ANNUAL REPORT
FOR THE HAMLET OF WHALE COVE 2015

YEAR BEING REPORTED: 2015

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water License # 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 (litres)	Quantity of Sewage Waste Discharged (Estimated)
January	1,390.061	Same
February	1,070.500	Same
March	1,350.977	Same
April	1,304.335	Same
May	1,336.929	Same
June	1,352.051	Same
July	1,436.912	Same
August	1,507.867	Same
September	1,361.534	Same
October	1,394.180	Same
November	1,383.086	Same
December	1,362.471	Same
ANNUAL TOTAL	**16,250.903**	**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;

- Construction of the Sewage Lagoon Expansion was delayed and is scheduled to begin summer 2016.

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

- 2015283, 2015-06-30, Whale Cove Plant Site, New Lube Oil, 200L
- 2015443, 2015-10-23, Whale Cove, Fuel Oil, 0L

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 2015 and no work is planned for 2016.

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;

- Hamlet of Whale Cove Plan for Compliance was submitted with the Amendment/Renewal Application January 16, 2015.

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

- Signage for the Monitoring Program Stations will be ordered over the winter for installation summer 2016. Pictures of the signage at Monitoring Program Stations will be included in the 2016 Annual Report.

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

- The O&M Manual and QA/QC Plan will be reviewed and updated for submission to the NWB.

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FOR THE HAMLET OF WHALE COVE 2015

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

- Licence No. 3BM-WHA1520 was issued on June 4, 2015 and expires June 3, 2020.
- The Hamlet is working with the Water Compliance Working Group to implement the Solid Waste Workplan goals.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

- On July 15, 2015, AANDC (INAC) issued a compliance review letter to Paul Kaludjak, former SAO. This letter stated that items not mentioned in this document were not of further interest. This letter is attached.
- The 3AM-ARV1016 Water Licence Inspection took place on July 20, 2015. The Inspection Report was issued on October 22, 2015. The Inspection Report is attached.
- The drums will be palletized and batteries stored in battery boxes within the seacan by the 2016 Inspection.
- A new meter will be installed at the water pumphouse to measure all fresh water drawn from the intake pump at first Lake. A picture of the meter will be provided to the AANDC Inspector once installed.

List of Appendixes:

Appendix A: WHA-3 Effluent Quality Limits – 1 page
Appendix B: Weekly Inspections at Monitoring Stations – 1 page
Appendix C: Certificate of Analysis June 18, 2015 – 11 pages
Appendix D: Certificate of Analysis July 6, 2015 – 14 pages
Appendix E: Hazardous Materials Spill Database, Whale Cove 2015 – 1 page
Appendix F: AANDC Compliance Review Letter, July 15, 2015 – 2 pages
Appendix G: AANDC Inspection Report, October 22, 2015 –2 pages

2015 Whale Cove Monitoring Stations and Sampling Parameters for Water License No. 3BM-WHA1520

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

Parameter	Maximum concentration of any grab sample	WHA-3	
		24-Jun-15	05-Aug-15
BOD^5	120 mg/L	24	3
Total Suspended Solids	180 mg/L	11	<5.0
Fecal Coliforms	$1x10^6$ CFU/100mL	>110000	7
Oil + Grease	no visible sheen	3.5	<2.0
pH	between 6 and 9	7.72	8.46

exceeds effluet quality limit

Nunavut Water Board Licence No. 3BM-WHA0914

Whale Cove, NU

Part H, Item 4: Weekly Inspections at Monitoring Program Stations, May to August

Week	Starting Date	WHA-2 Water Present (check)			WHA-4 Water Present (check)			Checked By
		Yes	No	Frozen	Yes	No	Frozen	
1	04-May-15			✓			✓	Paul
2	11-May-15			✓			✓	"
3	18-May-15			✓			✓	"
4	25-May-15			✓			✓	"
5	01-Jun-15			✓			✓	"
6	08-Jun-15	✓			✓			Paul
7	15-Jun-15							
8	22-Jun-15							
9	29-Jun-15							
10	06-Jul-15							
11	13-Jul-15							
12	20-Jul-15							
13	27-Jul-15							
14	03-Aug-15							
15	10-Aug-15							
16	17-Aug-15							
17	24-Aug-15							
18	31-Aug-15							

Monitoring Program Station Locations:

WHA-2: Runoff from Solid Waste Disposal Facilities

WHA-4: Effluent outfall area from the wetland area

Hamlet of Whale Cove
ATTN: PAUL KALUDJAK
PO Box 120
Whale Cove NU X0C 0J0

Date Received: 25-JUN-15
Report Date: 17-JUL-15 13:18 (MT)
Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1633162

Project P.O. #: NOT SUBMITTED
Job Reference: WHALE COVE MONITORING PROGRAM
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
L1633162-1 WHA-2							
Sampled By: CLIENT on 24-JUN-15 @ 09:20							
Matrix: WASTE WATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	131		1.2	mg/L		13-JUL-15	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		13-JUL-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		13-JUL-15	
Ammonia by colour							
Ammonia, Total (as N)	0.304		0.010	mg/L		27-JUN-15	R3215576
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	4.7		1.0	mg/L		26-JUN-15	R3222093
Carbonaceous BOD							
BOD Carbonaceous	2.8		1.0	mg/L		26-JUN-15	R3222093
Chloride in Water by IC							
Chloride (Cl)	29.8		0.50	mg/L		26-JUN-15	R3218414
Conductivity							
Conductivity	401		1.0	umhos/cm		09-JUL-15	R3224268
Fecal Coliform							
Fecal Coliforms	2300	MBHT	3	MPN/100mL		25-JUN-15	R3218195
Hardness Calculated							
Hardness (as CaCO3)	152		0.30	mg/L		07-JUL-15	
Mercury Total							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L	06-JUL-15	06-JUL-15	R3221292
Nitrate in Water by IC							
Nitrate (as N)	0.077		0.020	mg/L		26-JUN-15	R3218414
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.077		0.070	mg/L		02-JUL-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		26-JUN-15	R3218414
Oil and Grease, Total							
Oil and Grease, Total	<2.0		2.0	mg/L	03-JUL-15	03-JUL-15	R3219907
Phenol (4AAP)							
Phenols (4AAP)	0.0033		0.0010	mg/L		07-JUL-15	R3221471
Phosphorus, Total							
Phosphorus (P)-Total	0.119		0.010	mg/L		01-JUL-15	R3218033
Sulfate in Water by IC							
Sulfate (SO4)	55.0		0.30	mg/L		26-JUN-15	R3218414
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	108		1.0	mg/L		09-JUL-15	R3224268
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0795		0.0050	mg/L	06-JUL-15	06-JUL-15	R3220699
Arsenic (As)-Total	0.00225		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Cadmium (Cd)-Total	0.000060		0.000010	mg/L	06-JUL-15	06-JUL-15	R3220699
Calcium (Ca)-Total	52.2		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Chromium (Cr)-Total	0.0019		0.0010	mg/L	06-JUL-15	06-JUL-15	R3220699
Cobalt (Co)-Total	0.00102		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Copper (Cu)-Total	0.00738		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Iron (Fe)-Total	1.10		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Lead (Pb)-Total	0.00156		0.000090	mg/L	06-JUL-15	06-JUL-15	R3220699
Magnesium (Mg)-Total	5.26		0.010	mg/L	06-JUL-15	06-JUL-15	R3220699
Manganese (Mn)-Total	0.194		0.00030	mg/L	06-JUL-15	06-JUL-15	R3220699
Nickel (Ni)-Total	0.0038		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699

* 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
L1633162-1 WHA-2							
Sampled By: CLIENT on 24-JUN-15 @ 09:20							
Matrix: WASTE WATER							
Total Metals by ICP-MS							
Potassium (K)-Total	4.54		0.020	mg/L	06-JUL-15	06-JUL-15	R3220699
Sodium (Na)-Total	21.1		0.030	mg/L	06-JUL-15	06-JUL-15	R3220699
Zinc (Zn)-Total	0.0429		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699
Total Organic Carbon							
Total Organic Carbon	4.5		1.0	mg/L		17-JUL-15	R3227602
Total Suspended Solids							
Total Suspended Solids	12.0		5.0	mg/L		30-JUN-15	R3218516
pH							
pH	7.74		0.10	pH units		09-JUL-15	R3224268
L1633162-2 WHA-3							
Sampled By: CLIENT on 24-JUN-15 @ 10:15							
Matrix: WASTE WATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	264		1.2	mg/L		13-JUL-15	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		13-JUL-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		13-JUL-15	
Ammonia by colour							
Ammonia, Total (as N)	30.2	DLA	1.0	mg/L		30-JUN-15	R3218142
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	24	DLA	20	mg/L		26-JUN-15	R3222093
Carbonaceous BOD							
BOD Carbonaceous	30	DLA	20	mg/L		26-JUN-15	R3222093
Chloride in Water by IC							
Chloride (Cl)	73.3		0.50	mg/L		26-JUN-15	R3218414
Conductivity							
Conductivity	719		1.0	umhos/cm		09-JUL-15	R3224268
Fecal Coliform							
Fecal Coliforms	>110000	MBHT	3	MPN/100mL		25-JUN-15	R3218195
Hardness Calculated							
Hardness (as CaCO3)	82.4		0.30	mg/L		07-JUL-15	
Mercury Total							
Mercury (Hg)-Total	<0.00020	DLM	0.00020	mg/L	06-JUL-15	06-JUL-15	R3221292
Nitrate in Water by IC							
Nitrate (as N)	<0.020		0.020	mg/L		26-JUN-15	R3218414
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		02-JUL-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		26-JUN-15	R3218414
Oil and Grease, Total							
Oil and Grease, Total	3.5		2.0	mg/L	04-JUL-15	04-JUL-15	R3220636
Phenol (4AAP)							
Phenols (4AAP)	0.0504		0.0010	mg/L		07-JUL-15	R3221471
Phosphorus, Total							
Phosphorus (P)-Total	6.32	DLA	0.10	mg/L		01-JUL-15	R3218033
Sulfate in Water by IC							
Sulfate (SO4)	20.0		0.30	mg/L		26-JUN-15	R3218414
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	216		1.0	mg/L		09-JUL-15	R3224268

* 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
L1633162-2 WHA-3							
Sampled By: CLIENT on 24-JUN-15 @ 10:15							
Matrix: WASTE WATER							
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.107		0.0050	mg/L	06-JUL-15	06-JUL-15	R3220699
Arsenic (As)-Total	0.00060		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Cadmium (Cd)-Total	0.000021		0.000010	mg/L	06-JUL-15	06-JUL-15	R3220699
Calcium (Ca)-Total	23.0		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	06-JUL-15	06-JUL-15	R3220699
Cobalt (Co)-Total	0.00041		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Copper (Cu)-Total	0.0374		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Iron (Fe)-Total	0.22		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Lead (Pb)-Total	0.000457		0.000090	mg/L	06-JUL-15	06-JUL-15	R3220699
Magnesium (Mg)-Total	6.08		0.010	mg/L	06-JUL-15	06-JUL-15	R3220699
Manganese (Mn)-Total	0.0603		0.00030	mg/L	06-JUL-15	06-JUL-15	R3220699
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699
Potassium (K)-Total	17.5		0.020	mg/L	06-JUL-15	06-JUL-15	R3220699
Sodium (Na)-Total	59.3		0.030	mg/L	06-JUL-15	06-JUL-15	R3220699
Zinc (Zn)-Total	0.0285		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699
Total Organic Carbon							
Total Organic Carbon	28.2		1.0	mg/L		17-JUL-15	R3227602
Total Suspended Solids							
Total Suspended Solids	11.0		5.0	mg/L		30-JUN-15	R3218516
pH							
pH	7.72		0.10	pH units		09-JUL-15	R3224268
L1633162-3 WHA-4							
Sampled By: CLIENT on 24-JUN-15 @ 09:45							
Matrix: WASTE WATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	211		1.2	mg/L		13-JUL-15	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		13-JUL-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		13-JUL-15	
Ammonia by colour							
Ammonia, Total (as N)	7.2	DLA	1.0	mg/L		30-JUN-15	R3218142
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	6.2		1.0	mg/L		26-JUN-15	R3222093
Carbonaceous BOD							
BOD Carbonaceous	5.9		1.0	mg/L		26-JUN-15	R3222093
Chloride in Water by IC							
Chloride (Cl)	66.6		0.50	mg/L		26-JUN-15	R3218414
Conductivity							
Conductivity	555		1.0	umhos/cm		09-JUL-15	R3224268
Fecal Coliform							
Fecal Coliforms	23	MBHT	3	MPN/100mL		25-JUN-15	R3218195
Hardness Calculated							
Hardness (as CaCO3)	124		0.30	mg/L		07-JUL-15	
Mercury Total							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L	06-JUL-15	06-JUL-15	R3221292
Nitrate in Water by IC							
Nitrate (as N)	0.161		0.020	mg/L		26-JUN-15	R3218414
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.183		0.070	mg/L		02-JUL-15	

* 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
L1633162-3 WHA-4							
Sampled By: CLIENT on 24-JUN-15 @ 09:45							
Matrix: WASTE WATER							
Nitrite in Water by IC							
Nitrite (as N)	0.022		0.010	mg/L		26-JUN-15	R3218414
Oil and Grease, Total							
Oil and Grease, Total	<2.0		2.0	mg/L	03-JUL-15	03-JUL-15	R3219907
Phenol (4AAP)							
Phenols (4AAP)	0.0045		0.0010	mg/L		08-JUL-15	R3221881
Phosphorus, Total							
Phosphorus (P)-Total	3.34	DLA	0.10	mg/L		01-JUL-15	R3218033
Sulfate in Water by IC							
Sulfate (SO4)	6.92		0.30	mg/L		26-JUN-15	R3218414
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	173		1.0	mg/L		09-JUL-15	R3224268
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0607		0.0050	mg/L	06-JUL-15	06-JUL-15	R3220699
Arsenic (As)-Total	0.00526		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Cadmium (Cd)-Total	0.000030		0.000010	mg/L	06-JUL-15	06-JUL-15	R3220699
Calcium (Ca)-Total	39.7		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	06-JUL-15	06-JUL-15	R3220699
Cobalt (Co)-Total	0.00195		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Copper (Cu)-Total	0.00540		0.00020	mg/L	06-JUL-15	06-JUL-15	R3220699
Iron (Fe)-Total	3.14		0.10	mg/L	06-JUL-15	06-JUL-15	R3220699
Lead (Pb)-Total	0.000189		0.000090	mg/L	06-JUL-15	06-JUL-15	R3220699
Magnesium (Mg)-Total	6.02		0.010	mg/L	06-JUL-15	06-JUL-15	R3220699
Manganese (Mn)-Total	0.674		0.00030	mg/L	06-JUL-15	06-JUL-15	R3220699
Nickel (Ni)-Total	0.0032		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699
Potassium (K)-Total	16.2		0.020	mg/L	06-JUL-15	06-JUL-15	R3220699
Sodium (Na)-Total	54.3		0.030	mg/L	06-JUL-15	06-JUL-15	R3220699
Zinc (Zn)-Total	0.0090		0.0020	mg/L	06-JUL-15	06-JUL-15	R3220699
Total Organic Carbon							
Total Organic Carbon	19.0		1.0	mg/L		17-JUL-15	R3227602
Total Suspended Solids							
Total Suspended Solids	15.0		5.0	mg/L		30-JUN-15	R3218516
pH							
pH	7.94		0.10	pH units		09-JUL-15	R3224268

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
MBHT	The APHA 30 hour hold time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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	Total Alkalinity 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.

C-TOT-ORG-WP	Water	Total Organic Carbon	APHA 5310 B-INSTRUMENTAL-WP

This method is applicable to the analysis of ground water, wastewater, and surface water samples. The form detected depends upon sample pretreatment: Unfiltered sample = TC, 0.45um filtered = TDC. Samples are injected into a combustion tube containing an oxidation catalyst. The carrier gas containing the combustion product from the combustion tube flows through an inorganic carbon reactor vessel and is then sent through a halogen scrubber into a sample cell set in a non-dispersive infrared gas analyzer (NDIR) where carbon dioxide is detected. For total inorganic carbon and dissolved inorganic carbon, the sample is injected into an IC reactor vessel where only the IC component is decomposed to become carbon dioxide.

The peak area generated by the NDIR indicates the TC/TDC or TIC/DIC as applicable. The total organic carbon content of the sample is calculated by subtracting the TIC from the TC.
TOC = TC-TIC, DOC = TDC-DIC, Particulate = Total - Dissolved.

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.

ETL-HARDNESS-TOT-WP	Water	Hardness Calculated	HARDNESS CALCULATED
FC-MPN-WP	Water	Fecal Coliform	APHA 9221E

The Most Probable Number (MPN) method is based on the Multiple Tube Fermentation technique. The results of examination of replicate tubes and dilutions of a sample are reported after confirmations specific to total coliform, fecal coliform and E. coli are performed. Results are reported in MPN/100 mL for water and MPN/gram for food and solid samples.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-T-CVAF-WP	Water	Mercury Total	EPA245.7 V2.0
Mercury in filtered and unfiltered waters is oxidized with Bromine monochloride and analyzed by cold-vapour atomic fluorescence spectrometry.			
MET-T-L-MS-WP	Water	Total Metals by ICP-MS	APHA 3030E/EPA 6020A-TL
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
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.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-WP	Water	Phosphorus, Total	APHA 4500 P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
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.			
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.			

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

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

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

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

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.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1633162-COFC

COC Number: 14 - 454519

Page ____ of ____

Report To		Report Format / Dis	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hamlet of Whale-cove	Select Report Format: ☑ PDF ☐ [illegible] ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3pm)
Contact:	~~Robert~~ Paul Kaludjat	Quality Control (QC) Report with Report ☐ Yes ☐ No	P ☐ Priority (2-4 business days if received by 3pm)
Address:	PO Box 120 Whale cove NU X0C 0J0	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 business days if received by 3pm)
		Select Distribution: ☐ EMAIL ☐ MAIL ☑ FAX	E2 ☐ Same day or weekend emergency if received by 10am – contact ALS for surcharge.
Phone:		Email 1 or Fax [illegible]@whalecove.ca	Specify Date Required for E2,E or P:
		Email 2 mluty@gov.nu.ca	

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	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 Quote #:		Approver ID: [illegible]	Cost Center: [illegible]
Job #:	Whale cove Monitoring Program	GL Account: [illegible]	Routing Code: [illegible]
PO / AFE:		Activity Code: [illegible]	
LSD:		Location: [illegible]	

ALS Lab Work Order # (lab use only)	ALS Contact:	Sampler:
[illegible]		

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

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	500ml BOD	1L Routine	250ml metals	250ml Nutrients	250ml Phenols	125ml Bacteria	2x500ml oil+grease	Number of Containers
[illegible]	WHA-2	24-06-15	9:20 AM	waste water	✓	✓	P	P	P	P	P	
[illegible]	WHA-3	24-06-15	[illegible]	waste water	✓	✓	P	P	P	P	P	
[illegible]	WHA-4	24-06-15	9:45 AM	waste water	✓	✓	P	P	P	P	P	
[illegible]												
[illegible]												
[illegible]												
[illegible]												
[illegible]												
[illegible]												
[illegible]												
[illegible]												

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☑ Yes ☐ No	
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐	SIF Observations Yes ☐ No ☐
Ice packs Yes ☐ No ☐	Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐	

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
13					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Michael Angidlaq	Date: 06-24-2015	Time:	Received by: [signature]	Date: 25 JUN 15	Time: 17:00	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0226a v08 Front/03 October 2013

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

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

Hamlet of Whale Cove
ATTN: Mike Richards
PO Box 120
Whale Cove NU X0C 0J0

Date Received: 07-AUG-15
Report Date: 20-AUG-15 10:21 (MT)
Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1654273

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

Craig Riddell, B.Sc.Ag
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1654273-1 WHA-2							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
Miscellaneous Parameters							
Total Organic Carbon	12.6		1.0	mg/L		12-AUG-15	R3245424
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
2-Methyl Naphthalene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Acenaphthene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Acenaphthylene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Anthracene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Acridine	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Benzo(a)anthracene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Benzo(a)pyrene	<0.0000050		0.0000050	mg/L	10-AUG-15	11-AUG-15	R3245018
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Chrysene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Dibenzo(a,h)anthracene	<0.0000050		0.0000050	mg/L	10-AUG-15	11-AUG-15	R3245018
Fluoranthene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Fluorene	<0.000020		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Naphthalene	0.000060		0.000050	mg/L	10-AUG-15	11-AUG-15	R3245018
Phenanthrene	<0.000050		0.000050	mg/L	10-AUG-15	11-AUG-15	R3245018
Pyrene	<0.000010		0.000010	mg/L	10-AUG-15	11-AUG-15	R3245018
Quinoline	0.000031		0.000020	mg/L	10-AUG-15	11-AUG-15	R3245018
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	10-AUG-15	11-AUG-15	R3245018
Surrogate: Acenaphthene d10	87.0		40-130	%	10-AUG-15	11-AUG-15	R3245018
Surrogate: Acridine d9	93.0		40-130	%	10-AUG-15	11-AUG-15	R3245018
Surrogate: Chrysene d12	92.9		40-130	%	10-AUG-15	11-AUG-15	R3245018
Surrogate: Naphthalene d8	80.6		40-130	%	10-AUG-15	11-AUG-15	R3245018
Surrogate: Phenanthrene d10	86.8		40-130	%	10-AUG-15	11-AUG-15	R3245018
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	265		1.2	mg/L		20-AUG-15	
Alkalinity, Carbonate							
Carbonate (CO3)	3.00		0.60	mg/L		20-AUG-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-AUG-15	
Ammonia by colour							
Ammonia, Total (as N)	0.65	DLA	0.10	mg/L		07-AUG-15	R3243241
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	2.8		2.0	mg/L		07-AUG-15	R3247487
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		07-AUG-15	R3247487
Chloride in Water by IC							
Chloride (Cl)	72.5		0.50	mg/L		08-AUG-15	R3243854
Conductivity							
Conductivity	734		1.0	umhos/cm		18-AUG-15	R3249927
Fecal Coliform							
Fecal Coliforms	150	PEHR	3	MPN/100mL		07-AUG-15	R3247679
Hardness Calculated							
Hardness (as CaCO3)	127		0.30	mg/L		11-AUG-15	
Mercury Total							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L	10-AUG-15	10-AUG-15	R3244460
Nitrate in Water by IC							

* 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
L1654273-1 WHA-2							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
Nitrate in Water by IC							
Nitrate (as N)	0.061		0.020	mg/L		08-AUG-15	R3243854
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		11-AUG-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		08-AUG-15	R3243854
Oil and Grease, Total							
Oil and Grease, Total	<2.0		2.0	mg/L	12-AUG-15	12-AUG-15	R3245409
Phenol (4AAP)							
Phenols (4AAP)	0.0027		0.0010	mg/L		13-AUG-15	R3246336
Phosphorus, Total							
Phosphorus (P)-Total	0.137		0.010	mg/L		17-AUG-15	R3247834
Sulfate in Water by IC							
Sulfate (SO4)	57.6		0.30	mg/L		08-AUG-15	R3243854
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	223		1.0	mg/L		18-AUG-15	R3249927
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0099		0.0050	mg/L	10-AUG-15	10-AUG-15	R3243534
Arsenic (As)-Total	0.00639		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	10-AUG-15	10-AUG-15	R3243534
Calcium (Ca)-Total	40.1		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	10-AUG-15	10-AUG-15	R3243534
Cobalt (Co)-Total	0.00088		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Copper (Cu)-Total	0.00157		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Iron (Fe)-Total	0.91		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Lead (Pb)-Total	<0.000090		0.000090	mg/L	10-AUG-15	10-AUG-15	R3243534
Magnesium (Mg)-Total	6.62		0.010	mg/L	10-AUG-15	10-AUG-15	R3243534
Manganese (Mn)-Total	0.315		0.00030	mg/L	10-AUG-15	10-AUG-15	R3243534
Nickel (Ni)-Total	0.0027		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Potassium (K)-Total	15.5		0.020	mg/L	10-AUG-15	10-AUG-15	R3243534
Sodium (Na)-Total	59.3		0.030	mg/L	10-AUG-15	10-AUG-15	R3243534
Zinc (Zn)-Total	<0.0020		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		11-AUG-15	R3246242
pH							
pH	8.30		0.10	pH units		18-AUG-15	R3249927
L1654273-2 WHA-3							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		18-AUG-15	R3248697
Toluene	<0.0010		0.0010	mg/L		18-AUG-15	R3248697
Ethyl benzene	<0.00050		0.00050	mg/L		18-AUG-15	R3248697
o-Xylene	<0.00050		0.00050	mg/L		18-AUG-15	R3248697
m+p-Xylenes	<0.00050		0.00050	mg/L		18-AUG-15	R3248697
F1 (C6-C10)	<0.10		0.10	mg/L		18-AUG-15	R3248697
Surrogate: 4-Bromofluorobenzene (SS)	96.9		70-130	%		18-AUG-15	R3248697
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		18-AUG-15	
Total Hydrocarbons (C6-C50)	<0.44		0.44	mg/L		18-AUG-15	
F2-F4 PHC method							
F2 (C10-C16)	<0.25		0.25	mg/L	13-AUG-15	13-AUG-15	R3246665

* 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
L1654273-2 WHA-3							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
F2-F4 PHC method							
F3 (C16-C34)	<0.25		0.25	mg/L	13-AUG-15	13-AUG-15	R3246665
F4 (C34-C50)	<0.25		0.25	mg/L	13-AUG-15	13-AUG-15	R3246665
Surrogate: 2-Bromobenzotrifluoride	119.4		60-140	%	13-AUG-15	13-AUG-15	R3246665
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.0015		0.0015	mg/L		18-AUG-15	
Miscellaneous Parameters							
Total Organic Carbon	16.3		1.0	mg/L		12-AUG-15	R3245424
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	254		1.2	mg/L		20-AUG-15	
Alkalinity, Carbonate							
Carbonate (CO3)	6.36		0.60	mg/L		20-AUG-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-AUG-15	
Ammonia by colour							
Ammonia, Total (as N)	9.4	DLA	1.0	mg/L		10-AUG-15	R3243604
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	3.0		2.0	mg/L		07-AUG-15	R3247487
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		07-AUG-15	R3247487
Chloride in Water by IC							
Chloride (Cl)	95.0		0.50	mg/L		08-AUG-15	R3243854
Conductivity							
Conductivity	717		1.0	umhos/cm		18-AUG-15	R3249927
Fecal Coliform							
Fecal Coliforms	7	PEHR	3	MPN/100mL		07-AUG-15	R3247679
Hardness Calculated							
Hardness (as CaCO3)	127		0.30	mg/L		11-AUG-15	
Mercury Total							
Mercury (Hg)-Total	<0.000020		0.000020	mg/L	10-AUG-15	10-AUG-15	R3244460
Nitrate in Water by IC							
Nitrate (as N)	<0.020		0.020	mg/L		08-AUG-15	R3243854
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		11-AUG-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		08-AUG-15	R3243854
Oil and Grease, Total							
Oil and Grease, Total	<2.0		2.0	mg/L	12-AUG-15	12-AUG-15	R3245409
Phenol (4AAP)							
Phenols (4AAP)	0.0017		0.0010	mg/L		13-AUG-15	R3246336
Phosphorus, Total							
Phosphorus (P)-Total	4.44		0.010	mg/L		17-AUG-15	R3247834
Sulfate in Water by IC							
Sulfate (SO4)	9.41		0.30	mg/L		08-AUG-15	R3243854
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	219		1.0	mg/L		18-AUG-15	R3249927
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0087		0.0050	mg/L	10-AUG-15	10-AUG-15	R3243534
Arsenic (As)-Total	0.00618		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	10-AUG-15	10-AUG-15	R3243534
Calcium (Ca)-Total	40.5		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	10-AUG-15	10-AUG-15	R3243534

* 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
L1654273-2 WHA-3							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
Total Metals by ICP-MS							
Cobalt (Co)-Total	0.00087		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Copper (Cu)-Total	0.00147		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Iron (Fe)-Total	0.88		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Lead (Pb)-Total	<0.000090		0.000090	mg/L	10-AUG-15	10-AUG-15	R3243534
Magnesium (Mg)-Total	6.36		0.010	mg/L	10-AUG-15	10-AUG-15	R3243534
Manganese (Mn)-Total	0.311		0.00030	mg/L	10-AUG-15	10-AUG-15	R3243534
Nickel (Ni)-Total	0.0026		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Potassium (K)-Total	15.2		0.020	mg/L	10-AUG-15	10-AUG-15	R3243534
Sodium (Na)-Total	57.5		0.030	mg/L	10-AUG-15	10-AUG-15	R3243534
Zinc (Zn)-Total	<0.0020		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		11-AUG-15	R3246242
pH							
pH	8.46		0.10	pH units		18-AUG-15	R3249927
L1654273-3 WHA-4							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
Miscellaneous Parameters							
Total Organic Carbon	29.6		1.0	mg/L		12-AUG-15	R3245424
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	136		1.2	mg/L		20-AUG-15	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		20-AUG-15	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-AUG-15	
Ammonia by colour							
Ammonia, Total (as N)	9.2	DLA	1.0	mg/L		10-AUG-15	R3243604
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	24.2	DLA	6.0	mg/L		07-AUG-15	R3247487
Carbonaceous BOD							
BOD Carbonaceous	14.0		6.0	mg/L		07-AUG-15	R3247487
Chloride in Water by IC							
Chloride (Cl)	78.8		0.50	mg/L		08-AUG-15	R3243854
Conductivity							
Conductivity	564		1.0	umhos/cm		18-AUG-15	R3249927
Fecal Coliform							
Fecal Coliforms	430	PEHR	3	MPN/100mL		07-AUG-15	R3247679
Hardness Calculated							
Hardness (as CaCO3)	89.1		0.30	mg/L		11-AUG-15	
Mercury Total							
Mercury (Hg)-Total	<0.00020	DLM	0.00020	mg/L	10-AUG-15	10-AUG-15	R3244460
Nitrate in Water by IC							
Nitrate (as N)	0.418		0.020	mg/L		08-AUG-15	R3243854
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.956		0.070	mg/L		11-AUG-15	
Nitrite in Water by IC							
Nitrite (as N)	0.538		0.010	mg/L		08-AUG-15	R3243854
Oil and Grease, Total							
Oil and Grease, Total	<2.0		2.0	mg/L	12-AUG-15	12-AUG-15	R3245409
Phenol (4AAP)							
Phenols (4AAP)	0.0028		0.0010	mg/L		13-AUG-15	R3246336

* 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
L1654273-3 WHA-4							
Sampled By: TERRI ROSE T on 05-AUG-15 @ 09:45							
Matrix: WW							
Phosphorus, Total							
Phosphorus (P)-Total	5.15		0.050	mg/L		17-AUG-15	R3247834
Sulfate in Water by IC							
Sulfate (SO4)	23.1		0.30	mg/L		08-AUG-15	R3243854
Total Alkalinity as CaCO3							
Alkalinity, Total (as CaCO3)	112		1.0	mg/L		18-AUG-15	R3249927
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0357		0.0050	mg/L	10-AUG-15	10-AUG-15	R3243534
Arsenic (As)-Total	0.00067		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Cadmium (Cd)-Total	0.000012		0.000010	mg/L	10-AUG-15	10-AUG-15	R3243534
Calcium (Ca)-Total	25.6		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	10-AUG-15	10-AUG-15	R3243534
Cobalt (Co)-Total	0.00038		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Copper (Cu)-Total	0.0187		0.00020	mg/L	10-AUG-15	10-AUG-15	R3243534
Iron (Fe)-Total	<0.10		0.10	mg/L	10-AUG-15	10-AUG-15	R3243534
Lead (Pb)-Total	0.000130		0.000090	mg/L	10-AUG-15	10-AUG-15	R3243534
Magnesium (Mg)-Total	6.09		0.010	mg/L	10-AUG-15	10-AUG-15	R3243534
Manganese (Mn)-Total	0.0411		0.00030	mg/L	10-AUG-15	10-AUG-15	R3243534
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Potassium (K)-Total	17.5		0.020	mg/L	10-AUG-15	10-AUG-15	R3243534
Sodium (Na)-Total	57.9		0.030	mg/L	10-AUG-15	10-AUG-15	R3243534
Zinc (Zn)-Total	0.0123		0.0020	mg/L	10-AUG-15	10-AUG-15	R3243534
Total Suspended Solids							
Total Suspended Solids	19.0		5.0	mg/L		11-AUG-15	R3246242
pH							
pH	7.61		0.10	pH units		18-AUG-15	R3249927

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

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	Total Alkalinity 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.

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.

ETL-HARDNESS-TOT-WP	Water	Hardness Calculated	HARDNESS CALCULATED
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.

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.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

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	F2-F4 PHC method	CWS (CCME)

Petroleum Hydrocarbons (F2-F4) in Water Method is adapted from US EPA Method 3511: Organic Compounds in Water by Micro-extraction" (Nov 2002) with instrumental analysis as per the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method" (CCMS, Dec 2000) Water samples (in their entirety) are extracted using hexane prior to capillary column gas chromatography with flame ionization detection (GC/FID).

FC-MPN-WP	Water	Fecal Coliform	APHA 9221E

The Most Probable Number (MPN) method is based on the Multiple Tube Fermentation technique. The results of examination of replicate tubes and dilutions of a sample are reported after confirmations specific to total coliform, fecal coliform and E. coli are performed. Results are reported in MPN/100 mL for water and MPN/gram for food and solid samples.

HG-T-CVAF-WP	Water	Mercury Total	EPA245.7 V2.0

Mercury in filtered and unfiltered waters is oxidized with Bromine monochloride and analyzed by cold-vapour atomic fluorescence spectrometry.

MET-T-L-MS-WP	Water	Total Metals by ICP-MS	APHA 3030E/EPA 6020A-TL

This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

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.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B

Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

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

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

PAH,PANH-WP	Water	Polyaromatic Hydrocarbons (PAHs)	EPA SW 846/8270-GC/MS

Water is spiked with a surrogate spike mix and extracted using solvent extraction techniques. Analysis is performed by GC/MS in the selected ion monitoring (SIM) mode.

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.

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.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
TOC-WT	Water	Total Organic Carbon	APHA 5310B
Sample is injected into a heated reaction chamber which is packed with an oxidative catalyst. The water is vaporized and the organic cabon is oxidized to carbon dioxide. The carbon dioxide is transported in a carrier gas and is measured by a non-dispersive infrared detector.			
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:

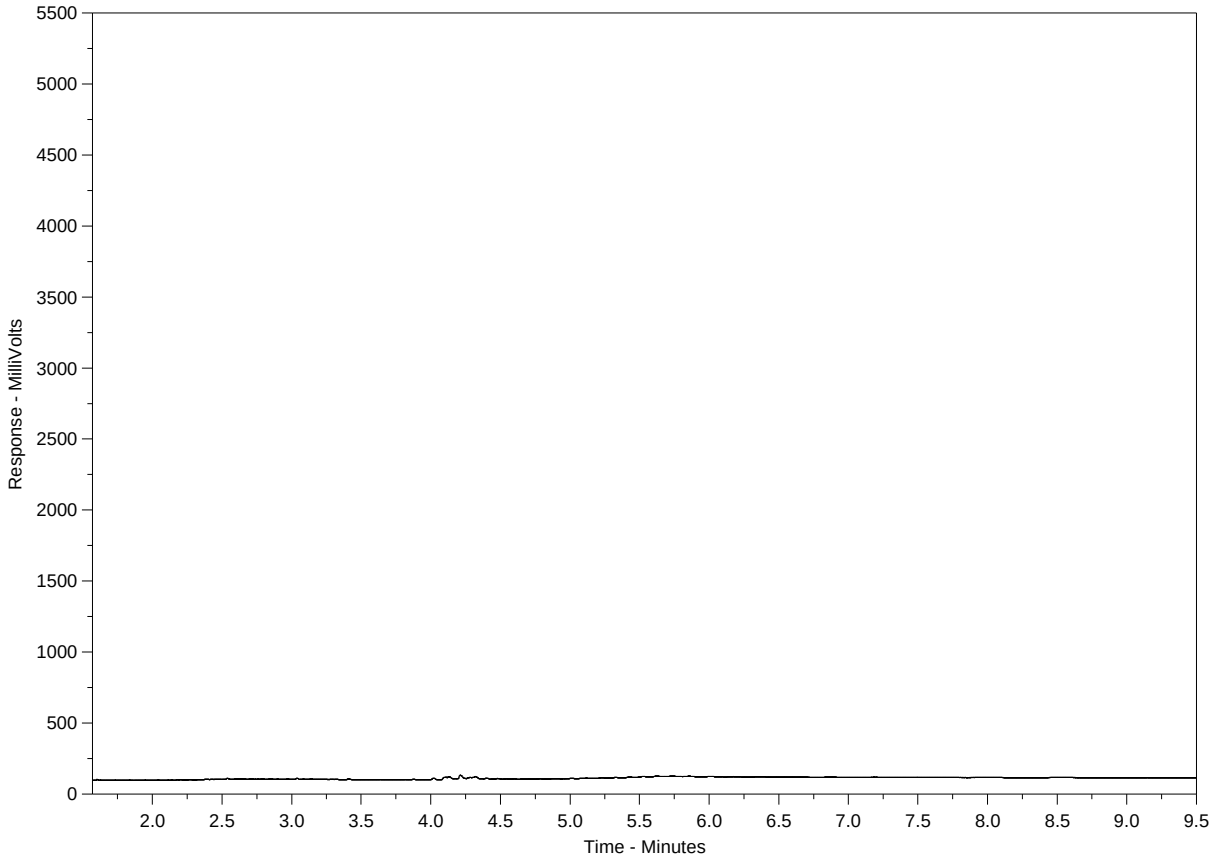
GLOSSARY OF REPORT TERMS

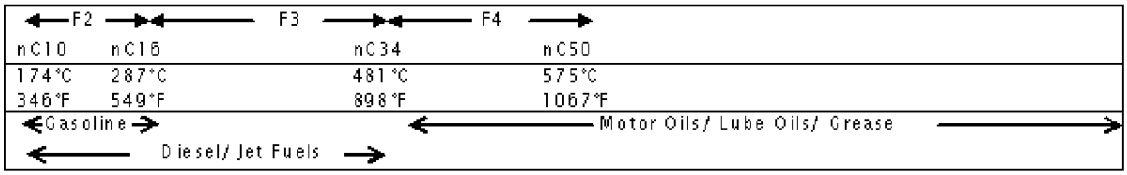
Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates 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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L1654273-2
Client Sample ID: WHA-3





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.

Field Log

Name of Sampler(s): Terri-Rose Teenar

Date of Sampling: 05-08-2015

Time of Sampling: 9:45am

Monitoring Station Number: WHA 2, WHA 3 WHA 4

GPS Coordinates: N ____ ° ____ ' ____ " W ____ ° ____ ' ____ "

Weather Conditions: Cloudy

Samples:

- [x] 500 mL BOD
- [x] 1 L Routine
- [x] 250 mL Metals + Pres
- [x] 40 mL Glass Mercury Vial + Pres
- [x] 250 mL Amber Nutrients + Pres
- [x] 250 mL Amber Phenols + Pres
- [x] 125 mL Sterile Bacteria Bottle
- [x] **2 x** 500 mL Glass Oil & Grease + Pres
- [x] 1 L Amber PAH + Pres
- [x] **3 x** 40 mL BTEX, F1 Vials + Pres
- [x] **2 x** 60 mL Amber F2-F4 Vials + Pres

Other:

- [ ] _____
- [ ] _____
- [ ] _____

Other Notes: (any unusual conditions, any deviation from standard procedures, etc.)

_____

_____

_____

_____

_____

Field Log

L1654273-COFC

Name of Sampler(s): Terri-Rose Teevan

Date of Sampling: 05-08-2015

Time of Sampling: 9:45 am

Monitoring Station Number: WHA, 2 WHA, 3 WHA, 4

GPS Coordinates: N ____ ° ____ ' ____ " W ____ ° ____ ' ____ "

Weather Conditions: Cloudy

Samples:

- [x] 500 mL BOD
- [x] 1 L Routine
- [x] 250 mL Metals + Pres
- [x] 40 mL Glass Mercury Vial + Pres
- [x] 250 mL Amber Nutrients + Pres
- [x] 250 mL Amber Phenols + Pres
- [x] 125 mL Sterile Bacteria Bottle
- [x] **2 x** 500 mL Glass Oil & Grease + Pres
- [x] 1 L Amber PAH + Pres
- [x] **3 x** 40 mL BTEX, F1 Vials + Pres
- [x] **2 x** 60 mL Amber F2-F4 Vials + Pres

Other:

- [ ] _____
- [ ] _____
- [ ] _____

Other Notes: (any unusual conditions, any deviation from standard procedures, etc.)

Field Log


L1654273-COFC

Name of Sampler(s): Terrillose Teenar

Date of Sampling: 05-08-2015

Time of Sampling: 9:45 am

Monitoring Station Number: WHA, 2 WHA, 3 WHA, 4

GPS Coordinates: N ____ ° ____ ' ____ " W ____ ° ____ ' ____ "

Weather Conditions: Cloudy

Samples:

- [x] 500 mL BOD
- [x] 1 L Routine
- [x] 250 mL Metals + Pres
- [x] 40 mL Glass Mercury Vial + Pres
- [x] 250 mL Amber Nutrients + Pres
- [x] 250 mL Amber Phenols + Pres
- [x] 125 mL Sterile Bacteria Bottle
- [x] **2 x** 500 mL Glass Oil & Grease + Pres
- [x] 1 L Amber PAH + Pres
- [x] **3 x** 40 mL BTEX, F1 Vials + Pres
- [x] **2 x** 60 mL Amber F2-F4 Vials + Pres

Other:

- [ ] _____
- [ ] _____
- [ ] _____

Other Notes: (any unusual conditions, any deviation from standard procedures, etc.)

ALS Environmental

L1654273-COFC

COC # _____

Page ___ of ___

Report To			
Company:	Hamlet of Whale Cove	☑ Standard ☐ Other	
Contact:	Mike RICHARDS	☑ PDF ☐ Excel ☐ Digital ☑ Fax	Email 1: SaO@whalecove.ca
Address:	P.O. Box 120, Whale Cove, NU X0C 0J0		Email 2: mlusty@gov.nu.ca
			Email 3: Finance@whalecove.ca
Phone:	(867) 896-9961	Fax: (867) 896-9109	
Invoice To	Same as Report ? ☑ Yes ☐ No		Client / Project Information
Hardcopy of Invoice with Report?	☑ Yes ☐ No		Job #: Whale Cove Monitoring Program
Company:			PO / AFE:
Contact:			LSD:
Address:			
Phone:		Fax:	Quote #:
[redacted] Lab Work Order # [redacted] (lab use only)		ALS Contact: Craig Riddell	Sampler: Terri-Rose Teenor

Service Requested (Rush for routine analysis subject to availability)

- ◉ Regular (Standard Turnaround Times - Business Days)
- ○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
- ○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
- ○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

[redacted] Sample # [redacted]	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Carbonaceous BOD	Biochemical Oxygen Demand	Total Organic Carbon	Ammonia by colour	Oil and Grease, Total	Phosphorus, Total	Phenol [4AAP]	Routine Soluble + Metal Scan	Total Suispended Solids	Fecal Coliforms	BTEX plus F1-F4	Polyaromatic Hydrocarbons	Number of Containers
[redacted]	WHA-2	05-08-2015	9:45am	Waste Water													
[redacted]	WHA-3	05-08-2015	9:45am	Waste Water													
[redacted]	WHA-4	05-08-2015	9:45am	Waste Water													
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	
[redacted]																	

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

[redacted] SHIPMENT RELEASE (client use) [redacted]			[redacted] SHIPMENT RECEPTION (lab use only) [redacted]				[redacted] SHIPMENT VERIFICATION (lab use only) [redacted]			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
			[redacted]	8/7/15	10:45	15 °C				

GENF 20.00 Front

Hazardous Materials Spill Database

Environment Division of ENR
Scotia 6, 5102-50th Avenue; Yellowknife, NT X1A 3S8
Phone: (867) 873-7654 Fax: (867) 873-0221

Sorted By: SpillNo for the year(s): 2015

Spill No.	Date	Ter	Region	Location	Site Description	Commodity	Quantity	Source	Agency
2015283	2015-06-30	NU	KEE	Whale Cove	Whale Cove Plant Site	New Lube Oil	200 L	DRUM	GN
2015443	2015-10-23	NU	KEE	Whale Cove		Fuel Oil	0 L	ST<	GN

Total Spills on this Report: 2

This report contains information regarding spills that were reported to the NWT 24-Hour Spill Line. The absence of information on any particular location in no way guarantees that contamination has not occurred at that location.

LEGEND

Region:
BAF - Baffin
DEH - Deh Cho
INU - Inuvik
KEE - Keewatin
KIT - Kitikmeot
NSL - North Slave
SAH - Sahtu
SSL - South Slave

Source:
AIR - Aircraft
DRUM - Drum or Barrel
MV - Marine Vessel
NS - Natural Seepage
OTH - Other Transportation
PL - Pipe or Line
RT - Rail Train
SL - Sewage Lagoon
ST< - Storage Tank <4000 litres
ST> - Storage Tank >4000 litres
TP - Tailings Pond
TRU - Truck
UK - Unkown
WELL - Wet Wells, Flaring
Boom

Agency:
CCG - Canadian Coast Guard
EP - Environment Canada
GN - Government of Nunavut
GNWT - Government of Northwest Territories
ILA - Inuvialiut Land Administration
INAC - Indian and Northern Affairs Canada
NEB - National Energy Board

July 15, 2015

IC# *2015-06AS*
WL#3BM-WHA1520

Paul Kaludjak
Senior Administrative Officer
Hamlet of Whale Cove, Nunavut
X0C-OJO
Email: sao@whalecove.ca

Dear Mr. Kaludjak

Aboriginal Affairs and Northern Development Canada (AANDC) Water Resource Officers, Field Operations is currently undertaking a review to update files related to enforcement and compliance of municipal water licences in Nunavut.

The focus of this review includes administrative requirements as well as requirements to conduct water sampling and other field work related to the water licence authorization.

This review will be conducted in two parts; the first will be the administrative review of your water licence. The second part of the review will include a municipal site visit to meet with you and your support staff to discuss the water licence requirements. At this time AANDC Inspectors will provide you an opportunity to tell us about the Hamlet operation successes and challenges while implementing your water licence requirements. A final 'close out 'meeting will result and the ANNDC Inspector will provide you with a summary of the observations from the site inspection and provide you the opportunity to discuss any issues as well as timelines to meet any compliance issues identified before leaving the Hamlet

Municipal Water Compliance Working Group

AANDC has recently begun working with GN-CGS towards changes to the landfill operations within Nunavut including the creation of the Municipal Water Compliance Working Group through partnerships and support from Municipal, Government of Nunavut and Federal Government involvement. AANDC believes that this approach will help all municipalities work towards a Nunavut Territorial strategy to address solid waste management.

Determination for outstanding compliance issues

It has been determined by AANDC that any relevant items not mentioned in this document as 'outstanding items' that were not submitted as required in a water licence, compliance requirements from previous inspections reports, or items mentioned in the 'multi-year municipal compliance summary' have either been fulfilled or are being fulfilled through your active participation in the Municipal Water Licence Compliance Working Group initiative which includes Municipal, Government of Nunavut and Federal Government representative involvement. AANDC further recognizes that additional outstanding items will be addressed through your current water licence with the Nunavut Water Board (NWB).

To this end, AANDC has determined that it is not in the public interest to pursue further action beyond the items initiated through the Municipal Water Licence Compliance Working Group and the items listed below or items that may be detected in future inspections.

Outstanding Items

AANDC requests that the following requirements are met and will be verified during the 2015 municipal inspection season:

1. It is recommended that the licencee contact the Government of Nunavut (GN), Department of Environment for further guidance on the process of 'farming' soil within a land farm so that soils can be actively managed and discharged when they meet GN guidelines. This will ensure that any land farm will be able to meet any future capacity requirements and also minimize any potential environmental liability.

2. The licencee is reminded to continue to work towards meeting the requirement of renewing the municipal water licence as required by the *Nunavut Waters and Nunavut Surface Rights Tribunal Act.*

3. A follow-up inspection will be conducted within the Hamlet of Whale Cove in the 2015 season by the regional AANDC Inspectors to ensure any potential risks or issues are identified and provided to the Licencee to address in the form of a water licence inspection report.

Sincerely,

Atuat Shouldice
Resources Management Officer
Aboriginal Affairs and Northern Development Canada
Rankin Inlet Nunavut.

cc. Erik Allain, Manager, Field Operations, AANDC Iqaluit.
Ralph Rudiger, Director of Community Development, CGS
Meagan Lusty, Municipal Planning E.I.T., CGS
Phyllis Beaulieu, Nunavut Water Board

Aboriginal Affairs and Northern Development Canada | Affaires autochtones et Développement du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Whale Cove	Mike Richards
Licence No. / Expiry	**Representative's Title**
3BM-WHA1520	Senior Administrative officer
Land / Other Authorizations	**Land / Other Authorizations**
Date of Inspection	**Inspector**
23/07/2015	Atuat Shouldice

Activities Inspected

☐ Camp ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☒ Fuel Storage
☐ Roads/Hauling ☒ Other: Water Discharge ☒ Other:Water use

Conditions: A - Acceptable C - Concern U - Unacceptable NA – Not Applicable NI – Not Inspected

Water Use	Condition	Comment	Site Conditions	Condition	Comment	Haz/Mat Management	Condition	Comment
Intake/Screen	A		Water Management Structures	A		Storage	A	
Flow Measure. Device	C	1	Culverts / Bridges	A		Spills	A	
Source:	A		Drainage	A		Spill Plan	NI	
Water Use:	A		Erosion / Sediment	A				
Recirculation (y /n)	N		Mitigation Measures	NI		**Administrative**		
			Reclamation Activities	NI		Records	A	
			Materials Storage	C	3	Reports	NI	
Waste Disposal			Signage	NI		Plans	A	
Waste Water	C	2				Notifications	A	
Solid Waste	C		**Monitoring**			**Other**		
Hazardous Waste	C		Sample Collection / Analysis	NI				

**The number in the comments field will correspond with specific comments provided below.*

Samples taken by Inspector:
☐ Yes ☒ No

Location(s): Hamlet of Whale Cove

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

A compliance inspection was conducted on July 23rd 2015 of licence 3BM-WHA1520.

SECTION 2 ☒ Comments (s.__) ☐ Non-Compliance with Act or Licence (s.__) ☐ Action Required (s.__)

Water Use: 1

Water meter in water pump house has not been working for two years and truck fill meter does not zero properly and needs repair. It is imperative that all water used by the community is accurately recorded on an ongoing basis. Conditions related to water use under Part C item 1 of the license indicate how much water can be used by the community in a given year/day. Without proper records, the inspector in not able to determine if the municipality is operating within the water use allocation prescribed in the water license. This compliance issue should be treated as a priority **Action Required 1**.

Waste water:2

During inspection, the inspector requested that all waste oil drums be organized and capped so not to over top and spread contaminants. Also in order to follow the Water licence working group's compliance goals, a seacan(shipping container) should be placed at the dump to store used or discarded batteries. **Action Required 2.**

Site Conditions:3

Landfill fencing repaired and built higher the Previous year, with the location and topographic layout of the area it looks as though the landfill is reaching capacity.

SECTION 3 ☐ Comments (s.__) ☐ Non-Compliance with Act or Licence, (s.__) ☒ Action Required (s.__)

Action 1:

During the time of the inspection, three months from the day of the inspection was agreed on as an acceptable date to have water meters repaired (October 23 2015). Once repair have been made inspector will be notified.

Action 2:

Inspector requested that all waste oil drums be caped and palletized, August 15th 2015 was agreed on as an acceptable date to have this item addressed. During the writing of this inspection report no progress was made.

To follow the goals of the water licence working compliance group a seacan was to be placed to store discarded batteries, the day after the inspection a seacan was placed and batteries had started being collected and stored.

Inspector's Name	Inspector's Name
Atuat Shouldice	
Signature 	Signature
Date	Date
10/22/2015	

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☐ No