ANNUAL REPORT
FOR THE HAMLET OF WHALE COVE

YEAR BEING REPORTED: 2019

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water License No. 3BM-WHA1520 issued to the Hamlet of Whale Cove.

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste based on quantities used.

Month Reported	Quantity of Water Obtained from all sources (m^3)	Quantity of Sewage Waste Discharged (Estimated)
January	1,552.272	Same
February	3,086.061	Same
March	1,418.500	Same
April	1,408.763	Same
May	1,328.667	Same
June	1,058.922	Same
July	1.398.887	Same
August	1,137.706	Same
September	1,581.538	Same
October	1,581.537	Same
November	1,373.756	Same
December	1,485.152	Same
ANNUAL TOTAL	**17,012.87**	**Same**

Note: There is no meter existing at the Sewage discharge pipe. Therefore the monthly discharge volume is considered as equal to the monthly water consumption volume.

iv. a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;

- Segregation of wood and bulky metals has improved over the last year; the Solid Waste Site currently has minor storage.
- The Filterboxx temporary water treatment plant went online starting on July 26, 2019. This system was disconnected and winterized at the beginning of October, 2019.

v. a list of unauthorized discharges and summary of follow-up action taken;

- No spills documented.

vi. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year.

- No abandonment and restoration work took place in 2019.

vii. a summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;

- GN has engaged Dillon Consulting to complete the design of a new Water Treatment Plant.

viii. any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.

- No details requested.

ix. updates or revisions to the approved Operation and Maintenance Plans.

- No updates or revisions to the Operation and Maintenance Plans in 2019.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

- The Hamlet is working with the Water Compliance Working Group to implement the Solid Waste Workplan goals.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

-The 3BM-WHA1520 CIRNAC Inspection took place on July 11th, 2019. A copy of the inspection report has not been received to date.

Appendix A: WHA-3 Effluent Quality Limits – 1 page
Appendix B: Weekly Inspections at Monitoring Program Stations - 1 page
Appendix C: Certificate of Analysis July 11, 2019 – 20 pages
Appendix E: Hazardous Materials Spill Database, Whale Cove 2019 – 1 page
Appendix F: Whale Cove 2019 Sampling Summary – 3 pages
Appendix G: CIRNAC Inspection Report - 3 pages

Appendix A

2018 Whale Cove Monitoring Stations and Sampling Parameters for Water License No. 3BM-WHA

Part D, Item 4; WHA-3 Effluent Quality Limits

Parameter	Maximum concentration of any grab sample	WHA-3
		11-Jul-19
BOD_5	120 mg/L	2.7
Total Suspended Solids	180 mg/L	6.7
Fecal Coliforms	$1x10^6$ CFU/100mL	170
Oil + Grease	no visible sheen	24.2
pH	between 6 and 9	7.93

Appendix B

Weekly Inspection of Monitoring Sites was not received by CGS.

Appendix C

Hamlet of Whale Cove
ATTN: IAN COPLAND
PO Box 120
Whale Cove NU X0C 0J0

Date Received: 15-JUL-19
Report Date: 25-JUL-19 14:02 (MT)
Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L2309892

Project P.O. #: NOT SUBMITTED
Job Reference: HAMLET OF WHALE COVE
C of C Numbers:
Legal Site Desc:

Hua Wo
Chemistry Laboratory Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2309892-1 WHA-2							
Sampled By: CF on 11-JUL-19 @ 10:05							
Matrix: WASTE WATER							
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	0.00053		0.00050	mg/L		18-JUL-19	R4714779
Toluene	0.0012		0.0010	mg/L		18-JUL-19	R4714779
Ethyl benzene	<0.00050		0.00050	mg/L		18-JUL-19	R4714779
o-Xylene	<0.00050		0.00050	mg/L		18-JUL-19	R4714779
m+p-Xylenes	0.00071		0.00040	mg/L		18-JUL-19	R4714779
F1 (C6-C10)	<0.10		0.10	mg/L		18-JUL-19	R4714779
Surrogate: 4-Bromofluorobenzene (SS)	93.0		70-130	%		18-JUL-19	R4714779
CCME PHC F2-F4 in Water							
F2 (C10-C16)	<0.10		0.10	mg/L	17-JUL-19	20-JUL-19	R4699009
F3 (C16-C34)	<0.25		0.25	mg/L	17-JUL-19	20-JUL-19	R4699009
F4 (C34-C50)	<0.25		0.25	mg/L	17-JUL-19	20-JUL-19	R4699009
Surrogate: 2-Bromobenzotrifluoride	116.8		60-140	%	17-JUL-19	20-JUL-19	R4699009
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		25-JUL-19	
F2-Naphth	<0.10		0.10	mg/L		25-JUL-19	
F3-PAH	<0.25		0.25	mg/L		25-JUL-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		25-JUL-19	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	0.00071		0.00064	mg/L		25-JUL-19	
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	0.000056		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
2-Methyl Naphthalene	0.000054		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Acenaphthene	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Acenaphthylene	0.000025		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Anthracene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Acridine	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Benzo(a)anthracene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Benzo(a)pyrene	<0.0000050		0.0000050	mg/L	16-JUL-19	17-JUL-19	R4715869
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Chrysene	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Dibenzo(a,h)anthracene	<0.0000050		0.0000050	mg/L	16-JUL-19	17-JUL-19	R4715869
Fluoranthene	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Fluorene	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Naphthalene	0.000244		0.000050	mg/L	16-JUL-19	17-JUL-19	R4715869
Phenanthrene	<0.000050		0.000050	mg/L	16-JUL-19	17-JUL-19	R4715869
Pyrene	<0.000010		0.000010	mg/L	16-JUL-19	17-JUL-19	R4715869
Quinoline	<0.000020		0.000020	mg/L	16-JUL-19	17-JUL-19	R4715869
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	16-JUL-19	17-JUL-19	R4715869
Surrogate: Acenaphthene d10	73.3		60-130	%	16-JUL-19	17-JUL-19	R4715869
Surrogate: Acridine d9	72.3		60-130	%	16-JUL-19	17-JUL-19	R4715869
Surrogate: Chrysene d12	84.0		60-130	%	16-JUL-19	17-JUL-19	R4715869
Surrogate: Naphthalene d8	76.6		50-130	%	16-JUL-19	17-JUL-19	R4715869
Surrogate: Phenanthrene d10	83.3		60-130	%	16-JUL-19	17-JUL-19	R4715869
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	161		1.2	mg/L		16-JUL-19	
Alkalinity, Carbonate							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2309892-1 WHA-2							
Sampled By: CF on 11-JUL-19 @ 10:05							
Matrix: WASTE WATER							
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		16-JUL-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		16-JUL-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	132		1.0	mg/L		15-JUL-19	R4712448
Ammonia by colour							
Ammonia, Total (as N)	0.428		0.010	mg/L		18-JUL-19	R4717428
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	3.3	BODQ	2.0	mg/L		15-JUL-19	R4719620
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		15-JUL-19	R4719620
Chloride in Water by IC							
Chloride (Cl)	30.4		0.50	mg/L		16-JUL-19	R4714529
Conductivity							
Conductivity	464		1.0	umhos/cm		15-JUL-19	R4712448
Hardness Calculated							
Hardness (as CaCO3)	168	HTC	0.20	mg/L		24-JUL-19	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	15-JUL-19	16-JUL-19	R4713506
Nitrate in Water by IC							
Nitrate (as N)	0.318		0.020	mg/L		16-JUL-19	R4714529
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.335		0.070	mg/L		18-JUL-19	
Nitrite in Water by IC							
Nitrite (as N)	0.018		0.010	mg/L		16-JUL-19	R4714529
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		18-JUL-19	R4714391
Phenol (4AAP)							
Phenols (4AAP)	0.0065		0.0010	mg/L		18-JUL-19	R4714834
Phosphorus, Total							
Phosphorus (P)-Total	0.0915		0.0030	mg/L		17-JUL-19	R4714253
Sulfate in Water by IC							
Sulfate (SO4)	62.6		0.30	mg/L		16-JUL-19	R4714529
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0369		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Arsenic (As)-Total	0.00123		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Cadmium (Cd)-Total	0.0000843		0.0000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Calcium (Ca)-Total	55.9		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Chromium (Cr)-Total	0.00077		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Cobalt (Co)-Total	0.00084		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Copper (Cu)-Total	0.0138		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Iron (Fe)-Total	0.762		0.010	mg/L	22-JUL-19	22-JUL-19	R4722369
Lead (Pb)-Total	0.000842		0.000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Magnesium (Mg)-Total	6.93		0.0050	mg/L	22-JUL-19	22-JUL-19	R4722369
Manganese (Mn)-Total	0.0841		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Nickel (Ni)-Total	0.00548		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Potassium (K)-Total	6.21		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Sodium (Na)-Total	26.0		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Zinc (Zn)-Total	0.0577		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Total Organic Carbon by Combustion							
Total Organic Carbon	11.3		0.50	mg/L		22-JUL-19	R4720568
Total Suspended Solids							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2309892-1 WHA-2							
Sampled By: CF on 11-JUL-19 @ 10:05							
Matrix: WASTE WATER							
Total Suspended Solids							
Total Suspended Solids	2.7		2.0	mg/L		18-JUL-19	R4715410
pH							
pH	7.82		0.10	pH units		15-JUL-19	R4712448
L2309892-2 WHA-3							
Sampled By: CF on 11-JUL-19 @ 09:55							
Matrix: WASTE WATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	196		1.2	mg/L		16-JUL-19	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		16-JUL-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		16-JUL-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	161		1.0	mg/L		15-JUL-19	R4712448
Ammonia by colour							
Ammonia, Total (as N)	0.182		0.010	mg/L		18-JUL-19	R4717428
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	2.7	BODQ	2.0	mg/L		15-JUL-19	R4719620
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		15-JUL-19	R4719620
Chloride in Water by IC							
Chloride (Cl)	37.0		0.50	mg/L		16-JUL-19	R4714529
Conductivity							
Conductivity	452		1.0	umhos/cm		15-JUL-19	R4712448
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	170		10	MPN/100mL		15-JUL-19	R4712422
Hardness Calculated							
Hardness (as CaCO3)	141	HTC	0.20	mg/L		24-JUL-19	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	15-JUL-19	16-JUL-19	R4713506
Nitrate in Water by IC							
Nitrate (as N)	0.023		0.020	mg/L		16-JUL-19	R4714529
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		18-JUL-19	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		16-JUL-19	R4714529
Oil & Grease - Gravimetric							
Oil and Grease	24.2		5.0	mg/L		18-JUL-19	R4714391
Phenol (4AAP)							
Phenols (4AAP)	0.0017		0.0010	mg/L		18-JUL-19	R4714834
Phosphorus, Total							
Phosphorus (P)-Total	2.55		0.030	mg/L		17-JUL-19	R4714253
Sulfate in Water by IC							
Sulfate (SO4)	25.9		0.30	mg/L		16-JUL-19	R4714529
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0210		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Arsenic (As)-Total	0.00308		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Cadmium (Cd)-Total	0.0000062		0.0000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Calcium (Ca)-Total	42.4		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Chromium (Cr)-Total	0.00020		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2309892-2 WHA-3							
Sampled By: CF on 11-JUL-19 @ 09:55							
Matrix: WASTE WATER							
Total Metals in Water by CRC ICPMS							
Cobalt (Co)-Total	0.00045		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Copper (Cu)-Total	0.00376		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Iron (Fe)-Total	0.633		0.010	mg/L	22-JUL-19	22-JUL-19	R4722369
Lead (Pb)-Total	0.000089		0.000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Magnesium (Mg)-Total	8.54		0.0050	mg/L	22-JUL-19	22-JUL-19	R4722369
Manganese (Mn)-Total	0.237		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Nickel (Ni)-Total	0.00273		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Potassium (K)-Total	6.36		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Sodium (Na)-Total	40.0		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Zinc (Zn)-Total	0.0046		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Total Organic Carbon by Combustion							
Total Organic Carbon	12.0		0.50	mg/L		18-JUL-19	R4717351
Total Suspended Solids							
Total Suspended Solids	6.7		2.0	mg/L		18-JUL-19	R4715410
pH							
pH	7.93		0.10	pH units		15-JUL-19	R4712448
L2309892-3 WHA-4							
Sampled By: CF on 11-JUL-19 @ 09:45							
Matrix: WASTE WATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	280		1.2	mg/L		16-JUL-19	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		16-JUL-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		16-JUL-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	230		1.0	mg/L		15-JUL-19	R4712448
Ammonia by colour							
Ammonia, Total (as N)	32.3		1.0	mg/L		22-JUL-19	R4721003
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	23.0	BODQ	6.0	mg/L		15-JUL-19	R4719620
Carbonaceous BOD							
BOD Carbonaceous	13.7		6.0	mg/L		15-JUL-19	R4719620
Chloride in Water by IC							
Chloride (Cl)	87.1		0.50	mg/L		16-JUL-19	R4714529
Conductivity							
Conductivity	768		1.0	umhos/cm		15-JUL-19	R4712448
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	1720		10	MPN/100mL		15-JUL-19	R4712422
Hardness Calculated							
Hardness (as CaCO3)	114	HTC	0.20	mg/L		24-JUL-19	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	15-JUL-19	16-JUL-19	R4713506
Nitrate in Water by IC							
Nitrate (as N)	<0.020		0.020	mg/L		16-JUL-19	R4714529
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		18-JUL-19	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		16-JUL-19	R4714529
Oil & Grease - Gravimetric							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2309892-3 WHA-4							
Sampled By: CF on 11-JUL-19 @ 09:45							
Matrix: WASTE WATER							
Oil & Grease - Gravimetric							
Oil and Grease	31.4		5.0	mg/L		18-JUL-19	R4714391
Phenol (4AAP)							
Phenols (4AAP)	0.0018		0.0010	mg/L		18-JUL-19	R4714834
Phosphorus, Total							
Phosphorus (P)-Total	5.79		0.030	mg/L		17-JUL-19	R4714253
Sulfate in Water by IC							
Sulfate (SO4)	21.4		0.30	mg/L		16-JUL-19	R4714529
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0281		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Arsenic (As)-Total	0.00091		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Cadmium (Cd)-Total	0.0000160		0.0000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Calcium (Ca)-Total	32.1		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Chromium (Cr)-Total	0.00055		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Cobalt (Co)-Total	0.00061		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Copper (Cu)-Total	0.0369		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Iron (Fe)-Total	0.148		0.010	mg/L	22-JUL-19	22-JUL-19	R4722369
Lead (Pb)-Total	0.000333		0.000050	mg/L	22-JUL-19	22-JUL-19	R4722369
Magnesium (Mg)-Total	8.16		0.0050	mg/L	22-JUL-19	22-JUL-19	R4722369
Manganese (Mn)-Total	0.0882		0.00010	mg/L	22-JUL-19	22-JUL-19	R4722369
Nickel (Ni)-Total	0.00240		0.00050	mg/L	22-JUL-19	22-JUL-19	R4722369
Potassium (K)-Total	17.7		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Sodium (Na)-Total	61.6		0.050	mg/L	22-JUL-19	22-JUL-19	R4722369
Zinc (Zn)-Total	0.0246		0.0030	mg/L	22-JUL-19	22-JUL-19	R4722369
Total Organic Carbon by Combustion							
Total Organic Carbon	31.5		0.50	mg/L		18-JUL-19	R4717351
Total Suspended Solids							
Total Suspended Solids	26.2		2.7	mg/L		18-JUL-19	R4715410
pH							
pH	8.03		0.10	pH units		15-JUL-19	R4712448

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
BODQ	BOD Qualification: Lab Control Sample outside standard 85-115% objective (see QC report). Sample(s) cannot be rerun due to hold time expiry.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRQC	Refer to report remarks for information regarding this QC result.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-CO3CO3-CALC-WP	Water	Alkalinity, Carbonate	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO3 2-/L.

ALK-HCO3HCO3-CALC-WP	Water	Alkalinity, Bicarbonate	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO3-/L

ALK-OHOH-CALC-WP	Water	Alkalinity, Hydroxide	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L.

ALK-TITR-WP	Water	Alkalinity, Total (as CaCO3)	APHA 2320B

The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO3- and H2CO3 endpoints indicated electrometrically.

BOD-CBOD-WP	Water	Carbonaceous BOD	APHA 5210 B

Samples are diluted and seeded, have TCMP added to inhibit nitrogenous demands, and then are incubated in airtight bottles at 20°C for 5 days. Dissolved oxygen is measured initially and after incubation, and results are computed from the difference between initial and final DO.

BOD-WP	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B

Samples are diluted and seeded and then incubated in airtight bottles at 20°C for 5 days. Dissolved oxygen is measured initially and after incubation, and results are computed from the difference between initial and final DO.

BTEXS+F1-HSMS-WP	Water	BTX plus F1 by GCMS	EPA 8260C / EPA 5021A

The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transfered into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

C-TOC-HTC-WP	Water	Total Organic Carbon by Combustion	APHA 5310 B-WP

Sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.

CL-IC-N-WP	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

EC-WP	Water	Conductivity	APHA 2510B

Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.

F1-F4-CALC-WP	Water	CCME Total Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-F4-FID-WP	Water	CCME PHC F2-F4 in Water	EPA 3511

Petroleum hydrocarbons in water are determined by liquid-liquid micro-scale solvent extraction using a reciprocal shaker extraction apparatus prior to capillary column gas chromatography with flame ionization detection (GC-FID) analysis.

FC10-QT97-WP	Water	Fecal coliforms, 1:10 dilution by QT97	APHA 9223B QT97

Analysis is carried out using procedures adapted from APHA 9223 "Enzyme Substrate Coliform Test". Fecal (thermotolerant) coliform bacteria are determined by mixing a 1:10 dilution of sample with a product containing hydrolyzable substrates and sealing in a 97-well packet. The packet is incubated at 44.5 – 0.2°C for 18 hours and then the number of wells exhibiting positive responses are counted. The final results are obtained by comparing the number of positive responses to a probability table.

HARDNESS-CALC-WP	Water	Hardness Calculated	APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-T-CVAA-WP	Water	Mercury Total	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

MET-T-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020B (mod.)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-COL-WP	Water	Ammonia by colour	APHA 4500 NH3 F

Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroprusside and measured colourmetrically.

NO2+NO3-CALC-WP	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-N-WP	Water	Nitrite in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-N-WP	Water	Nitrate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

OG-GRAV-WP	Water	Oil & Grease - Gravimetric	EPA 1664 (modified)

Water samples are acidified and extracted with hexane; the hexane extract is collected in a pre-weighed vial. The solvent is evaporated and Total Oil & Grease is determined from the weight of the residue in the vial.

P-T-COL-WP	Water	Phosphorus, Total	APHA 4500 P PHOSPHORUS-L

This analysis is carried out using procedures adapted from APHA METHOD 4500-P "Phosphorus". Total Phosphorus is determined colourmetrically after persulphate digestion of the sample.

PAH,PANH-WP	Water	Polyaromatic Hydrocarbons (PAHs)	EPA 3511/8270D (mod)

PAHs are extracted from water using a hexane micro-extraction technique, with analysis by GC/MS. Because the two isomers cannot be readily separated chromatographically, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

PH-WP	Water	pH	APHA 4500H

The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.

PHENOLS-4AAP-WT	Water	Phenol (4AAP)	EPA 9066

An automated method is used to distill the sample. The distillate is then buffered to pH 9.4 which reacts with 4AAP and potassium ferricyanide to form a red complex which is measured colorimetrically.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
SO4-IC-N-WP	Water	Sulfate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
SOLIDS-TOTSUS-WP	Water	Total Suspended Solids	APHA 2540 D (modified)
Total suspended solids in aquesous matrices is determined gravimetrically after drying the residue at 103 105°C.			
XYLENES-SUM-CALC-WP	Water	Sum of Xylene Isomer Concentrations	CALCULATED RESULT
Total xylenes represents the sum of o-xylene and m&p-xylene.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: Hamlet of Whale Cove
PO Box 120
Whale Cove NU X0C 0J0
Contact: IAN COPLAND

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	**Water**							
Batch R4712448								
WG3106171-24 LCS								
Alkalinity, Total (as CaCO3)			106.7		%		85-115	15-JUL-19
WG3106171-21 MB								
Alkalinity, Total (as CaCO3)			<1.0		mg/L		1	15-JUL-19
BOD-CBOD-WP	**Water**							
Batch R4719620								
WG3105586-7 LCS								
BOD Carbonaceous			88.0		%		85-115	15-JUL-19
WG3105586-6 MB								
BOD Carbonaceous			<2.0		mg/L		2	15-JUL-19
BOD-WP	**Water**							
Batch R4719620								
WG3105586-7 LCS								
Biochemical Oxygen Demand			84.1	RRQC	%		85-115	15-JUL-19
WG3105586-6 MB								
Biochemical Oxygen Demand			<2.0		mg/L		2	15-JUL-19
BTEXS+F1-HSMS-WP	**Water**							
Batch R4714779								
WG3107943-8 LCS								
Benzene			94.2		%		70-130	18-JUL-19
Toluene			95.3		%		70-130	18-JUL-19
Ethyl benzene			100.4		%		70-130	18-JUL-19
o-Xylene			94.9		%		70-130	18-JUL-19
m+p-Xylenes			98.8		%		70-130	18-JUL-19
WG3107943-9 LCS								
F1 (C6-C10)			110.4		%		70-130	18-JUL-19
WG3107943-7 MB								
Benzene			<0.00050		mg/L		0.0005	18-JUL-19
Toluene			<0.0010		mg/L		0.001	18-JUL-19
Ethyl benzene			<0.00050		mg/L		0.0005	18-JUL-19
o-Xylene			<0.00030		mg/L		0.0003	18-JUL-19
m+p-Xylenes			<0.00040		mg/L		0.0004	18-JUL-19
F1 (C6-C10)			<0.10		mg/L		0.1	18-JUL-19
Surrogate: 4-Bromofluorobenzene (SS)			85.0		%		70-130	18-JUL-19
C-TOC-HTC-WP	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOC-HTC-WP	**Water**							
Batch R4717351								
WG3109900-2 LCS								
Total Organic Carbon			100.2		%		80-120	18-JUL-19
WG3109900-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	18-JUL-19
Batch R4720568								
WG3112527-2 LCS								
Total Organic Carbon			102.0		%		80-120	22-JUL-19
WG3112527-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	22-JUL-19
CL-IC-N-WP	**Water**							
Batch R4714529								
WG3106278-2 LCS								
Chloride (Cl)			102.6		%		90-110	16-JUL-19
WG3106278-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	16-JUL-19
EC-WP	**Water**							
Batch R4712448								
WG3106171-23 LCS								
Conductivity			99.2		%		90-110	15-JUL-19
WG3106171-21 MB								
Conductivity			<1.0		umhos/cm		1	15-JUL-19
F2-F4-FID-WP	**Water**							
Batch R4699009								
WG3107507-2 LCS								
F2 (C10-C16)			107.2		%		70-130	20-JUL-19
F3 (C16-C34)			103.0		%		70-130	20-JUL-19
F4 (C34-C50)			97.0		%		70-130	20-JUL-19
WG3107507-1 MB								
F2 (C10-C16)			<0.10		mg/L		0.1	20-JUL-19
F3 (C16-C34)			<0.25		mg/L		0.25	20-JUL-19
F4 (C34-C50)			<0.25		mg/L		0.25	20-JUL-19
Surrogate: 2-Bromobenzotrifluoride			88.4		%		60-140	20-JUL-19
FC10-QT97-WP	**Water**							
Batch R4712422								
WG3105635-1 MB								
Fecal Coliforms			<1		MPN/100mL		1	15-JUL-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAA-WP	**Water**							
Batch R4713506								
WG3107565-2 LCS								
Mercury (Hg)-Total			92.0		%		80-120	16-JUL-19
WG3107565-1 MB								
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	16-JUL-19
WG3107565-4 MS		**L2309892-1**						
Mercury (Hg)-Total			95.0		%		70-130	16-JUL-19
MET-T-CCMS-WP	**Water**							
Batch R4722369								
WG3111905-2 LCS								
Aluminum (Al)-Total			100.8		%		80-120	22-JUL-19
Arsenic (As)-Total			99.1		%		80-120	22-JUL-19
Cadmium (Cd)-Total			98.8		%		80-120	22-JUL-19
Calcium (Ca)-Total			98.9		%		80-120	22-JUL-19
Chromium (Cr)-Total			99.3		%		80-120	22-JUL-19
Cobalt (Co)-Total			98.0		%		80-120	22-JUL-19
Copper (Cu)-Total			97.7		%		80-120	22-JUL-19
Iron (Fe)-Total			91.3		%		80-120	22-JUL-19
Lead (Pb)-Total			99.4		%		80-120	22-JUL-19
Magnesium (Mg)-Total			114.6		%		80-120	22-JUL-19
Manganese (Mn)-Total			101.5		%		80-120	22-JUL-19
Nickel (Ni)-Total			96.9		%		80-120	22-JUL-19
Potassium (K)-Total			93.6		%		80-120	22-JUL-19
Sodium (Na)-Total			101.1		%		80-120	22-JUL-19
Zinc (Zn)-Total			98.7		%		80-120	22-JUL-19
WG3111905-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	22-JUL-19
Arsenic (As)-Total			<0.00010		mg/L		0.0001	22-JUL-19
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	22-JUL-19
Calcium (Ca)-Total			<0.050		mg/L		0.05	22-JUL-19
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	22-JUL-19
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	22-JUL-19
Copper (Cu)-Total			<0.00050		mg/L		0.0005	22-JUL-19
Iron (Fe)-Total			<0.010		mg/L		0.01	22-JUL-19
Lead (Pb)-Total			<0.000050		mg/L		0.00005	22-JUL-19
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	22-JUL-19
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	22-JUL-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R4722369								
WG3111905-1 MB								
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	22-JUL-19
Potassium (K)-Total			<0.050		mg/L		0.05	22-JUL-19
Sodium (Na)-Total			<0.050		mg/L		0.05	22-JUL-19
Zinc (Zn)-Total			<0.0030		mg/L		0.003	22-JUL-19
NH3-COL-WP	**Water**							
Batch R4717428								
WG3110220-22 LCS								
Ammonia, Total (as N)			96.3		%		85-115	18-JUL-19
WG3110220-21 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	18-JUL-19
Batch R4721003								
WG3113131-2 LCS								
Ammonia, Total (as N)			101.1		%		85-115	22-JUL-19
WG3113131-1 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	22-JUL-19
NO2-IC-N-WP	**Water**							
Batch R4714529								
WG3106278-2 LCS								
Nitrite (as N)			102.0		%		90-110	16-JUL-19
WG3106278-1 MB								
Nitrite (as N)			<0.010		mg/L		0.01	16-JUL-19
NO3-IC-N-WP	**Water**							
Batch R4714529								
WG3106278-2 LCS								
Nitrate (as N)			102.5		%		90-110	16-JUL-19
WG3106278-1 MB								
Nitrate (as N)			<0.020		mg/L		0.02	16-JUL-19
OG-GRAV-WP	**Water**							
Batch R4714391								
WG3106678-2 LCS								
Oil and Grease			93.4		%		70-130	18-JUL-19
WG3106678-1 MB								
Oil and Grease			<5.0		mg/L		5	18-JUL-19
P-T-COL-WP	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-WP	**Water**							
Batch R4714253								
WG3106640-18 LCS								
Phosphorus (P)-Total			96.5		%		80-120	17-JUL-19
WG3106640-17 MB								
Phosphorus (P)-Total			<0.0030		mg/L		0.003	17-JUL-19
PAH,PANH-WP	**Water**							
Batch R4715869								
WG3106778-2 LCS								
1-Methyl Naphthalene			107.8		%		60-130	17-JUL-19
2-Methyl Naphthalene			97.5		%		60-130	17-JUL-19
Acenaphthene			103.6		%		60-130	17-JUL-19
Acenaphthylene			81.7		%		60-130	17-JUL-19
Anthracene			72.1		%		60-130	17-JUL-19
Acridine			80.6		%		60-130	17-JUL-19
Benzo(a)anthracene			73.0		%		60-130	17-JUL-19
Benzo(a)pyrene			81.1		%		60-130	17-JUL-19
Benzo(b&j)fluoranthene			93.0		%		60-130	17-JUL-19
Benzo(g,h,i)perylene			102.4		%		60-130	17-JUL-19
Benzo(k)fluoranthene			93.7		%		60-130	17-JUL-19
Chrysene			83.7		%		60-130	17-JUL-19
Dibenzo(a,h)anthracene			89.0		%		60-130	17-JUL-19
Fluoranthene			96.5		%		60-130	17-JUL-19
Fluorene			92.5		%		60-130	17-JUL-19
Indeno(1,2,3-cd)pyrene			78.6		%		60-130	17-JUL-19
Naphthalene			108.1		%		50-130	17-JUL-19
Phenanthrene			94.0		%		60-130	17-JUL-19
Pyrene			93.0		%		60-130	17-JUL-19
Quinoline			108.5		%		60-130	17-JUL-19
WG3106778-1 MB								
1-Methyl Naphthalene			<0.000020		mg/L		0.00002	17-JUL-19
2-Methyl Naphthalene			<0.000020		mg/L		0.00002	17-JUL-19
Acenaphthene			<0.000020		mg/L		0.00002	17-JUL-19
Acenaphthylene			<0.000020		mg/L		0.00002	17-JUL-19
Anthracene			<0.000010		mg/L		0.00001	17-JUL-19
Acridine			<0.000020		mg/L		0.00002	17-JUL-19
Benzo(a)anthracene			<0.000010		mg/L		0.00001	17-JUL-19
Benzo(a)pyrene			<0.000005(		mg/L		0.000005	17-JUL-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH,PANH-WP	**Water**							
Batch R4715869								
WG3106778-1 MB								
Benzo(b&j)fluoranthene			<0.000010		mg/L		0.00001	17-JUL-19
Benzo(g,h,i)perylene			<0.000020		mg/L		0.00002	17-JUL-19
Benzo(k)fluoranthene			<0.000010		mg/L		0.00001	17-JUL-19
Chrysene			<0.000020		mg/L		0.00002	17-JUL-19
Dibenzo(a,h)anthracene			<0.000005(		mg/L		0.000005	17-JUL-19
Fluoranthene			<0.000020		mg/L		0.00002	17-JUL-19
Fluorene			<0.000020		mg/L		0.00002	17-JUL-19
Indeno(1,2,3-cd)pyrene			<0.000010		mg/L		0.00001	17-JUL-19
Naphthalene			<0.000050		mg/L		0.00005	17-JUL-19
Phenanthrene			<0.000050		mg/L		0.00005	17-JUL-19
Pyrene			<0.000010		mg/L		0.00001	17-JUL-19
Quinoline			<0.000020		mg/L		0.00002	17-JUL-19
Surrogate: Acenaphthene d10			98.3		%		60-130	17-JUL-19
Surrogate: Acridine d9			74.2		%		60-130	17-JUL-19
Surrogate: Chrysene d12			101.3		%		60-130	17-JUL-19
Surrogate: Naphthalene d8			100.3		%		50-130	17-JUL-19
Surrogate: Phenanthrene d10			92.3		%		60-130	17-JUL-19
PH-WP	**Water**							
Batch R4712448								
WG3106171-22 LCS								
pH			7.39		pH units		7.3-7.5	15-JUL-19
PHENOLS-4AAP-WT	**Water**							
Batch R4714834								
WG3108592-18 LCS								
Phenols (4AAP)			102.8		%		85-115	18-JUL-19
WG3108592-17 MB								
Phenols (4AAP)			<0.0010		mg/L		0.001	18-JUL-19
SO4-IC-N-WP	**Water**							
Batch R4714529								
WG3106278-2 LCS								
Sulfate (SO4)			102.8		%		90-110	16-JUL-19
WG3106278-1 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	16-JUL-19
SOLIDS-TOTSUS-WP	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-WP	**Water**							
Batch R4715410								
WG3107798-12 LCS								
Total Suspended Solids			91.2		%		85-115	18-JUL-19
WG3107798-11 MB								
Total Suspended Solids			<2.0		mg/L		2	18-JUL-19

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	1	11-JUL-19 10:05	15-JUL-19 12:00	0.25	98	hours	EHTR-FM
	2	11-JUL-19 09:55	15-JUL-19 12:00	0.25	98	hours	EHTR-FM
	3	11-JUL-19 09:45	15-JUL-19 12:00	0.25	98	hours	EHTR-FM
Anions and Nutrients							
Nitrate in Water by IC							
	1	11-JUL-19 10:05	16-JUL-19 12:30	3	5	days	EHTR
	2	11-JUL-19 09:55	16-JUL-19 12:30	3	5	days	EHTR
	3	11-JUL-19 09:45	16-JUL-19 12:30	3	5	days	EHTR
Nitrite in Water by IC							
	1	11-JUL-19 10:05	16-JUL-19 12:30	3	5	days	EHTR
	2	11-JUL-19 09:55	16-JUL-19 12:30	3	5	days	EHTR
	3	11-JUL-19 09:45	16-JUL-19 12:30	3	5	days	EHTR
Bacteriological Tests							
Fecal coliforms, 1:10 dilution by QT97							
	2	11-JUL-19 09:55	15-JUL-19 16:15	30	102	hours	EHTR
	3	11-JUL-19 09:45	15-JUL-19 16:15	30	102	hours	EHTR
Aggregate Organics							
Biochemical Oxygen Demand (BOD)							
	1	11-JUL-19 10:05	15-JUL-19 07:00	48	93	hours	EHTR
	2	11-JUL-19 09:55	15-JUL-19 07:00	48	93	hours	EHTR
	3	11-JUL-19 09:45	15-JUL-19 07:00	48	93	hours	EHTR
Carbonaceous BOD							
	1	11-JUL-19 10:05	15-JUL-19 07:00	48	93	hours	EHTR
	2	11-JUL-19 09:55	15-JUL-19 07:00	48	93	hours	EHTR
	3	11-JUL-19 09:45	15-JUL-19 07:00	48	93	hours	EHTR

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2309892 were received on 15-JUL-19 13:30.

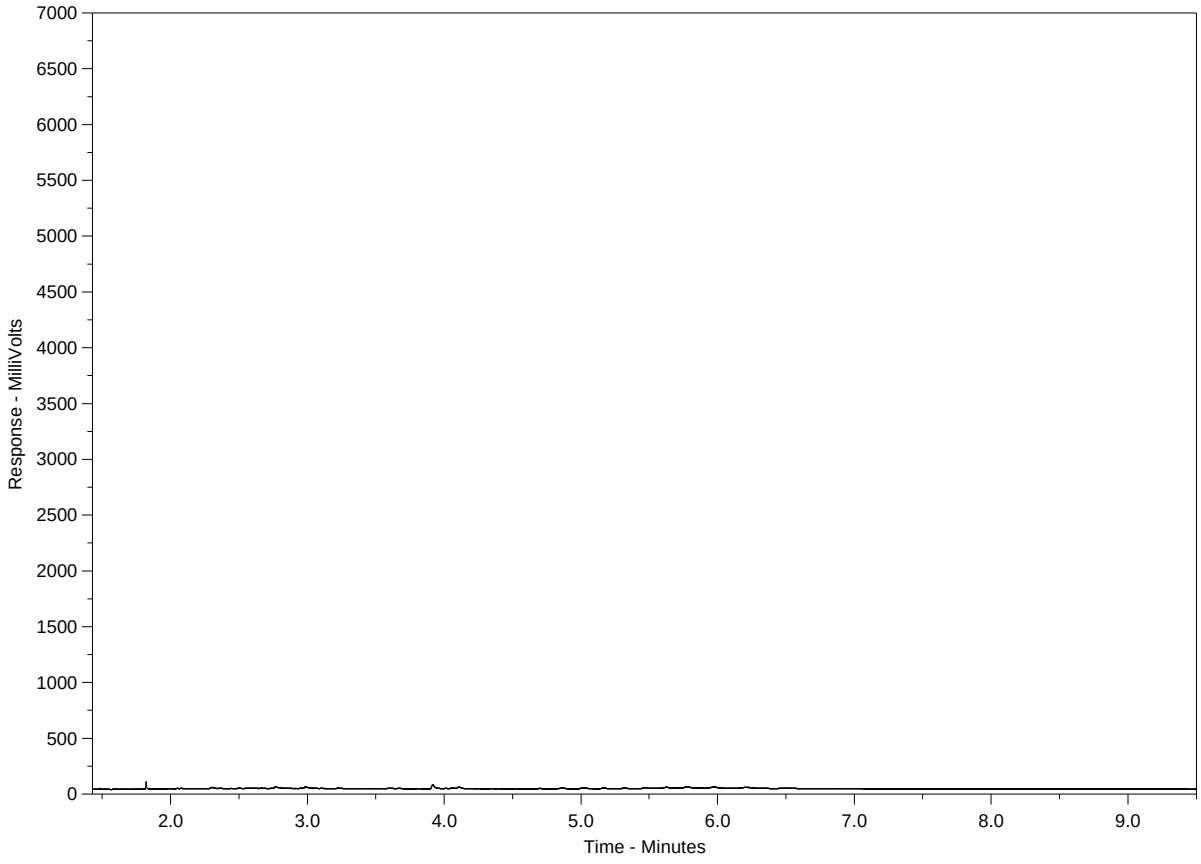
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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

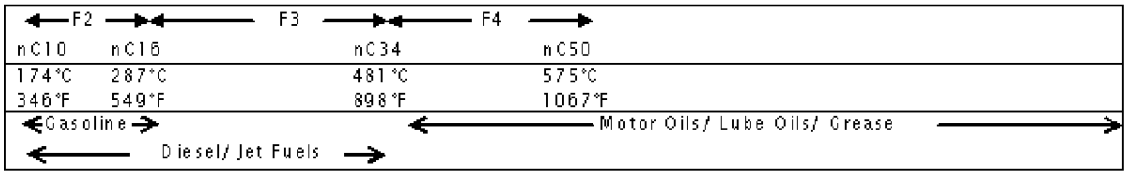
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2309892-1
Client Sample ID: WHA-2





The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2309892-COFC

COC Number: 17 - 747824

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	Hamlet of Whale Cove	Select Report Format: PDF EXCEL EDD (DIGITAL)	Regular [R] Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Ian Copland	Quality Control (QC) Report with Report YES NO	PRIORITY (Business Days): 4 day [P4-20%]; 3 day [P3-25%]; 2 day [P2-50%] — EMERGENCY: 1 Business day [E - 100%]; Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)]
Phone:	867-896-9961	Compare Results to Criteria on Report - provide details below if box checked	
	Company address below will appear on the final report	Select Distribution: EMAIL MAIL FAX	
Street:	PO Box 120	Email 1 or Fax sao@whalecove.ca	Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
City/Province:	Whale Cove, NU	Email 2 cfaulkner@gov.nu.ca	For tests that can not be performed according to the service level selected, you will be contacted.
Postal Code:	X0C 0J0	Email 3	
Invoice To	Same as Report To YES NO	Invoice Distribution	Analysis Request
	Copy of Invoice with Report YES NO	Select Invoice Distribution: EMAIL MAIL FAX	
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	WI0623	AFE/Cost Center:	PO#:
Job #:		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler: Connor Faulkner

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BOD	CBOD	Routine	Metals	Nutrients	Bacteria	Oil + Grease x2	Phenols	BTX - F1 x3	F2-F4 x2	PAH x2	Mercury			SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	WHA-2	11-Jul-19	10:05 AM	WW	16	✓	✓	✓	P	P	B	P	P	P	P	P	P				
	WHA-3	11-Jul-19	9:55 AM	WW	10	✓	✓	✓	P	P	P	P	P	P	P	P	P				
	WHA-4	11-Jul-19	9:45 AM	WW	10	✓	✓	✓	P	P	P	P	P	P	P	P	P				

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? NO	Nunavut - WW - GRP1
Are samples for human consumption/ use? NO	BTX-F1-F4, PAH

SAMPLE CONDITION AS RECEIVED (lab use only)			
Frozen		SIF Observations Yes	No
Ice Packs	Ice Cubes	Custody seal intact Yes	No
Cooling Initiated			

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
17.2	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	July 11/19	11:00 AM		75/7/19	1:38			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2015 FRONT

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

Appendix D

Spills

Occurance Date

Start date

Jan | 1 | 2019

End date

Dec | 31 | 2019

Spill Region

- Any -

Spill Location

--Whale Cove

Spill Location Description

Report Number

Items per page

100

Go

Reset

No matching spills

CSV

Appendix E

Whale Cove
WHA-2

			2018		2019	Statistics		
Parameter	**Unit**	**DL**	**20-Jun-18**	**12-Jul-18**	**11-Jul-19**	**Min**	**Max**	**Average**
Alkalinity								
Bicarbonate (HCO3)	mg/L	1.2	121	237	161	121	265	195.11
Carbonate (CO3)	mg/L	0.60	0.6	0.6	0.6	0.60	3.00	0.87
Hydroxide (OH)	mg/L	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total (as CaCO3)	mg/L	1.0	99.3	195	132	99.3	238	177.36
Ammonia by Colour								
Total (as N)	mg/L	0.20	0.152	0.049	0.428	0.049	4.36	1.23
Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	mg/L	6.0	6	12.5	3.3	2	12.5	5.23
Carbonaceous BOD								
BOD Carbonaceous	mg/L	6.0	6	8.3	2	2.0	8.3	3.80
Chloride in Water by IC								
Chloride (Cl)	mg/L	10	41.0	74.3	30.4	29.8	184	88.84
Conductivity								
Conductivity	umhos/cm	1.0	409	695	464	401	964	702.17
Fecal Coliforms								
Fecal Coliforms	MPN/100mL	3	90	420		4	5170	756.36
Hardness Calculated								
Hardness (as CaCO3)	mg/L	0.30	135	191	168	127	316	209.42
Mercury Total								
Mercury (Hg)	mg/L	0.00020	0.000005	0.000005	0.0000050	0.0000050	0.000020	0.000009
Nitrate in Water by IC								
Nitrate (as N)	mg/L	0.40	0.078	0.02	0.318	0.02	0.318	0.100
Nitrate + Nitrite								
Nitrate and Nitrite as N	mg/L	0.45	0.088	0.07	0.335	0.070	1.56	0.23
Nitrite in Water by IC								
Nitrite (as N)	mg/L	0.20	0.010	0.01	0.018	0.010	0.020	0.014
Oil & Grease - Gravimetric								
Oil and Grease	mg/L	5.0	5	5	5	2.0	5.0	3.75
Phenol								
Phenols	mg/L	0.0010	0.0037	0.0032	0.0065	0.001	0.0065	0.0027
Phosphorus, Total								
Phosphorus (P)	mg/L	0.010	0.243	0.249	0.0915	0.071	0.249	0.15
Sulfate in Water by IC								
Sulfate (SO4)	mg/L	6.0	42.1	47.5	62.6	3.73	77.9	57.31
Total Metals by ICP-MS								
Aluminium (Al)	mg/L	0.0050	0.0803	0.0196	0.0369	0.009	0.0803	0.0313
Arsenic (As)	mg/L	0.00020	0.00158	0.00276	0.00123	0.00104	0.00639	0.00266
Cadmium (Cd)	mg/L	0.000010	0.000102	0.0000473	0.0000843	0.00001	0.0002	0.00006
Calcium (Ca)	mg/L	0.10	45.6	60.0	55.9	40.1	94.6	66.02
Chromium (Cr)	mg/L	0.0010	0.00157	0.00105	0.00077	0.00032	0.002	0.0010
Cobalt (Co)	mg/L	0.00020	0.00106	0.00186	0.00084	0.00054	0.00186	0.0011
Copper (Cu)	mg/L	0.00020	0.0110	0.00571	0.0138	0.00156	0.0138	0.0055
Iron (Fe)	mg/L	0.010	0.784	2.55	0.762	0.26	2.55	1.39
Lead (Pb)	mg/L	0.000090	0.00104	0.000686	0.000842	0.00009	0.00156	0.0007
Magnesium (Mg)	mg/L	0.010	5.16	9.93	6.93	5.16	19.4	10.81
Manganese (Mn)	mg/L	0.00030	0.146	0.370	0.0841	0.0841	0.523	0.25
Nickel (Ni)	mg/L	0.0020	0.00395	0.00667	0.00548	0.0025	0.00667	0.0049
Potassium (K)	mg/L	0.020	6.90	11.5	6.21	4.54	17.7	10.90
Sodium (Na)	mg/L	0.030	25.0	52.2	26	21.1	99.4	56.33
Zinc (Zn)	mg/L	0.0020	0.0518	0.196	0.0577	0.0020	0.196	0.042
Total Organic Carbon by Combustion								
Total Organic Carbon	mg/L	0.50	12.2	17.1	11.3	4.5	17.1	10.88
Total Suspended Solids								
Total Suspended Solids	mg/L	13	5.6	12.2	2.7	2.7	18	9.13
pH								
pH	pH Units	0.10	7.19	7.56	7.82	7.19	8.38	7.81
Benzene	mg/L	0.00050	0.0005	0.0005	0.00053	0.00050	0.00053	0.00050
Toluene	mg/L	0.0010	0.0025	0.001	0.0012	0.0010	0.0025	0.0012
Ethyl Benzene	mg/L	0.00050	0.0005	0.0005	0.00050	0.00050	0.00050	0.00050
o-Xylene	mg/L	0.00050	0.00142	0.0005	0.00050	0.00050	0.00142	0.00063
F1 (C6-C10)	mg/L	0.10	0.1	0.1	0.10	0.10	0.10	0.10
F2 (C10-C16)	mg/L	0.25	0.1	0.1	0.10	0.10	0.10	0.10
F3 (C16-C34)	mg/L	0.25	0.25	0.28	0.25	0.25	0.28	0.25
F4 (C34-C50)	mg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Total Hydrocarbons (C6-C50)	mg/L	0.44	0.38	0.38	0.38	0.1	0.38	0.34

Whale Cove
WHA-4

			2018		2019	Statistics		
Parameter	**Unit**	**DL**	**20-Jun-18**	**12-Jul-18**	**11-Jul-19**	**Min**	**Max**	**Average**
Alkalinity								
Bicarbonate (HCO3)	mg/L	1.2	158	309	280	60.4	309	208.95
Carbonate (CO3)	mg/L	0.60	0.6	0.6	0.6	0.60	6.72	1.11
Hydroxide (OH)	mg/L	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total (as CaCO3)	mg/L	1.0	130	253	230	49.5	253	173.83
Ammonia by Colour								
Total (as N)	mg/L	0.20	1.17	0.037	32.3	0.017	32.3	4.61
Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	mg/L	6.0	8.7	9.0	23.0	2.0	24.2	9.00
Carbonaceous BOD								
BOD Carbonaceous	mg/L	6.0	3.9	7.0	13.7	2.0	14	6.51
Chloride in Water by IC								
Chloride (Cl)	mg/L	10	55.0	113	87.1	9.32	123	80.34
Conductivity								
Conductivity	umhos/cm	1.0	500	871	768	133	871	633.00
Fecal Coliforms								
Fecal Coliforms	MPN/100mL	3	10	20	1720	3	4300	523.07
Hardness Calculated								
Hardness (as CaCO3)	mg/L	0.30	140	216	114	52.9	355	166.73
Mercury Total								
Mercury (Hg)	mg/L	0.00020	0.0000050	0.0000050	0.0000050	0.000005	0.0002	0.000026
Nitrate in Water by IC								
Nitrate (as N)	mg/L	0.40	0.073	0.040	0.020	0.02	2.03	0.35
Nitrate + Nitrite								
Nitrate and Nitrite as N	mg/L	0.45	0.073	0.070	0.070	0.07	3.12	0.60
Nitrite in Water by IC								
Nitrite (as N)	mg/L	0.20	0.01	0.02	0.010	0.01	0.538	0.09
Oil & Grease - Gravimetric								
Oil and Grease	mg/L	5.0	5	5	31.4	2.0	89.2	11.57
Phenol								
Phenols	mg/L	0.0010	0.001	0.0012	0.0018	0.001	0.0045	0.00
Phosphorus, Total								
Phosphorus (P)	mg/L	0.010	2.29	5.71	5.79	0.019	5.79	2.92
Sulfate in Water by IC								
Sulfate (SO4)	mg/L	6.0	37.0	27.3	21.4	2.82	122	30.44
Total Metals by ICP-MS								
Aluminium (Al)	mg/L	0.0050	0.0661	0.0794	0.0281	0.005	0.159	0.05
Arsenic (As)	mg/L	0.00020	0.00435	0.00637	0.00091	0.00025	0.00836	0.00314
Cadmium (Cd)	mg/L	0.000010	0.0000144	0.0000091	0.0000160	0.000005	0.0002	0.000027
Calcium (Ca)	mg/L	0.10	41.7	62.8	32.1	17.5	119	52.24
Chromium (Cr)	mg/L	0.0010	0.00017	0.00042	0.00055	0.0001	0.002	0.0008
Cobalt (Co)	mg/L	0.00020	0.00066	0.00073	0.00061	0.0001	0.00195	0.0006
Copper (Cu)	mg/L	0.00020	0.00262	0.00238	0.0369	0.00176	0.0369	0.007
Iron (Fe)	mg/L	0.010	0.813	1.24	0.148	0.082	3.14	0.82
Lead (Pb)	mg/L	0.000090	0.000138	0.000166	0.000333	0.00005	0.001	0.0002
Magnesium (Mg)	mg/L	0.010	8.60	14.3	8.16	2.23	14.3	8.79
Manganese (Mn)	mg/L	0.00030	0.336	0.481	0.0882	0.00205	0.674	0.17
Nickel (Ni)	mg/L	0.0020	0.00275	0.00393	0.00240	0.00116	0.0047	0.0028
Potassium (K)	mg/L	0.020	12.1	15.2	17.7	0.575	28.6	12.64
Sodium (Na)	mg/L	0.030	41.5	106	61.6	8.95	106	62.08
Zinc (Zn)	mg/L	0.0020	0.0050	0.0048	0.0246	0.002	0.0361	0.01
Total Organic Carbon by Combustion								
Total Organic Carbon	mg/L	0.50	13.3	25.9	31.5	4.37	31.5	16.86
Total Suspended Solids								
Total Suspended Solids	mg/L	13	12.4	3	26.2	3	26.2	10.71
pH								
pH	pH Units	0.10	7.39	7.60	8.03	7.39	8.48	7.89
Benzene	mg/L	0.00050	N/A	N/A		0	0	#DIV/0!
Toluene	mg/L	0.0010	N/A	N/A		0	0	#DIV/0!
Ethyl Benzene	mg/L	0.00050	N/A	N/A		0	0	#DIV/0!
o-Xylene	mg/L	0.00050	N/A	N/A		0	0	#DIV/0!
F1 (C6-C10)	mg/L	0.10	N/A	N/A		0	0	#DIV/0!
F2 (C10-C16)	mg/L	0.25	N/A	N/A		0	0	#DIV/0!
F3 (C16-C34)	mg/L	0.25	N/A	N/A		0	0	#DIV/0!
F4 (C34-C50)	mg/L	0.25	N/A	N/A		0	0	#DIV/0!
Total Hydrocarbons (C6-C50)	mg/L	0.44	N/A	N/A		0	0	#DIV/0!

Whale Cove
WHA-3

			2018		2019	Statistics		
Parameter	**Unit**	**DL**	**20-Jun-18**	**12-Jul-18**	**11-Jul-19**	**Min**	**Max**	**Average**
Alkalinity								
Bicarbonate (HCO3)	mg/L	1.2	345	299	196	185	345	262.91
Carbonate (CO3)	mg/L	0.60	0.60	0.60	0.60	0.60	6.36	1.12
Hydroxide (OH)	mg/L	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total (as CaCO3)	mg/L	1.0	283	245	161	105	283	199.57
Ammonia by Colour								
Total (as N)	mg/L	0.20	41.4	33.8	0.182	0.182	43.8	20.22
Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	mg/L	6.0	41	27.2	2.7	2.7	77	27.88
Carbonaceous BOD								
BOD Carbonaceous	mg/L	6.0	20	18.4	2	2.0	69	24.94
Chloride in Water by IC								
Chloride (Cl)	mg/L	10	92.9	82.6	37	37	106	84.61
Conductivity								
Conductivity	umhos/cm	1.0	919	822	452	452	919	737.79
Fecal Coliforms								
Fecal Coliforms	MPN/100mL	3	24200	8160	170	7	110000	15947.64
Hardness Calculated								
Hardness (as CaCO3)	mg/L	0.30	134	113	141	82.4	164	118.61
Mercury Total								
Mercury (Hg)	mg/L	0.00020	0.0000073	0.0000067	0.0000050	0.000005	0.0002	0.000031
Nitrate in Water by IC								
Nitrate (as N)	mg/L	0.40	0.04	0.04	0.023	0.020	0.861	0.15
Nitrate + Nitrite								
Nitrate and Nitrite as N	mg/L	0.45	0.07	0.07	0.070	0.070	1.38	0.30
Nitrite in Water by IC								
Nitrite (as N)	mg/L	0.20	0.020	0.020	0.010	0.010	0.518	0.110
Oil & Grease - Gravimetric								
Oil and Grease	mg/L	5.0	9.1	5.0	24.2	2.0	24.2	6.44
Phenol								
Phenols	mg/L	0.0010	0.0669	0.0026	0.0017	0.0010	0.0669	0.014
Phosphorus, Total								
Phosphorus (P)	mg/L	0.010	7.19	6.48	2.55	2.55	7.88	5.79
Sulfate in Water by IC								
Sulfate (SO4)	mg/L	6.0	18.4	24.6	25.9	9.41	56.6	30.72
Total Metals by ICP-MS								
Aluminium (Al)	mg/L	0.0050	0.102	0.0570	0.0210	0.0087	0.328	0.11
Arsenic (As)	mg/L	0.00020	0.00129	0.00093	0.00308	0.0006	0.00618	0.00177
Cadmium (Cd)	mg/L	0.000010	0.0000321	0.0000197	0.0000062	0.0000062	0.00025	0.00005
Calcium (Ca)	mg/L	0.10	39.8	33.6	42.4	23	48.6	34.84
Chromium (Cr)	mg/L	0.0010	0.00046	0.00031	0.00020	0.0002	0.0020	0.0008
Cobalt (Co)	mg/L	0.00020	0.00087	0.00064	0.00045	0.00034	0.0017	0.00079
Copper (Cu)	mg/L	0.00020	0.0522	0.0294	0.00376	0.00147	0.0708	0.029
Iron (Fe)	mg/L	0.010	0.279	0.169	0.633	0.10	0.88	0.37
Lead (Pb)	mg/L	0.000090	0.000609	0.000685	0.000089	0.000089	0.0010	0.00050
Magnesium (Mg)	mg/L	0.010	8.54	7.12	8.54	6.08	10.3	7.68
Manganese (Mn)	mg/L	0.00030	0.105	0.000848	0.237	0.000848	6.94	0.60
Nickel (Ni)	mg/L	0.0020	0.00315	0.000245	0.00273	0.000245	0.00505	0.0029
Potassium (K)	mg/L	0.020	20.4	17.2	6.36	6.36	24	18.23
Sodium (Na)	mg/L	0.030	67.2	56.9	40.0	40	77.7	63.83
Zinc (Zn)	mg/L	0.0020	0.0337	0.0175	0.0046	0.002	0.408	0.052
Total Organic Carbon by Combustion								
Total Organic Carbon	mg/L	0.50	48.3	26.4	12	12	82.8	38.05
Total Suspended Solids								
Total Suspended Solids	mg/L	13	32.4	13.6	6.7	5.0	970	91.91
pH								
pH	pH Units	0.10	7.20	7.51	7.93	7.06	8.46	7.71
Benzene	mg/L	0.00050	N/A	N/A		0.0005	0.0005	0.00050
Toluene	mg/L	0.0010	N/A	N/A		0.0010	0.0010	0.0010
Ethyl Benzene	mg/L	0.00050	N/A	N/A		0.00050	0.00050	0.00050
o-Xylene	mg/L	0.00050	N/A	N/A		0.00050	0.00050	0.00050
F1 (C6-C10)	mg/L	0.10	N/A	N/A		0.10	0.10	0.10
F2 (C10-C16)	mg/L	0.25	N/A	N/A		0.25	0.25	0.25
F3 (C16-C34)	mg/L	0.25	N/A	N/A		0.25	0.25	0.25
F4 (C34-C50)	mg/L	0.25	N/A	N/A		0.25	0.25	0.25
Total Hydrocarbons (C6-C50)	mg/L	0.44	N/A	N/A		0.44	0.44	0.44

Appendix F

WATER LICENCE INSPECTION FORM

☒ **Original**
☐ **Follow-Up Report**

Licensee	**Licensee Representative**
Hamlet of Whale Cove	Ian Copland
Licence No. / Expiry	**Representative's Title**
3BM-WHA1520/June 3rd, 2020	Senior Administrative Officer
Land / Other Authorizations	**Land / Other Authorizations**
--	--
Date of Inspection	**Inspector**
July 10th, 2019	Atuat Shouldice

Activities Inspected

☐ Camp ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☐ Fuel Storage
☐ Roads/Hauling ☒ Other: Waste Disposal Facility ☒ Other: Water Treatment Facility

SECTION 1 ☒ **Comments** (s._1_) ☐ **Non-Compliance with Act or Licence** (s.__) ☐ **Action Required** (s.__)

Background

Whale Cove is a Hamlet located 74 km South Southwest of Rankin Inlet and 145 km Northeast of Arviat, in Kivalliq Region, Nunavut. The Hamlet is allotted 30,000 m^3 of fresh water annually or 299m^3 per day.

Inspector's Statement

On July 10th, 2019, a water licence inspection was conducted of the Hamlet of Whale Cove's ('the Hamlet') municipal water licence no. 3BM-WHA1520. Connor Faulkner, Community and Government Services assisted with the inspection. At the time of the inspection a Hamlet representative was not available to assist.

Observations

1. The 2016, 2018 and 2019 annual reports are not available for review on the Nunavut Water Board's FTP website. For the purpose of this inspection the 2017 has been reviewed.
2. Appropriate signage was observed at the monitoring stations, as required by PART B item 6.
3. Fresh water is obtained from Fish Lake, as required by PART C item 1.
4. There have been issues with water treatment plant during last few years and water totals are taken from water delivery trucks.
5. Sewage is directed to the Sewage Disposal Facility ('SDF'), pursuant to PART C item 1.
6. The SDF's berm has one meter of freeboard and the liner on the berm appears to be in good shape with no rips or tears.
7. Noted from 2018 report "The Hamlet has segregated some hazardous waste (e.g.: oil, batteries, and propane), though with the population size of Whale Cove the amount seems low", no movement on hazardous segregation was observed during 2019 inspection.
8. Leachate from the Solid Waste Disposal Facility ('SWDF') drains into the marine environment at monitoring station no. WHA-2 (Akunniq Bay). A berm was constructed at this location to allow for containment of leachate. A culvert is placed at the toe of the berm which allows leachate little to no holding time before directly discharging into the marine environment. Samples have been collected at monitoring station WHA-2. Photo #2

SECTION 2 ☐ **Comments** ☒ **Non-Compliance with Act or Licence** ☐ **Action Required**

Concerns related to Water Licence no. 3BM-WHA1520;

PART B item 1: Failure to file 2016, 2018 and 2019 Annual Reports

— The Licensee shall submit the outstanding annual reports, as required, before March 31st 2020.

Additional comments

A plan must be submitted to Inspector by February 1st 2020, to deal with segregation of hazardous waste and plans for summer 2020.

SECTION 3 ☐ **Comments** ☐ **Non-Compliance with Act or Licence** ☒ **Action Required**

The Hamlet of Whale Cove is encouraged to implement the goals of the Water Licence Compliance Group. The Inspector is concerned with the progress from 2017,2018 and 2019.

Licensee or Representative	Inspector's Name
Ian Copland	Atuat Shouldice
Signature	**Signature**
	Sent Electronically
Date	**Date**
	August 20th , 2019

CC: Licensing Department, NWB
Justin Hack, Manager of Field Operations, CIRNAC
Megan Lusty, Municipal Works, CGS

Photo #1- Domestic waste right side of photo and bulk waste on left side.

Photo #2 leachate from landfill leaving berm.