YEAR BEING REPORTED: 2017

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	1,517,400	Same
February	1,424,200	Same
March	1,360,000	Same
April	1,717,500	Same
May	1,669,100	Same
June	1,778,700	Same
July	1,450,500	Same
August	1,389,200	Same
September	1,355,600	Same
October	1,740,400	Same
November	1,430,300	Same
December	1,852,500	Same
ANNUAL TOTAL	18,685,400	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;
 - Batteries were separated into sea cans.





Page 2 of 4

- v. a list of unauthorized discharges and summary of follow-up action taken;
 - No spills documented.
- vi. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year.
 - No abandonment and restoration work took place in 2017 and no work 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.
 - No details requested.
- ix. updates or revisions to the approved Operation and Maintenance Plans.
 - No updates or revisions to the Operation and Maintenance Plans in 2017.

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 INAC Inspection took place on July 11, 2017. A copy of the inspection report can be found in Appendix H.

List of Appendixes:

Appendix A: WHA-3 Effluent Quality Limits – 1 page

Appendix B: Certificate of Analysis June 8, 2017 – 11 pages

Appendix C: Certificate of Analysis July 12, 2017 – 11 pages

Appendix D: Certificate of Analysis August 28, 2017–11 pages

Appendix E: Certificate of Analysis September 22, 2017 – 11 pages

Appendix F: Hazardous Materials Spill Database, Whale Cove 2017 – 1 page

Appendix G: Summary of Sampling Results 2017 – 3 pages

Appendix H: 2017 INAC Inspection Report – 1 page

2017 Whale Cove Monitoring Stations and Sampling Parameters for Water License No. 3BM-WHA1520

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

	Maximum concentration of any	WHA-3						
Parameter	grab sample	08-Jun-17	12-Jul-17	28-Aug-17	22-Sep-17			
BOD ₅	120 mg/L	77	33	39	18.5			
Total Suspended Solids	180 mg/L	46	36	68	22			
Fecal Coliforms	1x10 ⁶ CFU/100mL	24200	15500	12000	19900			
Oil + Grease	no visible sheen	14.5	5	5	5.6			
рН	between 6 and 9	7.37	8.1	7.6	7.5			



Hamlet of Whale Cove ATTN: IAN COPLAND

PO Box 120

Whale Cove NU XOC OJO

Date Received: 09-JUN-17

Report Date: 20-JUN-17 15:35 (MT)

Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1939568
Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers: Legal Site Desc:

Craig Biddell, B.Sc.Ag Account Manager

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

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721

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



Ammonia by colour Ammonia, Total (as N) 0.105 0.010 mg/L 13-JUN-17 R37 Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand 10.3 2.0 mg/L 10-JUN-17 R37 Carbonaceous BOD BOD Carbonaceous 6.4 2.0 mg/L 10-JUN-17 R37 Chloride in Water by IC Chloride (CI) 123 0.50 mg/L 09-JUN-17 R37 Conductivity Conductivity 819 1.0 umhos/cm 09-JUN-17 R37 Fecal Coliforms, 1:10 dilution by QT97 Fecal Coliforms 10 MPN/100mL 09-JUN-17 R37 Hardness Calculated Hardness (as CaCO3) 185 HTC 0.25 mg/L 14-JUN-17 R37 Mercury Total Mercury (Hg)-Total <0.000050	744174 746844 749233 749233 746804
Sampled By:	746844 749233 749233
Matrix: Sewage/Waste Water Nunavut WW Group 1 Alkalinity, Bicarbonate Bicarbonate (HCO3) 234 1.2 mg/L 13-JUN-17 Alkalinity, Carbonate Carbonate (CO3) 6.72 0.60 mg/L 13-JUN-17 Alkalinity, Hydroxide Hydroxide (OH) <0.34 0.34 mg/L 13-JUN-17 Alkalinity, Total (as CaCO3) 203 1.0 mg/L 09-JUN-17 R37 Alkalinity, Total (as CaCO3) 203 1.0 mg/L 09-JUN-17 R37 Ammonia by colour Ammonia, Total (as N) 0.105 0.010 mg/L 13-JUN-17 R37 Carbonaceous BOD Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand 10.3 2.0 mg/L 10-JUN-17 R37 R37 Chloride in Water by IC Chloride in Water by IC 123 0.50 mg/L 09-JUN-17 R37 Chloride (CI) 124 10-JUN-17 R37 Chloride (CI) 125 mg/L 12-JUN-17 R37 Chlori	746844 749233 749233
Nunavut WW Group 1 Alkalinity, Bicarbonate Bicarbonate (HCO3) 234 1.2 mg/L 13-JUN-17 Alkalinity, Carbonate (CO3) 6.72 0.60 mg/L 13-JUN-17 Alkalinity, Hydroxide Hydroxide (CO3) 4.12	746844 749233 749233
Alkalinity, Bicarbonate Bicarbonate Bicarbonate Bicarbonate (HCO3) 234 1.2 mg/L 13-JUN-17 Alkalinity, Carbonate Carbonate (CO3) 6.72 0.60 mg/L 13-JUN-17 Alkalinity, Varionate Hydroxide Hydroxide (OH) < 0.34 0.34 mg/L 13-JUN-17 Alkalinity, Total (as CaCO3) 203 1.0 mg/L 09-JUN-17 R37 Alkalinity, Total (as CaCO3) 203 1.0 mg/L 09-JUN-17 R37 R	746844 749233 749233
Bicarbonate (HCO3)	746844 749233 749233
Alkalinity, Carbonate Carb	746844 749233 749233
Carbonate (CO3)	746844 749233 749233
Hydroxide (OH)	746844 749233 749233
Alkalinity, Total (as CaCO3) 203 1.0 mg/L 09-JUN-17 R37 Ammonia by colour Ammonia, Total (as N) 0.105 0.010 mg/L 13-JUN-17 R37 Biochemical Oxygen Demand (BOD) 10.3 2.0 mg/L 10-JUN-17 R37 Carbonaceous BOD BOD Carbonaceous 6.4 2.0 mg/L 10-JUN-17 R37 Chloride in Water by IC Chloride (Cl) 123 0.50 mg/L 09-JUN-17 R37 Conductivity Conductivity 819 1.0 umhos/cm 09-JUN-17 R37 Fecal coliforms, 1:10 dilution by QT97 410 10 MPN/100mL 09-JUN-17 R37 Hardness Calculated Hardness (as CaCO3) 185 HTC 0.25 mg/L 14-JUN-17 13-JUN-17 R37 Nitrate in Water by IC Nitrate (as N) 0.028 0.020 mg/L 12-JUN-17 13-JUN-17 R37 Nitrate and Nitrite as N <0.070 0.070 mg/L 14-JUN-17 14-JUN-17 Nitrite (as N) 0.010 0.010 0.010 0.09-JUN-17 <th>746844 749233 749233</th>	746844 749233 749233
Alkalinity, Total (as CaCO3) Ammonia by colour Ammonia, Total (as N) Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand Carbonaceous BOD BOD Carbonaceous Chloride in Water by IC Chloride (CI) Conductivity Conductivity Conductivity Conductivity Conductivity Fecal Coliforms, 1:10 dilution by QT97 Fecal Coliforms Hardness Calculated Hardness (as CaCO3) Mercury Total Mercury Total Mercury (Hg)-Total Mercury (Hg)-Total Nitrate in Water by IC Nitrate and Nitrite as N Nitrate to Water by IC Nitrite (as N) Oil & Grease - Gravimetric	746844 749233 749233
Ammonia by colour Ammonia, Total (as N) 0.105 0.010 mg/L 13-JUN-17 R37 Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand 10.3 2.0 mg/L 10-JUN-17 R37 Carbonaceous BOD BOD Carbonaceous 6.4 2.0 mg/L 10-JUN-17 R37 Chloride in Water by IC Chloride (CI) 123 0.50 mg/L 09-JUN-17 R37 Conductivity Conductivity 819 1.0 umhos/cm 09-JUN-17 R37 Fecal Coliforms, 1:10 dilution by QT97 Fecal Coliforms 10 MPN/100mL 09-JUN-17 R37 Hardness Calculated Hardness (as CaCO3) 185 HTC 0.25 mg/L 14-JUN-17 R37 Mercury Total Mercury (Hg)-Total <0.000050	746844 749233 749233
Biochemical Oxygen Demand (BOD)	749233 749233
Biochemical Oxygen Demand 10.3 2.0 mg/L 10-JUN-17 R37 Carbonaceous BOD BOD Carbonaceous 6.4 2.0 mg/L 10-JUN-17 R37 R37 Chloride in Water by IC Chloride (CI) 123 0.50 mg/L 09-JUN-17 R37 R37 Chloride (CI) 819 1.0 umhos/cm 09-JUN-17 R37 Chloride (CI) 819 1.0 umhos/cm 09-JUN-17 R37 Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms <10 10 MPN/100mL 09-JUN-17 R37 Hardness Calculated Hardness (as CaCO3) 185 HTC 0.25 mg/L 14-JUN-17 R37 Mercury (Hg)-Total <0.0000050 0.0000050 mg/L 12-JUN-17 13-JUN-17 R37 Nitrate in Water by IC Nitrate (as N) 0.028 0.020 mg/L 09-JUN-17 R37 Nitrate in Water by IC Nitrate in Water by IC Nitrite in Water by IC Nitrite (as N) <0.070 0.070 mg/L 09-JUN-17 R37 Nitrite in Water by IC Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 R37 Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 R37 Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 R37 Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 R37 Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 R37 Nitrite (as N) <0.010 0.010 mg/L 09-JUN-17 R37 Nitrite (as N) 00-JUN-17 Nitrite (as N)	49233
Carbonaceous BOD 6.4 2.0 mg/L 10-JUN-17 R37 Chloride in Water by IC 123 0.50 mg/L 09-JUN-17 R37 Conductivity 819 1.0 umhos/cm 09-JUN-17 R37 Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms <10	49233
BOD Carbonaceous 6.4 2.0 mg/L 10-JUN-17 R37	
Chloride (Cl)	46804
Conductivity 819 1.0 umhos/cm 09-JUN-17 R37 Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms <10	46804
Conductivity 819 1.0 umhos/cm 09-JUN-17 R37	
Fecal Coliforms	44174
Hardness Calculated Hardness (as CaCO3) 185 HTC 0.25 mg/L 14-JUN-17 Mercury Total Mercury (Hg)-Total <0.0000050 0.0000050 mg/L 12-JUN-17 13-JUN-17 R37 Nitrate in Water by IC Nitrate and Nitrite as N Nitrate in Water by IC Nitrite (as N) <0.070 0.070 mg/L 14-JUN-17 14-JUN-17 Nitrite in Water by IC 0.010 mg/L 09-JUN-17 R37 Oil & Grease - Gravimetric <0.010 0.010 mg/L 09-JUN-17 R37	
Hardness (as CaCO3)	44950
Mercury Total Mercury (Hg)-Total <0.0000050	
Nitrate in Water by IC 0.028 0.020 mg/L 09-JUN-17 R37 Nitrate+Nitrite 0.070 mg/L 14-JUN-17 14-JUN-17 14-JUN-17 Nitrite in Water by IC 0.010 mg/L 09-JUN-17 R37 Oil & Grease - Gravimetric <0.010 0.010 mg/L 09-JUN-17 R37	
Nitrate (as N) 0.028 0.020 mg/L 09-JUN-17 R37 Nitrate+Nitrite Nitrate and Nitrite as N <0.070	'48291
Nitrate+Nitrite Nitrate and Nitrite as N Nitrite in Water by IC Nitrite (as N) Oil & Grease - Gravimetric Nitrate +Nitrite <0.070 0.070 mg/L 14-JUN-17 0.010 mg/L 09-JUN-17 R37	46804
Nitrate and Nitrite as N <0.070 0.070 mg/L 14-JUN-17	40004
Nitrite (as N)	
Oil & Grease - Gravimetric	
	'46804
1000111 1101	48500
Phenol (4AAP)	
	51084
Phosphorus, Total 4.19 0.10 mg/L 16-JUN-17 R37	50563
Sulfate in Water by IC	
	46804
Total Metals by ICP-MS	46932
	46932
Cadmium (Cd)-Total 0.000012 0.000010 mg/L 13-JUN-17 13-JUN-17 R37	46932
	46932
	46932
	anus
	46932 46932
	46932
	746932 746932 746932 746932
Nickel (Ni)-Total 0.0036 0.0020 mg/L 13-JUN-17 13-JUN-17 R37	746932 746932 746932

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1939568-1 WHA-4							
Sampled By: Don Voisey on 08-JUN-17							
Matrix: Sewage/Waste Water							
Total Metals by ICP-MS							
Potassium (K)-Total	28.6		0.020	mg/L	13-JUN-17	13-JUN-17	R3746932
Sodium (Na)-Total Zinc (Zn)-Total	88.7 0.0023		0.030 0.0020	mg/L mg/L	13-JUN-17 13-JUN-17	13-JUN-17 13-JUN-17	R3746932 R3746932
Total Organic Carbon by Combustion	0.0023		0.0020	IIIg/L	13-30IN-17	13-30IN-17	K3/40932
Total Organic Carbon	20.2		0.50	mg/L		15-JUN-17	R3749003
Total Suspended Solids Total Suspended Solids	17.0		5.0	mg/L		14-JUN-17	R3748228
pH	17.0		0.0	9/ =			1107 10220
рН	8.48		0.10	pH units		09-JUN-17	R3744174
L1939568-2 WHA-3							
Sampled By: Don Voisey on 08-JUN-17							
Matrix: Sewage/Waste Water							
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	338		1.2	mg/L		14-JUN-17	
Alkalinity, Carbonate	330		1.4	iiig/L		14 00IN-17	
Carbonate (CO3)	<0.60		0.60	mg/L		14-JUN-17	
Alkalinity, Hydroxide Hydroxide (OH)	<0.34		0.34	mg/L		14-JUN-17	
Alkalinity, Total (as CaCO3) Alkalinity, Total (as CaCO3)	277		1.0	mg/L		13-JUN-17	R3746992
Ammonia by colour Ammonia, Total (as N)	43.8		1.0	mg/L		13-JUN-17	R3746844
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand Carbonaceous BOD	77		20	mg/L		10-JUN-17	R3749233
BOD Carbonaceous	69		20	mg/L		10-JUN-17	R3749233
Chloride in Water by IC Chloride (CI)	79.9		1.0	mg/L		09-JUN-17	R3746804
Conductivity Conductivity	900		1.0	umhos/cm		09-JUN-17	R3744174
Fecal coliforms, 1:10 dilution by QT97	900		1.0	ullillos/clil		09-30IN-17	K3/441/4
Fecal Coliforms	>24200		10	MPN/100mL		09-JUN-17	R3744950
Hardness Calculated Hardness (as CaCO3)	130	HTC	0.25	mg/L		14-JUN-17	
Mercury Total Mercury (Hg)-Total	0.0000131		0.0000050	mg/L	12-JUN-17	13-JUN-17	R3748291
Nitrate in Water by IC Nitrate (as N)	<0.040	DLM	0.040	mg/L		09-JUN-17	R3746804
Nitrate+Nitrite Nitrate and Nitrite as N	<0.070		0.070	mg/L		14-JUN-17	
Nitrite in Water by IC Nitrite (as N)	<0.020	DLM	0.020	mg/L		09-JUN-17	R3746804
Oil & Grease - Gravimetric		DEIVI					
Oil and Grease Phenol (4AAP)	14.5		5.0	mg/L		15-JUN-17	R3748500
Phenols (4AAP) Phosphorus, Total	0.0641		0.0010	mg/L		20-JUN-17	R3751084
Phosphorus (P)-Total	5.80		0.10	mg/L		16-JUN-17	R3750563
Sulfate in Water by IC Sulfate (SO4)	38.0		0.60	mg/L		09-JUN-17	R3746804

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1939568-2 WHA-3							
Sampled By: Don Voisey on 08-JUN-17							
Total Metals by ICP-MS Aluminum (AI)-Total	0.125		0.0050	mg/L	13-JUN-17	13-JUN-17	R3746932
Arsenic (As)-Total	0.00169		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Cadmium (Cd)-Total	0.000066		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Calcium (Ca)-Total	37.3		0.10	mg/L	13-JUN-17	13-JUN-17	R3746932
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	13-JUN-17	13-JUN-17	R3746932
Cobalt (Co)-Total	0.00170		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Copper (Cu)-Total	0.0708		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Iron (Fe)-Total	0.479		0.010	mg/L	13-JUN-17	13-JUN-17	R3746932
Lead (Pb)-Total	0.000956		0.000090	mg/L	13-JUN-17	13-JUN-17	R3746932
Magnesium (Mg)-Total	8.85		0.010	mg/L	13-JUN-17	13-JUN-17	R3746932
Manganese (Mn)-Total	0.115		0.00030	mg/L	13-JUN-17	13-JUN-17	R3746932
Nickel (Ni)-Total	0.0044		0.0020	mg/L	13-JUN-17	13-JUN-17	R3746932
Potassium (K)-Total	20.5		0.020	mg/L	13-JUN-17	13-JUN-17	R3746932
Sodium (Na)-Total	63.5		0.030	mg/L	13-JUN-17	13-JUN-17	R3746932
Zinc (Zn)-Total	0.0521		0.0020	mg/L	13-JUN-17	13-JUN-17	R3746932
Total Organic Carbon by Combustion Total Organic Carbon	82.8		2.5	mg/L		16-JUN-17	R3750131
Total Suspended Solids	40.0		- 0			44 11 15 1 47	D0740000
Total Suspended Solids pH	46.0		5.0	mg/L		14-JUN-17	R3748228
pH	7.37		0.10	pH units		09-JUN-17	R3744174
L1939568-3 WHA-2							
Sampled By: Don Voisey on 08-JUN-17							
Matrix: Sewage/Waste Water							
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		14-JUN-17	R3748482
Toluene	<0.0010		0.0010	mg/L		14-JUN-17	R3748482
Ethyl benzene	<0.00050		0.00050	mg/L		14-JUN-17	R3748482
o-Xylene m+p-Xylenes	<0.00050 <0.00040		0.00050 0.00040	mg/L		14-JUN-17 14-JUN-17	R3748482 R3748482
F1 (C6-C10)	<0.0040		0.00040	mg/L mg/L		14-JUN-17	R3748482
Surrogate: 4-Bromofluorobenzene (SS)	98.8		70-130	™g/∟ %		14-JUN-17	R3748482
CCME PHC F2-F4 in Water	30.0		70 100	,0			107 70702
F2 (C10-C16)	<0.10		0.10	mg/L	13-JUN-17	14-JUN-17	R3747836
F3 (C16-C34)	<0.25		0.25	mg/L	13-JUN-17	14-JUN-17	R3747836
F4 (C34-C50)	<0.25		0.25	mg/L	13-JUN-17	14-JUN-17	R3747836
Surrogate: 2-Bromobenzotrifluoride	82.2		60-140	%	13-JUN-17	14-JUN-17	R3747836
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		19-JUN-17	
F2-Naphth	<0.10		0.10	mg/L		19-JUN-17	
F3-PAH	<0.25		0.25	mg/L		19-JUN-17	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		19-JUN-17	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.00064		0.00064	mg/L		15-JUN-17	
Polyaromatic Hydrocarbons (PAHs)					40	,_	
1-Methyl Naphthalene	0.000123		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
2-Methyl Naphthalene	0.000082		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
Acenaphthylana	<0.000020		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
Acenaphthylene	0.000023		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1939568-3 WHA-2							
Sampled By: Don Voisey on 08-JUN-17							
Matrix: Sewage/Waste Water							
Polyaromatic Hydrocarbons (PAHs)							
Anthracene	<0.00010		0.000010	mg/L	13-JUN-17	17-JUN-17	R3750551
Acridine	<0.000020		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
Benzo(a)anthracene	<0.000010		0.000010	mg/L	13-JUN-17	17-JUN-17	R3750551
Benzo(a)pyrene	<0.000050		0.0000050	mg/L	13-JUN-17	17-JUN-17	R3750551
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	13-JUN-17	17-JUN-17	R3750551
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
Benzo(k)fluoranthene Chrysene	<0.000010 <0.000020		0.000010 0.000020	mg/L mg/L	13-JUN-17 13-JUN-17	17-JUN-17 17-JUN-17	R3750551 R3750551
Dibenzo(a,h)anthracene	<0.000020		0.000020	mg/L	13-JUN-17 13-JUN-17	17-30N-17 17-JUN-17	R3750551
Fluoranthene	<0.000030		0.0000030	mg/L	13-JUN-17	17-JUN-17	R3750551
Fluorene	0.000023		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	13-JUN-17	17-JUN-17	R3750551
Naphthalene	0.000109		0.000050	mg/L	13-JUN-17	17-JUN-17	R3750551
Phenanthrene	<0.000050		0.000050	mg/L	13-JUN-17	17-JUN-17	R3750551
Pyrene	<0.000010		0.000010	mg/L	13-JUN-17	17-JUN-17	R3750551
Quinoline	0.000189		0.000020	mg/L	13-JUN-17	17-JUN-17	R3750551
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	13-JUN-17	17-JUN-17	R3750551
Surrogate: Acenaphthene d10 Surrogate: Acridine d9	94.0 112.7		40-130 40-130	% %	13-JUN-17 13-JUN-17	17-JUN-17 17-JUN-17	R3750551 R3750551
Surrogate: Achdine d9 Surrogate: Chrysene d12	69.0		40-130	%	13-JUN-17 13-JUN-17	17-JUN-17 17-JUN-17	R3750551
Surrogate: Naphthalene d8	97.0		40-130	%	13-JUN-17	17-JUN-17	R3750551
Surrogate: Phenanthrene d10	91.0		40-130	%	13-JUN-17	17-JUN-17	R3750551
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	154		1.2	mg/L		14-JUN-17	
Alkalinity, Carbonate Carbonate (CO3)	<0.60		0.60	mg/L		14-JUN-17	
Alkalinity, Hydroxide	<0.60		0.60	IIIg/L		14-3011-17	
Hydroxide (OH)	<0.34		0.34	mg/L		14-JUN-17	
Alkalinity, Total (as CaCO3) Alkalinity, Total (as CaCO3)	127		1.0	mg/L		13-JUN-17	R3746992
Ammonia by colour							
Ammonia, Total (as N)	0.99		0.10	mg/L		13-JUN-17	R3746844
Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand	8.4		2.0	mg/L		10-JUN-17	R3749233
Carbonaceous BOD BOD Carbonaceous	6.8		2.0	mg/L		10-JUN-17	R3749233
Chloride in Water by IC Chloride (Cl)	123		0.50	mg/L		09-JUN-17	R3746804
Conductivity Conductivity	769		1.0	umhos/cm		09-JUN-17	R3744174
Fecal coliforms, 1:10 dilution by QT97							
Fecal Coliforms Hardness Calculated	5170		-	MPN/100mL		09-JUN-17	R3744950
Hardness (as CaCO3) Mercury Total	221	HTC	0.25	mg/L		14-JUN-17	
Mercury (Hg)-Total Nitrate in Water by IC	0.0000058		0.0000050	mg/L	12-JUN-17	13-JUN-17	R3748291
Nitrate (as N)	0.113		0.020	mg/L		09-JUN-17	R3746804
Nitrate+Nitrite Nitrate and Nitrite as N	0.127		0.070	mg/L		14-JUN-17	
Nitrite in Water by IC							

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1939568-3 WHA-2							
Sampled By: Don Voisey on 08-JUN-17							
Matrix: Sewage/Waste Water							
Nitrite in Water by IC Nitrite (as N)	0.015		0.010	mg/L		09-JUN-17	R3746804
Oil & Grease - Gravimetric Oil and Grease	5.0		5.0			45 1111 47	DOT 40500
Phenol (4AAP)	<5.0		5.0	mg/L		15-JUN-17	R3748500
Phenols (4AAP)	0.0057		0.0010	mg/L		20-JUN-17	R3751084
Phosphorus, Total Phosphorus (P)-Total	0.210		0.010	mg/L		16-JUN-17	R3750563
Sulfate in Water by IC	70.0		0.00			00 11111 47	D0740004
Sulfate (SO4) Total Metals by ICP-MS	76.2		0.30	mg/L		09-JUN-17	R3746804
Aluminum (AI)-Total	0.0630		0.0050	mg/L	13-JUN-17	13-JUN-17	R3746932
Arsenic (As)-Total	0.00188		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Cadmium (Cd)-Total	0.000084		0.000010	mg/L	13-JUN-17	13-JUN-17	R3746932
Calcium (Ca)-Total	68.1		0.10	mg/L	13-JUN-17	13-JUN-17	R3746932
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	13-JUN-17	13-JUN-17	R3746932
Cobalt (Co)-Total	0.00144		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Copper (Cu)-Total	0.00930		0.00020	mg/L	13-JUN-17	13-JUN-17	R3746932
Iron (Fe)-Total	2.24		0.010	mg/L	13-JUN-17	13-JUN-17	R3746932
Lead (Pb)-Total	0.00131		0.000090	mg/L	13-JUN-17	13-JUN-17	R3746932
Magnesium (Mg)-Total	12.3		0.010	mg/L	13-JUN-17	13-JUN-17	R3746932
Manganese (Mn)-Total	0.247		0.00030	mg/L	13-JUN-17	13-JUN-17	R3746932
Nickel (Ni)-Total	0.0066		0.0020	mg/L	13-JUN-17	13-JUN-17	R3746932
Potassium (K)-Total	9.92		0.020	mg/L	13-JUN-17	13-JUN-17	R3746932
Sodium (Na)-Total	63.1		0.030	mg/L	13-JUN-17	13-JUN-17	R3746932
Zinc (Zn)-Total	0.0540		0.0020	mg/L	13-JUN-17	13-JUN-17	R3746932
Total Organic Carbon by Combustion Total Organic Carbon	12.4		0.50	mg/L		15-JUN-17	R3749003
Total Suspended Solids	12.1		0.00	9/ =			1107 10000
Total Suspended Solids	12.0		5.0	mg/L		14-JUN-17	R3748228
pH				· ·			
pH	7.60		0.10	pH units		09-JUN-17	R3744174
	I						

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

PAGE 7 of 9 Version: FINAL

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
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:

TOST MICTION INCIDIO	J.		
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- Water Alkalinity, Bicarbonate CALCULATION WP

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.

PAGE 8 of 9 Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Test Description Method Reference**

- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
- 3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average
- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

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

Petroleum hydrocarbons in water are determined by liquid-liquid micro-scale solvent extraction using a reciprocal shaker extraction apparatus prior to

APHA 9223B QT97

capillary column gas chromatography with flame ionization detection (GC-FID) analysis.

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

Fecal coliforms, 1:10 dilution by QT97

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)

L1939568 CONTD....

PAGE 9 of 9 Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Method Reference** **Test Description**

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.

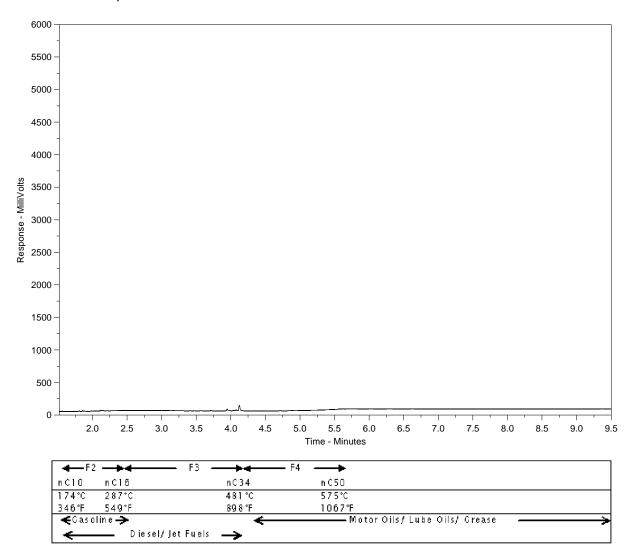
Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

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: L1939568-3 Client Sample ID: WHA-2



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

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

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

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



Chain of Custody (COC) / Analytical Request Form

L1939568-COFC COC Number: 14 - 50345

COC Number:	14 -	5	0	3	4	5	6
-------------	------	---	---	---	---	---	---

Canada Toll Free: 1 800 668 9878 www.alsglobal.com

Report To				Report Format	70k							w (Rus	h Turnard	ound Tim	e (TAT)	s not ava	ilable for all	tests)	
Company:	HAMUSTOF WHALK COU LAN COPLAND . BUY 120 WHALK CE	<u>ر. </u>	Select Report Fo		F EXCEL	EDD (DIGITAL)	R Regular (Standard TAT if received by 3pm)												
Contact:	LAN COPLAND.		Quality Control (QC) Report with Rep	ort 🗌 Yes	No No	Priority (2-4 business days if received by 3pm)												
Address:	BUX 170 WHALF CE	ur nu		eport - provide details belo		_	Emergency (1-2 business days if received by 3pm)												
Diversi		X2C0JO	Select Distribution	on: 🕴 E		FAX	E2 Same day or weekend emergency if received by 10am – contact ALS for surcharge. Specify Date Required for E2,E or P:												
Phone:	67-896-9961			500 (W) WH	que con a	Ca.	Specif	y Date	Require	ed for l	:2,E or		<u></u> -						
			Email 2				Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Invoice To	Same as Report To Yes			Invoice Distribution			Indicate Filtered (F), Preserved (P						or Filtere	d and Pr	eserved	(F/P) bei	T		-
	Copy of Invoice with Report Fres		Select Invoice D	istribution:	EMAIL 1 MAI	- L FAX					_							-	-l l
Company:	TAN COPLAND	· · · · · · · · · · · · · · · · · · ·	Email 1 or Fax Email 2				1												1 1
Contact:	Project Information			oil and Gas Required	d Fields (client us	· a\	1												ers
ALS Quote #:	W 10623		Approver ID:		Cost Center:		1					\sim							l agi
Job#:	W 1 00 C'S		GL Account:		Routing Code:		1							6	7		L		Ö
PO/AFE:			Activity Code:		riodany coos		1			ا يې		उ		*			रा		ا اعر
LSD:			Location:		-		1			6	1/2	ري لو	\sim	ū	ブ	•	ર્રી		Number of Containers
THE COURT OF THE C							<u> (</u> 원		7	Nutrices	ઇ	2	>	<u> </u>	4	=	Mercur		ž
ALS Lab Work Order # (lab use only)			ALS Contact: Sampler: Don William			Posti	(S0D	が存	4	25.56	+	31	×	نہ	C	겡			
ALS Sample #	Sample Identification	and/or Coordinates	·	Date	Time		انق ا	€	[₹]	2	20	63	3	BTX	F7	9			
(lab use only)	(This description will a	ppear on the report)		(dd-mmm-yy)	(hh:mm)	Sample Type			-			رد							
	WHA-4			08-06-17				/	P	P	9	P	7	P	P	P	$P \perp$		£59
	WHA-3			08-06-17		" "	7		0	P	7	7	P	P	P	P	P		459
	INHA-2			08-06-17				7	P	8	e	D	P	0	ρ	ρ	P		115
	VOLIFI			<u> </u>					Ť	•		`	-	-		•		+	 ', '
							 				\dashv						-	+	+-
	· · · · · · · · · · · · · · · · · · ·	₹			 	 -	 		+	-								+-	+-
				-	<u> </u>														+
2 M9 4	٧٧						<u> </u>												+
					,		<u> </u>												
to re	वे कता						<u>L</u> .]						
्,∼ "चंद	3 TC; ft;	"					Ι											-	
	 	•			-		T-"												
							1												\top
							1980.S	D. Elbail's	K. S. C. 1908	SAMP	LE CO	NDITI	ON AS	RECE	IVED (lab use	only)	413,5 15	Fac No.
	Water (DW) Samples ¹ (client use)			cify Criteria to add on	report (client Use)		Froze	n					SIF Ob	servati	ions	Yes		No	
	from a Regulated DW System?	Myne	exut ala	in-Ckbj			ice pa	icks	Yes		No		Custod	y seal	intact	Yes		No	
∫ Ye	. /						_	ig Initia											
	Iman drinking water use?	BTX-1	F1-F4,P	AΗ			- Systa	IITIAL CO	DOLER TI	EMPER/	TURES	Corre	00.000 S		MAL CO	OLER TO	MPERATU	₹ES °C ···	
I Ye	s, No						<u></u>						<u> </u>	<u>ን, </u>					
Released by:	SHIPMENT RELEASE (client use) Date:	Time: Receive	d bu:	SHIPMENT RECEPT	iON (lab use only Date:		Reco	ived by		∵∴Fir	IAL SH	IPME	NT REC	CEPTIO	ON (lat	use of			
Traineased by.	on lower June 8/10		a by:		9-6-17	Time: 12: 20	n e ce	rea by	•					Jaie.		[11110]	٠.		
REFER TO BACK F	AGE FOR ALS LOCATIONS AND SAMPLING INF	OPMATION		WHIT	E - LABORATORY		M. CLIE	NT CO	PY					No.	Facultation with	9 Frant/64 Jan	uary 2014		



Hamlet of Whale Cove ATTN: PAUL VOISEY

PO Box 120

Whale Cove NU XOC OJO

Date Received: 14-JUL-17

Report Date: 03-AUG-17 13:41 (MT)

Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1958848
Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers: Legal Site Desc:

Mohl

Hua Wo

Chemistry Laboratory Manager

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

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721

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



Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1958848-1 WHA-4							
Sampled By: DV on 12-JUL-17 @ 09:15							
Matrix: WASTEWATER							
Matrix. WASTEWATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate	040		4.0	/1		40 1111 47	
Bicarbonate (HCO3)	219		1.2	mg/L		19-JUL-17	
Alkalinity, Carbonate Carbonate (CO3)	<0.60		0.60	mg/L		19-JUL-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		19-JUL-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	180		1.0	mg/L		15-JUL-17	R3776864
Ammonia by colour Ammonia, Total (as N)	0.055		0.010	mg/L		19-JUL-17	R3778206
Biochemical Oxygen Demand (BOD)				<i>y</i> –			
Biochemical Oxygen Demand	<2.0		2.0	mg/L		15-JUL-17	R3779171
Carbonaceous BOD						45 11 11 15	D
BOD Carbonaceous	<2.0		2.0	mg/L		15-JUL-17	R3779171
Chloride in Water by IC Chloride (CI)	43.2		0.50	mg/L		14-JUL-17	R3775969
Conductivity	.0.2		0.00				
Conductivity	413		1.0	umhos/cm		15-JUL-17	R3776864
Fecal coliforms, 1:10 dilution by QT97		55115					
Fecal Coliforms	<10	PEHR	10	MPN/100mL		14-JUL-17	R3773109
Hardness Calculated Hardness (as CaCO3)	192	HTC	0.20	mg/L		19-JUL-17	
Mercury Total	102		0.20	9/=			
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	19-JUL-17	19-JUL-17	R3778219
Nitrate in Water by IC				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		44 11 11 47	D
Nitrate (as N) Nitrate+Nitrite	<0.020		0.020	mg/L		14-JUL-17	R3775969
Nitrate+Nitrite Nitrate and Nitrite as N	<0.070		0.070	mg/L		18-JUL-17	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		14-JUL-17	R3775969
Oil & Grease - Gravimetric				/1		04 1111 47	D0770504
Oil and Grease Phenol (4AAP)	<5.0		5.0	mg/L		21-JUL-17	R3779594
Phenols (4AAP)	0.0011		0.0010	mg/L		21-JUL-17	R3780437
Phosphorus, Total							
Phosphorus (P)-Total	0.390		0.010	mg/L		18-JUL-17	R3776714
Sulfate in Water by IC	40.0		0.30	mall		1/1 11 11 47	D2775000
Sulfate (SO4) Total Metals in Water by CRC ICPMS	12.2		0.30	mg/L		14-JUL-17	R3775969
Aluminum (Al)-Total	0.0117		0.0030	mg/L	18-JUL-17	18-JUL-17	R3777311
Arsenic (As)-Total	0.00061		0.00010	mg/L	18-JUL-17	18-JUL-17	R3777311
Cadmium (Cd)-Total	0.0000107		0.0000050	mg/L	18-JUL-17	18-JUL-17	R3777311
Calcium (Ca)-Total	67.9		0.050	mg/L	18-JUL-17	18-JUL-17	R3777311
Chromium (Cr)-Total Cobalt (Co)-Total	0.00012 <0.00010		0.00010 0.00010	mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311
Copper (Cu)-Total	<0.00010 0.00323		0.00010	mg/L mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311 R3777311
Iron (Fe)-Total	0.00323		0.00030	mg/L	18-JUL-17	18-JUL-17	R3777311
Lead (Pb)-Total	<0.000050		0.000050	mg/L	18-JUL-17	18-JUL-17	R3777311
Magnesium (Mg)-Total	5.54		0.0050	mg/L	18-JUL-17	18-JUL-17	R3777311
Manganese (Mn)-Total	0.0401		0.00010	mg/L	18-JUL-17	18-JUL-17	R3777311
Nickel (Ni)-Total	0.00116		0.00050	mg/L	18-JUL-17	18-JUL-17	R3777311
Manganese (Mn)-Total Nickel (Ni)-Total					18-JUL-17 18-JUL-17		

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1958848-1 WHA-4							
Sampled By: DV on 12-JUL-17 @ 09:15							
Matrix: WASTEWATER							
Total Metals in Water by CRC ICPMS Potassium (K)-Total	1.75		0.050	mg/L	18-JUL-17	18-JUL-17	R3777311
Sodium (Na)-Total	25.6		0.050	mg/L	18-JUL-17	18-JUL-17	R3777311
Zinc (Zn)-Total	<0.0030		0.0030	mg/L	18-JUL-17	18-JUL-17	R3777311
Total Organic Carbon by Combustion Total Organic Carbon	4.37		0.50	mg/L		23-JUL-17	R3780524
Total Suspended Solids Total Suspended Solids	<5.0		5.0	mg/L		17-JUL-17	R3775869
рН рН	7.70		0.10	pH units		15-JUL-17	R3776864
L1958848-2 WHA-3							
Sampled By: DV on 12-JUL-17 @ 09:25							
Matrix: WASTEWATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	330		1.2	mg/L		19-JUL-17	
Alkalinity, Carbonate Carbonate (CO3)	<0.60		0.60	mg/L		19-JUL-17	
Alkalinity, Hydroxide Hydroxide (OH)	<0.34		0.34	mg/L		19-JUL-17	
Alkalinity, Total (as CaCO3) Alkalinity, Total (as CaCO3)	271		1.0	mg/L		15-JUL-17	R3776864
Ammonia by colour Ammonia, Total (as N)	35.2		1.0	mg/L		19-JUL-17	R3778206
Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand	33		20	mg/L		15-JUL-17	R3779171
Carbonaceous BOD BOD Carbonaceous	31.2		6.0	mg/L		15-JUL-17	R3779171
Chloride in Water by IC Chloride (CI)	91.8		1.0	mg/L		14-JUL-17	R3775969
Conductivity Conductivity	877		1.0	umhos/cm		15-JUL-17	R3776864
Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms	15500	PEHR	10	MPN/100mL		14-JUL-17	R3773109
Hardness Calculated Hardness (as CaCO3)	152	нтс	0.20	mg/L		19-JUL-17	
Mercury Total Mercury (Hg)-Total	0.0000071		0.0000050	mg/L	19-JUL-17	19-JUL-17	R3778219
Nitrate in Water by IC Nitrate (as N)	0.085		0.040	mg/L		14-JUL-17	R3775969
Nitrate+Nitrite Nitrate and Nitrite as N	0.085		0.070	mg/L		18-JUL-17	
Nitrite in Water by IC Nitrite (as N)	<0.020	DLM	0.020	mg/L		14-JUL-17	R3775969
Oil & Grease - Gravimetric		DEIVI					
Oil and Grease Phenol (4AAP)	<5.0		5.0	mg/L		21-JUL-17	R3779594
Phenols (4AAP) Phosphorus, Total	0.0015		0.0010	mg/L		21-JUL-17	R3780437
Phosphorus (P)-Total Sulfate in Water by IC	6.07		0.10	mg/L		18-JUL-17	R3776714
Sulfate (SO4)	56.6		0.60	mg/L		14-JUL-17	R3775969

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

Arsenic (As)-Total	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: DV on 12-JUL-17 @ 09:25 Matrix: WASTEWATER	I 1958848-2 WHA-3							
Matrix: WASTEWATER								
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total								
Aluminum (Al)-Total								
Arsenic (As)-Total		0.0492		0.0030	mg/L	18-JUL-17	18-JUL-17	R3777311
Cadrium (Ca)-Total					•			R3777311
Chromium (Cr)-Total	Cadmium (Cd)-Total	0.0000306	0.0	.0000050	mg/L	18-JUL-17	18-JUL-17	R3777311
Cobalt (Co)-Total Copper (Cu)-Total Copp	Calcium (Ca)-Total	45.3		0.050	mg/L	18-JUL-17	18-JUL-17	R3777311
Copper (Cu)-Total 0.0304 0.00050 mg/L 18-JUL-17 18-JU	` '	0.00033	C	0.00010	mg/L			R3777311
Iron (Fe)-Total	, ,		_		-			R3777311
Lead (Pb)-Total	, ,		_		•			R3777311
Magnesium (Mg)-Total 9.36	` '				-			R3777311
Manganese (Mn)-Total 0.104 0.00010 mg/L 18-JUL-17 18-JUL-17 R37 Nickel (Ni)-Total 0.00421 0.00050 mg/L 18-JUL-17 18-JUL-17 R37 Potassium (K)-Total 22.8 0.050 mg/L 18-JUL-17 18-JUL-17 R37 Zinc (Zn)-Total 0.0178 0.0030 mg/L 18-JUL-17 18-JUL-17 R37 Zinc (Zn)-Total 0.0178 0.0030 mg/L 18-JUL-17 18-JUL-17 R37 Total Organic Carbon by Combustion 38.8 0.50 mg/L 18-JUL-17 18-JUL-17 R37 Total Suspended Solids 36 10 mg/L 17-JUL-17 R37 PH 8.10 0.10 pH units 15-JUL-17 R37 L1958848-3 WHA-2 WASTEWATER WASTEWATER BTX plus F1 by GCMS 19-JUL-17 R37 Benzene <0.00050	` '		_		-			R3777311
Nickel (Ni)-Total	, ,,				-			R3777311 R3777311
Potassium (K)-Total 22.8 0.050 mg/L 18-JUL-17 18-JUL-1	, ,				•			R3777311 R3777311
Sodium (Na)-Total 69.0 0.050 mg/L 18-JUL-17 18-JUL-17 R37 Zinc (Zn)-Total 0.0178 0.0030 mg/L 18-JUL-17 18-JUL-17 R37 Total Organic Carbon by Combustion 38.8 0.50 mg/L 18-JUL-17 R37 R37 Total Suspended Solids 36 10 mg/L 17-JUL-17 R37	` '				•			R3777311
Zinc (Zn)-Total	` '	-			-			R3777311
Total Organic Carbon by Combustion 38.8 0.50 mg/L 21-JUL-17 R37 Total Suspended Solids 36 10 mg/L 17-JUL-17 R37 pH pH 8.10 0.10 pH units 15-JUL-17 R37 L1958848-3 WHA-2 Sampled By: DV on 12-JUL-17 @ 08:55 Wastrew WASTEWATER BTEX plus F1-F4 BTX plus F1 by GCMS PH	, ,				-			R3777311
Total Organic Carbon 38.8 0.50 mg/L 21-JUL-17 R37 R3	, ,	-			J.			
Total Suspended Solids 36		38.8		0.50	mg/L		21-JUL-17	R3780243
pH pH pH pH 8.10 0.10 pH units 15-JUL-17 R37 L1958848-3 WHA-2 WASTEWATER <	Total Suspended Solids							
Name	Total Suspended Solids	36		10	mg/L		17-JUL-17	R3775869
L1958848-3 WHA-2 Sampled By: DV on 12-JUL-17 @ 08:55 Matrix: WASTEWATER BTEX plus F1-F4 BTX plus F1 by GCMS Senzene <0.00050 0.00050 mg/L 19-JUL-17 R37 Toluene <0.00010 0.0010 mg/L 19-JUL-17 R37 C-Xylene <0.00050 0.00050 mg/L 19-JUL-17 R37 M-p-Xylenes <0.00040 0.00040 mg/L 19-JUL-17 R37 F1 (C6-C10) <0.10 0.10 mg/L 19-JUL-17 R37 Surrogate: 4-Bromofluorobenzene (SS) 92.7 70-130 % 19-JUL-17 R37 F3 (C16-C34) <0.025 0.25 mg/L 19-JUL-17 02-AUG-17 R37 Surrogate: 2-Bromobenzotrifluoride 116.0 60-140 % 116.0 60-140 % 116.0 60-1								
Sampled By: DV on 12-JUL-17 @ 08:55 Matrix: WASTEWATER BTEX plus F1-F4 BTX plus F1 by GCMS Benzene <0.00050 0.00050 mg/L 19-JUL-17 R37 Toluene <0.00010 0.0010 mg/L 19-JUL-17 R37 Ethyl benzene <0.00050 0.00050 mg/L 19-JUL-17 R37 O-Xylene <0.00050 0.00050 mg/L 19-JUL-17 R37 m+p-Xylenes <0.00040 0.00040 mg/L 19-JUL-17 R37 F1 (C6-C10) <0.10 0.10 mg/L 19-JUL-17 R37 Surrogate: 4-Bromofluorobenzene (SS) 92.7 70-130 % 19-JUL-17 R37 CCME PHC F2-F4 in Water <0.10 0.10 mg/L 19-JUL-17 02-AUG-17 R37 F3 (C16-C34) <0.25 0.25 0.25 mg/L 19-JUL-17 02-AUG-17 R37 F4 (C34-C50) <0.25 0.25 0.25 mg/L 19-JUL-17 02-AUG-17<	pH	8.10		0.10	pH units		15-JUL-17	R3776864
Matrix: WASTEWATER BTEX plus F1-F4 BTX plus F1 by GCMS Benzene <0.00050								
BTEX plus F1-F4 BTX plus F1 by GCMS CO.00050 CO.00050 CO.00050 CO.00050 CO.00050 CO.00050 CO.0010 CO.0010 CO.0010 CO.0010 CO.00050 CO	Sampled By: DV on 12-JUL-17 @ 08:55							
BTX plus F1 by GCMS mg/L 19-JUL-17 R37 Toluene <0.0010								
Benzene	· .							
Toluene <0.0010 0.0010 mg/L 19-JUL-17 R37 Ethyl benzene <0.00050		0.00050		0.00050			40 1111 47	D0777000
Ethyl benzene <0.00050					J			R3777882 R3777882
o-Xylene <0.00050 0.00050 mg/L 19-JUL-17 R37 m+p-Xylenes <0.00040					-			R3777882
m+p-Xylenes <0.00040 0.00040 mg/L 19-JUL-17 R37 F1 (C6-C10) <0.10					-			R3777882
F1 (C6-C10) <0.10					-			R3777882
CCME PHC F2-F4 in Water 0.10 mg/L 19-JUL-17 02-AUG-17 R37 F3 (C16-C34) <0.25	F1 (C6-C10)	<0.10		0.10	-			R3777882
F2 (C10-C16) <0.10	Surrogate: 4-Bromofluorobenzene (SS)	92.7	-	70-130	-		19-JUL-17	R3777882
F3 (C16-C34) <0.25								
F4 (C34-C50) <0.25	, ,				•			R3781771
Surrogate: 2-Bromobenzotrifluoride 116.0 60-140 % 19-JUL-17 02-AUG-17 R37	, ,				-			R3781771
	, ,				•			R3781771
COME LOTAL MYGROCARDONS		116.0	'	bU-140	%	19-JUL-17	∪∠-AUG-1/	R3781771
F1-BTEX <0.10 0.10 mg/L 03-AUG-17		<0.10		0.10	ma/l		03-AUG-17	
F2-Naphth					-			
F3-PAH <0.25 0.25 mg/L 03-AUG-17	·				-			
Total Hydrocarbons (C6-C50) <0.38					-			
Sum of Xylene Isomer Concentrations	Sum of Xylene Isomer Concentrations				-			
Xylenes (Total) <0.00064 mg/L 21-JUL-17		<0.00064	c	0.00064	mg/L		21-JUL-17	
Polyaromatic Hydrocarbons (PAHs)								
		<0.000020	0	0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469
	,	<0.000020	0	0.000020	mg/L			R3782469
			0.	0.000020	-			R3782469
Acenaphthylene <0.000020 0.000020 mg/L 25-JUL-17 25-JUL-17 R37	Acenaphthylene	<0.000020	0	0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1958848-3 WHA-2							
Sampled By: DV on 12-JUL-17 @ 08:55							
Matrix: WASTEWATER							
Polyaromatic Hydrocarbons (PAHs) Anthracene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Acridine	<0.000020		0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469
Benzo(a)anthracene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Benzo(a)pyrene	<0.000050		0.0000050	mg/L	25-JUL-17	25-JUL-17	R3782469
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469
Benzo(k)fluoranthene Chrysene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Dibenzo(a,h)anthracene	<0.000020 <0.000050		0.000020 0.0000050	mg/L mg/L	25-JUL-17 25-JUL-17	25-JUL-17 25-JUL-17	R3782469 R3782469
Fluoranthene	<0.000020		0.0000030	mg/L	25-JUL-17	25-JUL-17	R3782469
Fluorene	<0.000020		0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Naphthalene	<0.000050		0.000050	mg/L	25-JUL-17	25-JUL-17	R3782469
Phenanthrene	<0.000050		0.000050	mg/L	25-JUL-17	25-JUL-17	R3782469
Pyrene	<0.000010		0.000010	mg/L	25-JUL-17	25-JUL-17	R3782469
Quinoline	0.000175	EMPC	0.000020	mg/L	25-JUL-17	25-JUL-17	R3782469
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	25-JUL-17	25-JUL-17	R3782469
Surrogate: Acenaphthene d10 Surrogate: Acridine d9	87.1		40-130	%	25-JUL-17 25-JUL-17	25-JUL-17	R3782469 R3782469
Surrogate: Acridine d9 Surrogate: Chrysene d12	96.7 85.8		40-130 40-130	% %	25-JUL-17 25-JUL-17	25-JUL-17 25-JUL-17	R3782469 R3782469
Surrogate: Naphthalene d8	92.2		40-130	%	25-JUL-17	25-JUL-17 25-JUL-17	R3782469
Surrogate: Phenanthrene d10	80.3		40-130	%	25-JUL-17	25-JUL-17	R3782469
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	235		1.2	mg/L		19-JUL-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		19-JUL-17	
Alkalinity, Hydroxide Hydroxide (OH)	<0.34		0.34	mg/L		19-JUL-17	
Alkalinity, Total (as CaCO3)	\0.54		0.54	1119/2		10 002 17	
Alkalinity, Total (as CaCO3)	192		1.0	mg/L		15-JUL-17	R3776864
Ammonia by colour				_			
Ammonia, Total (as N)	1.83		0.10	mg/L		19-JUL-17	R3778206
Biochemical Oxygen Demand (BOD)						45 11 " -	
Biochemical Oxygen Demand	3.0		2.0	mg/L		15-JUL-17	R3779171
Carbonaceous BOD BOD Carbonaceous	2.3		2.0	mg/L		15-JUL-17	R3779171
Chloride in Water by IC	2.3		2.0	ilig/L		10-00L-17	13779171
Chloride (Cl)	157		1.0	mg/L		14-JUL-17	R3775969
Conductivity							
Conductivity	951		1.0	umhos/cm		15-JUL-17	R3776864
Fecal coliforms, 1:10 dilution by QT97		DET.		MDN//405		44 "" :=	D0777
Fecal Coliforms	10	PEHR	10	MPN/100mL		14-JUL-17	R3773109
Hardness Calculated Hardness (as CaCO3)	291	HTC	0.20	mg/L		19-JUL-17	
Mercury Total	231	0	0.20	ilig/L		10-00L-17	
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L	19-JUL-17	19-JUL-17	R3778219
Nitrate in Water by IC							
Nitrate (as N)	0.054		0.040	mg/L		14-JUL-17	R3775969
Nitrate+Nitrite			_				
Nitrate and Nitrite as N	<0.070		0.070	mg/L		18-JUL-17	
Nitrite in Water by IC							

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1958848-3 WHA-2							
Sampled By: DV on 12-JUL-17 @ 08:55							
Matrix: WASTEWATER							
Nitrite in Water by IC							
Nitrite (as N)	<0.020	DLM	0.020	mg/L		14-JUL-17	R3775969
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		21-JUL-17	R3779594
Phenol (4AAP)	0.0004		0.0040	o-/I		21-JUL-17	D0700407
Phenols (4AAP) Phosphorus, Total	0.0021		0.0010	mg/L		21-JUL-17	R3780437
Phosphorus (P)-Total	0.109		0.010	mg/L		18-JUL-17	R3776714
Sulfate in Water by IC				Ü			
Sulfate (SO4)	73.7		0.60	mg/L		14-JUL-17	R3775969
Total Metals in Water by CRC ICPMS					40 11 11 15	40 !! !! :=	
Aluminum (AI)-Total	0.0099		0.0030	mg/L	18-JUL-17	18-JUL-17	R3777311
Arsenic (As)-Total Cadmium (Cd)-Total	0.00238 0.0000199		0.00010 0.000050	mg/L mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311 R3777311
Cadmium (Cd)-Total Calcium (Ca)-Total	0.0000199 90.3		0.000050	mg/L mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311 R3777311
Chromium (Cr)-Total	0.00051		0.00010	mg/L	18-JUL-17	18-JUL-17	R3777311
Cobalt (Co)-Total	0.00115		0.00010	mg/L	18-JUL-17	18-JUL-17	R3777311
Copper (Cu)-Total	0.00222		0.00050	mg/L	18-JUL-17	18-JUL-17	R3777311
Iron (Fe)-Total	1.71		0.010	mg/L	18-JUL-17	18-JUL-17	R3777311
Lead (Pb)-Total	0.000326		0.000050	mg/L	18-JUL-17	18-JUL-17	R3777311
Magnesium (Mg)-Total	15.8		0.0050	mg/L	18-JUL-17	18-JUL-17	R3777311
Manganese (Mn)-Total	0.246		0.00010	mg/L	18-JUL-17	18-JUL-17	R3777311
Nickel (Ni)-Total	0.00588		0.00050	mg/L	18-JUL-17	18-JUL-17	R3777311
Potassium (K)-Total Sodium (Na)-Total	14.6 79.7		0.050 0.050	mg/L mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311 R3777311
Zinc (Zn)-Total	0.0122		0.030	mg/L	18-JUL-17 18-JUL-17	18-JUL-17 18-JUL-17	R3777311
Total Organic Carbon by Combustion	0.0122		0.0000	9/ =	10002 11	1000211	1.0777011
Total Organic Carbon	12.8		0.50	mg/L		21-JUL-17	R3780243
Total Suspended Solids							
Total Suspended Solids	9.0		5.0	mg/L		17-JUL-17	R3775869
pH	7.70		0.40			45 1111 47	D0770004
pH	7.79		0.10	pH units		15-JUL-17	R3776864
		L					

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

PAGE 7 of 9 Version: FINAL

Reference Information

Sample Parameter Qualifier Key:

Description
Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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- Water Alkalinity, Bicarbonate CALCULATION

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

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

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

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

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

BOD-CBOD-WP Water Carbonaceous BOD APHA 5210 B

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

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

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

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

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

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

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

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

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

EC-WP Water Conductivity APHA 2510B

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

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

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

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

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

Reference Information

PAGE 8 of 9 Version: FINAL

Test Method References:

ALS Test Code Matrix Method Reference** **Test Description**

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
- 3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

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

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

Fecal coliforms, 1:10 dilution by QT97 Water 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.

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

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.

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

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 Nitrate in Water by IC Water 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 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 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 **APHA 4500H** Water

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.

L1958848 CONTD....

PAGE 9 of 9 Version: FINAL

Reference Information

Test Method References:

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

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.

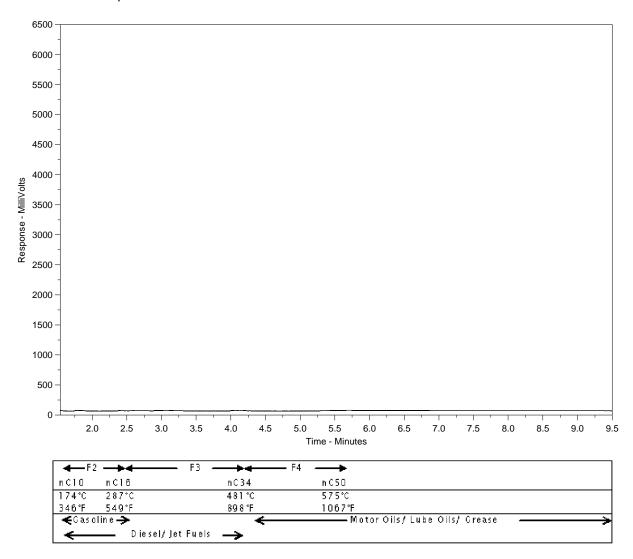
Analytical results in unsigned test reports with the DRAFT watermark are subject to change

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: L1958848-3 Client Sample ID: WHA-2



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

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

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

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



Chain of Custody (COC) / Analytical Request Form

1 1958848-COFC

COC Number: 15 - 571764

195 8848

Canada Toll Free: 1 800 668 9878

Report Format / Distribution Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply Contact and company name below will appear on the final report Report To Select Report Format: PDF X EXCEL EDD (DIGITAL) Regular [R] Standard TAT if received by 3 pm - business days - no surcharges apply Company: Hamlet of Whale Cove Quality Control (QC) Report with Report YES NO 4 day [P4] 1 Business day [E1] Contact: Tan Capland Compare Results to Criteria on Report - provide details below if box checked 3 day [P3] 1219 - 298 - 408 Same Day, Weekend or Statutory EMAIL MAIL FAX holiday [E0] Select Distribution: 2 day [P2] Company address below will appear on the final report Email 1 or Fax Saco Whale Cove. Ca Date and Time Required for all E&P TATs: do suremby the earl Street: PO BOX 120 Whale Cove, NU Email 2 mlustu@gov.nv.ca or tests that can not be performed according to the service level selected, you will be contacted. City/Province: Email 3 **Analysis Request** Postal Code: OTTO DOX Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below TYES NO Invoice To Same as Report To Invoice Distribution ☐ EMAIL ☐ MAIL ☐ FAX Capy of Invaice with Report TYES NO Select Invoice Distribution: Email 1 or Fax Company: Email 2 Contact: Number of Containers Oil and Gas Required Fields (client use) **Project Information** PO# ALS Account # / Quote #: W10h23 Routing Code: Major/Minor Code: Job #: PO / AFE: Requisitioner: SD: .ocation: Craig ALS Lab Work Order # (lab use only) ALS Contact: Sampler: / Riddell Sample Identification and/or Coordinates ALS Sample # Sample Type (lab use only) (dd-mmm-yy) (hh:mm) (This description will appear on the report) 12-07-17 09:15AM maskunder ٩ 4-AHCJ P 12-07-17 09:25 Alwash water WHA-3 OS :55 AM King Steinster 像川 12-07-17 1 F2-F4 bulls SAMPLE CONDITION AS RECEIVED (lab use only) Special instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (DW) Samples¹ (client use) (electronic COC only) SIF Observations Are samples taken from a Regulated DW System? Yes 🔲 ce Packs Nenavid-WW-GRPI Cooling Initiated YES X NO ب بي المحادثة Are samples for human drinking water use? BTX-FI-F4, PAH JNIITIAL COOLER TEMPERATURES °C. · TYES TY NO FINAL SHIPMENT RECEPTION (lab use only). INITIAL SHIPMENT RECEPTION (lab use only) SHIPMENT RELEASE (client use) Time: Released by: Received by:



Hamlet of Whale Cove ATTN: IAN COPELAND

PO Box 120

Whale Cove NU XOC 0J0

Date Received: 31-AUG-17

Report Date: 13-SEP-17 12:57 (MT)

Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1984293
Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers: Legal Site Desc:

More

Hua Wo

Chemistry Laboratory Manager

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

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721

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



Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1984293-1 WHA-4							
Sampled By: CLIENT on 28-AUG-17 @ 15:00							
Matrix: WASTEWATER							
Wallia. Wild Ethici Ethi							
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	302		1.2	ma/l		01-SEP-17	
Alkalinity, Carbonate	302		1.2	mg/L		01-3EF-17	
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)	248		1.0	mg/L		31-AUG-17	R3816718
Ammonia by colour	240		1.0	1119/ =		017.00 17	113010710
Ammonia, Total (as N)	0.021		0.010	mg/L		08-SEP-17	R3822830
Biochemical Oxygen Demand (BOD)	2.2	DODO				04 4110 :=	B0000===
Biochemical Oxygen Demand Carbonaceous BOD	<2.0	BODQ	2.0	mg/L		31-AUG-17	R3820502
BOD Carbonaceous	<2.0	BODQ	2.0	mg/L		31-AUG-17	R3820502
Chloride in Water by IC							
Chloride (CI)	95.9		1.0	mg/L		31-AUG-17	R3818525
Conductivity Conductivity	0.45		1.0	umhos/cm		31-AUG-17	R3816718
Fecal coliforms, 1:10 dilution by QT97	845		1.0	ullillos/cill		31-400-17	K3010/10
Fecal Coliforms	<10	PEHR	10	MPN/100mL		31-AUG-17	R3816611
Hardness Calculated							
Hardness (as CaCO3)	355	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	10.000000		0.0000000	9, =	0.02	00 02	110020000
Nitrate (as N)	<0.040	DLM	0.040	mg/L		31-AUG-17	R3818525
Nitrate+Nitrite	0.070		0.070			0F 0FD 47	
Nitrate and Nitrite as N Nitrite in Water by IC	<0.070		0.070	mg/L		05-SEP-17	
Nitrite (as N)	<0.020	DLM	0.020	mg/L		31-AUG-17	R3818525
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		11-SEP-17	R3823430
Phenol (4AAP) Phenols (4AAP)	<0.0010		0.0010	mg/L		05-SEP-17	R3820191
Phosphorus, Total	<0.0010		0.0010	IIIg/L		03-3L1-17	N3020191
Phosphorus (P)-Total	0.301		0.010	mg/L		01-SEP-17	R3816753
Sulfate in Water by IC						04 4110 15	
Sulfate (SO4)	122		0.60	mg/L		31-AUG-17	R3818525
Total Metals in Water by CRC ICPMS Aluminum (AI)-Total	0.159		0.0030	mg/L	01-SEP-17	05-SEP-17	R3820268
Arsenic (As)-Total	0.00104		0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Cadmium (Cd)-Total	0.0000163		0.0000050	mg/L	01-SEP-17	05-SEP-17	R3820268
Calcium (Ca)-Total	119		0.050	mg/L	01-SEP-17	05-SEP-17	R3820268
Chromium (Cr)-Total Cobalt (Co)-Total	0.00051 0.00030		0.00010 0.00010	mg/L mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268 R3820268
Copper (Cu)-Total	0.00341		0.00010	mg/L	01-SEP-17	05-SEP-17 05-SEP-17	R3820268
Iron (Fe)-Total	0.739		0.010	mg/L	01-SEP-17	05-SEP-17	R3820268
Lead (Pb)-Total	0.000129		0.000050	mg/L	01-SEP-17	05-SEP-17	R3820268
Magnesium (Mg)-Total	13.9		0.0050	mg/L	01-SEP-17	05-SEP-17	R3820268
Manganese (Mn)-Total	0.0465		0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Nickel (Ni)-Total	0.00224		0.00050	mg/L	01-SEP-17	05-SEP-17	R3820268

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1984293-1 WHA-4							
Sampled By: CLIENT on 28-AUG-17 @ 15:00							
Matrix: WASTEWATER							
Total Metals in Water by CRC ICPMS Potassium (K)-Total	7.00		0.050		04 CED 47	05 CED 47	Danagaga
Sodium (Na)-Total	7.39 74.1		0.050 0.050	mg/L mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268 R3820268
Zinc (Zn)-Total	0.0055		0.0030	mg/L	01-SEP-17	05-SEP-17	R3820268
Total Organic Carbon by Combustion Total Organic Carbon	7.51		0.50	mg/L		05-SEP-17	R3820396
Total Suspended Solids	.5.0		5 0			04 CED 47	D2040020
Total Suspended Solids pH	<5.0		5.0	mg/L		01-SEP-17	R3819039
рН	7.95		0.10	pH units		31-AUG-17	R3816718
L1984293-2 WHA-3							
Sampled By: CLIENT on 28-AUG-17 @ 15:00							
Matrix: WASTEWATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	252		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)	207		1.0	mg/L		31-AUG-17	R3816718
Ammonia by colour Ammonia, Total (as N)	20.9		1.0	mg/L		12-SEP-17	R3826833
Biochemical Oxygen Demand (BOD)	20.9		1.0	IIIg/L		12-3L1-17	K3020033
Biochemical Oxygen Demand	39	BODQ	20	mg/L		31-AUG-17	R3820502
Carbonaceous BOD BOD Carbonaceous	11.2	BODQ	6.0	mg/L		31-AUG-17	R3820502
Chloride in Water by IC Chloride (CI)	99.7		1.0	mg/L		31-AUG-17	R3818525
Conductivity Conductivity	774		1.0	umhos/cm		31-AUG-17	R3816718
Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms	12000	PEHR		MPN/100mL		31-AUG-17	R3816611
Hardness Calculated Hardness (as CaCO3)	164	HTC	0.20	mg/L		06-SEP-17	
Mercury Total Mercury (Hg)-Total	<0.000025		0.000025	mg/L	01-SEP-17	05-SEP-17	R3820950
Nitrate in Water by IC Nitrate (as N)	0.287	DLM	0.040	mg/L		31-AUG-17	R3818525
Nitrate+Nitrite Nitrate and Nitrite as N	0.766		0.070	mg/L		05-SEP-17	
Nitrite in Water by IC Nitrite (as N)	0.480		0.020	mg/L		31-AUG-17	R3818525
Oil & Grease - Gravimetric Oil and Grease	<5.0		5.0	mg/L		11-SEP-17	R3823430
Phenol (4AAP) Phenols (4AAP)	0.0016		0.0010	mg/L		05-SEP-17	R3820191
Phosphorus, Total Phosphorus (P)-Total	7.88		0.20	mg/L		01-SEP-17	R3816753
Sulfate in Water by IC			3.20				
Sulfate (SO4)	50.1		0.60	mg/L		31-AUG-17	R3818525

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

Sample Details/Parameters	Result	Qualifier* D.L.	Units	Extracted	Analyzed	Batch
L1984293-2 WHA-3						
Sampled By: CLIENT on 28-AUG-17 @ 15:00						
Matrix: WASTEWATER						
Total Metals in Water by CRC ICPMS						
Aluminum (Al)-Total	0.140	0.0030	mg/L	01-SEP-17	05-SEP-17	R3820268
Arsenic (As)-Total	0.00184	0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Cadmium (Cd)-Total	0.0000393	0.0000050	mg/L	01-SEP-17	05-SEP-17	R3820268
Calcium (Ca)-Total	48.6	0.050	mg/L	01-SEP-17	05-SEP-17	R3820268
Chromium (Cr)-Total	0.00049	0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Cobalt (Co)-Total	0.00119	0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Copper (Cu)-Total	0.0251	0.00050	mg/L	01-SEP-17	05-SEP-17	R3820268
Iron (Fe)-Total	0.484	0.010	mg/L	01-SEP-17	05-SEP-17	R3820268
Lead (Pb)-Total	0.000503	0.000050	mg/L	01-SEP-17	05-SEP-17	R3820268
Magnesium (Mg)-Total	10.3	0.0050	mg/L	01-SEP-17	05-SEP-17	R3820268
Manganese (Mn)-Total	0.141	0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Nickel (Ni)-Total	0.00505	0.00050	mg/L	01-SEP-17	05-SEP-17	R3820268
Potassium (K)-Total Sodium (Na)-Total	24.0	0.050	mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268
Zinc (Zn)-Total	77.7 0.0408	0.050 0.0030	mg/L mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268 R3820268
Total Organic Carbon by Combustion	0.0406	0.0030	IIIg/L	01-3EF-17	03-3EF-17	K3020200
Total Organic Carbon by Combustion Total Organic Carbon	62.0	5.0	mg/L		05-SEP-17	R3820396
Total Suspended Solids	02.0	0.0	9/ =		00 02	110020000
Total Suspended Solids	68	10	mg/L		01-SEP-17	R3819039
pH			· ·			
pH	7.60	0.10	pH units		31-AUG-17	R3816718
L1984293-3 WHA-2						
Sampled By: CLIENT on 28-AUG-17 @ 15:00						
Matrix: WASTEWATER						
BTEX plus F1-F4						
BTX plus F1 by GCMS						
Benzene	<0.00050	0.00050	mg/L		02-SEP-17	R3818931
Toluene	<0.0010	0.0010	mg/L		02-SEP-17	R3818931
Ethyl benzene	<0.00050	0.00050	mg/L		02-SEP-17	R3818931
o-Xylene	<0.00050	0.00050	mg/L		02-SEP-17	R3818931
m+p-Xylenes F1 (C6-C10)	<0.00040	0.00040	mg/L		02-SEP-17	R3818931
Surrogate: 4-Bromofluorobenzene (SS)	<0.10 101.3	0.10 70-130	mg/L %		02-SEP-17 02-SEP-17	R3818931 R3818931
CCME PHC F2-F4 in Water	101.3	70-130	/0		02-3LF-17	K3010931
F2 (C10-C16)	<0.10	0.10	mg/L	07-SEP-17	07-SEP-17	R3822936
F3 (C16-C34)	<0.25	0.25	mg/L	07-SEP-17	07-SEP-17	R3822936
F4 (C34-C50)	<0.25	0.25	mg/L	07-SEP-17	07-SEP-17	R3822936
Surrogate: 2-Bromobenzotrifluoride	86.0	60-140	%	07-SEP-17	07-SEP-17	R3822936
CCME Total Hydrocarbons						
F1-BTEX	<0.10	0.10	mg/L		12-SEP-17	
F2-Naphth	<0.10	0.10	mg/L		12-SEP-17	
F3-PAH	<0.25	0.25	mg/L		12-SEP-17	
Total Hydrocarbons (C6-C50)	<0.38	0.38	mg/L		12-SEP-17	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.00064	0.00064	mg/L		05-SEP-17	
Polyaromatic Hydrocarbons (PAHs)						
1-Methyl Naphthalene	<0.000020	0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
2-Methyl Naphthalene	<0.000020	0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
Acenaphthene	<0.000020	0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
Acenaphthylene	<0.000020	0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
14094202 2 14/114 2							
L1984293-3 WHA-2 Sampled By: CLIENT on 28-AUG-17 @ 15:00							
, ,							
Matrix: WASTEWATER							
Polyaromatic Hydrocarbons (PAHs) Anthracene	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Acridine	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Benzo(a)anthracene	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Benzo(a)pyrene	<0.000050		0.0000050	mg/L	08-SEP-17	11-SEP-17	R3824212
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Chrysene	<0.000020		0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
Dibenzo(a,h)anthracene	<0.000050		0.0000050	mg/L	08-SEP-17	11-SEP-17	R3824212
Fluoranthene Fluorene	<0.000020		0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
Indeno(1,2,3-cd)pyrene	<0.000020 <0.000010		0.000020	mg/L mg/L	08-SEP-17 08-SEP-17	11-SEP-17 11-SEP-17	R3824212 R3824212
Naphthalene	<0.00010	DLM	0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Phenanthrene	<0.00010		0.00010	mg/L	08-SEP-17	11-SEP-17	R3824212
Pyrene	<0.000010		0.000010	mg/L	08-SEP-17	11-SEP-17	R3824212
Quinoline	0.000081		0.000020	mg/L	08-SEP-17	11-SEP-17	R3824212
B(a)P Total Potency Equivalent	<0.000030		0.000030	mg/L	08-SEP-17	11-SEP-17	R3824212
Surrogate: Acenaphthene d10	88.4		40-130	%	08-SEP-17	11-SEP-17	R3824212
Surrogate: Acridine d9	107.6		40-130	%	08-SEP-17	11-SEP-17	R3824212
Surrogate: Chrysene d12	90.1		40-130	%	08-SEP-17	11-SEP-17	R3824212
Surrogate: Naphthalene d8 Surrogate: Phenanthrene d10	84.9 90.5		40-130 40-130	% %	08-SEP-17 08-SEP-17	11-SEP-17 11-SEP-17	R3824212 R3824212
Nunavut WW Group 1	90.5		40-130	/0	00-3LF-17	11-3LF-17	K3024212
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	258		1.2	mg/L		01-SEP-17	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		01-SEP-17	
Alkalinity, Hydroxide	0.04		0.04			04.050.47	
Hydroxide (OH) Alkalinity, Total (as CaCO3)	<0.34		0.34	mg/L		01-SEP-17	
Alkalinity, Total (as CaCO3) Alkalinity, Total (as CaCO3)	212		1.0	mg/L		31-AUG-17	R3816718
Ammonia by colour			1.0	9/ =		0.7.00	110010710
Ammonia, Total (as N)	1.85		0.10	mg/L		08-SEP-17	R3822830
Biochemical Oxygen Demand (BOD)							
Biochemical Oxygen Demand	2.0	BODQ	2.0	mg/L		31-AUG-17	R3820502
Carbonaceous BOD BOD Carbonaceous	-20	BODQ	2.0	ma/l		31-AUG-17	Daganena
Chloride in Water by IC	<2.0	BODQ	2.0	mg/L		31-400-17	R3820502
Chloride (Cl)	184		1.0	mg/L		31-AUG-17	R3818525
Conductivity							
Conductivity	964		1.0	umhos/cm		31-AUG-17	R3816718
Fecal coliforms, 1:10 dilution by QT97	_						
Fecal Coliforms	20	PEHR	10	MPN/100mL		31-AUG-17	R3816611
Hardness Calculated Hardness (as CaCO3)	316	нтс	0.20	mg/L		06-SEP-17	
Mercury Total	310	5	0.20	illy/L		00 0L1 -11	
Mercury (Hg)-Total	0.0000064		0.0000050	mg/L	01-SEP-17	05-SEP-17	R3820950
Nitrate in Water by IC							
Nitrate (as N)	0.043		0.040	mg/L		31-AUG-17	R3818525
Nitrate+Nitrite						05.055.15	
Nitrate and Nitrite as N	<0.070		0.070	mg/L		05-SEP-17	
Nitrite in Water by IC							

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L 400 4000 0 WILL 0							
L1984293-3 WHA-2							
Sampled By: CLIENT on 28-AUG-17 @ 15:00							
Matrix: WASTEWATER							
Nitrite in Water by IC		51.44					
Nitrite (as N)	<0.020	DLM	0.020	mg/L		31-AUG-17	R3818525
Oil & Grease - Gravimetric Oil and Grease	<5.0		5.0	mg/L		11-SEP-17	R3823430
Phenol (4AAP)	\\ 3.0		3.0	IIIg/L		11-321-17	K3023430
Phenols (4AAP)	0.0014		0.0010	mg/L		05-SEP-17	R3820191
Phosphorus, Total				· ·			
Phosphorus (P)-Total	0.114		0.010	mg/L		01-SEP-17	R3816753
Sulfate in Water by IC							
Sulfate (SO4)	77.9		0.60	mg/L		31-AUG-17	R3818525
Total Metals in Water by CRC ICPMS	0.0440				04.050.47	05 050 47	Doogooo
Aluminum (Al)-Total	0.0143		0.0030	mg/L	01-SEP-17	05-SEP-17	R3820268
Arsenic (As)-Total Cadmium (Cd)-Total	0.00208 0.0000155		0.00010 0.0000050	mg/L mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268 R3820268
Calcium (Ca)-Total	0.0000155 94.6		0.000	mg/L	01-SEP-17 01-SEP-17	05-SEP-17 05-SEP-17	R3820268 R3820268
Chromium (Cr)-Total	0.00034		0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Cobalt (Co)-Total	0.00034		0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Copper (Cu)-Total	0.00156		0.00050	mg/L	01-SEP-17	05-SEP-17	R3820268
Iron (Fe)-Total	2.16		0.010	mg/L	01-SEP-17	05-SEP-17	R3820268
Lead (Pb)-Total	0.000362		0.000050	mg/L	01-SEP-17	05-SEP-17	R3820268
Magnesium (Mg)-Total	19.4		0.0050	mg/L	01-SEP-17	05-SEP-17	R3820268
Manganese (Mn)-Total	0.251		0.00010	mg/L	01-SEP-17	05-SEP-17	R3820268
Nickel (Ni)-Total	0.00441		0.00050	mg/L	01-SEP-17	05-SEP-17	R3820268
Potassium (K)-Total	12.8		0.050	mg/L	01-SEP-17	05-SEP-17	R3820268
Sodium (Na)-Total	99.4		0.050	mg/L	01-SEP-17	05-SEP-17	R3820268
Zinc (Zn)-Total	0.0116		0.0030	mg/L	01-SEP-17	05-SEP-17	R3820268
Total Organic Carbon by Combustion Total Organic Carbon	8.85		0.50	mg/L		05-SEP-17	R3820396
Total Suspended Solids	0.00		0.50	mg/L		05-021-17	10020390
Total Suspended Solids	18		10	mg/L		01-SEP-17	R3819039
pH				· ·			
рН	7.83		0.10	pH units		31-AUG-17	R3816718

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

PAGE 7 of 9 Version: FINAL

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
BODQ	BOD Qualification: Lab Control Sample outside standard 85-115% objective (see QC report). Sample(s) cannot be rerun due to hold time expiry.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
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.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.
RRQC	Refer to report remarks for information regarding this QC result.

Test Method References:

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

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

ALK-HCO3HCO3-CALC- 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

PAGE 8 of 9 Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Test Description Method Reference**

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.
- 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 $44.5 - 0.2^{\circ}$ 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.

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.

L1984293 CONTD....

PAGE 9 of 9 Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Test Description Method Reference**

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.

XYLENES-SUM-CALC- Water Sum of Xylene Isomer Concentrations CALCULATED RESULT

WP
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.

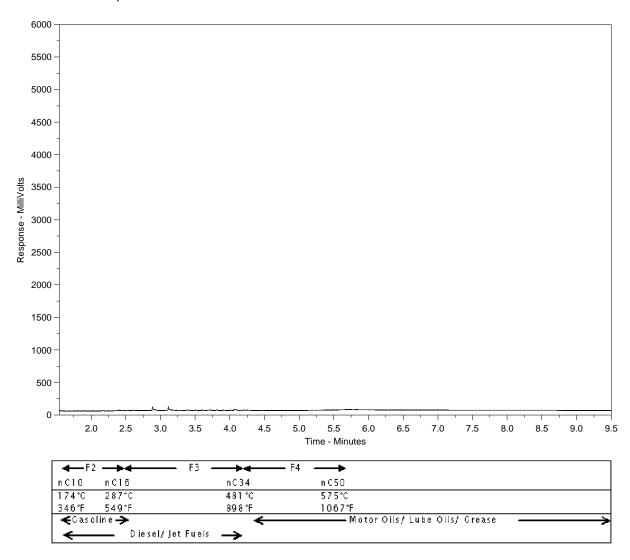
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

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: L1984293-3 Client Sample ID: WHA-2



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

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

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

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



Chain of Custody (COC) / Analytical Request Form

L1984293-COFC

COC Number: 15 - 57176

als Environmental Canada Toll Free: 1 800 668 9878 www.alsglobal.com

eport To	10 10				Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply														
ompany:	Hamlet of Whole Cove		Select Report F	ormat: PDF		EDD (DIGITAL)		Re	gular [R	7	Standa	d TAT if	receive	d by 3 p	m - busi	ness day	/s - no su	charges	арріу
			Quality Control	Quality Control (QC) Report with Report YES No				4 (day [P4]			NCY	1	Busi	ness c	ay [E1]		
none:	Zan Capland 867-896-996	<u>. </u>	Compare Re	sults to Criteria on Report -			PRIORITY (usiness Days)	3 (day [P3]]	ERGE	Sam				r Statu	tory	
	Company address below will appear on the final r	eport	Select Distribution		MAIL _	FAX	a 85(E)	2 (day [P2]			. ₫			holida	y [E0]			<u> </u>
Street:	PO BOX 120		Email 1 or Fax Sapp Whalecoverca					Date a	nd Time i	equired fo	r all E&P	TATs:		<u> </u>		dd-m	m~n-y√	hia man	١
city/Province:	Whale Cove, NO		Email 2 M	styp gov. no	J.ca		For tests	s that can	not be perf	rmed acco	ding to th					contacte	ed.		
Postal Code:	X0C070		Email 3											eques					
nvoice To	Same as Report To YES			Invoice Di			ļ,	<u> </u>	ndicate Fili	ered (F), P	eserved (P) or Filb	ered and	1 Preser	ved (F/F) below			
	Copy of Invoice with Report YES	NO	Select Invoice D	Distribution:	EMAIL MAIL	FAX .						┿	<u> </u>	<u> </u>				_	
Сотрапу:			Email 1 or Fax																
Contact:	During the formation	·	Email 2	Oil and Gas Require	d Fields (allent va		1												ទ
	Project Information		AFE/Cost Center:	Oil and Gas Require	PO#	se)	1						×2					ı	itain
	1 Quote #: W10623		Major/Minor Code:		Routing Code;		ł						١.	M	7				Š
Job #:		.=	Requisitioner:		propring code,		1			ומ	ار		1 8	*	×				Number of Containers
PO / AFE:			Location:							E !	ر اِدِّ	5	رقع ا	اہم ا		.			Ē
LSD:	Secretary control in the second deposits on			Croig			Š		2	; اخ) '	31 3	එ	Ī	η Τ				ž
ALS Lab W	ork Order # (lab use only)		ALS Contact:	Riddell	Sampler:		outine	Q	Metals	Nutrients	Darker P.	3	1	×	1	AH			
V/2///////	Sample Identification	n and/or Coordinates		Date	Time			BOL	الو	3 ~	عجالا	لا ا	ő	18	.7				
ALS Sample # (lab use only)		appear on the report)		(dd-mmm-yy)	(hh:mm)	Sample Type	8	C2	2	4 1	40	- 2	ĮΟ	$ \alpha $	17	<i>Q</i> −			
	WHA-4			14/5/1-	2000	wastwater			P	PP	1	P	5					7	q
 	WHA-3			28/08/1		waserster	~	J		PP	10	12	8	-					9
<u>.</u>	WHA-2	<u></u> <u>in</u>		24/18/11		wastewater			0 6		T'P	12	2	0	2	P		i	15
	- WIGHT	·		20/-0/	3 20	Mostemora	_		0 1		+•	╫	 '			+		+	<i>,</i>
·						1	-				+	+	<u> </u>	\vdash		\rightarrow	-		
L										_	_	+	-	\vdash		+		+	
L						.					-	┿	 -	1				\dashv	
 	•	·		<u></u>	ļ	<u> </u>						-	ļ	Ш		\rightarrow			
						<u> </u>							<u> </u>					\perp	
	18																		
				-															
 	5											T							
 	-					†				\top	+	+				_			
 	<u> </u>	Special Instructions	Specify Criteria to	add on report by clic	king on the drop-de	own list below	27.5			SAMPL	CON	ITION	AS R	ECEIV	ED (la	b use	only)	i jeda i	
Drinking Water (DW) Samples¹ (client use) Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			Froze	n]				vations		Yes		No					
Are samples taken from a Regulated DW System? Nunawat-WW - GRP1 RTV F1-F4 CA11			lce Pa		_	ce Cube	· 🔲	Cust	ody se	eal inta	ct	Yes		No					
					Coolin	ng Initia											<u> </u>		
Are samples for human drinking water use? BTX,F1-F4,PAH				* - A.A.	INII	TIAL COO	ER TEMP	RATURE	s°C	y 90 kg 5 y			r coor	ER TEM	PERATU	RES °C			
TYES DIO							Щ.				.2								
	SHAMENT RELEASE (client use	Tima	Received by:		NT RECEPTION (I		Time:	- 3.0	Receive	d hv	FINAL	SHIP	MENT	RECE		l (lab ι	ise only		ime:
Released by	(Cellent 199 68	17 300	1) (~A	Date: 31-8-	17	g:	3	, TOOCIVE	u by.				Date				["	mis.
Leve	ACK PAGE FOR ALS LOCATIONS AND SAMPLING II	VEORMATION	"· · · `	NA/LII	TE - LABORATORY		1 22 - 1	NT COL	3 V										DOTOBER 2015 FROM

REFER TO BACK PIGE FOR ALL OF THE PROPERTY OF 1. If any watersamples are taken from a Regulated Brinking Water (DW) System, please submit using an Authorized DW COC form.



Hamlet of Whale Cove ATTN: PAUL VOISEY

PO Box 120

Whale Cove NU XOC OJO

Date Received: 22-SEP-17

Report Date: 05-OCT-17 08:48 (MT)

Version: FINAL

Client Phone: 867-896-9961

Certificate of Analysis

Lab Work Order #: L1996042
Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers: Legal Site Desc:

Mo

Hua wo

Chemistry Laboratory Manager

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

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721

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



Sulfate in Water by IC Sulfate (SO4) 65.9 0.30 mg/L 23-SEP-17 R3837599 Total Metals in Water by CRC ICPMS Aluminum (Al)-Total 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.0000050	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: CLIENT Matrix WASTEWATER	L1996042-1 WHA-4							
Matrice WASTEWATER WASTEW								
Numavut WW Group 1 Alkalinity, Bicarbonate Bicarbonate Bicarbonate ClC3) 186 1.2 mg/L 26-SEP-17 26-SEP-17 26-SEP-17 27-SEP-17	, ,							
Alkalinity, Bicarbonate Bicarbonate Bicarbonate Bicarbonate CO3)	Wattix. WASTEWATER							
Bicathonate (HCO3)	Nunavut WW Group 1							
Alkalinity, Carbonate Carbonate (CO3)								
Carbonaise (CO3)	, ,	186		1.2	mg/L		26-SEP-17	
Alkalinity, Hydroxide Hydroxide (OH)		<0.60		0.60	ma/l		26-SFP-17	
Hydroxide (OF)	, ,	10.00		0.00	9/ =			
Alkalnink, Total (as CaCO3)		<0.34		0.34	mg/L		26-SEP-17	
Ammonia by colour Ammonia, Total (as N) 0.017 0.010 mg/L 25-SEP-17 R3837944 Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand (BOD) 2.0 mg/L 23-SEP-17 R3840939 Carbonaceous BOD BOD Carbonaceous 2.0 mg/L 23-SEP-17 R3840939 Carbonaceous BOD BOD Carbonaceous 2.0 mg/L 23-SEP-17 R3840939 Chloride (CI) 56.0 0.50 mg/L 23-SEP-17 R3837599 Conductivity 562 1.0 umhos/cm 23-SEP-17 R3837599 Conductivity Conductivity 562 1.0 umhos/cm 23-SEP-17 R3837599 Racal coliforms 110 dilution by QT97 Recal Coliforms 30 10 MPN/100mL 22-SEP-17 R3837119 Racal coliforms Racal coliforms 4-0000050 0.0000050 mg/L 25-SEP-17 R3837119 Racal coliforms 4-0000050 0.0000050 mg/L 25-SEP-17 R3837599 Racal coliforms 4-0000050 0.0000050 mg/L 25-SEP-17 R3837599 Racal coliforms 4-0000050 0.0000050 mg/L 23-SEP-17 R3837599 Racal coliforms 4-0000050 0.000050 mg/L 23-SEP-17 R3837599 Racal coliforms 4-0								
Ammonia Total (as N)		153		1.0	mg/L		23-SEP-17	R3838028
Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand <2.0 2.0 mg/L 23-SEP-17 R3840939 Carbonaceous BOD BOD Carbonaceous <2.0 2.0 mg/L 23-SEP-17 R3840939 Chloride in Water by IC Chloride (Cl) 56.0 0.50 mg/L 23-SEP-17 R3837599 Conductivity 562 1.0 umhos/cm 23-SEP-17 R3837599 Conductivity 562 1.0 umhos/cm 23-SEP-17 R3837199 R3838028		0.017		0.010	ma/I		25-SFP-17	R3837944
Biochemical Oxygen Demand <2.0	, ,	0.017		0.010				.10007044
BOD Carbonaceous		<2.0		2.0	mg/L		23-SEP-17	R3840939
Chloride in Water by IC Chloride (CI) 56.0 0.50 mg/L 23-SEP-17 R3837599 Conductivity Conductivity 56.0 0.50 mg/L 23-SEP-17 R3837599 Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms 30 10 MPN/100mL MPN/100mL 22-SEP-17 R3837119 Hardness Calculated Hardness (as CaCO3) 171 HTC 0.20 mg/L 29-SEP-17 R3837119 Mercury Total Mercury (Hg)-Total <0.000050								
Chioride (Cl)		<2.0		2.0	mg/L		23-SEP-17	R3840939
Conductivity Cond		56.0		0.50	ma/l		23-SFP-17	R3837599
Conductivity		00.0		0.00	9/ _		20 021 17	110007000
Fecal Coliforms 30		562		1.0	umhos/cm		23-SEP-17	R3838028
Hardness Calculated Hardness (as CaCO3)								
Hardness (as CaCO3)		30		10	MPN/100mL		22-SEP-17	R3837119
Mercury Total Mercury (Hg)-Total		171	нтс	0.20	ma/l		29-SFP-17	
Mercury (Hg)-Total	· · · · · · · · · · · · · · · · · · ·	.,,		0.20	9/ =		20 021 17	
Nitrate (as N) Nitrate And Nitrite Nitrate and Nitrite as N Nitrite in Water by IC Nitrite (as N) Oil & Grease - Gravimetric Oil and Grease Phenol (4AAP) Phenols (4AAP) Phenols (4AAP) Phosphorus, Total Phosphorus, (P)-Total Sulfate in Water by IC Sulfate (SO4) Total Metals in Water by CRC ICPMS Aluminum (Al)-Total Arsenic (As)-Total Cadmium (Cd)-Total Calcium (Ca)-Total Cobalt (Co)-Total Cobalt (Co)-Total Copper (Cu)-Total Lead (Pb)-Total Manganese (Mn)-Total Manganese (Mn)-Total Nitrite in Water by IC Nitrite in Water by IC Sulface (SO4) South in Water by CRC ICPMS Aluminum (Cf)-Total Cobalt (Co)-Total Copper (Cu)-Total Manganese (Mn)-Total Manganese	_	<0.000050		0.0000050	mg/L	25-SEP-17	25-SEP-17	R3838518
Nitrate+Nitrite Nitrate and Nitrite as N	l •						00 050 47	
Nitrate and Nitrite as N <0.070 0.070 mg/L 27-SEP-17 Nitrite in Water by IC Nitrite in Water by IC 0.010 0.010 mg/L 23-SEP-17 R3837599 R3841722 R3841722 R3841722 R3840686 R3841722 R3840760 R3841722 R384		0.040		0.020	mg/L		23-SEP-17	R3837599
Nitrite in Water by IC Nitrite (as N) <0.010		<0.070		0.070	ma/L		27-SEP-17	
Oil & Grease - Gravimetric <5.0	Nitrite in Water by IC							
Oil and Grease <5.0	Nitrite (as N)	<0.010		0.010	mg/L		23-SEP-17	R3837599
Phenol (4AAP)		5.0					00 050 47	D0044470
Phenols (4AAP)		<5.0		5.0	mg/L		29-SEP-17	R3841172
Phosphorus, Total 0.185 0.010 mg/L 26-SEP-17 R3838272 Sulfate in Water by IC Sulfate (SO4) 65.9 0.30 mg/L 23-SEP-17 R3887599 Total Metals in Water by CRC ICPMS 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total 0.0000050 0.0000050 0.0000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.0028 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700		<0.0010		0.0010	mg/L		29-SEP-17	R3840686
Sulfate in Water by IC 65.9 0.30 mg/L 23-SEP-17 R3837599 Total Metals in Water by CRC ICPMS 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.0000050	Phosphorus, Total							
Sulfate (SO4) 65.9 0.30 mg/L 23-SEP-17 R3837599 Total Metals in Water by CRC ICPMS 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.0000050 0.0000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.0022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Tot		0.185		0.010	mg/L		26-SEP-17	R3838272
Total Metals in Water by CRC ICPMS 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.0000050 0.0000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total <0.00010 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total <0.00010 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total <0.000050 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17		65.0		0.30	ma/l		23_SED 17	D3837500
Aluminum (Al)-Total 0.0050 0.0030 mg/L 26-SEP-17 28-SEP-17 R3840700 Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.000050 0.000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total <0.00010 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00288 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700<		05.9		0.30	illy/L		20-0EF-11	12001088
Arsenic (As)-Total 0.00109 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cadmium (Cd)-Total <0.0000050 0.0000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total <0.00010 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00288 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total 0.00050 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700<		0.0050		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Calcium (Ca)-Total 53.4 0.050 mg/L 26-SEP-17 28-SEP-17 R3840700 Chromium (Cr)-Total <0.00010 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Cobalt (Co)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00288 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total <0.000050 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700	Arsenic (As)-Total	0.00109		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Chromium (Cr)-Total <0.00010					-			R3840700
Cobalt (Co)-Total 0.00022 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700 Copper (Cu)-Total 0.00288 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total <0.000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700	, ,				-			
Copper (Cu)-Total 0.00288 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700 Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total <0.000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700	` <i>'</i>				-			
Iron (Fe)-Total 0.095 0.010 mg/L 26-SEP-17 28-SEP-17 R3840700 Lead (Pb)-Total <0.000050 0.000050 mg/L 26-SEP-17 28-SEP-17 R3840700 Magnesium (Mg)-Total 9.21 0.0050 mg/L 26-SEP-17 28-SEP-17 R3840700 Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700	, ,				-			
Lead (Pb)-Total <0.000050								R3840700
Manganese (Mn)-Total 0.0197 0.00010 mg/L 26-SEP-17 28-SEP-17 R3840700		<0.000050		0.000050				R3840700
	, ,				-			R3840700
N. J.	, ,							R3840700
Nickel (Ni)-Total 0.00173 0.00050 mg/L 26-SEP-17 28-SEP-17 R3840700	Nickel (Ni)- I otal	0.00173		0.00050	mg/L	26-SEP-17	28-SEP-17	R3840700

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1996042-1 WHA-4							
Sampled By: CLIENT							
Matrix: WASTEWATER							
Total Metals in Water by CRC ICPMS	0.00		0.050		00 0ED 47	00 050 47	D0040700
Potassium (K)-Total Sodium (Na)-Total	8.03 48.0		0.050 0.050	mg/L mg/L	26-SEP-17 26-SEP-17	28-SEP-17 28-SEP-17	R3840700 R3840700
Zinc (Zn)-Total	0.0086		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Total Organic Carbon by Combustion Total Organic Carbon	6.66		0.50	mg/L		03-OCT-17	R3846431
Total Suspended Solids							
Total Suspended Solids	<5.0		5.0	mg/L		28-SEP-17	R3841145
pH pH	8.01		0.10	pH units		23-SEP-17	R3838028
L1996042-2 WHA-3							
Sampled By: CLIENT							
Matrix: WASTEWATER							
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	238		1.2	mg/L		26-SEP-17	
Alkalinity, Carbonate Carbonate (CO3)	<0.60		0.60	mg/L		26-SEP-17	
Alkalinity, Hydroxide Hydroxide (OH)	<0.34		0.34	mg/L		26-SEP-17	
Alkalinity, Total (as CaCO3) Alkalinity, Total (as CaCO3)	195		1.0	mg/L		23-SEP-17	R3838028
Ammonia by colour Ammonia, Total (as N)	21.0		2.0	mg/L		26-SEP-17	R3838798
Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand	18.5		6.0	mg/L		23-SEP-17	R3840939
Carbonaceous BOD BOD Carbonaceous	9.0		6.0	mg/L		23-SEP-17	R3840939
Chloride in Water by IC Chloride (CI)	83.8		0.50	mg/L		25-SEP-17	R3839359
Conductivity Conductivity	729		1.0	umhos/cm		23-SEP-17	R3838028
Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms	19900		10	MPN/100mL		22-SEP-17	R3837119
Hardness Calculated Hardness (as CaCO3)	126	нтс	0.20	mg/L		29-SEP-17	
Mercury Total Mercury (Hg)-Total	0.0000148		0.0000050	mg/L	25-SEP-17	25-SEP-17	R3838518
Nitrate in Water by IC Nitrate (as N)	0.257		0.020	mg/L		25-SEP-17	R3839359
Nitrate+Nitrite Nitrate and Nitrite as N	0.346		0.070	mg/L		27-SEP-17	
Nitrite in Water by IC Nitrite (as N)	0.089		0.010	mg/L		25-SEP-17	R3839359
Oil & Grease - Gravimetric Oil and Grease	5.6		5.0	mg/L		29-SEP-17	R3841172
Phenol (4AAP) Phenols (4AAP)	0.0018		0.0010	mg/L		29-SEP-17	R3840686
Phosphorus, Total Phosphorus (P)-Total	5.70		0.10	mg/L		26-SEP-17	R3838272
Sulfate in Water by IC Sulfate (SO4)	41.6		0.30	mg/L		25-SEP-17	R3839359

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1996042-2 WHA-3							
Sampled By: CLIENT							
Matrix: WASTEWATER							
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	0.224		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Arsenic (As)-Total	0.00228		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Cadmium (Cd)-Total	0.0000603		0.000010	mg/L	26-SEP-17	28-SEP-17	R3840700
Calcium (Ca)-Total	35.8		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Chromium (Cr)-Total	0.00055		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Cobalt (Co)-Total	0.00137		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Copper (Cu)-Total	0.0355		0.00050	mg/L	26-SEP-17	28-SEP-17	R3840700
Iron (Fe)-Total	0.738		0.010	mg/L	26-SEP-17	28-SEP-17	R3840700
Lead (Pb)-Total	0.000842		0.000050	mg/L	26-SEP-17	28-SEP-17	R3840700
Magnesium (Mg)-Total	8.79		0.0050	mg/L	26-SEP-17	28-SEP-17	R3840700
Manganese (Mn)-Total	0.136		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Nickel (Ni)-Total	0.00493		0.00050	mg/L	26-SEP-17	28-SEP-17	R3840700
Potassium (K)-Total	18.2		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Sodium (Na)-Total	64.1		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Zinc (Zn)-Total	0.0459		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Total Organic Carbon by Combustion Total Organic Carbon	42.8		0.50	mg/L		03-OCT-17	R3846431
Total Suspended Solids							
Total Suspended Solids pH	22.0		5.0	mg/L		28-SEP-17	R3841145
pH	7.50		0.10	pH units		23-SEP-17	R3838028
L1996042-3 WHA-2							
Sampled By: CLIENT							
Matrix: WASTEWATER							
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		29-SEP-17	R3840305
Toluene	<0.0010		0.0010	mg/L		29-SEP-17	R3840305
Ethyl benzene	<0.00050		0.00050	mg/L		29-SEP-17	R3840305
o-Xylene	<0.00050		0.00050	mg/L		29-SEP-17	R3840305
m+p-Xylenes F1 (C6-C10)	<0.00040 <0.10		0.00040 0.10	mg/L		29-SEP-17 29-SEP-17	R3840305 R3840305
Surrogate: 4-Bromofluorobenzene (SS)	78.2		70-130	mg/L %		29-SEP-17 29-SEP-17	R3840305
CCME PHC F2-F4 in Water	10.2		10-130	70		20-0LI17	113040303
F2 (C10-C16)	<0.10		0.10	mg/L	25-SEP-17	25-SEP-17	R3838933
F3 (C16-C34)	<0.25		0.25	mg/L	25-SEP-17	25-SEP-17	R3838933
F4 (C34-C50)	<0.25		0.25	mg/L	25-SEP-17	25-SEP-17	R3838933
Surrogate: 2-Bromobenzotrifluoride	95.4		60-140	%	25-SEP-17	25-SEP-17	R3838933
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		02-OCT-17	
F2-Naphth	<0.10		0.10	mg/L		02-OCT-17	
F3-PAH	<0.25		0.25	mg/L		02-OCT-17	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		02-OCT-17	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.00064		0.00064	mg/L		02-OCT-17	
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	0.000028		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
2-Methyl Naphthalene	0.000026		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Acenaphthene	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Acenaphthylene	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1996042-3 WHA-2							
Sampled By: CLIENT							
Matrix: WASTEWATER							
Polyaromatic Hydrocarbons (PAHs) Anthracene	<0.000010		0.000010	mg/L	28-SEP-17	01-OCT-17	R3843371
Acridine	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Benzo(a)anthracene	<0.000010		0.000010	mg/L	28-SEP-17	01-OCT-17	R3843371
Benzo(a)pyrene	<0.000050		0.0000050	mg/L	28-SEP-17	01-OCT-17	R3843371
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	28-SEP-17	01-OCT-17	R3843371
Benzo(g,h,i)perylene	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	28-SEP-17	01-OCT-17	R3843371
Chrysene	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Dibenzo(a,h)anthracene	<0.0000050		0.0000050	mg/L	28-SEP-17	01-OCT-17	R3843371
Fluoranthene	<0.000020		0.000020	mg/L	28-SEP-17	01-OCT-17	R3843371
Fluorene Indeno(1,2,3-cd)pyrene	<0.000020 <0.000010		0.000020 0.000010	mg/L mg/L	28-SEP-17 28-SEP-17	01-OCT-17 01-OCT-17	R3843371 R3843371
Naphthalene	0.000070		0.000010	mg/L	28-SEP-17 28-SEP-17	01-OCT-17 01-OCT-17	R3843371 R3843371
Phenanthrene	<0.000070		0.000050	mg/L	28-SEP-17	01-OCT-17 01-OCT-17	R3843371
Pyrene	<0.000030		0.000030	mg/L	28-SEP-17	01-OCT-17	R3843371
Quinoline	0.000076	EMPC	0.000010	mg/L	28-SEP-17	01-OCT-17	R3843371
B(a)P Total Potency Equivalent	<0.00030		0.000030	mg/L	28-SEP-17	01-OCT-17	R3843371
Surrogate: Acenaphthene d10	99.8		40-130	%	28-SEP-17	01-OCT-17	R3843371
Surrogate: Acridine d9	114.3		40-130	%	28-SEP-17	01-OCT-17	R3843371
Surrogate: Chrysene d12	95.2		40-130	%	28-SEP-17	01-OCT-17	R3843371
Surrogate: Naphthalene d8	98.5		40-130	%	28-SEP-17	01-OCT-17	R3843371
Surrogate: Phenanthrene d10	96.3		40-130	%	28-SEP-17	01-OCT-17	R3843371
Nunavut WW Group 1							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	194		1.2	mg/L		26-SEP-17	
Alkalinity, Carbonate	194		1.2	IIIg/L		20-0L1 -17	
Carbonate (CO3)	<0.60		0.60	mg/L		26-SEP-17	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		26-SEP-17	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	159		1.0	mg/L		23-SEP-17	R3838028
Ammonia by colour	0.000		0.040			05 CED 47	D0007044
Ammonia, Total (as N)	0.226		0.010	mg/L		25-SEP-17	R3837944
Biochemical Oxygen Demand (BOD) Biochemical Oxygen Demand	<2.0		2.0	mg/L		23-SEP-17	R3840939
Carbonaceous BOD	12.0		2.0	9, _			1.004000
BOD Carbonaceous	<2.0		2.0	mg/L		23-SEP-17	R3840939
Chloride in Water by IC							
Chloride (CI)	70.2		0.50	mg/L		25-SEP-17	R3839359
Conductivity							Doggara.
Conductivity	604		1.0	umhos/cm		23-SEP-17	R3838028
Fecal coliforms, 1:10 dilution by QT97 Fecal Coliforms	20		10	MPN/100mL		22-SEP-17	R3837119
Hardness Calculated			10	IVII 14/ TOUTIL		22 JL1 -11	1.0007118
Hardness (as CaCO3)	196	нтс	0.20	mg/L		29-SEP-17	
Mercury Total							
Mercury (Hg)-Total	0.0000063		0.0000050	mg/L	25-SEP-17	25-SEP-17	R3838518
Nitrate in Water by IC							
Nitrate (as N)	0.140		0.020	mg/L		25-SEP-17	R3839359
Nitrate+Nitrite	0.440		0.070	m a/l		07 CED 47	
Nitrate and Nitrite as N	0.140		0.070	mg/L		27-SEP-17	
Nitrite in Water by IC							

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

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1996042-3 WHA-2							
Sampled By: CLIENT							
Matrix: WASTEWATER							
Nitrite in Water by IC							
Nitrite in Water by iC Nitrite (as N)	<0.010		0.010	mg/L		25-SEP-17	R3839359
Oil & Grease - Gravimetric							
Oil and Grease	<5.0		5.0	mg/L		29-SEP-17	R3841172
Phenol (4AAP) Phenols (4AAP)	<0.0010		0.0010	mg/L		29-SEP-17	R3840686
Phosphorus, Total Phosphorus (P)-Total	0.071		0.010	mg/L		26-SEP-17	R3838272
Sulfate in Water by IC Sulfate (SO4)						25-SEP-17	
Total Metals in Water by CRC ICPMS	59.5		0.30	mg/L		20-0EP-1/	R3839359
Aluminum (Al)-Total	0.0245		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Arsenic (As)-Total	0.00104		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Cadmium (Cd)-Total	0.0000578		0.0000050	mg/L	26-SEP-17	28-SEP-17	R3840700
Calcium (Ca)-Total	62.3		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Chromium (Cr)-Total	0.00032		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Cobalt (Co)-Total	0.00054		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Copper (Cu)-Total	0.00629		0.00050	mg/L	26-SEP-17	28-SEP-17	R3840700
Iron (Fe)-Total	0.698		0.010	mg/L	26-SEP-17	28-SEP-17	R3840700
Lead (Pb)-Total	0.000707		0.000050	mg/L	26-SEP-17	28-SEP-17	R3840700
Magnesium (Mg)-Total	9.70		0.0050	mg/L	26-SEP-17	28-SEP-17	R3840700
Manganese (Mn)-Total	0.102		0.00010	mg/L	26-SEP-17	28-SEP-17	R3840700
Nickel (Ni)-Total	0.00481		0.00050	mg/L	26-SEP-17	28-SEP-17	R3840700
Potassium (K)-Total	6.47		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Sodium (Na)-Total	45.1		0.050	mg/L	26-SEP-17	28-SEP-17	R3840700
Zinc (Zn)-Total	0.0397		0.0030	mg/L	26-SEP-17	28-SEP-17	R3840700
Total Organic Carbon by Combustion Total Organic Carbon	6.14		0.50	mg/L		03-OCT-17	R3846431
Total Suspended Solids				· ·			
Total Suspended Solids	7.0		5.0	mg/L		28-SEP-17	R3841145
pH							
pH	7.89		0.10	pH units		23-SEP-17	R3838028
				<u> </u>			
	<u> </u>					L	

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

Reference Information

PAGE 7 of 9 Version: FINAL

Sample Parameter Qualifier Key:

Qualifier	Description
EMPC	Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
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- Water Alkalinity, Bicarbonate CALCULATION WP

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.

Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Test Description Method Reference**

- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
- 3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average
- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-F4-FID-WP

Water

CCME PHC F2-F4 in Water

EPA 3511

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

FC10-QT97-WP

Water

Fecal coliforms, 1:10 dilution by QT97

APHA 9223B QT97

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

HARDNESS-CALC-WP

Water

Hardness Calculated

APHA 2340B

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

HG-T-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.

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-WF

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

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)

pΗ

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)

L1996042 CONTD....

PAGE 9 of 9 Version: FINAL

Reference Information

Test Method References:

ALS Test Code Matrix Method Reference** **Test Description**

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

SOLIDS-TOTSUS-WP Water **Total Suspended Solids** APHA 2540 D (modified)

Total suspended solids in aquesous matrices is determined gravimetrically after drying the residue at 103 105°C.

XYLENES-SUM-CALC-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:

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

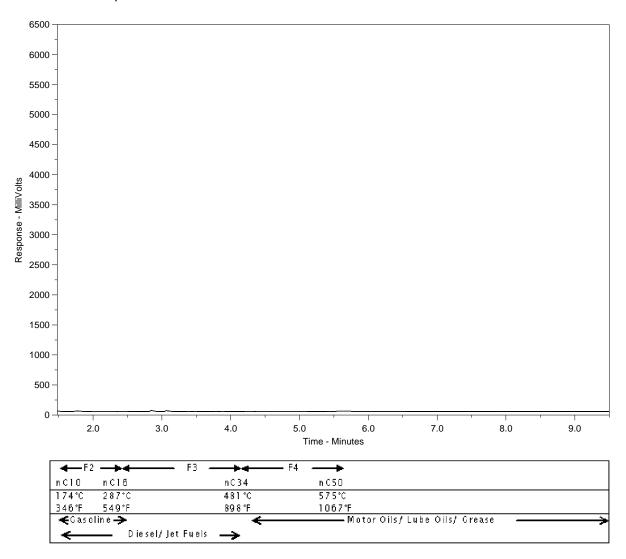
Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

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: L1996042-3 Client Sample ID: WHA-2



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

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

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

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

• 🔥	
AL	

Chain of Custody (COC) / Analytical Request Form

COC Number:	14 -	51	J٤	45	Ą.
-------------	------	----	----	----	----

m	•
	onl
L1996042-COFC	ļ

here	Page of
	L1996007
	To the USY /

www.alsglobal.com Canada To	11 Free: 1 4996ay7	
Report To	L1996042-COFC Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)	7-2-25121
Company: Hamlet of whale core	Select Æ Regular (Standard TAT if received by 3pm)	These is
Contact: Ian Capland	Quality C. Priority (2-4 business days if received by 3pm)	19G :
Address: PO Box 120, Whale Cove, NU, XOC OJO	Vigo 11/W Deplyon 17/10 ybot but to right you and both to right you are not both to right you have detailed by your provided that the provided state of th	4 2
Phone: 867-896-9961	Email 1 or Fax Soo Public Cove, Co. Specify Date Required for E2,E or P:	eterc:
	Email 2 HD91 2002591 2298(aud alc noves) to tysin EIA 2 930 Analysis Request	4 \$
nvoice To Same as Report To PYes No	Indicate Filtered (F) Preserved (P) or Filtered and Preserved (F/P) below	
Copy of Involcement Photograps. For Yes T. No. v. 2040 in puer 1.		_ar 6 7
Company: 48 kolqmas test bettlimdus to solitarist. 45 10eller stiuser	Email 1 of #\$6. Villida: See a paguar ana diau singingar asang asang ana ana ana ana ana ana ana ana ana	3. fe
Contact:	artini 1948 bul the illinite 250	715PE
d the samples. nedemoini isolora	From 2 100 and Gas Backling Floride College Land Land Land Land Land Land Land Land	tainer
I involce the Client and discard the sample. (299-00/0) # stoup 21/	unple to the placed on hold ALS will store the sample for all days house, of receipt, after wild the throat	S Cont
lob#:	GLAcopunt: Routing Code: *- *	P."
ALS may discard the sample.	district the sarrived and will laborice in ad ance and stone the sample to the period requested, after will be at a district the sarringed before samples are collected, all 5 charges a minimum 200 collected.	喜
.SD:	O Last 164 at 71 V 16 9 an news that the oil of storage by Als	팔양
on the chain of custody form coraplated and	ALS Contact: Sumptor:	1.5
the contraction of the contracti	4 rate with the state of the st	2.4
ALS Sample # Sample idefilification and/or Cocalington 920		ant
(This description will appear on the report)	(hnmm)	ian ,
in whimis and 10c regulation The Client w +-AH(A)	Prix of the as assistant while a reference of the second and the second and the second and the second assistant and profite from the second assistant as a second assistant as a second as a secon	9
1VHV-3	. Our yang wife of the start were authority resulting on the Client's breach of this chagraph.	- 200 PQ
WHA - 2 White Material 12 AH	S a longith and required at the Chile of the characters material for the chem for disposal.	705X H.5
uning Radinactive Material 2 7/H W	* Inter-A Strate A Strate A Strate at the design spirit and provided by the most cost effective means using ALS patiented courier. * avsiring sample containers to the Citer's todation by the most cost effective means using ALS patiented courier.	mest HO
	* 47.5 Mp sample containers to the Citeric's todation by the most cost effective radaos using ACS paferred courier. * * * * * * * * * * * * * * * * * * *	7.102.00 V
, the same of the	2 3rd of 10.25 to spre	प्रकृति त्सा <u>क्र</u> ा
	right to the test any fumpies that tending in its possession. Refests requested by the Client may be charged.	4
respendent no war in the se	Selection most by any assessment regarding the solitability of the Services and the intended results for the Cite 1 esemin. The Cite's shall undernnity AIS for all claims made by any third narry against AIS in despect of all to	6. ₄₂₉ 4
Se Sel mon services . The sec	s	42t
- នៃនេះងប៉ាំបុកប៉ាំបុកប៉ាំបុកប៉ាំបុកប៉ាំបុកប៉ាំប្រាំប្រាំប្រាប់បាននេះ	o estat stall Alls be table for a fivoring quid what houseer, more than, special, elemplary or punitive damages, is	
rest of implied warrang	#ed by stongalie of behalf our indvariment of other assets) incurred by the Client arising out of breach or egysteens, strik traditional out or brotherwise, in any event, the liability of ALS to the Client shall be limited to	7 116.
ing the sample as require	-systems in a complete of the street of the paragraph and paragraphs of 1, 16, 22 and 44, as the ap.	
	afficial, he file all includes virtue of timilation lang that darty that may have a claim against ALS through the Client.	
s or tamage, together w	lity. Notwsi.arding parag aph 13. Als shall not be liable to the Client unless the Client provides notic it iting to	
Special I	nstructions / Specify Catalante 2 to on information (satisfied) o another information (satisfied) or one of the satisfied of	
AS A REAL REAL REAL REAL REAL REAL REAL RE	The with the state of the state	
re samples taken from a Regulated DW System?	ON In the Mose continue and the property of the property of the continue of th	
1, 162 1,2040	ENDOMORE ENDORSE WITH A STATE OF THE PARTY COLUMN TO A STATE OF THE PARTY OF THE PA	
re samples for human drinking water use? 13 TX, FI-F4,		<u> </u>
Yes XNo	or the Either party may terrainage this Agre record any reason by giving the other party thirty (3u,	
SHIPMENT RELEASE (client use)	INITIAL SHIPMENT RECEASES 1 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Part and the control
Released by: Date: Time: Received	Date: Date:	
EFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION	WHITE : LABORATORY COPY YELLOW CLIENT COPY NA-FH-00026-49 F-99001 JB (1897) 2014 A	tornive con

alure 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.

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



No Spills Found

Your search returned zero results

WHA-2				2014			2015		2017			Statistics		
Parameter	Unit	DL	23-Jul-14		09-Sep-14		05-Aug-15	08-Jun-17		28-Aug-17	22-Sep-17	Min	Max	Average
Alkalinity	0	-			00 00p 2 i		00 7 10 20	00 0000 27		20 7108 27	sep -:		111471	riverage
Bicarbonate (HCO3)	mg/L	1.2	/	/	1	131	265	154	235	258	194	131	265	206.17
Carbonate (CO3)	mg/L	0.60	/	/	/	0.60	3.00	0.60	0.60	0.60	0.60	0.60	3.00	1.00
Hydroxide (OH)	mg/L	0.34	/	/	/	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total (as CaCO3)	mg/L	1.0	207	238	236	108	223	127	192	212	159	108	238	189.11
Ammonia by Colour	O,													
Total (as N)	mg/L	0.20	1.35	2.54	4.36	0.304	0.65	0.99	1.83	1.85	0.226	0.226	4.36	1.57
Biochemical Oxygen Demand (BOD)	O,													
Biochemical Oxygen Demand	mg/L	6.0	6.0	6.0	6.0	4.7	2.8	8.4	3.0	2	2.0	2	8.4	4.54
Carbonaceous BOD	<u> </u>													
BOD Carbonaceous	mg/L	6.0	/	/	/	2.8	2.0	6.8	2.3	2	2	2.0	6.8	2.98
Chloride in Water by IC														
Chloride (CI)	mg/L	10	90.7	105	88.2	29.8	72.5	123	157	184	70.2	29.8	184	102.27
Conductivity														
Conductivity	umhos/cm	1.0	829	892	714	401	734	769	951	964	604	401	964	762.00
Fecal Coliforms														
Fecal Coliforms	MPN/100mL	3	93	43	4	2300	150	5170	10	20	20	4	5170	867.78
Hardness Calculated														
Hardness (as CaCO3)	mg/L	0.30	285	289	142	152	127	221	291	316	196	127	316	224.33
Mercury Total														
Mercury (Hg)	mg/L	0.00020	1	1	1	0.000020	0.000020	0.0000058	0.0000050	0.0000064	0.0000063	0.0000050	0.000020	0.000011
Nitrate in Water by IC														
Nitrate (as N)	mg/L	0.40	1	1	1	0.077	0.061	0.113	0.054	0.043	0.14	0.043	0.14	0.081
Nitrate + Nitrite														
Nitrate and Nitrite as N	mg/L	0.45	0.071	0.071	1.56	0.077	0.070	0.127	0.070	0.07	0.140	0.070	1.56	0.25
Nitrite in Water by IC														
Nitrite (as N)	mg/L	0.20	/	/	/	0.010	0.010	0.015	0.020	0.02	0.010	0.010	0.020	0.014
Oil & Grease - Gravimetric			1											
Oil and Grease	mg/L	5.0	2.0	2.0	2.0	2.0	2.0	5.0	5.0	5.0	5.0	2.0	5.0	3.33
Phenol			1											
Phenols	mg/L	0.0010	0.0011	0.0011	0.0010	0.0033	0.0027	0.0057	0.0021	0.0014	0.001	0.001	0.0057	0.0022
Phosphorus, Total														
Phosphorus (P)	mg/L	0.010	/	/	/	0.119	0.137	0.210	0.109	0.114	0.071	0.071	0.21	0.13
Sulfate in Water by IC														
Sulfate (SO4)	mg/L	6.0	77.6	54.3	3.73	55.0	57.6	76.2	73.7	77.9	59.5	3.73	77.9	59.50
Total Metals by ICP-MS	,													
Aluminium (Al)	mg/L	0.0050	0.009	0.020	0.0091	0.0795	0.0099	0.0630	0.0099	0.0143	0.0245	0.009	0.0795	0.0266
Arsenic (As)	mg/L	0.00020	0.00245	0.0027	0.00513	0.00225	0.00639	0.00188	0.00238	0.00208	0.00104	0.00104	0.00639	0.00292
Cadmium (Cd)	mg/L	0.000010	0.000028	0.00020	0.000014	0.000060	0.000010	0.000084	0.0000199	0.0000155	0.0000578	0.00001	0.0002	0.00005
Calcium (Ca)	mg/L	0.10	88.7	90.1	44.3	52.2	40.1	68.1	90.3	94.6	62.3	40.1	94.6	70.08
Chromium (Cr)	mg/L	0.0010	0.0010	0.0020	0.0010	0.0019	0.0010	0.0010	0.00051	0.0003	0.00032	0.00032	0.002	0.0010
Cobalt (Co)	mg/L	0.00020	0.00152	0.00121	0.00065	0.00102	0.00088	0.00144	0.00115	0.00087	0.00054	0.00054	0.00152	0.0010
Copper (Cu)	mg/L	0.00020	0.00286	0.0020	0.00199	0.00738	0.00157	0.00930	0.00222	0.00156	0.00629	0.00156	0.0093	0.0039
Iron (Fe)	mg/L	0.010	1.56 0.000408	1.9	0.26	1.10	0.91	2.24	1.71 0.000326	2.16 0.000362	0.698	0.26	2.24	1.39
Lead (Pb)	mg/L	0.000090		0.0010	0.000090	0.00156	0.000090 6.62	0.00131 12.3			0.000707	0.00009	0.00156	0.0007
Magnesium (Mg) Manganese (Mn)	mg/L	0.010	15.4 0.430	15.5 0.523	7.7 0.109	5.26 0.194	0.315	0.247	15.8 0.246	19.4 0.251	9.7 0.102	5.26 0.102	19.4 0.523	11.96 0.27
Nickel (Ni)	mg/L mg/L	0.00030	0.430	0.523	0.109	0.194	0.0027	0.247	0.246	0.251	0.102	0.102	0.523	0.27
Potassium (K)	mg/L mg/L	0.0020	12.8	11.8	17.7	4.54	15.5	9.92	14.6	12.8	6.47	4.54	17.7	11.79
Sodium (Na)	mg/L	0.020	64.4	67	73.7	21.1	59.3	63.1	79.7	99.4	45.1	21.1	99.4	63.64
Zinc (Zn)	mg/L	0.0020	0.0162	0.020	0.0044	0.0429	0.0020	0.0540	0.0122	0.0116	0.0397	0.0020	0.054	0.023
Total Organic Carbon by Combustion	mg/L	0.0020	0.0102	0.020	0.0044	0.0723	0.0020	0.0340	0.0122	0.0110	0.0331	0.0020	0.034	0.023
Total Organic Carbon Total Organic Carbon	mg/L	0.50	1	1	1	4.5	12.6	12.4	12.8	8.85	6.14	4.5	12.8	9.55
Total Suspended Solids	1116/ -	3.30				1.5	12.0	16.7	12.0	3.03	J.1.T	1.5	12.0	5.55
Total Suspended Solids	mg/L	13	9.0	12.0	5.0	12.0	5.0	12.0	9.0	18.0	7.0	5.0	18	9.89
pH	8/ -			11.0		12.0								3.03
pH	pH Units	0.10	7.98	8.38	7.66	7.74	8.30	7.60	7.79	7.83	7.89	7.6	8.38	7.91
Benzene	mg/L	0.00050	/	/	/	/	/	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
Toluene	mg/L	0.0010	/	/	/	/	1	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
Ethyl Benzene	mg/L	0.00050	/	/	/	/	/	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
o-Xylene	mg/L	0.00050	/	/	/	/	1	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
F1 (C6-C10)	mg/L	0.10	/	/	/	/	/	0.10	0.10	0.10	0.10	0.10	0.10	0.10
F2 (C10-C16)	mg/L	0.25	/	/	/	/	/	0.10	0.10	0.10	0.10	0.10	0.10	0.10
F3 (C16-C34)	mg/L	0.25	/	/	/	/	1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
F4 (C34-C50)	mg/L	0.25	/	/	/	/	1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Total Hydrocarbons (C6-C50)	mg/L	0.44	/	/	/	/	1	0.38	0.38	0.38	0.1	0.1	0.38	0.31
.54, 41.064150113 (60.650)	1116/	J. 17						3.33	3.33	3.33	0.1	0.1	3.30	3.31

WHA-3																
5t		- DI	22 1 144	2014	00.044		15		16	00.1 . 47)17	22.5 47		Statistics	
Parameter Alkalinity	Unit	DL	23-Jul-14	14-Aug-14	09-Sep-14	24-Jun-15	05-Aug-15	13-Jul-16	26-Jul-16	08-Jun-17	12-Jul-17	28-Aug-17	22-Sep-17	Min	Max	Average
Bicarbonate (HCO3)	mg/L	1.2	1	1	1	264	254	191	185	338	330	252	238	185	338	256.50
Carbonate (CO3)	mg/L	0.60	/	1	/	0.60	6.36	0.60	0.60	0.60	0.60	0.60	0.60	0.60	6.36	1.32
Hydroxide (OH)	mg/L	0.34	/	/	/	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total (as CaCO3)	mg/L	1.0	105	136	170	216	219	157	152	277	271	207	195	105	277	191.36
Ammonia by Colour	1116/ 2	1.0	105	150	170	210	213	137	132	2//	2/1	207	133	103	2,,	131.50
Total (as N)	mg/L	0.20	4.7	9	14.8	30.2	9.4	16.1	2.55	43.8	35.2	20.9	21	2.55	43.8	18.88
Biochemical Oxygen Demand (BOD)		0.20		-		00.0					55.12					
Biochemical Oxygen Demand	mg/L	6.0	15.2	6.0	12.9	24	3.0	23.8	67	77	33	39	18.5	3.0	77	29.04
Carbonaceous BOD	G,															
BOD Carbonaceous	mg/L	6.0	/	/	/	30	2.0	18.5	63	69	31.2	11.2	9	2.0	69	29.24
Chloride in Water by IC																
Chloride (Cl)	mg/L	10	85.3	106	85.7	73.3	95.0	84.8	86.7	79.9	91.8	99.7	83.8	73.3	106	88.36
Conductivity																
Conductivity	umhos/cm	1.0	766	656	707	719	717	666	625	900	877	774	729	625	900	739.64
Fecal Coliforms																
Fecal Coliforms	MPN/100mL	3	200	2300	3800	110000	7	2400	430	24200	15500	12000	19900	7	110000	17339.73
Hardness Calculated																
Hardness (as CaCO3)	mg/L	0.30	98.6	101	96.9	82.4	127	95.3	99.3	130	152	164	126	82.4	164	115.68
Mercury Total																
Mercury (Hg)	mg/L	0.00020	/	/	/	0.00020	0.000020	0.000020	0.000020	0.0000131	0.0000071	0.000025	0.0000148	0.0000071	0.0002	0.000040
Nitrate in Water by IC																
Nitrate (as N)	mg/L	0.40	/	/	/	0.020	0.020	0.861	0.020	0.040	0.085	0.287	0.257	0.020	0.861	0.20
Nitrate + Nitrite																
Nitrate and Nitrite as N	mg/L	0.45	0.968	0.071	0.127	0.070	0.070	1.38	0.070	0.070	0.085	0.766	0.346	0.070	1.38	0.37
Nitrite in Water by IC																
Nitrite (as N)	mg/L	0.20	/	/	/	0.010	0.010	0.518	0.010	0.020	0.020	0.480	0.089	0.010	0.518	0.145
Oil & Grease - Gravimetric																
Oil and Grease	mg/L	5.0	2.0	2.0	2.0	3.5	2.0	5.0	5.3	14.5	5.0	5	5.6	2.0	14.5	4.72
Phenol																
Phenols	mg/L	0.0010	0.0010	0.0010	0.0014	0.0504	0.0017	0.0019	0.0026	0.0641	0.0015	0.0016	0.0018	0.0010	0.0641	0.012
Phosphorus, Total																
Phosphorus (P)	mg/L	0.010	/	/	/	6.32	4.44	5.66	5.56	5.80	6.07	7.88	5.70	4.44	7.88	5.93
Sulfate in Water by IC																
Sulfate (SO4)	mg/L	6.0	22.7	53	26.8	20.0	9.41	22.2	20.8	38.0	56.6	50.1	41.6	9.41	56.6	32.84
Total Metals by ICP-MS	/1	0.0050	0.0546	0.420	0.220	0.407	0.0007	0.0000	0.402	0.425	0.0403	0.44	0.2240	0.0007	0.220	0.42
Aluminium (Al)	mg/L	0.0050	0.0516	0.128	0.328	0.107	0.0087	0.0688	0.103	0.125	0.0492	0.14	0.2240	0.0087	0.328	0.12
Arsenic (As)	mg/L	0.00020	0.00073	<0.0010	0.00092	0.00060 0.000021	0.00618	0.00075	0.00084	0.00169	0.00182 0.0000306	0.00184	0.00228	0.0006	0.00618	0.00177
Cadmium (Cd)	mg/L	0.000010	0.000010 28.6	0.00025 28.9	0.000058 27.4	23.0	0.000010 40.5	0.000013 27.7	0.000017 28.8	0.000066 37.3	45.3	48.6	0.0000603 35.8	0.00001	48.6	0.00005 33.81
Calcium (Ca) Chromium (Cr)	mg/L mg/L	0.10	0.0010	0.0020	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.00033	0.0005	0.00055	0.00033	0.0020	0.0009
Cobalt (Co)	mg/L	0.0010	0.0010	0.0020	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.00033	0.0003	0.00033	0.00033	0.0020	0.0003
Copper (Cu)	mg/L	0.00020	0.00034	0.0209	0.0404	0.00041	0.00087	0.00041	0.00040	0.0708	0.0304	0.0251	0.0355	0.00034	0.0708	0.00082
Iron (Fe)	mg/L	0.00020	0.0152	0.0209	0.0404	0.0374	0.00147	0.109	0.0228	0.0708	0.0304	0.0251	0.0353	0.00147	0.0708	0.029
Lead (Pb)	mg/L	0.010		0.0010	0.000791	0.000457	0.000090	0.000231	0.000227	0.000956	0.000409	0.000503	0.000842	0.000090	0.0010	0.00051
Magnesium (Mg)	mg/L	0.010	6.58	7.01	6.94	6.08	6.36	6.35	6.66	8.85	9.36	10.3	8.79	6.08	10.3	7.57
Manganese (Mn)	mg/L	0.00030	0.0373	0.068	6.94	0.0603	0.311	0.0512	0.0613	0.115	0.104	0.141	0.136	0.0373	6.94	0.73
Nickel (Ni)	mg/L	0.0020	0.0020	0.0025	0.0026	0.0020	0.0026	0.0020	0.0013	0.0044	0.00421	0.00505	0.00493	0.002	0.00505	0.0031
Potassium (K)	mg/L	0.020	18.2	19.4	17.8	17.5	15.2	19.0	18.7	20.5	22.8	24	18.2	15.2	24	19.21
Sodium (Na)	mg/L	0.030	67.5	70.2	67.5	59.3	57.5	63.4	69.8	63.5	69.0	77.7	64.1	57.5	77.7	66.32
Zinc (Zn)	mg/L	0.0020	0.0102	0.023	0.0523	0.0285	0.0020	0.0153	0.0177	0.0521	0.0178	0.408	0.0459	0.002	0.408	0.061
Total Organic Carbon by Combustion	J.															
Total Organic Carbon	mg/L	0.50	/	/	/	28.2	16.3	28.3	32.7	82.8	38.8	62	42.8	16.3	82.8	41.49
Total Suspended Solids																
Total Suspended Solids	mg/L	13	35.0	9.0	5.0	11.0	5.0	27.0	970	46.0	36	68.0	22	5.0	970	112.18
pH																
pH	pH Units	0.10	8.25	8.13	7.5	7.72	8.46	7.55	7.06	7.37	8.10	7.60	7.50	7.06	8.46	7.75
Benzene	mg/L	0.00050	/	/	/	/	0.00050	/	/	/	/	/	/	0.0005	0.0005	0.00050
Toluene	mg/L	0.0010	/	/	/	/	0.0010	/	/	/	/	/	/	0.0010	0.0010	0.0010
Ethyl Benzene	mg/L	0.00050	/	/	/	/	0.00050	/	/	/	/	/	/	0.00050	0.00050	
o-Xylene	mg/L	0.00050	/	/	/	/	0.00050	/	/	/	/	/	/	0.00050	0.00050	0.00050
F1 (C6-C10)	mg/L	0.10	/	/	/	/	0.10	/	/	/	/	/	/	0.10	0.10	0.10
F2 (C10-C16)	mg/L	0.25	/	/	/	/	0.25	/	/	/	/	/	/	0.25	0.25	0.25
F3 (C16-C34)	mg/L	0.25	/	/	/	/	0.25	/	/	/	/	/	/	0.25	0.25	0.25
F4 (C34-C50)	mg/L	0.25	/	/	/	/	0.25	/	/	/	/	/	/	0.25	0.25	0.25
Total Hydrocarbons (C6-C50)	mg/L	0.44	/	/	/	/	0.44	/	/	/	/	/	/	0.44	0.44	0.44

WHA-4				2014		1 20)15		2016			20	117		1	Chatlatiaa	
Parameter	Unit	DL	22 Jul 14		00 Son 14		05-Aug-15	13-Jul-16	2016	31-Aug-16	08-Jun-17	20 12-Jul-17	28-Aug-17	22-Sep-17	Min	Statistics Max	Average
Alkalinity	Onit	DL	25-Jul-14	14-Aug-14	09-3ep-14	24-Juli-15	05-Aug-15	13-Jul-10	20-Jui-10	31-Aug-10	06-Juli-17	12-Jul-17	20-Aug-17	22-3ep-17	IVIIII	IVIAX	Average
Bicarbonate (HCO3)	mg/L	1.2	1	1	1	211	136	188	224	60.4	234	219	302	186	60.4	302	195.60
Carbonate (CO3)	mg/L	0.60	/	/	/	0.60	0.60	0.60	0.60	0.60	6.72	0.600	0.60	0.600	0.60	6.72	1.28
Hydroxide (OH)	mg/L	0.34	/	/	/	0.34	0.34	0.34	0.34	0.34	0.72	0.34	0.34	0.34	0.34	0.72	0.34
Total (as CaCO3)	mg/L	1.0	180	189	169	173	112	154	184	49.5	203	180	248	153	49.5	248	166.21
Ammonia by Colour	1116/ L	1.0	100	103	103	173	112	154	104	43.3	203	100	240	155	45.5	240	100.21
Total (as N)	mg/L	0.20	0.69	2.48	1.21	7.2	9.2	12.9	1.77	0.038	0.105	0.055	0.021	0.017	0.017	12.9	2.97
Biochemical Oxygen Demand (BOD)	6/ 2	0.20	0.03	2110	1,21	712	312	12.5	2177	0.050	0.103	0.033	0.021	0.017	0.017	12.13	2.57
Biochemical Oxygen Demand	mg/L	6.0	6.0	6.0	6.0	6.2	24.2	19.2	8.4	2.0	10.3	2.0	2	2.0	2.0	24.2	7.86
Carbonaceous BOD	6/ =	0.0	0.0	0.0	0.0	OIL	22	1312	011	2.0	10.5	2.0	_	2.0	2.0	22	7.00
BOD Carbonaceous	mg/L	6.0	/	/	/	5.9	14.0	11.3	7.9	2.0	6.4	2.0	2	2.0	2.0	14	5.94
Chloride in Water by IC		0.0	/	/	,	0.0	2.110					2.0				-	0.0
Chloride (CI)	mg/L	10	89.6	89.2	114	66.6	78.8	86.2	98.2	9.32	123	43.2	95.9	56	9.32	123	79.17
Conductivity							1010	-		-		10.12	00.0		0.02		
Conductivity	umhos/cm	1.0	675	716	709	555	564	661	704	133	819	413	845	562	133	845	613.00
Fecal Coliforms						-					0.10		0.10				0.000
Fecal Coliforms	MPN/100mL	3	4	3	750	23	430	4300	/	3	10	10	10	30	3	4300	506.64
Hardness Calculated	,								,	-							
Hardness (as CaCO3)	mg/L	0.30	158	149	263	124	89.1	109	183	52.9	185	192	355	171	52.9	355	169.25
Mercury Total	, , , , , , , , , , , , , , , , , , ,																
Mercury (Hg)	mg/L	0.00020	/	/	/	0.000020	0.00020	0.000020	0.000020	0.000020	0.0000050	0.0000050	0.0000050	0.0000050	0.000005	0.0002	0.000033
Nitrate in Water by IC	J.																
Nitrate (as N)	mg/L	0.40	/	/	/	0.161	0.418	1.27	2.03	0.039	0.028	0.020	0.04	0.040	0.02	2.03	0.45
Nitrate + Nitrite	G,		,	,	,												
Nitrate and Nitrite as N	mg/L	0.45	3.12	0.34	0.071	0.183	0.956	1.64	2.12	0.070	0.070	0.070	0.070	0.070	0.07	3.12	0.73
Nitrite in Water by IC																	
Nitrite (as N)	mg/L	0.20	/	/	/	0.022	0.538	0.371	0.099	0.010	0.010	0.010	0.020	0.010	0.01	0.538	0.12
Oil & Grease - Gravimetric																	
Oil and Grease	mg/L	5.0	2.0	89.2	2.0	2.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	89.2	11.02
Phenol																	
Phenols	mg/L	0.0010	0.0010	0.0010	0.0010	0.0045	0.0028	0.0018	0.0013	0.0024	0.0039	0.0011	0.001	0.001	0.001	0.0045	0.00
Phosphorus, Total																	
Phosphorus, Total Phosphorus (P)	mg/L	0.010	/	/	/	3.34	5.15	5.40	2.26	0.019	4.19	0.390	0.301	0.185	0.019	5.4	2.36
	mg/L	0.010	/	/	/	3.34	5.15	5.40	2.26	0.019	4.19	0.390	0.301	0.185	0.019	5.4	2.36
Phosphorus (P)	mg/L	0.010 6.0	2.82	23.7	52.8	3.34 6.92	5.15	5.40 18.6	2.26 7.49	0.019	4.19 30.9	0.390	0.301	0.185 65.9	0.019 2.82	5.4 122	2.36 30.91
Phosphorus (P) Sulfate in Water by IC			2.82	23.7	,												
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4)			2.82 0.0299	23.7	,												
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS	mg/L	6.0			52.8	6.92	23.1	18.6	7.49	4.43	30.9	12.2	122	65.9	2.82	122	30.91
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al)	mg/L mg/L	6.0 0.0050	0.0299	0.021	52.8	6.92 0.0607	23.1 0.0357	18.6 0.0732	7.49 0.0457	4.43 0.0665	30.9 0.0236	12.2 0.0117	122 0.159	65.9 0.0050	2.82 0.005	122 0.159	30.91
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (AI) Arsenic (As)	mg/L mg/L mg/L	6.0 0.0050 0.00020	0.0299 0.00482	0.021 0.0045	52.8 0.0111 0.00161	6.92 0.0607 0.00526	23.1 0.0357 0.00067	18.6 0.0732 0.00362	7.49 0.0457 0.00359	4.43 0.0665 0.00025	30.9 0.0236 0.00836	12.2 0.0117 0.00061	0.159 0.00104	0.0050 0.00109	2.82 0.005 0.00025	122 0.159 0.00836	30.91 0.05 0.00295
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd)	mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010	0.0299 0.00482 0.000011	0.021 0.0045 0.00020	52.8 0.0111 0.00161 0.000039	6.92 0.0607 0.00526 0.000030	23.1 0.0357 0.00067 0.000012	18.6 0.0732 0.00362 0.000016	7.49 0.0457 0.00359 0.000010	4.43 0.0665 0.00025 0.000010	30.9 0.0236 0.00836 0.000012	12.2 0.0117 0.00061 0.0000107	0.159 0.00104 0.0000163	0.0050 0.00109 0.000005	2.82 0.005 0.00025 0.000005	0.159 0.00836 0.0002	30.91 0.05 0.00295 0.000031
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca)	mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10	0.0299 0.00482 0.000011 50.7 0.0010 0.00056	0.021 0.0045 0.00020 46.3	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094	6.92 0.0607 0.00526 0.00030 39.7 0.0010 0.00195	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010	0.159 0.00104 0.0000163 119 0.0005 0.0003	0.0050 0.00109 0.000005 53.4 0.0001 0.00022	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001	0.159 0.00836 0.0002 119	30.91 0.05 0.00295 0.000031 53.92
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.00020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262	0.0607 0.00526 0.00030 39.7 0.0010 0.00195 0.00540	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176	0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.00020 0.010	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66	0.0607 0.00526 0.00030 39.7 0.0010 0.00195 0.00540 3.14	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913	12.2 0.0117 0.00061 0.000107 67.9 0.00012 0.00010 0.00323 0.220	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095	2.82 0.005 0.00025 0.00005 17.5 0.0001 0.0001 0.00176 0.082	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.00020 0.010 0.000090	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.00090	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501	6.92 0.0607 0.00526 0.00030 39.7 0.0010 0.00195 0.00540 3.14 0.000189	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100	12.2 0.0117 0.00061 0.000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001	0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.84 0.0002
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.00010 0.10 0.0010 0.00020 0.010 0.00090 0.010	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09	0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00013 0.0220 0.000050 5.54	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.84 0.0002 8.40
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.00020 0.010 0.00090 0.010 0.00030	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.0020 0.0975 0.000191 2.23 0.00205	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.0095 0.000050 9.21 0.0197	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.04 0.002 8.40 0.14
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.010 0.00090 0.010 0.00030 0.00030	0.0299 0.00482 0.000011 50.7 0.0010 0.0056 0.0019 0.62 0.000090 7.66 0.0671 0.0029	0.021 0.0045 0.00020 46.3 0.0020 0.0057 0.0020 0.37 0.0010 8.05 0.0387 0.0029	52.8 0.0111 0.00161 0.00039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.0020 0.00975 0.082 0.000191 2.23 0.00205 0.0027	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21 0.0197 0.00173	2.82 0.005 0.000025 0.0000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116	0.159 0.00836 0.0002 119 0.002 0.0187 3.14 0.001 13.9 0.674 0.0047	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.84 0.0002 8.40 0.14 0.0027
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.010 0.00090 0.010 0.00030 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.00501 13.8 0.244 0.0047 9.31	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.00173 8.03	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.00010 0.10 0.0010 0.00020 0.00020 0.000090 0.010 0.000090 0.00030 0.00020 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9	18.6 0.0732 0.00362 0.00016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21 0.00197 0.00173 8.03	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95	0.159 0.00836 0.0002 119 0.002 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7	0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.010 0.00090 0.010 0.00030 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.00501 13.8 0.244 0.0047 9.31	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.00173 8.03	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (Na) Zinc (Zn) Total Organic Carbon by Combustion	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.00030 0.00030 0.0020 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9 0.0123	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.0020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6 0.0030	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.006 0.084 0.002 8.40 0.14 0.0027 12.05 60.17 0.01
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Organic Carbon	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.00010 0.10 0.0010 0.00020 0.00020 0.000090 0.010 0.000090 0.00030 0.00020 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9	18.6 0.0732 0.00362 0.00016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9	0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21 0.00197 0.00173 8.03	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95	0.159 0.00836 0.0002 119 0.002 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Suspended Solids	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.00010 0.10 0.00020 0.00020 0.010 0.00030 0.0020 0.020 0.030 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9 0.0123	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.0034 0.682 0.00185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.0020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6 0.0030 4.37	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.0022 0.00288 0.095 0.000050 9.21 0.0197 0.00173 8.03 48 0.0086 6.66	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37	0.159 0.00836 0.0002 119 0.002 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.04 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Suspended Solids Total Suspended Solids	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.00030 0.00030 0.0020 0.0020 0.0020	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9 0.0123	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.0020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6 0.0030	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.000050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.006 0.084 0.002 8.40 0.14 0.0027 12.05 60.17 0.01
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Suspended Solids Total Suspended Solids PH	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.010 0.00030 0.0020 0.030 0.0020 0.050	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.82 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (Ks) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Suspended Solids Total Suspended Solids pH pH	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.000010 0.10 0.0010 0.00020 0.00020 0.010 0.00030 0.0020 0.030 0.0020 0.050 13	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0019 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 6.09 0.0411 0.0020 17.5 57.9 0.0123	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.0034 0.682 0.00185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.000090 8.61 0.254 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.00191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.000050 5.54 0.0401 0.00116 1.75 25.6 0.0030 4.37	122 0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	65.9 0.0050 0.00109 0.000005 53.4 0.0001 0.0022 0.00288 0.095 0.000050 9.21 0.0197 0.00173 8.03 48 0.0086 6.66	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 19 8.48	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Suspended Solids Total Suspended Solids pH pH Benzene	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.00020 0.010 0.00030 0.0020 0.020 0.030 0.0020 13	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.084 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Organic Carbon Total Suspended Solids pH pH Benzene Toluene	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.00020 0.00010 0.00020 0.00020 0.0010 0.00030 0.0020 0.020 0.030 0.0020 13	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.00191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.084 0.002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Organic Carbon Total Suspended Solids PH pH Benzene Toluene Ethyl Benzene	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.00010 0.00020 0.00020 0.00020 0.010 0.00030 0.0020 0.020 0.30 0.0020 0.50 13	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6 19 8.48 0 0	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon Total Organic Carbon Total Suspended Solids PH PH Benzene Toluene Ethyl Benzene o-Xylene	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6.0 0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.010 0.00030 0.0020 0.030 0.0020 0.50 13	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.0000005 17.5 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6 19 8.48 0 0 0	30.91 0.05 0.00295 0.000091 0.0006 0.006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (IMn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Organic Carbon Total Suspended Solids Total Suspended Solids pH pH Benzene Toluene Ethyl Benzene O-Xylene F1 (C6-C10)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.00020 0.00020 0.00020 0.00020 0.00020 0.00030 0.00020 0.00020 0.00050 0.00050 0.00050 0.00050	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.82 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0 0 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6 19 8.48 0 0 0 0	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00 0.00 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Suspended Solids Total Suspended Solids pH pH Benzene Toluene Ethyl Benzene O-Xylene F1 (C6-C10) F2 (C10-C16)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.00030 0.010 0.00030 0.0020 0.030 0.050 13 0.10 0.00050 0.0010 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0 0 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.084 0.002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00 0.00 0.00 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Organic Carbon Total Suspended Solids Total Suspended Solids pH pH Benzene Toluene Ethyl Benzene o-Xylene F1 (C6-C10) F2 (C10-C16) F3 (C16-C34)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.00020 0.00020 0.00020 0.00020 0.0010 0.00030 0.0020 0.0020 0.0020 0.0030 0.0020 0.00050 0.0010 0.00050 0.00050 0.00050 0.0050 0.00550	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0 0 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6 19 8.48 0 0 0 0 0 0	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.004 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Phosphorus (P) Sulfate in Water by IC Sulfate (SO4) Total Metals by ICP-MS Aluminium (Al) Arsenic (As) Cadmium (Cd) Calcium (Ca) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Nickel (Ni) Potassium (K) Sodium (Na) Zinc (Zn) Total Organic Carbon by Combustion Total Suspended Solids Total Suspended Solids pH pH Benzene Toluene Ethyl Benzene O-Xylene F1 (C6-C10) F2 (C10-C16)	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0050 0.00020 0.000010 0.10 0.00020 0.00020 0.00030 0.010 0.00030 0.0020 0.030 0.050 13 0.10 0.00050 0.0010 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050 0.00050	0.0299 0.00482 0.000011 50.7 0.0010 0.00056 0.0019 0.62 0.000090 7.66 0.0671 0.0029 12.0 77.6 0.0023	0.021 0.0045 0.00020 46.3 0.0020 0.00057 0.0020 0.37 0.0010 8.05 0.0387 0.0029 15.0 79.8 0.020	52.8 0.0111 0.00161 0.000039 82.4 0.0010 0.00094 0.00262 1.66 0.000501 13.8 0.244 0.0047 9.31 67.4 0.0361	6.92 0.0607 0.00526 0.000030 39.7 0.0010 0.00195 0.00540 3.14 0.000189 6.02 0.674 0.0032 16.2 54.3 0.0090	23.1 0.0357 0.00067 0.000012 25.6 0.0010 0.00038 0.0187 0.10 0.000130 0.00130 17.5 57.9 0.0123 29.6	18.6 0.0732 0.00362 0.000016 33.0 0.0010 0.00071 0.0134 0.682 0.000185 6.53 0.125 0.0023 17.8 63.8 0.0086	7.49 0.0457 0.00359 0.000010 59.2 0.0010 0.00074 0.00234 1.43 0.00090 1.0554 0.0031 10.5 75.9 0.0022	4.43 0.0665 0.00025 0.000010 17.5 0.0010 0.00020 0.00975 0.082 0.000191 2.23 0.00205 0.0027 0.575 8.95 0.0020 6.62 5.0	30.9 0.0236 0.00836 0.000012 52.3 0.0010 0.00078 0.00176 0.913 0.000100 13.2 0.114 0.0036 28.6 88.7 0.0023	12.2 0.0117 0.00061 0.0000107 67.9 0.00012 0.00010 0.00323 0.220 0.00050 5.554 0.0401 0.00116 1.75 25.6 0.0030 4.37	0.159 0.00104 0.0000163 119 0.0005 0.0003 0.00341 0.739 0.000129 13.9 0.0465 0.00224 7.39 74.1 0.0055	0.0050 0.00109 0.000005 53.4 0.0001 0.00022 0.00288 0.095 0.00050 9.21 0.0197 0.00173 8.03 48 0.0086	2.82 0.005 0.00025 0.000005 17.5 0.0001 0.0001 0.00176 0.082 0.00005 2.23 0.00205 0.00116 0.575 8.95 0.002 4.37 5 7.45 0 0 0 0 0	0.159 0.00836 0.0002 119 0.002 0.00195 0.0187 3.14 0.001 13.9 0.674 0.0047 28.6 88.7 0.0361 29.6	30.91 0.05 0.00295 0.000031 53.92 0.0009 0.0006 0.006 0.84 0.0002 8.40 0.14 0.0027 12.05 60.17 0.01 14.63 9.92 7.95 0.00 0.00 0.00 0.00 0.00 0.00

Affaires autochtones

WATE	R LICENCE INSPECTION FO	ORM Sorigi	nal w-Up Report							
Licensee Hamlet of Whale Cove	Licensee Representative									
Licence No. / Expiry	lan Copland Representative's Title	Application and applications in	ani at na Benja di 20 di ani ang at ang							
3BM-WHA1520		Senior Administrative Officer								
Land / Other Authorizations	Land / Other Authorization									
Date of Inspection	Inspector	i nggyanit paggamiliasiga	That I have relie sometime as we							
July 11 th 2017	Atuat Shouldic	e								
Activities Inspected Camp Drilling Roads/Hauling Other: Spill no. 17-10:	☐ Mining ☐ Construction ☐ Other:	Reclamation	⊠ Fuel Storage							
SECTION 1 Comments (s.1)	Non-Compliance with Act or Lic	cence (s)	ction Required (s)							
Summary										
On July 11 th , 2017 Indigenous and Northern Community inspection of the hamlet of Ran Municipal Planning Engineer with the Gove	nkin Inlet permit 3BM-WHA1520. The ins									
SECTION 2 Comments (s)	Non-Compliance with Act or Li	cence (s.2)	ction Required (s)							
Observations LANDFILL The Hamlet has completed the landfill fence and this upgrade has allowed the fence to vitems from domestic waste have been initiathe Hamlet to continue this work. SEWAGE Upgrades to the sewage lagoon initiated in around the perimeter of the lagoon. WATER Water is trucked in to community and is method the perimeter of the lagoon. Hazardous waste Discarded batteries are stored in a seacan rehazardous waste and storing this waste in a	withstand high winds and high snow load of ated. With limited equipment this is an or 2016 have been completed. These upgrastered during delivery. Records have been next to the Hamlet storage garage. The Hamlet storage garage.	during the winter. Efform-going process and the des have ensured that reprovided to the inspec	inspector encourages no leaching was noted							
SECTION 3 Comments (s)	Non-Compliance with Act or Lic	cence, (s)	action Required (s.3)							
should be clear where residents ar		ing collected and segre								
Licensee or Representative	Inspector's Name									
	WRO A Shou	uldice								
Signature	Signature									
Date	Date 4/19,	12018								
Office Use Only: Follow-up report to be issued by	Inspector	⊠ Yes □ No								

Erik Allain, Manager Field Operations, INAC cc.



File Number: 2017-KIV02-CW