ANNUAL REPORT
FOR THE HAMLET OF BAKER LAKE

YEAR BEING REPORTED: 2017

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water License No. 3BM-BAK1526 issued to the Hamlet of Baker Lake.

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, m^3)
January 2016	6,097.28	Same
February 2016	5,653.20	Same
March 2016	6,023.17	Same
April 2016	5,888.96	Same
May 2016	6,263.23	Same
June 2016	5,831.41	Same
July 2016	6,176.65	Same
August 2016	6,592.49	Same
September 2016	6,365.96	Same
October 2016	6,676.05	Same
November 2016	6,260.75	Same
December 2016	6,166.21	Same
ANNUAL TOTAL	**73,995.36**	**73,995.36**

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

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;

- Repair to the sewage holding cell berm took place in summer 2017. The following pictures show the berm before (August 01, 2017) and after (August 31, 2017) the repair took place.

August 01, 2017 – breach in sewage holding cell berm

August 31, 2017 – repaired sewage holding cell berm

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

Spill No.	Date	Site Description	Commodity	Quantity
2017116	2017-04-21	Baker Lake Airport	Petoleum distillates	3 L
2017190	2017-06-01	Hamlet of Baker Lake	Diesel Fuel	100 L
2017258	2017-07-19	Baker Lake, NU	Diesel Fuel	20 L
2017338	2017-09-08	Baker Lake, Unit 2016, Hamlet's 2 Bay garage onfirst Avenue	Heating Fuel P-50	0 L
2017351	2017-09-16	Unit 119, Baker Lake Housing Unit	Heating Fuel #2	136 L

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 was done in 2017 and none is planned for 2018.

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;

- none

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

- none

ix. updates or revisions to the approved Operation and Maintenance Plans.
-none

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-BAK1526 INAC Inspection took place on August 01, 2017. A copy of the inspection report has not been received from INAC.

Appendix A: BAK-5 Effluent Quality Limits – 1 page
Appendix B: Certificate of Analysis June 15, 2017 – 12 pages
Appendix C: Certificate of Analysis July 20, 2017 – 6 pages
Appendix D: Certificate of Analysis August 29, 2017 – 7 pages
Appendix E: Hazardous Materials Spill Database, Baker Lake 2014 – 1 page
Appendix F:Baker Lake Sampling Results Summary 2017– 4 pages

Baker Lake Monitoring Stations and Sampling Parameters for Licence No. 3BM-BAK1526
Part D, Item 2; BAK-5 Effluent Quality Limits

Parameter	Maximum Concentration of any grab sample	BAK-5
		15-Jun-17
BOD	80 mg/L	6.5
Total Suspended Solids	100 mg/L	6
Fecal Coliforms	1 x 10^4 CFU/100mL	19900
Oil & Grease	no visible sheen	5
pH	between 6 and 9	6.73

Exceeds effluent quality limits

Hamlet of Baker Lake
ATTN: PAUL NARKYAGIK
Baker Lake Pool
PO Box 149
Baker Lake NU X0C 0A0

Date Received: 16-JUN-17
Report Date: 29-JUN-17 08:14 (MT)
Version: FINAL

Client Phone: 867-793-2881

Certificate of Analysis

Lab Work Order #: L1943420

Project P.O. #: NOT SUBMITTED
Job Reference: HAMLET OF BAKER LAKE - WW
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
L1943420-1 BAK-2							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	16.5		1.2	mg/L		20-JUN-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		20-JUN-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-JUN-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	13.5		1.0	mg/L		16-JUN-17	R3749875
Ammonia by colour							
Ammonia, Total (as N)	0.354		0.010	mg/L		21-JUN-17	R3752408
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	9.0		2.0	mg/L		16-JUN-17	R3752842
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		16-JUN-17	R3752842
Chloride in Water by IC							
Chloride (Cl)	4.21		0.50	mg/L		16-JUN-17	R3753163
Conductivity							
Conductivity	63.8		1.0	umhos/cm		16-JUN-17	R3749875
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	110		10	MPN/100mL		16-JUN-17	R3749889
Hardness Calculated							
Hardness (as CaCO3)	19.6	HTC	0.25	mg/L		20-JUN-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	21-JUN-17	21-JUN-17	R3752879
Nitrate in Water by IC							
Nitrate (as N)	0.461		0.020	mg/L		16-JUN-17	R3753163
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.481		0.070	mg/L		26-JUN-17	
Nitrite in Water by IC							
Nitrite (as N)	0.021		0.010	mg/L		16-JUN-17	R3753163
Oil & Grease - Gravimetric							
Oil and Grease	19.3		5.0	mg/L		21-JUN-17	R3752849
Phenol (4AAP)							
Phenols (4AAP)	0.0026		0.0010	mg/L		28-JUN-17	R3757639
Phosphorus, Total							
Phosphorus (P)-Total	0.168		0.010	mg/L		21-JUN-17	R3752412
Sulfate in Water by IC							
Sulfate (SO4)	7.27		0.30	mg/L		16-JUN-17	R3753163
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0757		0.0050	mg/L	19-JUN-17	19-JUN-17	R3751096
Arsenic (As)-Total	0.00027		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	19-JUN-17	19-JUN-17	R3751096
Calcium (Ca)-Total	6.15		0.10	mg/L	19-JUN-17	19-JUN-17	R3751096
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	19-JUN-17	19-JUN-17	R3751096
Cobalt (Co)-Total	<0.00020		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Copper (Cu)-Total	0.00255		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Iron (Fe)-Total	0.224		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Lead (Pb)-Total	<0.000090		0.000090	mg/L	19-JUN-17	19-JUN-17	R3751096
Magnesium (Mg)-Total	1.02		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Manganese (Mn)-Total	0.0266		0.00030	mg/L	19-JUN-17	19-JUN-17	R3751096
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096

* 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
L1943420-1 BAK-2							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Total Metals by ICP-MS							
Potassium (K)-Total	1.18		0.020	mg/L	19-JUN-17	19-JUN-17	R3751096
Sodium (Na)-Total	2.95		0.030	mg/L	19-JUN-17	19-JUN-17	R3751096
Zinc (Zn)-Total	0.0053		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Total Organic Carbon by Combustion							
Total Organic Carbon	4.81		0.50	mg/L		22-JUN-17	R3753983
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		22-JUN-17	R3754867
pH							
pH	7.04		0.10	pH units		16-JUN-17	R3749875
L1943420-2 BAK-3							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	25.6		1.2	mg/L		20-JUN-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		20-JUN-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-JUN-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	21.0		1.0	mg/L		16-JUN-17	R3749875
Ammonia by colour							
Ammonia, Total (as N)	0.202		0.010	mg/L		21-JUN-17	R3752408
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	<2.0		2.0	mg/L		16-JUN-17	R3752842
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		16-JUN-17	R3752842
Chloride in Water by IC							
Chloride (Cl)	7.82		0.50	mg/L		16-JUN-17	R3753163
Conductivity							
Conductivity	72.2		1.0	umhos/cm		16-JUN-17	R3749875
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	<10		10	MPN/100mL		16-JUN-17	R3749889
Hardness Calculated							
Hardness (as CaCO3)	21.3	HTC	0.25	mg/L		20-JUN-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	21-JUN-17	21-JUN-17	R3752879
Nitrate in Water by IC							
Nitrate (as N)	0.045		0.020	mg/L		16-JUN-17	R3753163
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		26-JUN-17	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		16-JUN-17	R3753163
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		21-JUN-17	R3752849
Phenol (4AAP)							
Phenols (4AAP)	0.0027		0.0010	mg/L		28-JUN-17	R3757639
Phosphorus, Total							
Phosphorus (P)-Total	0.090		0.010	mg/L		21-JUN-17	R3752412
Sulfate in Water by IC							
Sulfate (SO4)	3.24		0.30	mg/L		16-JUN-17	R3753163

* 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
L1943420-2 BAK-3							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0629		0.0050	mg/L	19-JUN-17	19-JUN-17	R3751096
Arsenic (As)-Total	0.00029		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	19-JUN-17	19-JUN-17	R3751096
Calcium (Ca)-Total	6.55		0.10	mg/L	19-JUN-17	19-JUN-17	R3751096
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	19-JUN-17	19-JUN-17	R3751096
Cobalt (Co)-Total	<0.00020		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Copper (Cu)-Total	0.00142		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Iron (Fe)-Total	0.426		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Lead (Pb)-Total	<0.000090		0.000090	mg/L	19-JUN-17	19-JUN-17	R3751096
Magnesium (Mg)-Total	1.21		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Manganese (Mn)-Total	0.0375		0.00030	mg/L	19-JUN-17	19-JUN-17	R3751096
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Potassium (K)-Total	1.00		0.020	mg/L	19-JUN-17	19-JUN-17	R3751096
Sodium (Na)-Total	4.07		0.030	mg/L	19-JUN-17	19-JUN-17	R3751096
Zinc (Zn)-Total	0.0035		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Total Organic Carbon by Combustion							
Total Organic Carbon	5.51		0.50	mg/L		22-JUN-17	R3753983
Total Suspended Solids							
Total Suspended Solids	9.0		5.0	mg/L		22-JUN-17	R3754867
pH							
pH	7.16		0.10	pH units		16-JUN-17	R3749875
L1943420-3 BAK-4							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		21-JUN-17	R3756363
Toluene	<0.0010		0.0010	mg/L		21-JUN-17	R3756363
Ethyl benzene	<0.00050		0.00050	mg/L		21-JUN-17	R3756363
o-Xylene	<0.00050		0.00050	mg/L		21-JUN-17	R3756363
m+p-Xylenes	<0.00040		0.00040	mg/L		21-JUN-17	R3756363
F1 (C6-C10)	<0.10		0.10	mg/L		21-JUN-17	R3756363
Surrogate: 4-Bromofluorobenzene (SS)	98.5		70-130	%		21-JUN-17	R3756363
CCME PHC F2-F4 in Water							
F2 (C10-C16)	<0.10		0.10	mg/L	21-JUN-17	22-JUN-17	R3752853
F3 (C16-C34)	0.37		0.25	mg/L	21-JUN-17	22-JUN-17	R3752853
F4 (C34-C50)	<0.25		0.25	mg/L	21-JUN-17	22-JUN-17	R3752853
Surrogate: 2-Bromobenzotrifluoride	84.6		60-140	%	21-JUN-17	22-JUN-17	R3752853
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		26-JUN-17	
F2-Naphth	<0.10		0.10	mg/L		26-JUN-17	
F3-PAH	0.37		0.25	mg/L		26-JUN-17	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		26-JUN-17	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.00064		0.00064	mg/L		26-JUN-17	
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
2-Methyl Naphthalene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Acenaphthene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Acenaphthylene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162

* 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
L1943420-3 BAK-4							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Polyaromatic Hydrocarbons (PAHs)							
Anthracene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Acridine	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Benzo(a)anthracene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Benzo(a)pyrene	<0.0000050		0.0000050	mg/L	19-JUN-17	21-JUN-17	R3756162
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Chrysene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Dibenzo(a,h)anthracene	<0.0000050		0.0000050	mg/L	19-JUN-17	21-JUN-17	R3756162
Fluoranthene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Fluorene	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Naphthalene	<0.000050		0.000050	mg/L	19-JUN-17	21-JUN-17	R3756162
Phenanthrene	<0.000050		0.000050	mg/L	19-JUN-17	21-JUN-17	R3756162
Pyrene	<0.000010		0.000010	mg/L	19-JUN-17	21-JUN-17	R3756162
Quinoline	<0.000020		0.000020	mg/L	19-JUN-17	21-JUN-17	R3756162
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	19-JUN-17	21-JUN-17	R3756162
Surrogate: Acenaphthene d10	96.0		40-130	%	19-JUN-17	21-JUN-17	R3756162
Surrogate: Acridine d9	112.4		40-130	%	19-JUN-17	21-JUN-17	R3756162
Surrogate: Chrysene d12	104.6		40-130	%	19-JUN-17	21-JUN-17	R3756162
Surrogate: Naphthalene d8	96.6		40-130	%	19-JUN-17	21-JUN-17	R3756162
Surrogate: Phenanthrene d10	102.2		40-130	%	19-JUN-17	21-JUN-17	R3756162
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	44.2		1.2	mg/L		20-JUN-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		20-JUN-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		20-JUN-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	36.2		1.0	mg/L		16-JUN-17	R3749875
Ammonia by colour							
Ammonia, Total (as N)	3.90		0.10	mg/L		21-JUN-17	R3752408
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	4.1		2.0	mg/L		16-JUN-17	R3752842
Carbonaceous BOD							
BOD Carbonaceous	2.9		2.0	mg/L		16-JUN-17	R3752842
Chloride in Water by IC							
Chloride (Cl)	3.87		0.50	mg/L		16-JUN-17	R3753163
Conductivity							
Conductivity	69.0		1.0	umhos/cm		16-JUN-17	R3749875
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	12000		10	MPN/100mL		16-JUN-17	R3749889
Hardness Calculated							
Hardness (as CaCO3)	18.2	HTC	0.25	mg/L		20-JUN-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	21-JUN-17	21-JUN-17	R3752879
Nitrate in Water by IC							
Nitrate (as N)	0.056		0.020	mg/L		16-JUN-17	R3753163
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		26-JUN-17	
Nitrite 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
L1943420-3 BAK-4							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Nitrite in Water by IC							
Nitrite (as N)	0.011		0.010	mg/L		16-JUN-17	R3753163
Oil & Grease - Gravimetric							
Oil and Grease	5.1		5.0	mg/L		21-JUN-17	R3752849
Phenol (4AAP)							
Phenols (4AAP)	0.0039		0.0010	mg/L		28-JUN-17	R3757639
Phosphorus, Total							
Phosphorus (P)-Total	0.385		0.010	mg/L		21-JUN-17	R3752412
Sulfate in Water by IC							
Sulfate (SO4)	1.42		0.30	mg/L		16-JUN-17	R3753163
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0533		0.0050	mg/L	19-JUN-17	19-JUN-17	R3751096
Arsenic (As)-Total	0.00030		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	19-JUN-17	19-JUN-17	R3751096
Calcium (Ca)-Total	5.90		0.10	mg/L	19-JUN-17	19-JUN-17	R3751096
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	19-JUN-17	19-JUN-17	R3751096
Cobalt (Co)-Total	<0.00020		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Copper (Cu)-Total	0.00425		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Iron (Fe)-Total	0.247		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Lead (Pb)-Total	0.000163		0.000090	mg/L	19-JUN-17	19-JUN-17	R3751096
Magnesium (Mg)-Total	0.839		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Manganese (Mn)-Total	0.0419		0.00030	mg/L	19-JUN-17	19-JUN-17	R3751096
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Potassium (K)-Total	1.10		0.020	mg/L	19-JUN-17	19-JUN-17	R3751096
Sodium (Na)-Total	2.24		0.030	mg/L	19-JUN-17	19-JUN-17	R3751096
Zinc (Zn)-Total	0.0070		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Total Organic Carbon by Combustion							
Total Organic Carbon	6.33		0.50	mg/L		22-JUN-17	R3753983
Total Suspended Solids							
Total Suspended Solids	5.0		5.0	mg/L		22-JUN-17	R3754867
pH							
pH	7.08		0.10	pH units		16-JUN-17	R3749875
L1943420-4 BAK-5							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	31.4		1.2	mg/L		22-JUN-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		22-JUN-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		22-JUN-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	25.7		1.0	mg/L		21-JUN-17	R3752799
Ammonia by colour							
Ammonia, Total (as N)	3.64		0.10	mg/L		21-JUN-17	R3752408
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	6.5		2.0	mg/L		16-JUN-17	R3752842
Carbonaceous BOD							
BOD Carbonaceous	4.2		2.0	mg/L		16-JUN-17	R3752842
Chloride in Water by IC							
Chloride (Cl)	4.24		0.50	mg/L		16-JUN-17	R3753163

* 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
L1943420-4 BAK-5							
Sampled By: CLIENT on 15-JUN-17 @ 09:00							
Matrix: WW							
Conductivity							
Conductivity	67.3		1.0	umhos/cm		20-JUN-17	R3751986
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	19900		10	MPN/100mL		16-JUN-17	R3749889
Hardness Calculated							
Hardness (as CaCO3)	14.1	HTC	0.25	mg/L		20-JUN-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	21-JUN-17	21-JUN-17	R3752879
Nitrate in Water by IC							
Nitrate (as N)	0.035		0.020	mg/L		16-JUN-17	R3753163
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.070		0.070	mg/L		26-JUN-17	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		16-JUN-17	R3753163
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		21-JUN-17	R3752849
Phenol (4AAP)							
Phenols (4AAP)	0.0050		0.0010	mg/L		28-JUN-17	R3757639
Phosphorus, Total							
Phosphorus (P)-Total	0.401		0.010	mg/L		21-JUN-17	R3752412
Sulfate in Water by IC							
Sulfate (SO4)	1.36		0.30	mg/L		16-JUN-17	R3753163
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.0608		0.0050	mg/L	19-JUN-17	19-JUN-17	R3751096
Arsenic (As)-Total	0.00023		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Cadmium (Cd)-Total	<0.000010		0.000010	mg/L	19-JUN-17	19-JUN-17	R3751096
Calcium (Ca)-Total	4.33		0.10	mg/L	19-JUN-17	19-JUN-17	R3751096
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	19-JUN-17	19-JUN-17	R3751096
Cobalt (Co)-Total	<0.00020		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Copper (Cu)-Total	0.00597		0.00020	mg/L	19-JUN-17	19-JUN-17	R3751096
Iron (Fe)-Total	0.286		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Lead (Pb)-Total	0.000132		0.000090	mg/L	19-JUN-17	19-JUN-17	R3751096
Magnesium (Mg)-Total	0.800		0.010	mg/L	19-JUN-17	19-JUN-17	R3751096
Manganese (Mn)-Total	0.0276		0.00030	mg/L	19-JUN-17	19-JUN-17	R3751096
Nickel (Ni)-Total	<0.0020		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Potassium (K)-Total	1.25		0.020	mg/L	19-JUN-17	19-JUN-17	R3751096
Sodium (Na)-Total	2.82		0.030	mg/L	19-JUN-17	19-JUN-17	R3751096
Zinc (Zn)-Total	0.0068		0.0020	mg/L	19-JUN-17	19-JUN-17	R3751096
Total Organic Carbon by Combustion							
Total Organic Carbon	6.45		0.50	mg/L		22-JUN-17	R3753983
Total Suspended Solids							
Total Suspended Solids	6.0		5.0	mg/L		22-JUN-17	R3754867
pH							
pH	6.73		0.10	pH units		20-JUN-17	R3751986

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
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.

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.

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	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-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.

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

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)

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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:

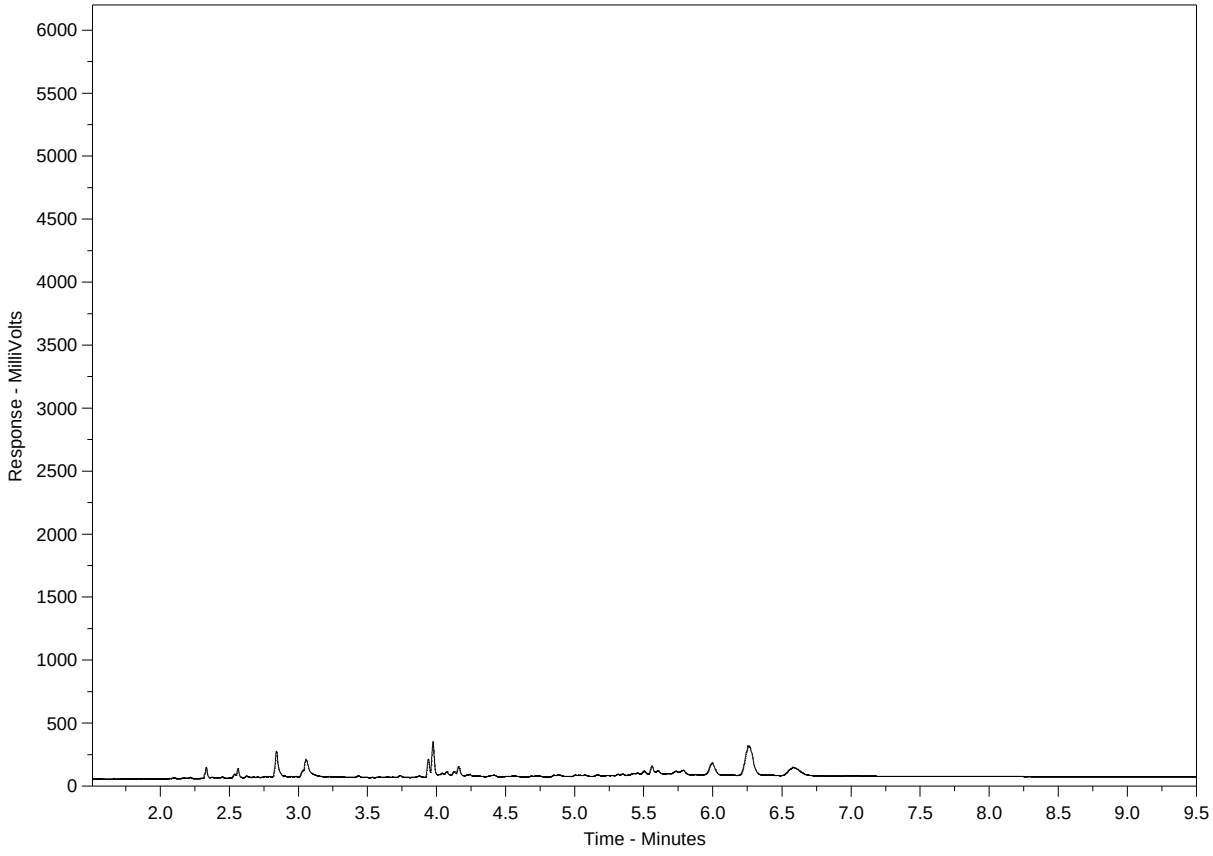
GLOSSARY OF REPORT TERMS

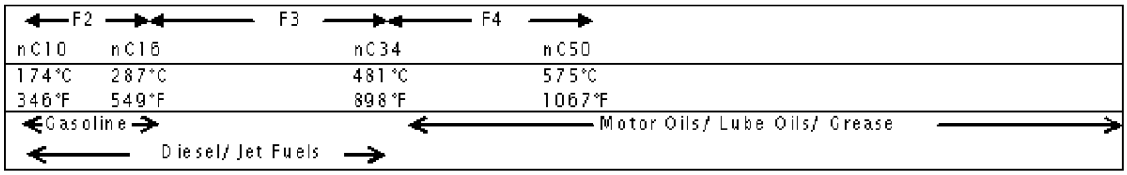
Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L1943420-3
Client Sample ID: BAK-4





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

L1943420-COFC

COC Number: 14 - 503461

Page ___ of ___

L1943420

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hamlet of Baker Lake	Select Report Format:	☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)	R ☐ Regular (Standard TAT if received by 3pm)
Contact:	Paul Narkyagik	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 business days if received by 3pm)
Address:	3022-4 Avenue P.O. Box 149 Baker Lake Nu X0C 0A0	☐ 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:	867-793-2881	Email 1 or Fax		Specify Date Required for E2,E or P:
		Email 2		

Invoice To		Invoice Distribution	
	Same as Report To ☒ Yes ☐ No	Select Invoice Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
	Copy of Invoice with Report ☒ Yes ☐ No	Email 1 or Fax	
Company:		Email 2	
Contact:			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:		GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

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	Routine	BOD	Oil and Grease	Bacteria	Phenols	Metals	Mercury	PAH/EPH/F2-F4	BTEX/VOC	Number of Containers
	Bak-2	10:15			X	X	X	X	X	X	X			
	Bak-3	10:30			X	X	X	X	X	X	X			
	Bak-4	11:00			X	X	X	X	X	X	X	X	X	
	Bak-5	11:15			X	X	X	X	X	X	X			

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		

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:
Paul Narkyagik	June	1:00	AG	16-6-17	11:30			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS FM-0326a v09 Front/04 January 2014

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**.

10°C

Hamlet of Baker Lake
ATTN: PAUL NARKYAGIK
Baker Lake Pool
PO Box 149
Baker Lake NU X0C 0A0

Date Received: 24-JUL-17
Report Date: 02-AUG-17 16:44 (MT)
Version: FINAL

Client Phone: 867-793-2881

Certificate of Analysis

Lab Work Order #: L1963417

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

Shannon Sawatzky
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1963417-1 BAK-2							
Sampled By: CLIENT on 20-JUL-17 @ 11:00							
Matrix:							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	38.6		1.2	mg/L		27-JUL-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		27-JUL-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		27-JUL-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	31.6		1.0	mg/L		25-JUL-17	R3782493
Ammonia by colour							
Ammonia, Total (as N)	0.067		0.010	mg/L		27-JUL-17	R3784191
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	2.8		2.0	mg/L		26-JUL-17	R3786286
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		26-JUL-17	R3786286
Chloride in Water by IC							
Chloride (Cl)	14.5		0.50	mg/L		25-JUL-17	R3782638
Conductivity							
Conductivity	180		1.0	umhos/cm		25-JUL-17	R3782493
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	40		10	MPN/100mL		24-JUL-17	R3781788
Hardness Calculated							
Hardness (as CaCO3)	64.6	HTC	0.20	mg/L		28-JUL-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	25-JUL-17	27-JUL-17	R3784534
Nitrate in Water by IC							
Nitrate (as N)	0.577		0.020	mg/L		25-JUL-17	R3782638
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.607		0.070	mg/L		26-JUL-17	
Nitrite in Water by IC							
Nitrite (as N)	0.031		0.010	mg/L		25-JUL-17	R3782638
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		01-AUG-17	R3786795
Phenol (4AAP)							
Phenols (4AAP)	<0.0010		0.0010	mg/L		27-JUL-17	R3783614
Phosphorus, Total							
Phosphorus (P)-Total	0.339		0.010	mg/L		26-JUL-17	R3782596
Sulfate in Water by IC							
Sulfate (SO4)	27.5		0.30	mg/L		25-JUL-17	R3782638
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0809		0.0030	mg/L	26-JUL-17	27-JUL-17	R3784050
Arsenic (As)-Total	0.00084		0.00010	mg/L	26-JUL-17	27-JUL-17	R3784050
Cadmium (Cd)-Total	0.0000096		0.0000050	mg/L	26-JUL-17	27-JUL-17	R3784050
Calcium (Ca)-Total	19.7		0.050	mg/L	26-JUL-17	27-JUL-17	R3784050
Chromium (Cr)-Total	0.00020		0.00010	mg/L	26-JUL-17	27-JUL-17	R3784050
Cobalt (Co)-Total	0.00035		0.00010	mg/L	26-JUL-17	27-JUL-17	R3784050
Copper (Cu)-Total	0.00387		0.00050	mg/L	26-JUL-17	27-JUL-17	R3784050
Iron (Fe)-Total	0.684		0.010	mg/L	26-JUL-17	27-JUL-17	R3784050
Lead (Pb)-Total	0.000258		0.000050	mg/L	26-JUL-17	27-JUL-17	R3784050
Magnesium (Mg)-Total	3.74		0.0050	mg/L	26-JUL-17	27-JUL-17	R3784050
Manganese (Mn)-Total	0.0935		0.00010	mg/L	26-JUL-17	27-JUL-17	R3784050
Nickel (Ni)-Total	0.00104		0.00050	mg/L	26-JUL-17	27-JUL-17	R3784050

* 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
L1963417-1 BAK-2							
Sampled By: CLIENT on 20-JUL-17 @ 11:00							
Matrix:							
Total Metals in Water by CRC ICPMS							
Potassium (K)-Total	2.72		0.050	mg/L	26-JUL-17	27-JUL-17	R3784050
Sodium (Na)-Total	10.8		0.050	mg/L	26-JUL-17	27-JUL-17	R3784050
Zinc (Zn)-Total	0.0064		0.0030	mg/L	26-JUL-17	27-JUL-17	R3784050
Total Organic Carbon by Combustion							
Total Organic Carbon	6.93		0.50	mg/L		31-JUL-17	R3786472
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		25-JUL-17	R3782673
pH							
pH	7.24		0.10	pH units		25-JUL-17	R3782493

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
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.

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.

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.

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-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-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (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.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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
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
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.

L1963417-COFC

ain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 - 503463

Page ___ of ___

L963417

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hamlet of Baker Lake	Select Report Format: [X] PDF [ ] EXCEL [ ] EDD (DIGITAL)	R [ ] Regular (Standard TAT if received by 3pm)
Contact:	Paul Narkyagik	Quality Control (QC) Report with Report [ ] Yes [ ] No	P [ ] Priority (2-4 business days if received by 3pm)
Address:	P.O. BOX 149 Baker Lake, NU X0C-0A0 4th Avenue	[ ] 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:	867-793-2874/793-2881	Email 1 or Fax	Specify Date Required for E2,E or P:
		Email 2	

Invoice To		Invoice Distribution	Analysis Request
	Same as Report To [X] Yes [ ] No	Select Invoice Distribution: [ ] EMAIL [ ] MAIL [ ] FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report [X] Yes [ ] No		
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:		GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

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	Routine	BOD	Bacteria	Nutrient	Oil and Grease	Metals	Mercury	Number of Containers
								P	P	P	P	
	Bak-2	July 20/17	11:00									

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 [X] No	
Are samples for human drinking water use? [ ] Yes [X] No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen [ ] SIF Observations Yes [ ] No [ ]

Ice packs Yes [ ] No [ ] Custody seal intact Yes [ ] No [ ]

Cooling Initiated [ ] 14.7°C

INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C	

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:
Paul Narkyagik	July 20/17	11:30	AG	July 20	3:40			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

Hamlet of Baker Lake
ATTN: PAUL NARKYAGIK
Public Works Foreman - Wastewater
PO Box 149
Baker Lake NU X0C 0A0

Date Received: 30-AUG-17
Report Date: 11-SEP-17 07:26 (MT)
Version: FINAL

Client Phone: 867-793-2881

Certificate of Analysis

Lab Work Order #: L1983884

Project P.O. #: NOT SUBMITTED
Job Reference:
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
L1983884-1 BAK-2							
Sampled By: CLIENT on 29-AUG-17 @ 10:45							
Matrix: WW							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	62.1		1.2	mg/L		01-SEP-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		01-SEP-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		01-SEP-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	50.9		1.0	mg/L		31-AUG-17	R3816718
Ammonia by colour							
Ammonia, Total (as N)	<0.010		0.010	mg/L		08-SEP-17	R3822830
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	2.6		2.0	mg/L		31-AUG-17	R3820502
Carbonaceous BOD							
BOD Carbonaceous	<2.0		2.0	mg/L		31-AUG-17	R3820502
Chloride in Water by IC							
Chloride (Cl)	20.1		0.50	mg/L		31-AUG-17	R3818525
Conductivity							
Conductivity	245		1.0	umhos/cm		31-AUG-17	R3816718
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms	50	MBHT	10	MPN/100mL		30-AUG-17	R3815844
Hardness Calculated							
Hardness (as CaCO3)	79.7	HTC	0.20	mg/L		06-SEP-17	
Mercury Total							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	01-SEP-17	05-SEP-17	R3820950
Nitrate in Water by IC							
Nitrate (as N)	0.349		0.020	mg/L		31-AUG-17	R3818525
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.349		0.070	mg/L		05-SEP-17	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		31-AUG-17	R3818525
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		07-SEP-17	R3821691
Phenol (4AAP)							
Phenols (4AAP)	<0.0010		0.0010	mg/L		05-SEP-17	R3820191
Phosphorus, Total							
Phosphorus (P)-Total	0.170		0.010	mg/L		01-SEP-17	R3816753
Sulfate in Water by IC							
Sulfate (SO4)	35.3		0.30	mg/L		31-AUG-17	R3818525
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0342		0.0030	mg/L	05-SEP-17	05-SEP-17	R3820268
Arsenic (As)-Total	0.00065		0.00010	mg/L	05-SEP-17	05-SEP-17	R3820268
Cadmium (Cd)-Total	0.0000092		0.0000050	mg/L	05-SEP-17	05-SEP-17	R3820268
Calcium (Ca)-Total	24.8		0.050	mg/L	05-SEP-17	05-SEP-17	R3820268
Chromium (Cr)-Total	0.00017		0.00010	mg/L	05-SEP-17	05-SEP-17	R3820268
Cobalt (Co)-Total	0.00027		0.00010	mg/L	05-SEP-17	05-SEP-17	R3820268
Copper (Cu)-Total	0.00275		0.00050	mg/L	05-SEP-17	05-SEP-17	R3820268
Iron (Fe)-Total	0.317		0.010	mg/L	05-SEP-17	05-SEP-17	R3820268
Lead (Pb)-Total	0.000072		0.000050	mg/L	05-SEP-17	05-SEP-17	R3820268
Magnesium (Mg)-Total	4.31		0.0050	mg/L	05-SEP-17	05-SEP-17	R3820268
Manganese (Mn)-Total	0.0490		0.00010	mg/L	05-SEP-17	05-SEP-17	R3820268
Nickel (Ni)-Total	0.00114		0.00050	mg/L	05-SEP-17	05-SEP-17	R3820268

* 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
L1983884-1 BAK-2							
Sampled By: CLIENT on 29-AUG-17 @ 10:45							
Matrix: WW							
Total Metals in Water by CRC ICPMS							
Potassium (K)-Total	3.56		0.050	mg/L	05-SEP-17	05-SEP-17	R3820268
Sodium (Na)-Total	14.6		0.050	mg/L	05-SEP-17	05-SEP-17	R3820268
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	05-SEP-17	05-SEP-17	R3820268
Total Organic Carbon by Combustion							
Total Organic Carbon	7.24		0.50	mg/L		05-SEP-17	R3820396
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		01-SEP-17	R3819039
pH							
pH	7.66		0.10	pH units		31-AUG-17	R3816718

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
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	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.

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.

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

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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
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
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, 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

L1983884-COFC

Affix ALS barcode label here (lab use only)

COC Number: 14 - 503462

Page ___ of ___

L1983884

Report To	
Company:	Hamlet of Baker Lake
Contact:	Paul Narkyagik
Address:	P.O.Box 149 Baker Lake, NU X0C-0A0 4th Avenue
Phone:	

Select Report Format: ☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ Yes ☐ No

☐ Criteria on Report - provide details below if box checked

Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)

- R ☐ Regular (Standard TAT if received by 3pm)
- P ☐ Priority (2-4 business days if received by 3pm)
- E ☐ Emergency (1-2 business days if received by 3pm)
- E2 ☐ Same day or weekend emergency if received by 10am – contact ALS for surcharge.

Specify Date Required for E2,E or P:

Invoice To

Same as Report To ☐ Yes ☐ No

Copy of Invoice with Report ☐ Yes ☐ No

Company:

Contact:

Invoice Distribution

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Project Information

ALS Quote #:

Job #:

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

Approver ID: | Cost Center:

GL Account: | Routing Code:

Activity Code:

Location:

ALS Lab Work Order # (lab use only)

ALS Contact:

Sampler:

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	Routine	BOD	Bacteria (P)	Nutrient (P)	Oil and Grease (P)	Metals (P)	Mercury (P)	Number of Containers
	Bak-2	29-08-17	10:45 AM		X	X	X	X	X	X	X	

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?

☐ Yes ☒ No

Are samples for human drinking water use?

☐ Yes ☒ No

Special Instructions / Specify Criteria to add on report (client Use)

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: 9

FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Paul Narkyagik	Date: 29-08-17	Time: 11:00 AM	Received by: AAL	Date: 30/08/17	Time: 12:15	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM 0326e v09 Front/04 January 2014

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.

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): 2017

Spill No.	Date	Ter	Region	Location	Site Description	Commodity	Quantity	Source	Agency
2017116	2017-04-21	NU	KEE	Baker Lake	Baker Lake Airport	Petoleum distillates	3 L	DRUM	GN
2017190	2017-06-01	NU	KEE	Baker Lake	Hamlet of Baker Lake	Diesel Fuel	100 L	TRU	GN
2017258	2017-07-19	NU	KEE	Baker Lake	Baker Lake, NU	Diesel Fuel	20 L	PL	GN
2017338	2017-09-08	NU	KEE	Baker Lake	Baker Lake, Unit 2016, Hamlet's 2 Bay garage onfirst Avenue	Heating Fuel P-50	0 L	ST<	GN
2017351	2017-09-16	NU	KEE	Baker Lake	Unit 119, Baker Lake Housing Unit	Heating Fuel #2	136 L	PL	GN

Total Spills on this Report: 5

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

Baker Lake
BAK-2

			2014		2015		2016			2017			Statistics		
Parameter	**Unit**	**DL**	**29-Jul-14**	**18-Aug-14**	**29-Jun-15**	**18-Aug-15**	**19-Jul-16**	**23-Aug-16**	**27-Sep-16**	**15-Jun-17**	**20-Jul-17**	**29-Aug-17**	**Min**	**Max**	**Average**
Alkalinity															
Bicarbonate (HCO3)	mg/L	1.2	57	56	20.3	46.8	35.7	31.0	36.0	16.5	38.6	62.1	16.5	62.1	40.00
Carbonate (CO3)	mg/L	0.60	12	12	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.6	12	2.88
Hydroxide (OH)	mg/L	0.34	6.8	6.8	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	6.8	1.63
Total (as CaCO3)	mg/L	1.0	47	46	16.6	38.4	29.3	25.4	29.5	13.5	31.6	50.9	13.5	50.9	32.82
Ammonia by Colour															
Total (as N)	mg/L	0.20	0.053	1.03	1.04	0.026	0.086	0.047	0.335	0.354	0.067	0.01	0.01	1.04	0.30
Biochemical Oxygen Demand (BOD)															
Biochemical Oxygen Demand	mg/L	6.0	6.0	8.6	2.0	2.0	2.1	2.8	2.0	9.0	2.8	2.6	2	9	3.99
Carbonaceous BOD															
BOD Carbonaceous	mg/L	6.0	6.0	6.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2	6	2.80
Chloride in Water by IC															
Chloride (Cl)	mg/L	10	31.0	31.1	9.24	19.9	15.2	12.8	13.3	4.21	14.5	20.1	4.21	31.1	17.14
Conductivity															
Conductivity	umhos/cm	1.0	251	279	97.1	196	163	155	148	63.8	180	245	63.8	279	177.79
Fecal Coliforms															
Fecal Coliforms	MPN/100mL	3	38	2300	75	4	93	430	930	110	40	50	4	2300	407.00
Hardness Calculated															
Hardness (as CaCO3)	mg/L	0.30	57.4	65.5	23.1	58.0	50.0	49.4	45.5	19.6	64.6	79.7	19.6	79.7	51.28
Mercury Total															
Mercury (Hg)	mg/L	0.00020	0.000058	0.000020	0.000020	0.000020	0.000020	0.000020	0.000020	0.0000050	0.0000050	0.0000050	0.000005	0.000058	0.00
Nitrate in Water by IC															
Nitrate (as N)	mg/L	0.40	1.30	1.38	0.980	0.686	0.475	1.63	1.28	0.461	0.577	0.349	0.349	1.63	0.91
Nitrate + Nitrite															
Nitrate and Nitrite as N	mg/L	0.45	1.38	1.58	1.01	0.686	0.522	1.66	1.30	0.481	0.607	0.349	0.349	1.66	0.96
Nitrite in Water by IC															
Nitrite (as N)	mg/L	0.20	0.089	0.198	0.033	0.010	0.047	0.026	0.028	0.021	0.031	0.01	0.01	0.198	0.05
Oil & Grease - Gravimetric															
Oil and Grease	mg/L	5.0	2.0	2.0	2.0	2.0	5.0	5.0	5.0	19.3	5.0	5.0	2	19.3	5.23
Phenol															
Phenols	mg/L	0.0010	0.0010	0.0010	0.0010	0.0010	0.0017	0.0014	0.0013	0.026	0.0010	0.0010	0.001	0.026	0.00
Phosphorus, Total															
Phosphorus (P)	mg/L	0.010	1.72	1.08	0.413	0.374	0.451	0.289	0.191	0.168	0.339	0.17	0.168	1.72	0.52
Sulfate in Water by IC															
Sulfate (SO4)	mg/L	6.0	15.6	26.8	6.71	24.0	20.8	19.8	15.1	7.27	27.5	35.3	6.71	35.3	19.89
Total Metals by ICP-MS															
Aluminium (Al)	mg/L	0.0050	0.0792	0.237	0.0798	0.0494	0.0630	0.0644	0.0789	0.0757	0.0809	0.0342	0.0342	0.237	0.08
Arsenic (As)	mg/L	0.00020	0.00112	0.00093	0.00055	0.00066	0.00076	0.00054	0.00042	0.00027	0.00084	0.00065	0.00027	0.00112	0.00
Cadmium (Cd)	mg/L	0.000010	0.000010	0.000019	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000096	0.0000092	0.0000092	0.000019	0.00
Calcium (Ca)	mg/L	0.10	16.8	19.5	6.91	17.5	15.4	15.6	14.0	6.15	19.7	24.8	6.15	24.8	15.64
Chromium (Cr)	mg/L	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.00020	0.00170	0.0002	0.0017	0.00
Cobalt (Co)	mg/L	0.00020	0.00046	0.00043	0.00020	0.00027	0.0037	0.00020	0.00020	0.00020	0.00035	0.0027	0.0002	0.0037	0.00
Copper (Cu)	mg/L	0.00020	0.00314	0.00490	0.00340	0.00273	0.00311	0.00401	0.00398	0.00255	0.00387	0.00275	0.00255	0.0049	0.00
Iron (Fe)	mg/L	0.010	1.18	1.03	0.32	0.54	0.761	0.375	0.262	0.224	0.684	0.317	0.224	1.18	0.57
Lead (Pb)	mg/L	0.000090	0.000237	0.000495	0.000124	0.000113	0.000184	0.000144	0.000114	0.000090	0.000258	0.000072	0.000072	0.000495	0.00
Magnesium (Mg)	mg/L	0.010	3.77	4.05	1.41	3.44	2.79	2.53	2.56	1.02	3.74	4.31	1.02	4.31	2.96
Manganese (Mn)	mg/L	0.00030	0.141	0.0894	0.0464	0.0640	0.104	0.0210	0.0239	0.0266	0.0935	0.049	0.021	0.141	0.07
Nickel (Ni)	mg/L	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.00104	0.00114	0.00104	0.002	0.00
Potassium (K)	mg/L	0.020	6.05	5.30	2.02	3.30	2.58	2.34	2.10	1.18	2.72	3.56	1.18	6.05	3.12
Sodium (Na)	mg/L	0.030	22.1	21.6	6.59	15.2	10.0	8.83	9.05	2.95	10.8	14.6	2.95	22.1	12.17
Zinc (Zn)	mg/L	0.0020	0.0117	0.0091	0.0063	0.0029	0.0038	0.0058	0.0061	0.0053	0.0064	0.003	0.0029	0.0117	0.01
Total Organic Carbon by Combustion															
Total Organic Carbon	mg/L	0.50	14.4	18.1	6.2	9.2	8.57	7.82	6.54	4.81	6.93	7.24	4.81	18.1	8.98
Total Suspended Solids															
Total Suspended Solids	mg/L	13	<5.0	13.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5	5	13	9.00
pH															
pH	pH Units	0.10	7.51	7.47	6.98	7.50	7.27	7.17	7.32	7.04	7.24	7.66	6.98	7.66	7.32
Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Toluene	mg/L	0.0010	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Ethyl Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
o-Xylene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F1 (C6-C10)	mg/L	0.10	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F2 (C10-C16)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F3 (C16-C34)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F4 (C34-C50)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Total Hydrocarbons (C6-C50)	mg/L	0.44	/	/	/	/	/	/	/	/	/	/	0	0	0.00

Baker Lake
BAK-3

			2014		2015		2016			2017			Statistics		
Parameter	**Unit**	**DL**	**29-Jul-14**	**18-Aug-14**	**29-Jun-15**	**18-Aug-15**	**19-Jul-16**	**23-Aug-16**	**27-Sep-16**	**15-Jun-17**	**20-Jul-17**	**29-Aug-17**	**Min**	**Max**	**Average**
Alkalinity															
Bicarbonate (HCO3)	mg/L	1.2	39	/	21.8	/	18.2	/	/	25.6	/	/	18.2	39	26.15
Carbonate (CO3)	mg/L	0.60	12	/	0.60	/	0.60	/	/	0.60	/	/	0.60	12	3.45
Hydroxide (OH)	mg/L	0.34	6.8	/	0.34	/	0.34	/	/	0.34	/	/	0.34	6.8	1.96
Total (as CaCO3)	mg/L	1.0	35	/	17.9	/	14.9	/	/	21.0	/	/	14.9	35	22.20
Ammonia by Colour															
Total (as N)	mg/L	0.20	0.010	/	0.247	/	0.010	/	/	0.202	/	/	0.01	0.247	0.12
Biochemical Oxygen Demand (BOD)															
Biochemical Oxygen Demand	mg/L	6.0	6.0	/	2.3	/	7.1	/	/	2.0	/	/	2	7.1	4.35
Carbonaceous BOD															
BOD Carbonaceous	mg/L	6.0	6.0	/	2.4	/	3.5	/	/	2.0	/	/	2	6	3.48
Chloride in Water by IC															
Chloride (Cl)	mg/L	10	9.20	/	9.53	/	11.4	/	/	7.82	/	/	7.82	11.4	9.49
Conductivity															
Conductivity	umhos/cm	1.0	85	/	83.4	/	88.0	/	/	72.2	/	/	72.2	88	82.15
Fecal Coliforms															
Fecal Coliforms	MPN/100mL	3	3	/	3	/	150	/	/	10	/	/	3	150	41.50
Hardness Calculated															
Hardness (as CaCO3)	mg/L	0.30	23.5	/	23.3	/	24.6	/	/	21.3	/	/	21.3	24.6	23.18
Mercury Total															
Mercury (Hg)	mg/L	0.00020	0.000020	0.000020	0.000020	/	0.000020	/	/	0.0000050	/	/	0.000005	0.00002	0.00
Nitrate in Water by IC															
Nitrate (as N)	mg/L	0.40	0.052	/	0.179	/	0.020	/	/	0.045	/	/	0.02	0.179	0.07
Nitrate + Nitrite															
Nitrate and Nitrite as N	mg/L	0.45	0.071	/	0.179	/	0.070	/	/	0.070	/	/	0.07	0.179	0.10
Nitrite in Water by IC															
Nitrite (as N)	mg/L	0.20	0.050	/	0.010	/	0.010	/	/	0.010	/	/	0.01	0.05	0.02
Oil & Grease - Gravimetric															
Oil and Grease	mg/L	5.0	2.0	/	2.0	/	5.0	/	/	5.0	/	/	2	5	3.50
Phenol															
Phenols	mg/L	0.0010	0.0010	/	0.0010	/	0.0033	/	/	0.0027	/	/	0.001	0.0033	0.00
Phosphorus, Total															
Phosphorus (P)	mg/L	0.010	0.120	/	0.145	/	0.079	/	/	0.090	/	/	0.079	0.145	0.11
Sulfate in Water by IC															
Sulfate (SO4)	mg/L	6.0	4.12	/	3.97	/	6.09	/	/	3.24	/	/	3.24	6.09	4.36
Total Metals by ICP-MS															
Aluminium (Al)	mg/L	0.0050	0.0706	/	0.0469	/	0.0198	/	/	0.0629	/	/	0.0198	0.0706	0.05
Arsenic (As)	mg/L	0.00020	0.00063	/	0.00040	/	0.00056	/	/	0.00029	/	/	0.00029	0.00063	0.00
Cadmium (Cd)	mg/L	0.000010	0.000010	/	0.000010	/	0.000010	/	/	0.000010	/	/	0.00001	0.00001	0.00
Calcium (Ca)	mg/L	0.10	7.01	/	6.97	/	7.35	/	/	6.55	/	/	6.55	7.35	6.97
Chromium (Cr)	mg/L	0.0010	0.0010	/	0.0010	/	0.0010	/	/	0.0010	/	/	0.001	0.001	0.00
Cobalt (Co)	mg/L	0.00020	0.00026	/	0.00020	/	0.00020	/	/	0.00020	/	/	0.0002	0.00026	0.00
Copper (Cu)	mg/L	0.00020	0.00238	/	0.00179	/	0.00210	/	/	0.00142	/	/	0.00142	0.00238	0.00
Iron (Fe)	mg/L	0.010	0.46	/	0.47	/	0.335	/	/	0.426	/	/	0.335	0.47	0.42
Lead (Pb)	mg/L	0.000090	0.000090	/	0.000090	/	0.000090	/	/	0.000090	/	/	0.00009	0.00009	0.00
Magnesium (Mg)	mg/L	0.010	1.46	/	1.43	/	1.53	/	/	1.21	/	/	1.21	1.53	1.41
Manganese (Mn)	mg/L	0.00030	0.0811	/	0.0599	/	0.0295	/	/	0.0375	/	/	0.0295	0.0811	0.05
Nickel (Ni)	mg/L	0.0020	0.0020	/	0.0020	/	0.0020	/	/	0.0020	/	/	0.002	0.002	0.00
Potassium (K)	mg/L	0.020	1.54	/	1.36	/	1.41	/	/	1.00	/	/	1	1.54	1.33
Sodium (Na)	mg/L	0.030	5.81	/	5.87	/	6.89	/	/	4.07	/	/	4.07	6.89	5.66
Zinc (Zn)	mg/L	0.0020	0.0038	/	0.0035	/	0.0024	/	/	0.0035	/	/	0.0024	0.0038	0.00
Total Organic Carbon by Combustion															
Total Organic Carbon	mg/L	0.50	13.9	/	5.9	/	7.02	/	/	5.51	/	/	5.51	13.9	8.08
Total Suspended Solids															
Total Suspended Solids	mg/L	13	15.0	/	7.0	/	8.0	/	/	9.0	/	/	7	15	9.75
pH															
pH	pH Units	0.10	8.46	/	7.18	/	7.35	/	/	7.16	/	/	7.16	8.46	7.54
Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
Toluene	mg/L	0.0010	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
Ethyl Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
o-Xylene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
F1 (C6-C10)	mg/L	0.10	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
F2 (C10-C16)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
F3 (C16-C34)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
F4 (C34-C50)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!
Total Hydrocarbons (C6-C50)	mg/L	0.44	/	/	/	/	/	/	/	/	/	/	0	0	#DIV/0!

Baker Lake
BAK-4

			2014		2015		2016			2017				Statistics	
Parameter	**Unit**	**DL**	**29-Jul-14**	**18-Aug-14**	**29-Jun-15**	**18-Aug-15**	**19-Jul-16**	**23-Aug-16**	**27-Sep-16**	**15-Jun-17**	**20-Jul-17**	**29-Aug-17**	**Min**	**Max**	**Average**
Alkalinity															
Bicarbonate (HCO3)	mg/L	1.2	79	/	30.4	/	38.9	/	/	44.2	/	/	30.4	79	48.13
Carbonate (CO3)	mg/L	0.60	12	/	0.60	/	0.60	/	/	0.60	/	/	0.6	12	3.45
Hydroxide (OH)	mg/L	0.34	6.8	/	0.34	/	0.34	/	/	0.34	/	/	0.34	6.8	1.96
Total (as CaCO3)	mg/L	1.0	64	/	24.9	/	31.9	/	/	36.2	/	/	24.9	64	39.25
Ammonia by Colour															
Total (as N)	mg/L	0.20	2.65	/	2.86	/	0.95	/	/	3.90	/	/	0.95	3.9	2.59
Biochemical Oxygen Demand (BOD)															
Biochemical Oxygen Demand	mg/L	6.0	12.7	/	4.0	/	3.0	/	/	4.1	/	/	3	12.7	5.95
Carbonaceous BOD															
BOD Carbonaceous	mg/L	6.0	8.9	/	2.4	/	2.1	/	/	2.9	/	/	2.1	8.9	4.08
Chloride in Water by IC															
Chloride (Cl)	mg/L	10	38.3	/	8.66	/	16.5	/	/	3.87	/	/	3.87	38.3	16.83
Conductivity															
Conductivity	umhos/cm	1.0	317	/	89.2	/	175	/	/	69.0	/	/	69	317	162.55
Fecal Coliforms															
Fecal Coliforms	MPN/100mL	3	4	/	9300	/	2400	/	/	12000	/	/	4	12000	5926.00
Hardness Calculated															
Hardness (as CaCO3)	mg/L	0.30	59.9	/	16.2	/	51.2	/	/	18.2	/	/	16.2	59.9	36.38
Mercury Total															
Mercury (Hg)	mg/L	0.00020	0.000020	0.000020	0.00020	/	0.000020	/	/	0.0000050	/	/	0.000005	0.0002	0.00
Nitrate in Water by IC															
Nitrate (as N)	mg/L	0.40	0.400	/	0.044	/	0.265	/	/	0.056	/	/	0.044	0.4	0.19
Nitrate + Nitrite															
Nitrate and Nitrite as N	mg/L	0.45	0.902	/	0.070	/	0.290	/	/	0.070	/	/	0.07	0.902	0.33
Nitrite in Water by IC															
Nitrite (as N)	mg/L	0.20	0.502	/	0.010	/	0.025	/	/	0.011	/	/	0.01	0.502	0.14
Oil & Grease - Gravimetric															
Oil and Grease	mg/L	5.0	2.3	/	2.0	/	5.0	/	/	5.1	/	/	2	5.1	3.60
Phenol															
Phenols	mg/L	0.0010	0.0010	/	0.0010	/	0.0041	/	/	0.0039	/	/	0.001	0.0041	0.00
Phosphorus, Total															
Phosphorus (P)	mg/L	0.010	2.16	/	0.467	/	0.554	/	/	0.385	/	/	0.385	2.16	0.89
Sulfate in Water by IC															
Sulfate (SO4)	mg/L	6.0	17.9	/	1.90	/	21.9	/	/	1.42	/	/	1.42	21.9	10.78
Total Metals by ICP-MS															
Aluminium (Al)	mg/L	0.0050	0.204	/	0.0511	/	0.0846	/	/	0.0533	/	/	0.0511	0.204	0.10
Arsenic (As)	mg/L	0.00020	0.00114	/	0.00029	/	0.00078	/	/	0.00030	/	/	0.00029	0.00114	0.00
Cadmium (Cd)	mg/L	0.000010	0.000017	/	0.000010	/	0.000010	/	/	0.000010	/	/	0.00001	0.000017	0.00
Calcium (Ca)	mg/L	0.10	17.0	/	4.66	/	15.7	/	/	5.90	/	/	4.66	17	10.82
Chromium (Cr)	mg/L	0.0010	0.0010	/	0.0010	/	0.0010	/	/	0.0010	/	/	0.001	0.001	0.00
Cobalt (Co)	mg/L	0.00020	0.00053	/	0.00020	/	0.00028	/	/	0.00020	/	/	0.0002	0.00053	0.00
Copper (Cu)	mg/L	0.00020	0.00379	/	0.00494	/	0.00371	/	/	0.00425	/	/	0.00371	0.00494	0.00
Iron (Fe)	mg/L	0.010	1.30	/	0.29	/	0.662	/	/	0.247	/	/	0.247	1.3	0.62
Lead (Pb)	mg/L	0.000090	0.000418	/	0.000129	/	0.000256	/	/	0.000163	/	/	0.000129	0.000418	0.00
Magnesium (Mg)	mg/L	0.010	4.26	/	1.11	/	2.91	/	/	0.839	/	/	0.839	4.26	2.28
Manganese (Mn)	mg/L	0.00030	0.239	/	0.0416	/	0.0734	/	/	0.0419	/	/	0.0416	0.239	0.10
Nickel (Ni)	mg/L	0.0020	0.0020	/	0.0020	/	0.0020	/	/	0.0020	/	/	0.002	0.002	0.00
Potassium (K)	mg/L	0.020	7.54	/	1.53	/	3.18	/	/	1.10	/	/	1.1	7.54	3.34
Sodium (Na)	mg/L	0.030	25.7	/	5.69	/	10.9	/	/	2.24	/	/	2.24	25.7	11.13
Zinc (Zn)	mg/L	0.0020	0.0106	/	0.0068	/	0.0054	/	/	0.0070	/	/	0.0054	0.0106	0.01
Total Organic Carbon by Combustion															
Total Organic Carbon	mg/L	0.50	18.6	/	6.3	/	9.14	/	/	6.33	/	/	6.3	18.6	10.09
Total Suspended Solids															
Total Suspended Solids	mg/L	13	25.0	/	5.0	/	5.0	/	/	5.0	/	/	5	25	10.00
pH															
pH	pH Units	0.10	7.42	/	6.87	/	7.22	/	/	7.08	/	/	6.87	7.42	7.15
Benzene	mg/L	0.00050	0.00050	/	0.00050	/	0.00050	/	/	0.00050	/	/	0.0005	0.0005	0.00
Toluene	mg/L	0.0010	0.0010	/	0.0010	/	0.0010	/	/	0.0010	/	/	0.001	0.001	0.00
Ethyl Benzene	mg/L	0.00050	0.00050	/	0.00050	/	0.00050	/	/	0.00050	/	/	0.0005	0.0005	0.00
o-Xylene	mg/L	0.00050	0.00050	/	0.00050	/	0.00050	/	/	0.00050	/	/	0.0005	0.0005	0.00
F1 (C6-C10)	mg/L	0.10	0.10	/	0.10	/	0.10	/	/	0.10	/	/	0.1	0.1	0.10
F2 (C10-C16)	mg/L	0.25	0.25	/	0.25	/	0.10	/	/	0.10	/	/	0.1	0.25	0.18
F3 (C16-C34)	mg/L	0.25	0.32	/	0.42	/	0.27	/	/	0.37	/	/	0.27	0.42	0.35
F4 (C34-C50)	mg/L	0.25	0.25	/	0.25	/	0.25	/	/	0.25	/	/	0.25	0.25	0.25
Total Hydrocarbons (C6-C50)	mg/L	0.44	0.44	/	0.44	/	0.38	/	/	0.38	/	/	0.38	0.44	0.41

Baker Lake
BAK-5

			2014		2015		2016			2017			Statistics		
Parameter	**Unit**	**DL**	**29-Jul-14**	**18-Aug-14**	**29-Jun-15**	**18-Aug-15**	**19-Jul-16**	**23-Aug-16**	**27-Sep-16**	**15-Jun-17**	**20-Jul-17**	**29-Aug-17**	**Min**	**Max**	**Average**
Alkalinity															
Bicarbonate (HCO3)	mg/L	1.2	96	/	32.7	/	46.0	/	/	31.4	/	/	31.4	96	51.53
Carbonate (CO3)	mg/L	0.60	12	/	0.60	/	0.60	/	/	0.60	/	/	0.6	12	3.45
Hydroxide (OH)	mg/L	0.34	6.8	/	0.34	/	0.34	/	/	0.34	/	/	0.34	6.8	1.96
Total (as CaCO3)	mg/L	1.0	79	/	26.8	/	37.7	/	/	25.7	/	/	25.7	79	42.30
Ammonia by Colour															
Total (as N)	mg/L	0.20	6.3	/	2.63	/	2.85	/	/	3.64	/	/	2.63	6.3	3.86
Biochemical Oxygen Demand (BOD)															
Biochemical Oxygen Demand	mg/L	6.0	15.2	/	3.7	/	12.0	/	/	6.5	/	/	3.7	15.2	9.35
Carbonaceous BOD															
BOD Carbonaceous	mg/L	6.0	6.2	/	2.3	/	15.9	/	/	4.2	/	/	2.3	15.9	7.15
Chloride in Water by IC															
Chloride (Cl)	mg/L	10	47.8	/	9.01	/	17.1	/	/	4.24	/	/	4.24	47.8	19.54
Conductivity															
Conductivity	umhos/cm	1.0	357	/	92.8	/	151	/	/	67.3	/	/	67.3	357	167.03
Fecal Coliforms															
Fecal Coliforms	MPN/100mL	3	2300	/	2300	/	930	/	/	19900	/	/	930	19900	6357.50
Hardness Calculated															
Hardness (as CaCO3)	mg/L	0.30	43.7	/	17.2	/	29.1	/	/	14.1	/	/	14.1	43.7	26.03
Mercury Total															
Mercury (Hg)	mg/L	0.00020	0.000020	0.000020	0.00020	/	0.000020	/	/	0.0000050	/	/	0.000005	0.0002	0.00005
Nitrate in Water by IC															
Nitrate (as N)	mg/L	0.40	0.672	/	0.046	/	0.473	/	/	0.035	/	/	0.035	0.672	0.31
Nitrate + Nitrite															
Nitrate and Nitrite as N	mg/L	0.45	2.29	/	0.070	/	0.732	/	/	0.070	/	/	0.07	2.29	0.79
Nitrite in Water by IC															
Nitrite (as N)	mg/L	0.20	1.62	/	0.010	/	0.258	/	/	0.010	/	/	0.01	1.62	0.47
Oil & Grease - Gravimetric															
Oil and Grease	mg/L	5.0	2.0	/	2.0	/	5.0	/	/	5.0	/	/	2.0	5.0	3.50
Phenol															
Phenols	mg/L	0.0010	0.0010	/	0.0010	/	0.0025	/	/	0.0050	/	/	0.001	0.005	0.0024
Phosphorus, Total															
Phosphorus (P)	mg/L	0.010	2.32	/	0.503	/	0.768	/	/	0.401	/	/	0.401	2.32	1.00
Sulfate in Water by IC															
Sulfate (SO4)	mg/L	6.0	3.50	/	2.01	/	3.21	/	/	1.36	/	/	1.36	3.5	2.52
Total Metals by ICP-MS															
Aluminium (Al)	mg/L	0.0050	0.0728	/	0.0490	/	0.0602	/	/	0.0608	/	/	0.049	0.0728	0.06
Arsenic (As)	mg/L	0.00020	0.00158	/	0.00034	/	0.00079	/	/	0.00023	/	/	0.00023	0.00158	0.00074
Cadmium (Cd)	mg/L	0.000010	0.000010	/	0.000010	/	0.000010	/	/	0.000010	/	/	0.00001	0.00001	0.00001
Calcium (Ca)	mg/L	0.10	11.9	/	4.97	/	8.55	/	/	4.3	/	/	4.33	11.9	7.44
Chromium (Cr)	mg/L	0.0010	0.0010	/	0.0010	/	0.0010	/	/	0.0010	/	/	0.001	0.001	0.00100
Cobalt (Co)	mg/L	0.00020	0.00061	/	0.00023	/	0.00039	/	/	0.00020	/	/	0.0002	0.00061	0.00036
Copper (Cu)	mg/L	0.00020	0.00455	/	0.00506	/	0.00537	/	/	0.00597	/	/	0.00455	0.00597	0.005
Iron (Fe)	mg/L	0.010	0.73	/	0.47	/	0.808	/	/	0.286	/	/	0.286	0.808	0.57
Lead (Pb)	mg/L	0.000090	0.000176	/	0.000155	/	0.000220	/	/	0.000132	/	/	0.000132	0.00022	0.00017
Magnesium (Mg)	mg/L	0.010	3.37	/	1.17	/	1.88	/	/	0.800	/	/	0.8	3.37	1.81
Manganese (Mn)	mg/L	0.00030	0.166	/	0.0612	/	0.0803	/	/	0.0276	/	/	0.0276	0.166	0.084
Nickel (Ni)	mg/L	0.0020	0.0022	/	0.0020	/	0.0020	/	/	0.0020	/	/	0.002	0.0022	0.0021
Potassium (K)	mg/L	0.020	9.43	/	1.56	/	3.34	/	/	1.25	/	/	1.25	9.43	3.90
Sodium (Na)	mg/L	0.030	32.9	/	5.59	/	11.8	/	/	2.82	/	/	2.82	32.9	13.28
Zinc (Zn)	mg/L	0.0020	0.0067	/	0.0105	/	0.0049	/	/	0.0068	/	/	0.0049	0.0105	0.007
Total Organic Carbon by Combustion															
Total Organic Carbon	mg/L	0.50	25.6	/	6.7	/	13.4	/	/	6.45	/	/	6.45	25.6	13.04
Total Suspended Solids															
Total Suspended Solids	mg/L	13	28.0	/	5.0	/	10.0	/	/	6.0	/	/	5.0	28.0	12.25
pH															
pH	pH Units	0.10	7.67	/	6.94	/	7.08	/	/	6.73	/	/	6.73	7.67	7.11
Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Toluene	mg/L	0.0010	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Ethyl Benzene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
o-Xylene	mg/L	0.00050	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F1 (C6-C10)	mg/L	0.10	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F2 (C10-C16)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F3 (C16-C34)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
F4 (C34-C50)	mg/L	0.25	/	/	/	/	/	/	/	/	/	/	0	0	0.00
Total Hydrocarbons (C6-C50)	mg/L	0.44	/	/	/	/	/	/	/	/	/	/	0	0	0.00