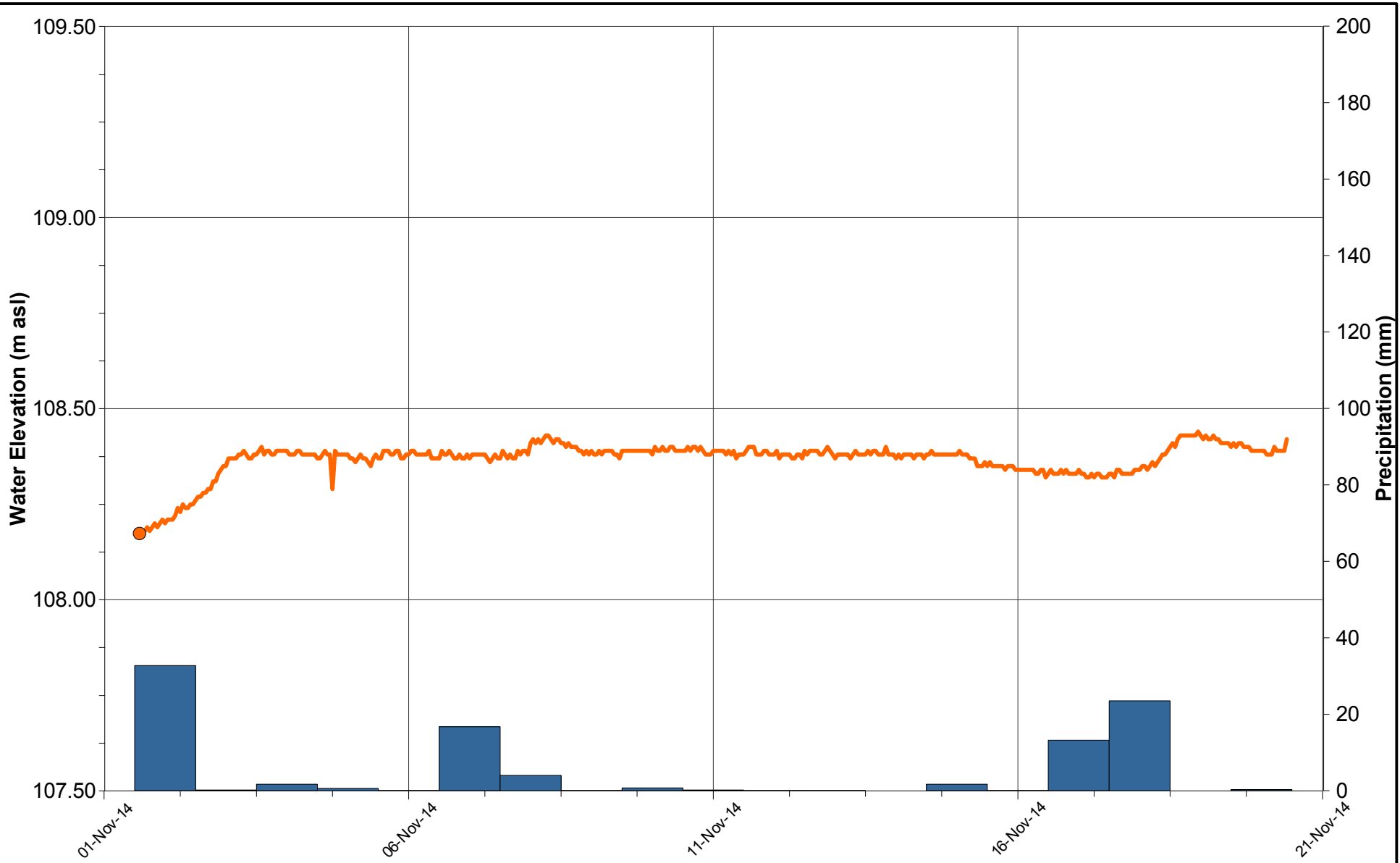
PROJECT
CANADA FLUORSPAR INC.
 St. Lawrence, NL

TITLE
GROUNDWATER ELEVATION
MW14-01A



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 **REV** 0 **FIGURE**



● MW14-02A Manual Water Elevation
 — MW14-02A Transducer Data Elevation
 ■ Precipitation (mm) St. Lawrence Station

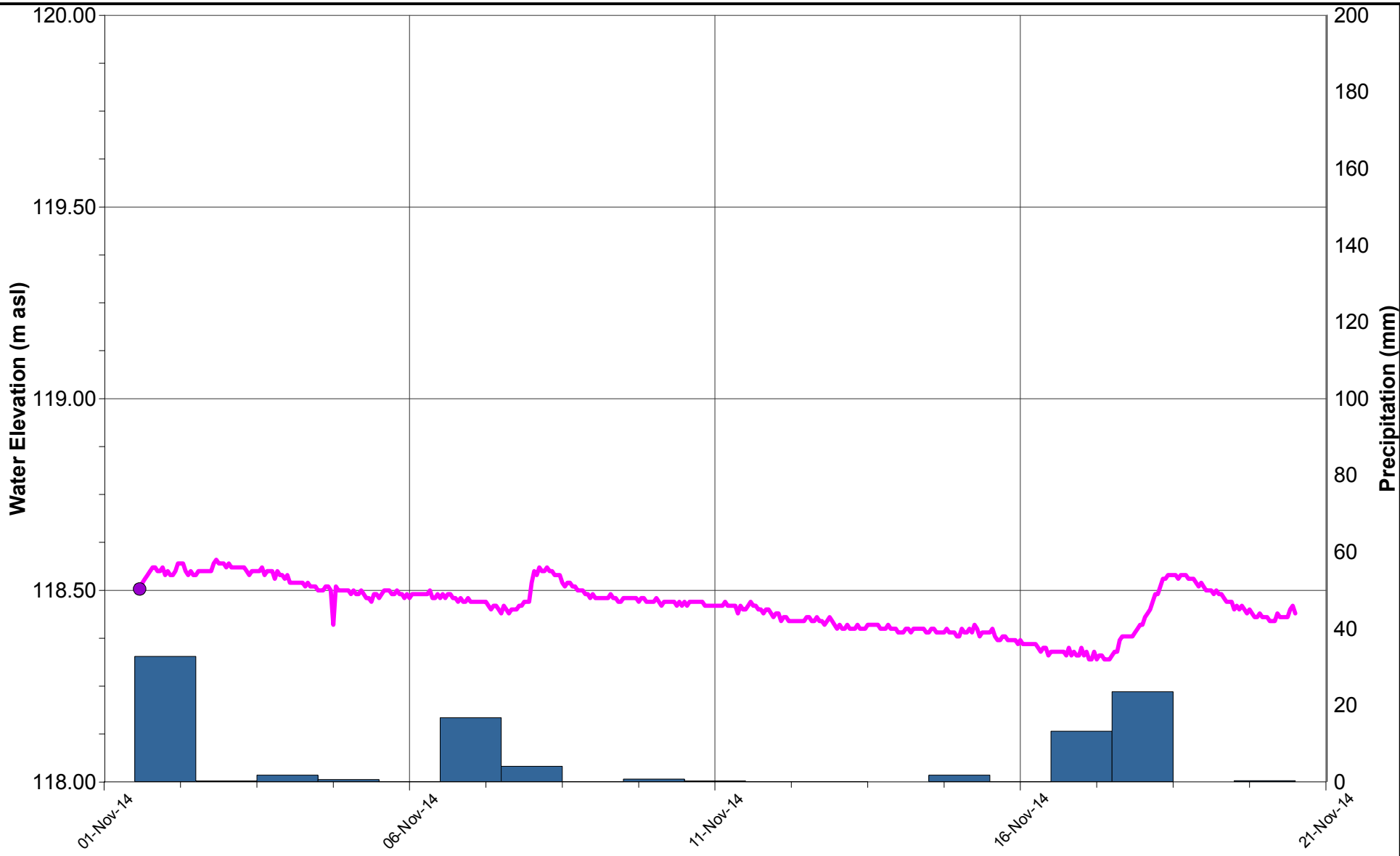
PROJECT
CANADA FLUORSPAR INC.
 St. Lawrence, NL

TITLE
GROUNDWATER ELEVATION
MW14-02A



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 **REV** 0 **FIGURE**



● MW14-03A Manual Water Data Elevation
 — MW14-03A Transducer Data Elevation
 ■ Precipitation (mm) St. Lawrence Station

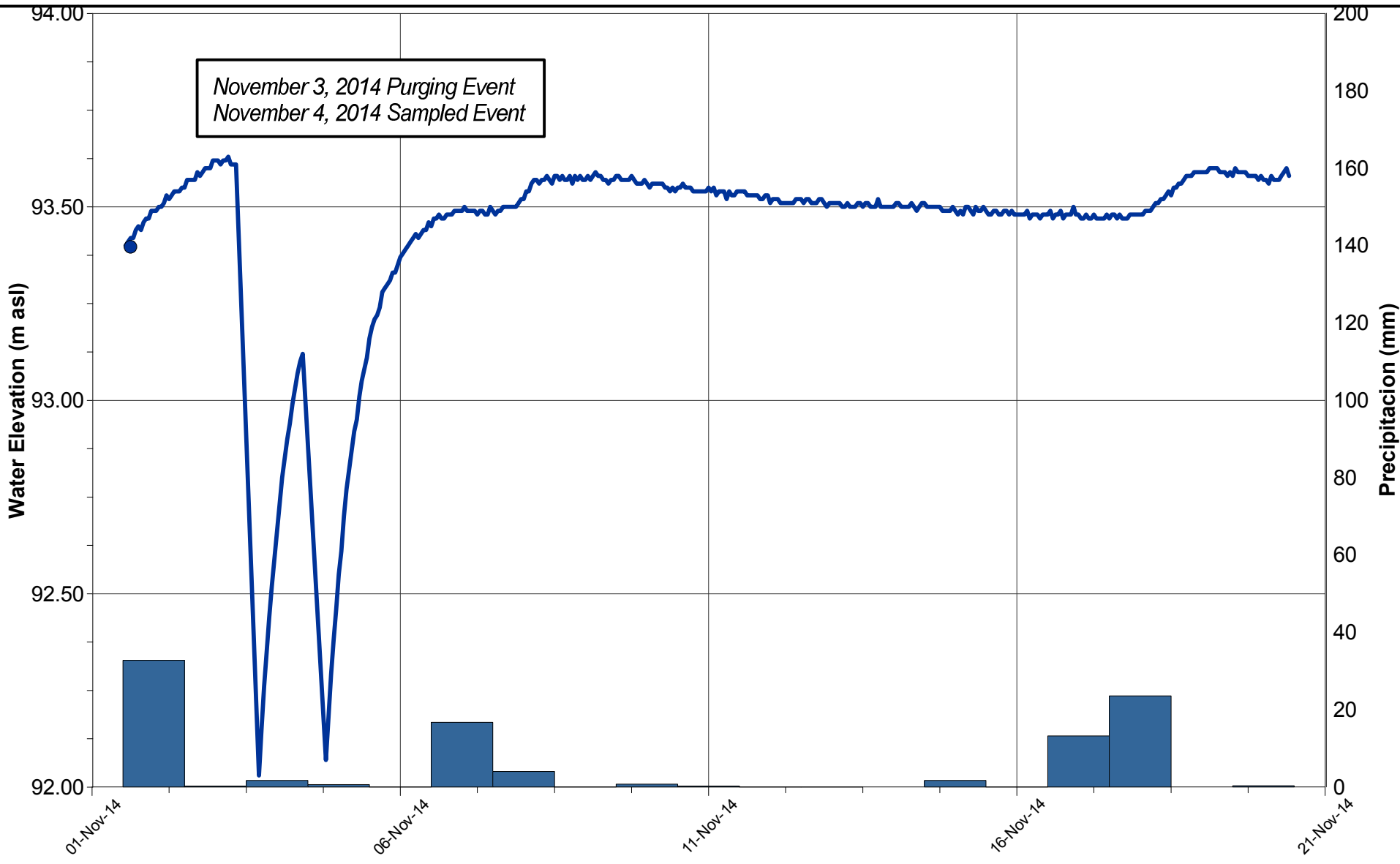
PROJECT **CANADA FLUORSPAR INC.**
 St. Lawrence, NL

TITLE **GROUNDWATER ELEVATION**
MW14-03A



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM

PROJECT NO. 1407707 REV 0 FIGURE



● MW14-04A Manual Water Elevation
 — MW14-04A Transducer Data Elevation

 Precipitacion (mm) St. Lawrence Station

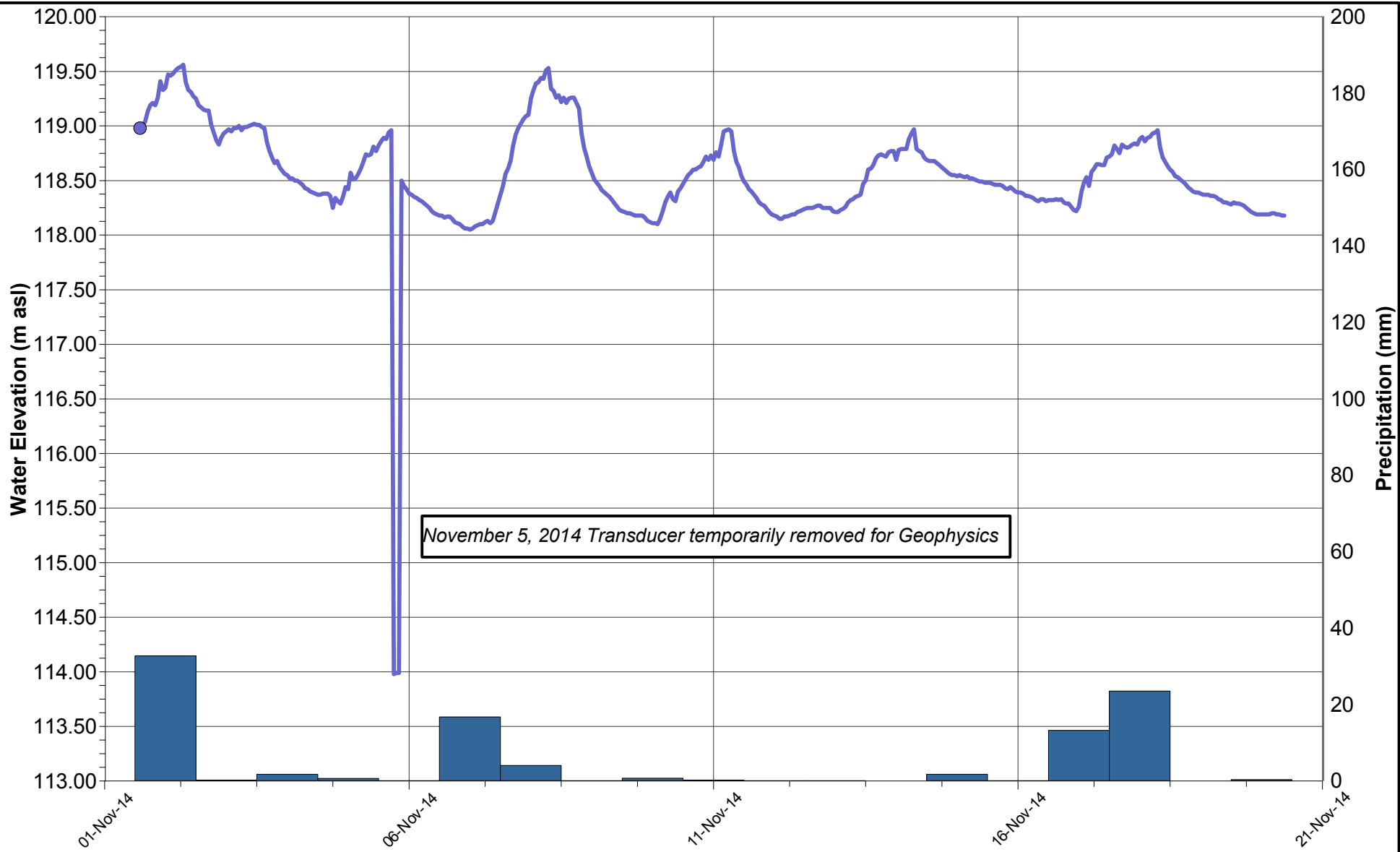


DATE	2014-NOVEMBER-24
DESIGN	LB
REVIEW	AI
APPROVED	PM

PROJECT CANADA FLUORSPAR INC.
St. Lawrence, NL

TITLE GROUNDWATER ELEVATION
MW14-04A

PROJECT NO. 1407707 REV 0 FIGURE



● PGS-93B Manual Water Elevation
 — PGS-93B Transducer Data Elevation
 Precipitation (mm) St. Lawrence Station

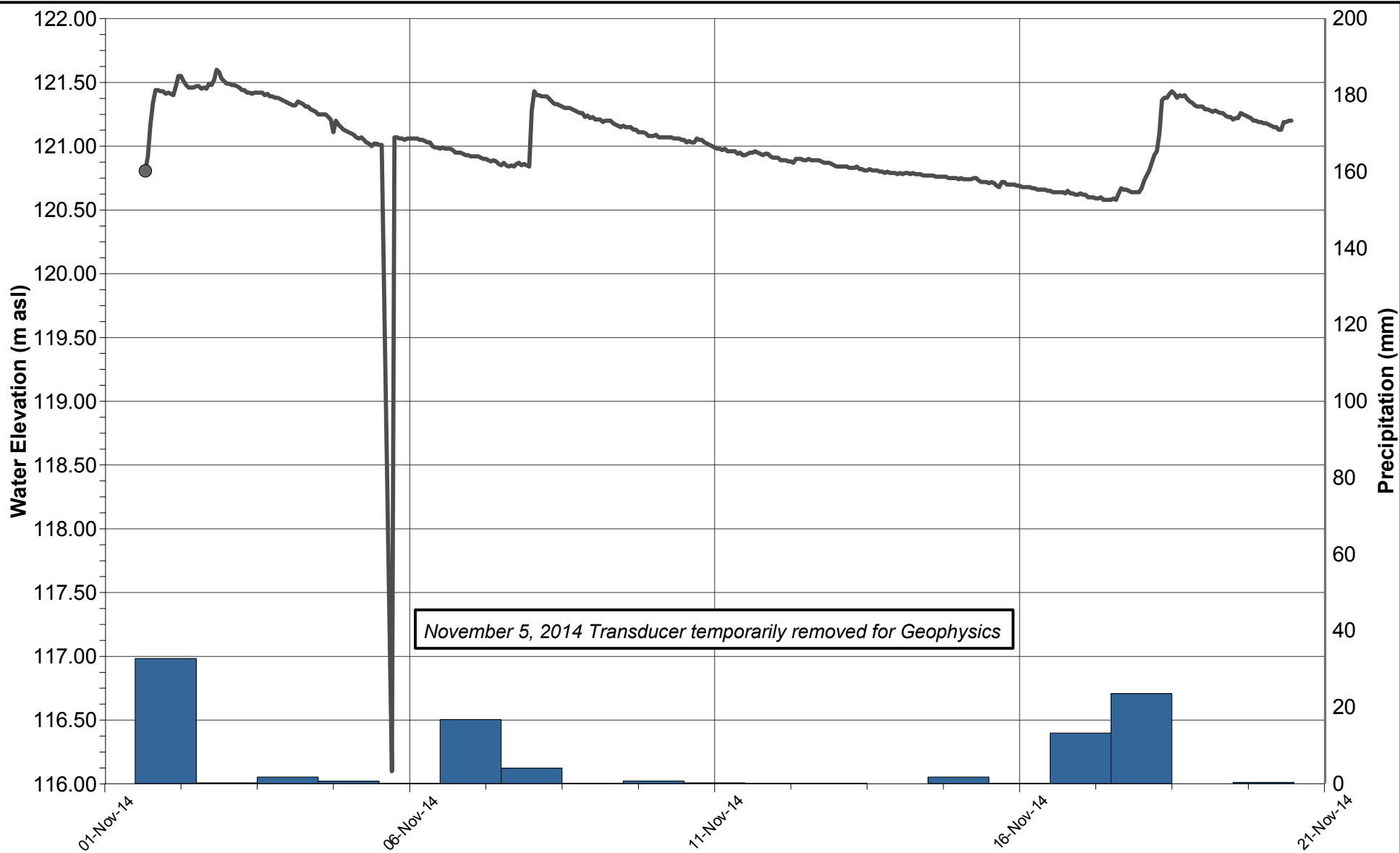
PROJECT **CANADA FLUORSPAR INC.**
St. Lawrence, NL

TITLE **GROUNDWATER ELEVATION PGS-93B**

PROJECT NO. 1407707 REV 0 FIGURE



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM



● PGS-124 Manual Water Elevation — PGS-124 Transducer Data Elevation ■ Precipitation (mm) St. Lawrence Station

PROJECT **CANADA FLUORSPAR INC.**
 St. Lawrence, NL

TITLE **GROUNDWATER ELEVATION**
PGS-124

PROJECT NO. 1407707 REV 0 FIGURE



DATE 2014-NOVEMBER-24
 DESIGN LB
 REVIEW AI
 APPROVED PM



APPENDIX H

Stream Flow Transect Images and Discharge Profile



WQ STN-1

- Measured on October 31 2014
- Transect site is 13meters down stream of staff gauge SW-1
- transect location is free of large boulders and is a straight reach of channel
- Staff gauge located 86 m from Upper Island Pond
- UTM Coordinate of Transect:
617422mE / 5195044mN

WQ STN-3

- Measured on October 31 2014
- Transect #1 at SW-2 staff gauge location
- Transect #2 is 18m down stream of SW-2
- Cobbles and boulders on stream bottom
- UTM Coordinate of staff gauge SW2:
617017mE / 5196711mN



WQ STN-9

- Measured on October 31 2014
- Transect #1 at SW-3 staff gauge location
- Transect #2 is 3.4m down stream of SW-3
- Stony stream bottom with soil
- Staff gauge located 41m from Pond
- UTM Coordinate of staff gauge SW3:
616281mE / 5196637mN



STREAM DISCHARGE SHEET

DISCHARGE DATA

STREAM:	Upper Island Pond discharge	PROJECT#:	1407707
TRANSECT:	13m downstream from staff gauge SW-1	LOCATION:	617422mE / 5195044mN
DATE:	31-Oct-14	Gauge SW-1:	617429mE / 5195035mN

Description	Station Distance (m)	Depth (m)	Velocity (m/s) 0.6 depth	Angle of Flow (degrees)	Discharge (m3/s)
Right edge	0.0	0.00	0.00	0	0.00000
	0.2	0.07	0.01	0	0.00014
	0.4	0.14	0.01	0	0.00028
	0.6	0.18	0.20	0	0.00720
	0.8	0.15	0.01	0	0.00030
	1.0	0.13	0.18	0	0.00468
	1.2	0.10	0.05	0	0.00100
	1.4	0.08	0.18	0	0.00288
	1.6	0.10	0.21	0	0.00420
	1.8	0.10	0.10	0	0.00200
	2.0	0.10	0.10	0	0.00200
	2.2	0.17	0.06	0	0.00204
	2.4	0.10	0.09	0	0.00180
	2.6	0.09	0.03	0	0.00054
	2.8	0.06	0.04	0	0.00048
	3.0	0.06	0.00	0	0.00000
Left edge	3.2	0.03	0.00	0	0.00000

STREAM DISCHARGE SHEET

DISCHARGE DATA

STREAM: John Fitzpatrick Pond discharge PROJECT#: 1407707
 TRANSECT: At Staff Gauge SW-2 LOCATION: 617017mE / 5196711mN
 DATE: 31-Oct-14

Description	Station Distance (m)	Depth (m)	Velocity (m/s) 0.6 depth	Angle of Flow (degrees)	Discharge (m3/s)
looking upstream					
Left edge	0.0	0.00	0.00	0	0.00000
	0.2	0.12	0.00	0	0.00000
	0.4	0.20	0.01	0	0.00040
	0.6	0.32	0.01	0	0.00064
	0.8	0.33	0.02	0	0.00132
	1.0	0.33	0.05	0	0.00330
	1.2	0.35	0.12	0	0.00840
	1.4	0.38	0.31	0	0.02356
	1.6	0.38	0.31	0	0.02356
	1.8	0.33	0.20	0	0.01320
	2.0	0.30	0.11	0	0.00660
	2.2	0.30	0.03	0	0.00180
	2.4	0.17	0.02	0	0.00068
	2.6	0.21	0.00	0	0.00000
	2.8	0.15	0.01	0	0.00030
	3.0	0.09	0.01	0	0.00018
	3.2	0.10	0.00	0	0.00000
	3.4	0.06	0.00	0	0.00000
	3.5	0.03	0.00	0	0.00000
	3.6	0.00	0.00	0	0.00000

STREAM DISCHARGE SHEET

DISCHARGE DATA

STREAM: John Fitzpatrick Pond discharge PROJECT#: 1407707
TRANSECT: 18m downstream of Staff Gauge SW-2 LOCATION:
DATE: 31-Oct-14

Description	Station Distance (m)	Depth (m)	Velocity (m/s) 0.6 depth	Angle of Flow (degrees)	Discharge (m3/s)
looking upstream					
Right edge	0.0	0.00	0	0	0.00000
	0.2	0.13	0.01	0	0.00026
	0.4	0.15	0.05	0	0.00150
	0.6	0.14	0.1	0	0.00280
	0.8	0.16	0.15	0	0.00480
	1.0	0.18	0.15	0	0.00540
	1.2	0.20	0.18	0	0.00720
	1.4	0.23	0.29	0	0.01334
	1.6	0.23	0.25	0	0.01150
	1.8	0.17	0.25	0	0.00850
	2.0	0.22	0.23	0	0.01012
	2.2	0.17	0.11	0	0.00374
	2.4	0.11	0.05	0	0.00110
Left edge	2.6	0.07	0	0	0.00000

STREAM DISCHARGE SHEET

DISCHARGE DATA

STREAM:	Pond discharge	PROJECT#:	1407707
TRANSECT:	At Staff Gauge SW-3	LOCATION:	616281mE / 5196637mN
DATE:	31-Oct-14		

Description	Station Distance (m)	Depth (m)	Velocity (m/s) 0.6 depth	Angle of Flow (degrees)	Discharge (m3/s)
Right edge	0.0	0.00	0.00	0	0.00000
	0.2	0.28	0.03	0	0.00084
	0.3	0.35	0.00	0	0.00000
	0.4	0.32	0.02	0	0.00064
	0.5	0.32	0.02	0	0.00064
	0.6	0.28	0.02	0	0.00056
	0.7	0.25	0.01	0	0.00025
	0.8	0.22	0.01	0	0.00022
	0.9	0.11	0.01	0	0.00011
	1.0	0.00	0.00	0	0.00000
	1.1	0.00	0.00	0	0.00000
	1.2	0.00	0.00	0	0.00000

STREAM DISCHARGE SHEET

DISCHARGE DATA

STREAM: Pond discharge PROJECT#: 1407707
TRANSECT: 3.4m downstream from Staff Gauge SW-3 LOCATION:
DATE: 31-Oct-14

Description	Station Distance (m)	Depth (m)	Velocity (m/s) 0.6 depth	Angle of Flow (degrees)	Discharge (m ³ /s)
Right edge	0.0	0.00	0.00	0	0.00000
	0.2	0.04	0.01	0	0.00004
	0.3	0.14	0.01	0	0.00014
	0.4	0.40	0.02	0	0.00080
	0.5	0.42	0.02	0	0.00084
	0.6	0.45	0.02	0	0.00090
	0.7	0.08	0.01	0	0.00008



APPENDIX I

Surface Water Sampling Locations Images

WS-2

Sample date: Nov 3, 2014.

Location: Clarkes Pond outlet

pH=6.0 / Conductivity=0.10 mS

UTM: 621983mE/5195673mN





WS-5

Sample date: Nov 3, 2014.

Location: Shoal Cove Pond outlet

pH=6.23 / Conductivity=0.13mS

UTM: 622011mE/51944074mN

WS-10

Sample date: Nov 3, 2014.

Location: River by bridge

pH=6.11 / Conductivity=0.06 mS

UTM: 620347mE/5193512mN





View of brook outlet to pond

WQ STN-1

Sample date: Nov 4, 2014.

Location: Upper Island Pond

pH=5.92 / Conductivity=0.04 mS

UTM: 617488mE/5195500mN



View upstream towards Pond



View downstream

WQ STA-2

Sample date: Nov 3, 2014.

Location: Gerbes Nest Pond outlet

pH=5.95 / Conductivity=0.04 mS

UTM: 616862mE/5196191mN



View downstream from pond inlet



View upstream towards pond

WQ STA-3

Sample date: Nov 4, 2014.

Location: John Fitzpatrick Pond

pH=4.69 / Conductivity=0.04 mS

UTM: 617043mE/5196679mN



View upstream



View downstream

WQ STN-4

Sample date: Nov 4, 2014.

Location: downstream from John Fitzpatrick Pond

pH=4.76 / Conductivity=0.02 mS

UTM: 616903mE/5197032mN



View upstream



View downstream

WQ STN-5

Sample date: Nov 4, 2014.

Location: Downstream from bridge

pH=5.53 / Conductivity=0.01 mS

UTM: 616772mE/5199379mN

View upstream



View downstream



WQ STN-6

Sample date: Nov 4, 2014.

Location: River

pH=5.68 / Conductivity=0.01 mS

UTM: 616342mE/5198773mN

View across channel towards confluence of river

WQ STN-7

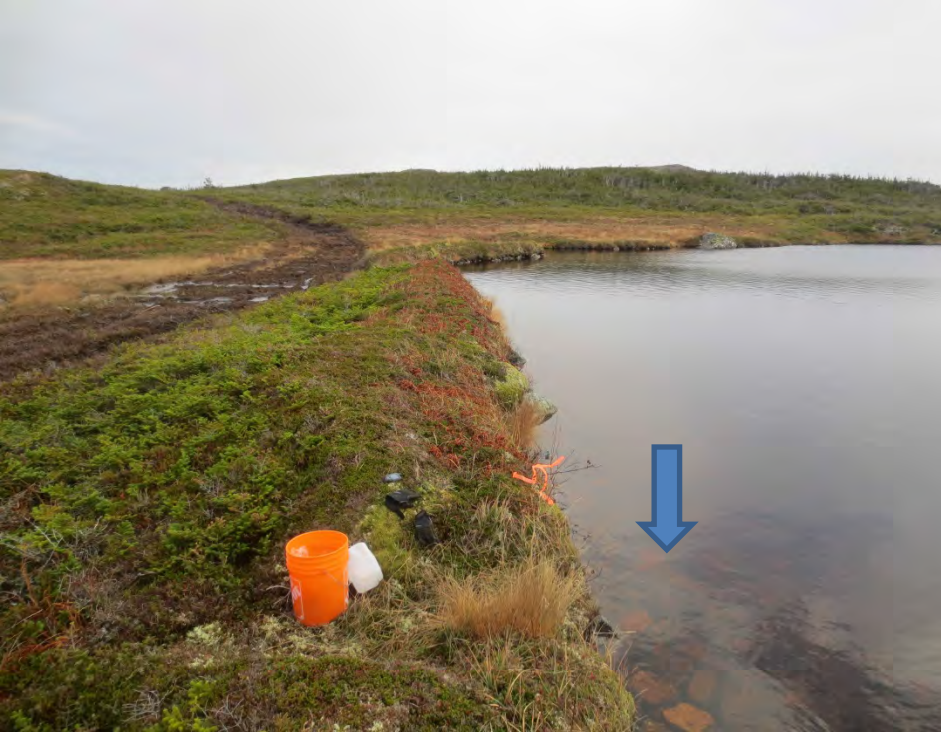
Sample date: Nov 4, 2014.

Location: at SW-1

pH=5.94 / Conductivity=0.04 mS

UTM: 617429mE/5195035mN





View north, towards the brook inlet



View south, towards MW14-03

WQ STA-8

Sample date: Nov 4, 2014.

Location: Unnamed pond

pH=3.94 / Conductivity=0.04 mS

UTM: 616310mE/5196615mN

WQ STN-9

Sample date: Nov 4, 2014.

Location: At SW-3

pH=3.7 / Conductivity=0.04 mS

UTM: 616281mE/5196637mN

View downstream

