Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O Box 119, Gjoa Haven, Nunavut
X0B 1J0
Phone (867) 360-6338 ext. 27 Fax (867) 360-6369
Email licensing@nunavutwaterboard.org

Date: March 28th 2013

RE: Water License 3BM-CHE 1013 Hamlet of Chesterfield Inlet Annual Report 2013

Good afternoon Phyllis,

Please find attached the annual report for the above mentioned license, you will also find attachments with respect to the sample results as well as any other related information pertaining to the license requirements.

Please contact me should you have any questions, comments, or concerns.

Thanks

Jason Tologanak
Regional Director, Kivalliq Region
Community & Government Services
Rankin Inlet, Nunavut
X0C 0G0
Phone (867) 645-8101
Fax (867) 645- 8197
Cell (867) 645-7255

ANNUAL REPORT
FOR THE HAMLET OF CHESTERFIELD INLET, 2012

YEAR BEING REPORTED: 2012

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water License # 3BM-CHE 1013 issued to the Hamlet of Chesterfield Inlet.

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 2012	1,261,589.30	Same
February 2012	1,115,836.05	Same
March 2012	1,059,609.90	Same
April 2012	1,210,363.80	Same
May 2012	1,200,483.50	Same
June 2012	1,189,351.00	Same
July 2012	1,240,812.70	Same
August 2012	1,402,302.50	Same
September 2012	1,315,090.20	Same
October 2012	1,389,395.20	Same
November 2012	1,217,928.70	Same
December 2012	1,209,170.20	Same
ANNUAL TOTAL	14,811,933.05	14,811,933.05

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

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

No modification and /or major maintenance work carried out in 2012.

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

Spills:
House 44, Diesel fuel, 19L, dated 5/26/2912, #2012176
Chesterfield Inlet, Heating fuel, 11L, dated 5/28/2012, # 2012220
Chesterfield inlet, Heating oil, 829L, dated 6/8/2012, #2012239
Chester field, Heating oil, 23L, dated 6/8/2012, #2012241
Chester field inlet, Heating oil, 1L, dated 7/20/2012, # 2012301
Lot 153, Heating fuel, 80L, dated 10/16/2012, 3 2012411
Chester field inlet, 1L, Heating fuel, dated 11/2/2012, # 2012428

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

No abandonment and restoration work was planned in 2012 and no anticipation in 2013.

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;

-
  - Arktis Solutions Inc. recently completed feasibility study across Nunavut including Coral Harbour waste management facility. They recommended new guidelines. CGS is planning to implement these new standards and criteria in Coral Harbour future waste management facility.
  - CGS has retained William Engineering Ltd to conduct bathymetric surveys in the existing water source and in the proposed secondary source. This project is scheduled to be completed in 2014.

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

Record water volume extracted

- Record raw sewage pumped out
- Monitor sewage lagoon effluent quality at the final point of discharge
- Monitor leachate quality of the runoff from the solid waste facility

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

No update of O&M documents for water and waste facilities were done in 2012.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

The Licensee will start extended sampling and testing program for water, wastewater and leachate samples from 2013 to satisfy the monitoring program Part H of the water License.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

The Licensee is working closely with CGS to satisfy the requirements of the Water License and the demand of the AANDC inspector.

- The Lab Test Results for 2012

L1167505_COA.PDF

Hamlet of Chesterfield Inlet
ATTN: ELWOOD JOHNSTON
PO Box 10
Chesterfield Inlet NU X0C 0B0

Date Received: 25-JUN-12
Report Date: 25-JUL-12 11:39 (MT)
Version: FINAL

Client Phone: 867-898-9926

Certificate of Analysis

Lab Work Order #: **L1167505**
Project P.O. #: NOT SUBMITTED
Job Reference: CHESTERFIELD INLET MONITORING PROGRAM
C of C Numbers:
Legal Site Desc:

Paul Nicolas
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1167505-1 CHESTERFIELD INLET -2							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:05							
Matrix: WASTEWATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	13.6	DLA	1.0	mg/L		09-JUL-12	R2394651
Biochemical Oxygen Demand	10.2		6.0	mg/L	27-JUN-12	02-JUL-12	R2391233
BOD Carbonaceous	8.4		6.0	mg/L	27-JUN-12	02-JUL-12	R2391232
Fecal Coliforms	9300		3	MPN/100mL		29-JUN-12	R2391018
Oil and Grease, Total	<2.0		2.0	mg/L	27-JUN-12	27-JUN-12	R2390276
Phenols (4AAP)	0.0020		0.0010	mg/L	03-JUL-12	03-JUL-12	R2392373
Phosphorus (P)-Total	2.20		0.010	mg/L		29-JUN-12	R2390202
Total Organic Carbon	27.6		1.0	mg/L	05-JUL-12	05-JUL-12	R2393620
Total Suspended Solids	21.0		5.0	mg/L		28-JUN-12	R2392806
Routine Soluble + Metal scan							
Alkalinity							
Alkalinity, Total (as CaCO3)	106		20	mg/L		26-JUN-12	R2389717
Bicarbonate (HCO3)	129		24	mg/L		26-JUN-12	R2389717
Carbonate (CO3)	<12		12	mg/L		26-JUN-12	R2389717
Hydroxide (OH)	<6.8		6.8	mg/L		26-JUN-12	R2389717
Chloride by Ion Chromatography							
Chloride	48.1		0.50	mg/L		26-JUN-12	R2390269
Conductivity							
Conductivity	571		20	umhos/cm		26-JUN-12	R2389717
Hardness Calculated							
Hardness (as CaCO3)	170		0.30	mg/L		14-JUL-12	
Nitrate as N by Ion Chromatography							
Nitrate-N	<0.050		0.050	mg/L		26-JUN-12	R2390269
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		25-JUN-12	
Nitrite as N by Ion Chromatography							
Nitrite-N	<0.050		0.050	mg/L		26-JUN-12	R2390269
Sulfate by Ion Chromatography							
Sulfate	91.5		0.50	mg/L		26-JUN-12	R2390269
TDS calculated							
TDS (Calculated)	321		5.0	mg/L		14-JUL-12	
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.039		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Antimony (Sb)-Total	0.0047		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Arsenic (As)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Barium (Ba)-Total	0.00879		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Beryllium (Be)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Bismuth (Bi)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Boron (B)-Total	0.260		0.030	mg/L	27-JUN-12	27-JUN-12	R2389525
Cadmium (Cd)-Total	<0.00020		0.00020	mg/L	27-JUN-12	27-JUN-12	R2389525
Calcium (Ca)-Total	53.4		0.20	mg/L	27-JUN-12	27-JUN-12	R2389525
Cesium (Cs)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Chromium (Cr)-Total	0.0031		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Cobalt (Co)-Total	0.00113		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Copper (Cu)-Total	0.0116		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Iron (Fe)-Total	3.13		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Lead (Pb)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Lithium (Li)-Total	0.0081		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Magnesium (Mg)-Total	8.92		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Manganese (Mn)-Total	0.235		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Molybdenum (Mo)-Total	0.00079		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1167505-1 CHESTERFIELD INLET -2							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:05							
Matrix: WASTEWATER							
Total Metals by ICP-MS							
Nickel (Ni)-Total	0.0035		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Phosphorus (P)-Total	2.74		0.50	mg/L	27-JUN-12	27-JUN-12	R2389525
Potassium (K)-Total	14.7		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Rubidium (Rb)-Total	0.00935		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Selenium (Se)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Silicon (Si)-Total	1.43		0.30	mg/L	27-JUN-12	27-JUN-12	R2389525
Silver (Ag)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Sodium (Na)-Total	40.6		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Strontium (Sr)-Total	0.282		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Tellurium (Te)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Thallium (Tl)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Thorium (Th)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tin (Sn)-Total	<0.00060		0.00060	mg/L	27-JUN-12	27-JUN-12	R2389525
Titanium (Ti)-Total	0.0021		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tungsten (W)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Uranium (U)-Total	0.00637		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Vanadium (V)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zinc (Zn)-Total	<0.020		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zirconium (Zr)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
pH							
pH	7.21		0.10	pH units		26-JUN-12	R2389717
L1167505-2 CHESTERFIELD INLET -3							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:35							
Matrix: WASTEWATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	100	DLA	10	mg/L		09-JUL-12	R2395252
Biochemical Oxygen Demand	298		20	mg/L	27-JUN-12	02-JUL-12	R2391233
BOD Carbonaceous	82		20	mg/L	27-JUN-12	02-JUL-12	R2391232
Fecal Coliforms	>110000		3	MPN/100mL		29-JUN-12	R2391018
Oil and Grease, Total	12.9		2.0	mg/L	27-JUN-12	27-JUN-12	R2390276
Phenols (4AAP)	0.300		0.0010	mg/L	03-JUL-12	03-JUL-12	R2392373
Total Organic Carbon	158		1.0	mg/L	05-JUL-12	05-JUL-12	R2393620
Total Suspended Solids	132		5.0	mg/L		28-JUN-12	R2392806
Routine Soluble + Metal scan							
Alkalinity							
Alkalinity, Total (as CaCO3)	387		20	mg/L		26-JUN-12	R2389717
Bicarbonate (HCO3)	473		24	mg/L		26-JUN-12	R2389717
Carbonate (CO3)	<12		12	mg/L		26-JUN-12	R2389717
Hydroxide (OH)	<6.8		6.8	mg/L		26-JUN-12	R2389717
Chloride by Ion Chromatography							
Chloride	77.3		0.50	mg/L		26-JUN-12	R2390269
Conductivity							
Conductivity	1160		20	umhos/cm		26-JUN-12	R2389717
Hardness Calculated							
Hardness (as CaCO3)	73.5		0.30	mg/L		28-JUN-12	
Nitrate as N by Ion Chromatography							
Nitrate-N	<0.050		0.050	mg/L		26-JUN-12	R2390269
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.071		0.071	mg/L		25-JUN-12	
Nitrite as N by Ion Chromatography							
Nitrite-N	<0.050		0.050	mg/L		26-JUN-12	R2390269

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1167505-2 CHESTERFIELD INLET -3							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:35							
Matrix: WASTEWATER							
Sulfate by Ion Chromatography							
Sulfate	21.9		0.50	mg/L		26-JUN-12	R2390269
TDS calculated							
TDS (Calculated)	469		5.0	mg/L		29-JUN-12	
Total Metals by ICP-MS							
Aluminum (Al)-Total	1.71		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Antimony (Sb)-Total	0.0021		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Arsenic (As)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Barium (Ba)-Total	0.0153		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Beryllium (Be)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Bismuth (Bi)-Total	0.00110		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Boron (B)-Total	0.406		0.030	mg/L	27-JUN-12	27-JUN-12	R2389525
Cadmium (Cd)-Total	0.00034		0.00020	mg/L	27-JUN-12	27-JUN-12	R2389525
Calcium (Ca)-Total	18.5		0.20	mg/L	27-JUN-12	27-JUN-12	R2389525
Cesium (Cs)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Chromium (Cr)-Total	0.0050		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Cobalt (Co)-Total	0.00136		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Copper (Cu)-Total	0.149		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Iron (Fe)-Total	2.57		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Lead (Pb)-Total	0.0029		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Lithium (Li)-Total	0.0046		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Magnesium (Mg)-Total	6.66		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Manganese (Mn)-Total	0.0914		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Molybdenum (Mo)-Total	0.00173		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Nickel (Ni)-Total	0.0068		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Phosphorus (P)-Total	17.6		0.50	mg/L	27-JUN-12	27-JUN-12	R2389525
Potassium (K)-Total	34.4		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Rubidium (Rb)-Total	0.0310		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Selenium (Se)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Silicon (Si)-Total	4.54		0.30	mg/L	27-JUN-12	27-JUN-12	R2389525
Silver (Ag)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Sodium (Na)-Total	77.5		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Strontium (Sr)-Total	0.0529		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Tellurium (Te)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Thallium (Tl)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Thorium (Th)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tin (Sn)-Total	0.00377		0.00060	mg/L	27-JUN-12	27-JUN-12	R2389525
Titanium (Ti)-Total	0.0757		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tungsten (W)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Uranium (U)-Total	0.00179		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Vanadium (V)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zinc (Zn)-Total	0.251		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zirconium (Zr)-Total	0.0059		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
pH							
pH	7.49		0.10	pH units		26-JUN-12	R2389717
L1167505-3 CHESTERFIELD INLET -4							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:20							
Matrix: WASTEWATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.495		0.010	mg/L		05-JUL-12	R2393416
Biochemical Oxygen Demand	<6.0		6.0	mg/L	27-JUN-12	02-JUL-12	R2391233
BOD Carbonaceous	<6.0		6.0	mg/L	27-JUN-12	02-JUL-12	R2391232

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1167505-3 CHESTERFIELD INLET -4							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:20							
Matrix: WASTEWATER							
Fecal Coliforms	<3		3	MPN/100mL		29-JUN-12	R2391018
Oil and Grease, Total	<2.0		2.0	mg/L	27-JUN-12	27-JUN-12	R2390276
Phenols (4AAP)	<0.0010		0.0010	mg/L	03-JUL-12	03-JUL-12	R2392373
Phosphorus (P)-Total	0.023		0.010	mg/L		29-JUN-12	R2390202
Total Organic Carbon	24.7		1.0	mg/L	05-JUL-12	05-JUL-12	R2393620
Total Suspended Solids	<5.0		5.0	mg/L		28-JUN-12	R2392806
Routine Soluble + Metal scan							
Alkalinity							
Alkalinity, Total (as CaCO3)	62		20	mg/L		26-JUN-12	R2389717
Bicarbonate (HCO3)	76		24	mg/L		26-JUN-12	R2389717
Carbonate (CO3)	<12		12	mg/L		26-JUN-12	R2389717
Hydroxide (OH)	<6.8		6.8	mg/L		26-JUN-12	R2389717
Chloride by Ion Chromatography							
Chloride	37.0		0.50	mg/L		26-JUN-12	R2390269
Conductivity							
Conductivity	267		20	umhos/cm		26-JUN-12	R2389717
Hardness Calculated							
Hardness (as CaCO3)	50.8		0.30	mg/L		28-JUN-12	
Nitrate as N by Ion Chromatography							
Nitrate-N	0.587		0.050	mg/L		26-JUN-12	R2390269
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.587		0.071	mg/L		25-JUN-12	
Nitrite as N by Ion Chromatography							
Nitrite-N	<0.050		0.050	mg/L		26-JUN-12	R2390269
Sulfate by Ion Chromatography							
Sulfate	12.3		0.50	mg/L		26-JUN-12	R2390269
TDS calculated							
TDS (Calculated)	144		5.0	mg/L		29-JUN-12	
Total Metals by ICP-MS							
Aluminum (Al)-Total	0.021		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Antimony (Sb)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Arsenic (As)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Barium (Ba)-Total	0.00586		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Beryllium (Be)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Bismuth (Bi)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Boron (B)-Total	0.168		0.030	mg/L	27-JUN-12	27-JUN-12	R2389525
Cadmium (Cd)-Total	<0.00020		0.00020	mg/L	27-JUN-12	27-JUN-12	R2389525
Calcium (Ca)-Total	13.1		0.20	mg/L	27-JUN-12	27-JUN-12	R2389525
Cesium (Cs)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Chromium (Cr)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Cobalt (Co)-Total	<0.00050		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Copper (Cu)-Total	0.0053		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Iron (Fe)-Total	0.13		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Lead (Pb)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Lithium (Li)-Total	0.0072		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Magnesium (Mg)-Total	4.42		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Manganese (Mn)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Molybdenum (Mo)-Total	0.00067		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Nickel (Ni)-Total	0.0029		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Phosphorus (P)-Total	<0.50		0.50	mg/L	27-JUN-12	27-JUN-12	R2389525
Potassium (K)-Total	7.90		0.10	mg/L	27-JUN-12	27-JUN-12	R2389525
Rubidium (Rb)-Total	0.00576		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1167505-3 CHESTERFIELD INLET -4							
Sampled By: JOHNNY / AMROTH on 22-JUN-12 @ 10:20							
Matrix: WASTEWATER							
Total Metals by ICP-MS							
Selenium (Se)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Silicon (Si)-Total	<0.30		0.30	mg/L	27-JUN-12	27-JUN-12	R2389525
Silver (Ag)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Sodium (Na)-Total	32.3		0.050	mg/L	27-JUN-12	27-JUN-12	R2389525
Strontium (Sr)-Total	0.0634		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Tellurium (Te)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Thallium (Tl)-Total	<0.0050		0.0050	mg/L	27-JUN-12	27-JUN-12	R2389525
Thorium (Th)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tin (Sn)-Total	<0.00060		0.00060	mg/L	27-JUN-12	27-JUN-12	R2389525
Titanium (Ti)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
Tungsten (W)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Uranium (U)-Total	0.00067		0.00050	mg/L	27-JUN-12	27-JUN-12	R2389525
Vanadium (V)-Total	<0.0020		0.0020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zinc (Zn)-Total	<0.020		0.020	mg/L	27-JUN-12	27-JUN-12	R2389525
Zirconium (Zr)-Total	<0.0010		0.0010	mg/L	27-JUN-12	27-JUN-12	R2389525
pH							
pH	7.44		0.10	pH units		26-JUN-12	R2389717

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit Adjusted For required dilution
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-TOT-WP	Water	Alkalinity	APHA 2320B

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

BOD-CBOD-WP	Water	Carbonaceous BOD	APHA 5210 B-5 day Incub.-O2 electrode

A sample of water is incubated for 5 days at 20 degrees Celcius. Comparison of dissolved oxygen content at beginning and end of incubation provides a measure of Biochemical oxygen demand. If carbonaceous BOD is requested, TCMP is added to the sample to chemically inhibit nitrogenous oxygen demand. If soluble BOD is requested, the sample is filtered prior to analysis.

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

The sample is incubated for 5 days at 20 degrees Celcius. Comparison of dissolved oxygen content at the beginning and end of incubation provides a measure of biochemical oxygen demand. If carbonaceous BOD is requested, TCMP is added to the sample to chemically inhibit nitrogenous oxygen demand. If soluble BOD is requested, the sample is filtered prior to analysis. Surface waters have a DL of 1 mg/L. Effluents are diluted according to their history and will have a sample DL of 6 mg/L or greater, depending on the dilutions used.

CL-IC-WP	Water	Chloride by Ion Chromatography	EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

EC-WP	Water	Conductivity	APHA 2510B

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

ETL-HARDNESS-TOT-WP	Water	Hardness Calculated	HARDNESS CALCULATED
ETL-SOLIDS-CALC-WP	Water	TDS calculated	CALCULATION
FC-MPN-WP	Water	Fecal Coliform	APHA 9221A-C

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

IONBALANCE-OP05-WP	Water	Ion Balance Calculation No Reporting	APHA 1030E
MET-T-MS-WP	Water	Total Metals by ICP-MS	U.S. EPA 200.8-T

Total Metals by ICP-MS: This analysis is carried out using sample preparation procedures adapted from Standard Methods for the examination of Water and Wastewater Method 3030E and analytical procedures adapted from U.S EPA Method 200.8 for analyis of metals by inductively coupled-mass spectrometery.

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-WP	Water	Nitrite as N by Ion Chromatography	EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-WP	Water	Nitrate as N by Ion Chromatography	EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

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

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

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorous is determined colourimetrically after persulphate digestion of the sample.			
PH-WP	Water	pH	APHA 4500H
The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.			
PHENOLS-4AAP-WT	Water	Phenol (4AAP)	EPA 9066
An automated method is used to distill the sample. The distillate is then buffered to pH 9.4 which reacts with 4AAP and potassium ferricyanide to form a red complex which is measured colorimetrically.			
SO4-IC-WP	Water	Sulfate by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
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.			
TOC-WT	Water	Total Organic Carbon	APHA 5310B
Sample is injected into a heated reaction chamber which is packed with an oxidative catalyst. The water is vaporized and the organic cabon is oxidized to carbon dioxide. The carbon dioxide is transported in a carrier gas and is measured by a non-dispersive infrared detector.			

** 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.

ALS Environmental

Chain of Custody: L1167505-COFC

COC # _____

Page 1 of 1

Report To		Report Form		Service Requested (Rush for routine analysis subject to availability)
Company:	Hamlet of Chesterfield Inlet	☑ Standard ☐ Other		◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Elwood Johnston	☑ PDF ☐ Excel ☐ Digital ☑ Fax		○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	P.O. Box 10, Chesterfield Inlet, NU X0C 0B0	Email 1:	sao_hamlet@qiniq.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
		Email 2:	mlusty@gov.nu.ca	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	(867) 898-9926 Fax: (867) 898-9108	Email 3:		Analysis Request
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?	☑ Yes ☐ No	Job #:	Chesterfield Inlet Monitoring Program	
Company:		PO / AFE:		
Contact:		LSD:		
Address:				
Phone:	Fax:	Quote #:		
Lab Work Order # (lab use only)		ALS Contact:	Paul Nicolas	Sampler: Johnny Amarok

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Routine	BOD	Nutrients	Metals	Oil & Grease	Fecal Coliforms	Phenols	TOC					Number of Containers
	CHE-2	22/06/12	10:05	wastewater	X	X	P	P	P	P	P	P					08
	CHE-3	22/06/12	10:35	wastewater	X	X	P	P	P	P	P	P					08
	CHE-4	22/06/12	10:20	wastewater	X	X	P	P	P	P	P	P					08
	[redacted]																

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

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

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

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

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Johnny Amarok	June 22 2012	11:55 AM	[illegible]	[illegible]	1511	11.8 °C				

GENF 20.00 Front