January 31, 2013

Nunavut Water Board

PO Box 119

Gjoa Haven, Nunavut

X0B 1J0

Attention: Phyllis Beaulieu, Manager of Licensing

RE: "Annual Report 2012"- Hamlet of Kugluktuk, NU (Licence No.3BM-KUG0914)

Dear Ms. Beaulieu,

The Hamlet of Kugluktuk is pleased to submit to Nunavut Water Board the attached file of "Annual Report" of water uses and sewage solid waste disposal as required and directed under the compliance of use in Water Licence No. 3BM-KUG-0914 as stated above. Copies of required tests reports are attached herewith the report as requested for your review and requirements.

With the help of Government of Nunavut though Community and Government Services, we have undertaken a comprehensive waste management monitoring program which has led to improvement of sewage and solid waste site facilities, wetland and effluent discharge. Our annual monitoring program for water, sewage and solid waste has been in effect since summer 2012. Sample test result has shown excellent control on contamination parameters within allowable limits including BOD, TSS, E-coli and Toxicity. We summarized those conditions and requirements outlined in Part B through part H as below:

Part B: General conditions

Items 1-3: Tabular Form of annual water consumption and sewage disposal are duly filled-up

Note that quantities were measured on daily basis of water distribution and sewage disposal.

Items 4-13: Monitoring stations were marked at site using GPS locator and location identification signage was placed accordingly. Any missing signage will be re-installed by the hamlet during summer 2013

No device Meter was used for quantity measurements, however, truck-fill measurement was precise in taking volumetric measurement of water, sewage and solid waste and recorded on daily/weekly basis.

No Spill or emergency occurrences happened and reported during this period.

Plan of modification and improvement of solid waste site was already acknowledged to the Board

Part C: Water Use:

All water obtained from the **Coppermine River** as the only approved source and annual quantity (less than 56,000 cubic metres) limited within the allowable annual limit of 77,000 cubic metres.

Part D: Waste Disposal

All sewage and solid waste disposal carried into the prescribed locations of newly constructed sewage Lagoon and waste site facilities using hamlet operated trucks and operators. Sewage and effluent samples were taken during the summer and fall, tested in accredited laboratories and noted all parameters of contaminants within allowable limits-mostly within minimum values (attached tests reports).

Part E-G: Modification, construction, operation, abandonment and restoration

Modification to water intake facilities carried out – installed twin intake pumps, new pumphouse, two generators, SCADA system for temperature and flow control and ground vault for connection of new water pipes with part of existing pipeline to treatment plant. There was also a diversion of existing intake point close near to the old location for secondary intake facility considering the turbidity and salt intrusion as reported time to time.

Since new sewage lagoon in place, there are some study and tests continued on soil mixed with effluent of existing lagoon and part of wetland aiming for abandonment consideration sometime in summer 2013. Any such changes will be notified to the Board for approval and amendment.

Part H: Monitoring Program

Annual monitoring of sewage and solid waste effluent has been carried during the summer and fall. Test reports of such samples as well as Chlorine Logs and Bacterial Test are included with the Annual Report for your review information.

We hope that Nunavut Water Board will find our supporting documents valuable to Annual Report in operating the Water Licence for water, sewage and solid waste facility.

Sincerely,

January 31, 2013

Shah Alam, P. Eng.

Municipal Planning Engineer

Community & Government Services

Bag 200

Cambridge Bay, NU X0B 0C0

☎ 867-983-4156

Email: salam@gov.nu.ca

(On behalf of Senior Administrative Officer),

Hamlet of Kugluktuk, Nunavut

Hamlet Of Kugluktuk
Kugluktuk Katimayeen
P.O. Box 271
KUGLUKTUK, NU X0B 0E0
Phone: (867) 982-6500
Fax: (867) 982-3060

January 31, 2013

To: **Shah Alam, P. Eng.**
Municipal Planning Engineer
Community & Government Services
Bag 200
Cambridge Bay, NU X0B 0C0
867-983-4156 867-983-5182
Email: salam@gov.nu.ca

From: Donald LeBlanc
Senior Administrative Officer
Hamlet of Kugluktuk NU
X0B 0E0
Phone 1-867-982-6505 Fax 1-867-982-3060
Email: saokug@qiniq.com

Mr. Shah Alam

This is to advise that I request Shah Alam to submit on my behalf, the annual report As per Part B, Item 1 of water licence 3BM-KUG0914 issued to Kugluktuk to appropriate departments.

Yours Truly

Donald LeBlanc
Senior Administrative Officer
Kugluktuk

ANNUAL REPORT

YEAR BEING REPORTED: 2012

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence **3BM-KUG0914** issued to **Kugluktuk.**

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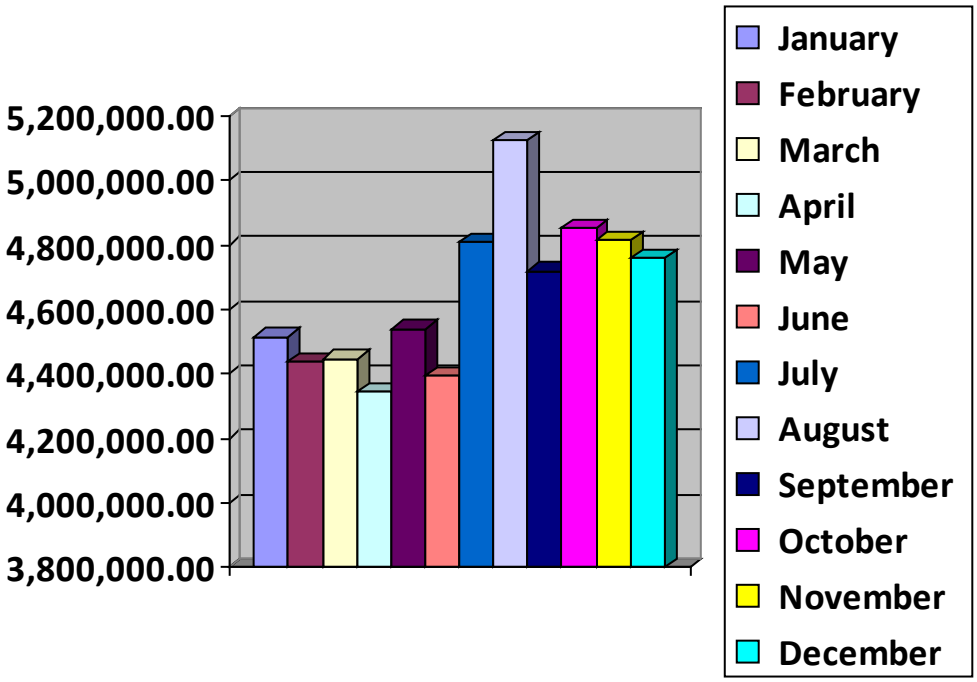
i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are quantities of water used as reported in our Fluid Manager 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
January	4,516,311.60	Same
February	4,437,974.30	Same
March	4,446,739.40	Same
April	4,346,777.40	Same
May	4,541,125.30	Same
June	4,395,799.00	Same
July	4,807,848.70	Same
August	5,122,926.70	Same
September	4,719,395.00	Same
October	4,854,071.40	Same
November	4,813,884.10	Same
December	4,759,554.10	Same
ANNUAL TOTAL	55,762,407.00	Same



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;

Water Supply:

- New intake and pump house has been completed in Phase 1-Construction contract of Water system.
- Phase 2-Water Treatment process in design stage, construction tender Mar/2013.

Sewage Lagoon:

- Liner repair completed with decant line under the liner – was reported by INAC
- Lagoon has been in use since Nov, 2011

Waste Disposal Facility:

- No new modifications, but only regular maintenance carried out on site (burn, bury, segregate waste etc.)

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

- O&M manual works expected this year 2013 for sewage and waste disposal
- Decant upgrading completed.

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

- Study and test of soil mixed with sewage effluent from existing lagoon continued. Once satisfactory results achieved of contaminants parameters including BOD level, we will apply for abandonment of the existing lagoon site - expecting sometime in summer 2013.
- There will be some restoration work at the land firm in terms of repairing sides of berm and grading for leachate collection sump.

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;

- As indicated in INAC report 2011, hamlet is planning for a proposal of improvement, extension or a new location for solid waste site facility since the current facility is getting closer to its capacity. Without any funding confirmation, hamlet is not able to confirm such study and review, but our annual maintenance in terms of segregation, cleaning of unwanted barrels and metals off site and securing of hazardous materials containment will be continued with hamlet's own operation and resources. Any GN help would be an excellent support in making the situation in full compliance with requirements.
- New O & M manual for sewage waste site will be available in 2013.
- Hamlet has improved the burn and bury facility with addition cover materials (as reported in INAC report 2011) and cleared debris from flowing away off the site.

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

- Annual Report for 2010 requested by NWB as per INAC report 2011. Updated Reports of 2011 and 2012 already in place by this time.
- New addition of full engineered lagoon system has taken in operation since late 2011 which shows excellent facilities and capacity of community's full sewage disposal facilities. Sample results shown excellent control on parameters which is a compliance of regulatory requirements and community need (refer to non-compliance of Licence, report 2011 by INAC).

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

- Updated O & M manual for sewage waste site will be available in 2013.
- Since there is no change or repair/restoration of solid waste site, the O & M manual for this facility will remain the same as before and any upgrading will be informed and added with the existing manual if requires.
- New O & M manual for water intake, treatment and distribution will be available once the new treatment plant completed. The existing manual for water supply still in effect for operation and maintenance. However, addition of new intake system has already completed and such for operation and maintenance information.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

Phase-2 Water Treatment System in design stage including generator and power line. However, hamlet is aware of the high turbidity issues in water and salt intrusion time to time. Current proposal for water treatment plant is basically for taking care of turbidity issue and some of salt intrusion using settling of sludge.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

The hamlet is full compliance with water, sewage and solid waste facilities. However, monitoring and operation maintenance of these facilities are every year routine works for the hamlet. During the transition of sewage facility and early start of new facility, some non-compliances identified by the Inspector (Refer to INAC report 2011) in terms of lagoon liner bubble up, erosion in berm, effluent discharge into river, solid wastes mixing up inside the facility and debris blowing off site. Hamlet is aware of these items and some these happened naturally and for that the maintenance works. After the last inspection in 2011, hamlet did not received any feedback report, meanwhile most of these items were improved and complied accordingly, such monitoring carried out during the year 2012 and will continue onward. Hamlet is requesting the Board to update those information and the inspection report 2011.

Part H: Monitoring Program

Item No.1: Five monitoring stations: - (i) KUG-1 (Raw Water at Coppermine River)
(ii) KUG-2 (Effluent from Solid waste site (iii) KUG-3: (Sewage effluent on wetland)
(iv) KUG-4: (Effluent outfall from wetland), (v) KUG-5:(Effluent from Land farm run-off)

Wastewater/Sewage parameters

Sample collected on July 22, 2012

	MAC	units	Results		
Parameter	Limits		KUG-2	KUG-3	KUG-4
Alkalinity		mg/L	149	286	70.9
Conductivity		µS/cm	647	849	415
P^H	6-9		7.8	7.61	7.67
TSS		mg/L	12	76	<3
Ammonia as N2		mg/L	0.43	52	0.13
BOD		mg/L	5	37	2
CBOD		mg/L	4	50	<2
Nitrate N2		mg/L	0.63	0.08	0.3
Calcium		mg/L	55.1	11.6	17
Chloride		mg/L	45.1	53.6	77.3
Hardness		mg/L	298	53.9	97.6
Magnesium		mg/L	39	6	13.4
Potasium		mg/L	4.3	22.6	2.0
Sodium		mg/L	17.3	60.6	43.8
Sulphate		mg/L	111	20	6
Fecal Coliform		CFU/100mL	13	137000	35
Oil and Gas	5000	µg/L	non-vis	non-vis	non-vis
Aluminium		µg/L	66	1120	38
Arsenic	100	µg/L	1.1	1.2	0.8
Cadmium	10	µg/L	0.5	<0.1	<0.1
Chromium	100	µg/L	1	3	0.4
Cobalt	50	µg/L			
Copper	200	µg/L	19.1	38.6	1.7
Iron		µg/L	2690	2110	1360
Lead	50	µg/L	35.4	1.7	<0.1
Manganese		µg/L	384	176	151
Nickel	200	µg/L	9.2	6.4	1.6
Zinc	500	µg/L	2820	44	<5

Kugluktuk Water Sample Chlorine Logs and bacterial Tests: FY 2012

Received Chlorine logs

Community	May	June	July	Aug	Sep	Oct	Nov	Dec
Kugluktuk	May 1-31	Jun 01-30	Jul 1-31	Aug 01-30	Sep 01-30	Oct 01-26		

Water BacT Tests: Total Coliform and E.Coli

Community	May		Jun		July		Aug		Sep	
	Sample date	Results	sample date	Results	sam Date	Results	sample Date	Results	sam Date	Results
Kugluktuk	May-08	absent	Jun-05	absen	Jul-03	absent	Aug-02	absent	Sep-10	absent

Shah Kugluktuk :
Sample stations: KUG-2 :
KUG-3 :
KUG-4 :
Date of sampling : July 22, 2012

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 120555

- FINAL REPORT -

Prepared For: Hamlet of Kugluktuk

Address: Box 271
Kugluktuk, NU
X0B 0E0

Attn:

Facsimile: (867) 983-3060

Final report has been reviewed and approved by:

Angelique Ruzindana
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Saturday, August 04, 2012
rint Date: Saturday, August 04, 2012

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-2

Taiga Sample ID: 001

Client Project:
Sample Type: Water
Received Date: 23-Jul-12
Sampling Date: 22-Jul-12
Sampling Time: 10:30
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
organics - Physicals						
Alkalinity, Total (as CaCO3)	149	0.4	mg/L	23-Jul-12	SM2320:B	
Conductivity, Specific (@ 25°C)	647	0.4	µS/cm	23-Jul-12	SM2510:B	
pH	7.80		pH units	23-Jul-12	SM4500-H:B	
Solids, Total Suspended	12	3	mg/L	24-Jul-12	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	0.43	0.01	mg/L	25-Jul-12	SM4500-NH3:	
Biochemical Oxygen Demand	5	2	mg/L	23-Jul-12	SM5210:B	81
CBOD	4	2	mg/L	23-Jul-12	SM5210:B	81
Nitrate+Nitrite as Nitrogen	0.63	0.01	mg/L	23-Jul-12	SM4110:B	
Major Ions						
Calcium	55.1	0.1	mg/L	23-Jul-12	SM4110:B	
Chloride	45.1	0.7	mg/L	23-Jul-12	SM4110:B	
Hardness	298	0.7	mg/L	23-Jul-12	SM2340:B	
Magnesium	39.0	0.1	mg/L	23-Jul-12	SM4110:B	

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Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-2 **Taiga Sample ID: 001**

Nitrate as Nitrogen	0.61	0.01	mg/L	23-Jul-12	SM4110:B	
Nitrite as Nitrogen	0.02	0.01	mg/L	23-Jul-12	SM4110:B	
Potassium	4.3	0.1	mg/L	23-Jul-12	SM4110:B	
Sodium	17.3	0.1	mg/L	23-Jul-12	SM4110:B	
Sulphate	111	1	mg/L	23-Jul-12	SM4110:B	
Microbiology						
Coliforms, Fecal	13	1	CFU/100mL	23-Jul-12	SM9222:D	88
Organics						
Oil and Grease, visible	Non-visible			23-Jul-12	Visual Exam	
Trace Metals, Total						
Aluminum	66	5	µg/L	29-Jul-12	EPA200.8	
Arsenic	1.1	0.2	µg/L	29-Jul-12	EPA200.8	
Cadmium	0.5	0.1	µg/L	29-Jul-12	EPA200.8	
Chromium	1.0	0.1	µg/L	29-Jul-12	EPA200.8	
Copper	19.1	0.2	µg/L	29-Jul-12	EPA200.8	
Iron	2690	5	µg/L	29-Jul-12	EPA200.8	
Lead	35.4	0.1	µg/L	29-Jul-12	EPA200.8	
Manganese	384	0.1	µg/L	29-Jul-12	EPA200.8	
Nickel	9.2	0.1	µg/L	29-Jul-12	EPA200.8	
Zinc	2820	5	µg/L	29-Jul-12	EPA200.8	

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Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-3 **Taiga Sample ID:** 002

Client Project:
Sample Type: Sewage
Received Date: 23-Jul-12
Sampling Date: 22-Jul-12
Sampling Time: 10:30
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	286	0.4	mg/L	23-Jul-12	SM2320:B	
Conductivity, Specific (@ 25°C)	849	0.4	µS/cm	23-Jul-12	SM2510:B	
pH	7.61		pH units	23-Jul-12	SM4500-H:B	
Solids, Total Suspended	76	3	mg/L	24-Jul-12	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	52.0	0.01	mg/L	25-Jul-12	SM4500-NH3:	
Biochemical Oxygen Demand	37	2	mg/L	23-Jul-12	SM5210:B	
CBOD	50	2	mg/L	23-Jul-12	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.10	0.01	mg/L	23-Jul-12	SM4110:B	
Major Ions						
Calcium	11.6	0.1	mg/L	23-Jul-12	SM4110:B	
Chloride	53.6	0.7	mg/L	23-Jul-12	SM4110:B	
Hardness	53.9	0.7	mg/L	23-Jul-12	SM2340:B	
Magnesium	6.0	0.1	mg/L	23-Jul-12	SM4110:B	
Nitrate as Nitrogen	0.08	0.01	mg/L	23-Jul-12	SM4110:B	

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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-3 **Taiga Sample ID: 002**

Nitrite as Nitrogen	0.02	0.01	mg/L	23-Jul-12	SM4110:B	
Potassium	22.6	0.1	mg/L	23-Jul-12	SM4110:B	
Sodium	60.6	0.1	mg/L	23-Jul-12	SM4110:B	
Sulphate	20	1	mg/L	23-Jul-12	SM4110:B	
Microbiology						
Coliforms, Fecal	137000	1000	CFU/100mL	23-Jul-12	SM9222:D	88
Organics						
Oil and Grease, visible	Non-visible			23-Jul-12	Visual Exam	
Trace Metals, Total						
Aluminum	1120	5	µg/L	29-Jul-12	EPA200.8	
Arsenic	1.2	0.2	µg/L	29-Jul-12	EPA200.8	
Cadmium	< 0.1	0.1	µg/L	29-Jul-12	EPA200.8	
Chromium	3.0	0.1	µg/L	29-Jul-12	EPA200.8	
Copper	38.6	0.2	µg/L	29-Jul-12	EPA200.8	
Iron	2110	5	µg/L	29-Jul-12	EPA200.8	
Lead	1.7	0.1	µg/L	29-Jul-12	EPA200.8	
Manganese	176	0.1	µg/L	29-Jul-12	EPA200.8	
Nickel	6.4	0.1	µg/L	29-Jul-12	EPA200.8	
Zinc	44	5	µg/L	29-Jul-12	EPA200.8	

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Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-4 **Taiga Sample ID:** 003

Client Project:
Sample Type: Water
Received Date: 23-Jul-12
Sampling Date: 22-Jul-12
Sampling Time: 10:30
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	70.9	0.4	mg/L	23-Jul-12	SM2320:B	
Conductivity, Specific (@ 25°C)	415	0.4	µS/cm	23-Jul-12	SM2510:B	
pH	7.67		pH units	23-Jul-12	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	24-Jul-12	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	0.13	0.01	mg/L	25-Jul-12	SM4500-NH3:	
Biochemical Oxygen Demand	2	2	mg/L	23-Jul-12	SM5210:B	
CBOD	< 2	2	mg/L	23-Jul-12	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.30	0.01	mg/L	23-Jul-12	SM4110:B	
Major Ions						
Calcium	17.0	0.1	mg/L	23-Jul-12	SM4110:B	
Chloride	77.3	0.7	mg/L	23-Jul-12	SM4110:B	
Hardness	97.6	0.7	mg/L	23-Jul-12	SM2340:B	
Magnesium	13.4	0.1	mg/L	23-Jul-12	SM4110:B	
Nitrate as Nitrogen	0.28	0.01	mg/L	23-Jul-12	SM4110:B	

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Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-4 **Taiga Sample ID: 003**

Nitrite as Nitrogen	0.02	0.01	mg/L	23-Jul-12	SM4110:B	
Potassium	2.0	0.1	mg/L	23-Jul-12	SM4110:B	
Sodium	43.8	0.1	mg/L	23-Jul-12	SM4110:B	
Sulphate	6	1	mg/L	23-Jul-12	SM4110:B	
Microbiology						
Coliforms, Fecal	35	1	CFU/100mL	23-Jul-12	SM9222:D	88
Organics						
Oil and Grease, visible	Non-visible			23-Jul-12	Visual Exam	
Trace Metals, Total						
Aluminum	38	5	µg/L	29-Jul-12	EPA200.8	
Arsenic	0.8	0.2	µg/L	29-Jul-12	EPA200.8	
Cadmium	< 0.1	0.1	µg/L	29-Jul-12	EPA200.8	
Chromium	0.4	0.1	µg/L	29-Jul-12	EPA200.8	
Copper	1.7	0.2	µg/L	29-Jul-12	EPA200.8	
Iron	1360	5	µg/L	29-Jul-12	EPA200.8	
Lead	< 0.1	0.1	µg/L	29-Jul-12	EPA200.8	
Manganese	151	0.1	µg/L	29-Jul-12	EPA200.8	
Nickel	1.6	0.1	µg/L	29-Jul-12	EPA200.8	
Zinc	< 5	5	µg/L	29-Jul-12	EPA200.8	

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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 120555

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-4 **Taiga Sample ID:** 003

- DATA QUALIFERS -

Data Qualifier Descriptions:

81 *Results are inconclusive due to insufficient depletion of sample, minimum 2 mg/L required over 5 days.*

88 *Samples analysed past holding time, as per client request.*

*** Taiga analytical methods are based on the following standard analytical methods**
SM - Standard Methods for the Examination of Water and Wastewater
EPA - United States Environmental Protection Agency

ReportDate: Saturday, August 04, 2012
rint Date: Saturday, August 04, 2012

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 23210233

Patient: **KUGLUKTUK , HAMLET OF**
DOB: **01/01/1900** Age: 112 Sex: N
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEEER
Room. Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 21/11/12 13:08 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU

Source: **River Water Truck 8001** Collected: **20/11/12 00:01**
Order#: **23210233** Received: **21/11/12 13:08**

Public, chlorinated water

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**22/11/12**	**14:16**
22/11/12	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867- 669-4141

Lab No: 23210231

Patient: **KUGLUKTUK , HAMLET OF**
DOB: **01/01/1900** Age: **112** Sex: **N**
HCN: Client ID: **HX00000043**
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEER
Room. Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 21/11/12 13:07 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU,

Source: **River Water Truck 8012**
Order#: **23210231**

Collected: **20/11/12 00:01**
Received: **21/11/12 13:08**

Public, chlorinated water
No Date and/or Time of Collection Indicated.

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**22/11/12**	**14:16**
22/11/12	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867- 669-4141

Lab No: 23210229

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: **112** Sex: **N**
HCN: Client ID: **HX00000043**
Stanton Chart No:
PL Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEEER
Room: Adm. Date: **05/12/11**

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 21/11/12 13:07 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP Cambridge Bay NU,

Source: **River Water Tank#3** Collected: **20/11/12 00:01**
Order#: **23210229** Received: **21/11/12 13:07**

Public, chlorinated water
No Date and/or Time of Collection Indicated.

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**22/11/12**	**14:16**
22/11/12	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 23210227

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: **112** Sex: **N**
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location. KITIKMEOT REGIONAL ENGINEEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 21/11/12 13:06 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU.

Source: River Water Tank #2 **Collected: 20/11/12 00:01**
Order#: **23210227** Received: **21/11/12 13:06**

Public, chlorinated water
No Date and/or Time of Collection Indicated.

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**22/11/12**	**14:16**
22/11/12	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

SCC

STATUS
Page 1 of 1

Printed: 11/22/12 14:39

Nunavut

Daily Residual (Free) and Total Chlorine

Water TANK #2 — Log

Kugluktuk Water System — Month: SEPTEMBER — Year: 2012 — Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	0.04 mg/L	0.02 mg/L	0.01 mg/L	0.03 mg/L	0.02 mg/L	0.02 mg/L	0.03 mg/L	0.02 mg/L	0.01 mg/L	0.02 mg/L	0.05 mg/L	0.06 mg/L	0.09 mg/L	0.03 mg/L	0.04 mg/L	0.02 mg/L	0.03 mg/L	0.11 mg/L	0.11 mg/L	0.08 mg/L	0.03 mg/L	0.04 mg/L	0.03 mg/L	0.08 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	0.02 mg/L	0.05 mg/L	0.04 mg/L	
Total Chlorine	0.10 mg/L	0.10 mg/L	0.09 mg/L	0.11 mg/L	0.08 mg/L	0.09 mg/L	0.12 mg/L	0.11 mg/L	0.09 mg/L	0.09 mg/L	0.15 mg/L	0.22 mg/L	0.22 mg/L	0.13 mg/L	0.15 mg/L	0.07 mg/L	0.11 mg/L	0.22 mg/L	0.22 mg/L	0.17 mg/L	0.14 mg/L	0.14 mg/L	0.13 mg/L	0.20 mg/L	0.12 mg/L	0.10 mg/L	0.18 mg/L	0.12 mg/L	0.09 mg/L	0.14 mg/L	
Time	1:30 pm	1:20 pm	3:20 pm	11:10 am	11:35 am	2:30 pm	11:25 am	1125	1245 pm	11:50 am	1055 am	1pm	1145 am	1140 pm	10:10 am	2:25 pm	11:00 am	2pm	9:35 pm	9:10 am	9:40 am	1130 pm	2225 pm	150 pm	140 pm	935 am	1155 am	1110 am	2:55 pm	3:45 pm		
Callibrate Colorimeter																															
Initials	JK	JK	JK	JK	JK	JK	JK	DI	DI	JK	DI	DI	DI	DI	JK	JK	JK	DI	JK	DI	JK	DI	DI	DI	DI	DI	DI	JK	JK	JK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 ppm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.

Nunavut

Daily Residual (Free) and Total Chlorine Log

KUGLUKTUK Water System — Water TANK #3 — Month: SEPTEMBER — Year: 2012 — Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	0.05 mg/L	0.05 mg/L	0.02 mg/L	0.03 mg/L	0.02 mg/L	0.03 mg/L	0.03 mg/L	0.03 mg/L	0.02 mg/L	0.01 mg/L	0.08 mg/L	0.08 mg/L	0.14 mg/L	0.00 mg/L	0.05 mg/L	0.02 mg/L	0.03 mg/L	0.10 mg/L	0.02 mg/L	0.02 mg/L	0.04 mg/L	0.10 mg/L	0.02 mg/L	0.04 mg/L	0.01 mg/L	0.04 mg/L	0.05 mg/L	0.02 mg/L	0.02 mg/L	0.04 mg/L	
Total Chlorine	0.08 mg/L	0.06 mg/L	0.06 mg/L	0.09 mg/L	0.07 mg/L	0.10 mg/L	0.11 mg/L	0.09 mg/L	0.11 mg/L	0.05 mg/L	0.13 mg/L	0.26 mg/L	0.26 mg/L	0.10 mg/L	0.14 mg/L	0.08 mg/L	0.09 mg/L	0.22 mg/L	0.21 mg/L	0.17 mg/L	0.13 mg/L	0.14 mg/L	0.15 mg/L	0.20 mg/L	0.04 mg/L	0.09 mg/L	0.03 mg/L	0.10 mg/L	0.06 mg/L	0.02 mg/L	
Time	1140 pm	1125 pm	2:15 pm	11:15 am	11:40 am	1:35 pm	11:30 pm	1130 am	1210 pm	11:35 am	11 am	1005 pm	1140 am	1135 am	10:15 pm	2:30 pm	11:05 am	205 pm	9:40 am	9:05 am	9:45 am	1137 pm	1230 pm	1555 pm	1045 am	930 am	1150 am	11:15 am	300 pm	3:30 pm	
Calibrate Colorimeter																															
Initials	JF	JF	JL	JF	JK	JK	JF	DI	DI	JK	DI	DI	DI	DI	JK	JK	JK	DI	JK	DI	JK	DI	DI	DI	DI	DI	DI	JK	JK	JK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 ppm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.

Daily Residual (Free) and Total Chlorine Log

Water SINK POINT

KUGLUKTUK Water System

Month: SEPTEMBER Year: 2012

Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	1.04 mg/L	1.09 mg/L	1.30 mg/L	1.21 mg/L	1.19 mg/L	1.33 mg/L	1.31 mg/L	1.38 mg/L	0.65 mg/L	1.38 mg/L	1.35 mg/L	1.42 mg/L	0.69 mg/L	1.00 mg/L	0.97 mg/L	1.13 mg/L	1.26 mg/L	1.37 mg/L	1.28 mg/L	1.17 mg/L	1.24 mg/L	1.38 mg/L	1.31 mg/L	1.27 mg/L	1.86 mg/L	1.13 mg/L	1.28 mg/L	0.91 mg/L	1.10 mg/L	1.04 mg/L	
Total Chlorine	1.14 mg/L	1.18 mg/L	1.33 mg/L	1.27 mg/L	1.34 mg/L	1.56 mg/L	1.49 mg/L	1.53 mg/L	1.26 mg/L	1.54 mg/L	1.47 mg/L	1.63 mg/L	0.93 mg/L	1.08 mg/L	1.22 mg/L	1.27 mg/L	1.35 mg/L	1.38 mg/L	1.29 mg/L	1.34 mg/L	1.34 mg/L	1.38 mg/L	1.38 mg/L	1.46 mg/L	1.77 mg/L	1.37 mg/L	1.38 mg/L	1.20 mg/L	1.27 mg/L	1.17 mg/L	
Time	4:30 pm	1:35 pm	3:30 pm	2:30 pm	11:45 pm	1:40 pm	11:45 AM	11:45 am	12:45 pm	11:45 am	11:15 am	12:0 pm	11:55 am	11:50 AM	2:50 pm	4:25 pm	11:15 am	2:0 pm	11:45 am	11:45 am	2:00 pm	11:45 am	12:40 pm	1:30 pm	1:05 pm	1:20 pm	11:45 am	12:25 pm	3:05 pm	5:45 pm	
Calibrate Colorimeter																															
Initials	JK	JK	JK	JK	JK	JK	JK	DI	DI	DI	DI	DI	DI	DI	JK	JK	JK	DI	DI	DI	JK	DI	DI	DI	DI	DI	DI	DI	JK	JK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 p pm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.

Nunavut

Daily Residual (Free) and Total Chlorine Log

Water Truck 8001

KUGLUKTUK Water System

Month: SEPTEMBER Year: 2012

Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	0.26 mg/L	MISS	0.65 mg/L	0.54 mg/L	0.39 mg/L	0.44 mg/L	0.45 mg/L	MISSED	0.32 mg/L	0.29 mg/L		0.29 mg/L		0.42 mg/L	NOT	MISS	0.32 mg/L	0.27 mg/L	0.28 mg/L	0.13 mg/L	0.48 mg/L	0.32 mg/L	0.16 mg/L	0.28 mg/L	0.47 mg/L	0.40 mg/L	0.43 mg/L	0.39 mg/L	N.S	NOT	
Total Chlorine	0.43 mg/L	DURING	0.78 mg/L	0.65 mg/L	0.57 mg/L	0.73 mg/L	0.66 mg/L	DAY	0.62 mg/L	0.55 mg/L		0.71 mg/L		0.64 mg/L	ON	DURING	0.57 mg/L	0.73 mg/L	0.58 mg/L	0.42 mg/L	0.56 mg/L	0.38 mg/L	0.09 mg/L	0.40 mg/L	0.73 mg/L	0.54 mg/L	0.54 mg/L	0.55 mg/L	ON	ON	
Time	6:30 PM	DAY	7:20 pm	2:35 pm	11:20 pm	4:00 pm	1:25 pm	time	12:00 pm	11:40 Am		2:00 pm		11:45 am	ROAD	DAY	4:35 pm	2:15 pm	11:40 am	11:15 pm	10:50 am	11:25 am	12:15 pm	2:10 pm	2:50 pm	11:05 am	1:50 pm	1:50 pm	ROAD	ROAD	
Calibrate Colorimeter																							pump								
Initials	JK	JK	JK	JK	JK	JK	JK	DI	DI	JK		JK		DI	JK	JK	DI	DI	DI	JK	DI	DI	DI	DI	DI	DI	DI	JK	JK	JK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 p pm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.

Nunavut

Daily Residual (Free) and Total Chlorine

Water TRUCK #2012 **Log**

KUGLUKTUK Water System

Month: SEPTEMBER Year: 2012

Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Free Chlorine	NOT	0.29 mg/L	NOT	miss	0.43 mg/L	0.52 mg/L	0.56 mg/L	0.51 mg/L	0.30 mg/L	0.49 mg/L	0.58 mg/L	0.58 mg/L	0.67 mg/L	0.61 mg/L	0.35 mg/L	0.46 mg/L
Total Chlorine	on	0.49 mg/L	on	During	0.67 mg/L	0.70 mg/L	0.68 mg/L	0.67 mg/L	0.45 mg/L	0.71 mg/L	0.72 mg/L	0.81 mg/L	0.84 mg/L	0.76 mg/L	0.45 mg/L	0.57 mg/L
Time	Road	4:15 pm	Road	Day	11:50 am	1:45 pm	11:15 am	1155 am	1205 pm	11:55 am	1120 am	145 pm	245 pm	3:00 pm	2:45 pm	4:20 pm
Calibrate Colorimeter																
Initials	IK	IK	IK	IK	IK	IK	IK	DI	DI	IK	DI	DI	DI	IK	IK	IK

Date	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	0.49 mg/L	0.59 mg/L	0.69 mg/L	0.27 mg/L	0.43 mg/L	0.26 mg/L	0.06 mg/L	0.28 mg/L	0.45 mg/L	0.35 mg/L	[illegible] mg/L	0.50 mg/L	miss	miss	
Total Chlorine	0.66 mg/L	0.77 mg/L	0.87 mg/L	0.49 mg/L	0.55 mg/L	0.64 mg/L	0.11 mg/L	0.49 mg/L	0.59 mg/L	0.68 mg/L	0.61 mg/L	0.63 mg/L	During	Over	
Time	1110 am	150 pm	1155 am	11:35 am	955 am	1120 am	1220 pm	145 pm	215 pm	1125 am	12pm	2:00 pm	Dry	Dry	
Calibrate Colorimeter															
Initials	DI	DI	DI	IK	DI	DI	DI	DI	DI	DI	DI	IK	IK	IK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 ppm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.

Nunavut

Daily Residual (Free) and Total Chlorine

Water TRUCK # 7091 **Log**

KUGLUKTUK Water System

Month: SEPTEMBER Year: 2012

Hach Chlorine Colorimeter

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Free Chlorine	NOT	NOT	NOT	NOT	WATER	miss	0.94 mg/L	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	0.01 mg/L	0.60 mg/L	~~0.46~~ mg/L	0.44 mg/L	NOT	wait only						NOT	WATER LINE	0.61 mg/L	
Total Chlorine	ON	ON	ON	ON	ROADS	Online	0.70 mg/L	ON	ON	ON	ON	ON	ON	ON	ON	ON	0.57 mg/L	0.73 mg/L	~~0.67~~ mg/L	0.61 mg/L	ON	roads						ON	ROADS	0.74 mg/L	
Time	ROAD	ROAD	ROAD	ROAD	TODAY	DAY	1:30 pm	ROAD	ROAD	ROAD	ROAD	ROAD	ROAD	ROAD	ROAD	ROAD	1130 am	250 pm	~~4~~ am	11 am	ROAD							ROAD		5:55 pm	
Calibrate Colorimeter																															
Initials	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	JK	DI	DI	DI	DI	JK	DI						JK	JK	JK	

Note: This is the only record the GN has that chlorination has been done in a regular and responsible manner. This record must be kept in a binder for a minimum of five years

Between 0.2 and 0.5 ppm is the target for free chlorine [1 ppm = 1 mg/L]. Must have a minimum 20 minute contact time to allow chlorine to disperse evenly. Free Chlorine levels should be between 0.2 ppm and 0.5 p pm, and always be less then Total Chlorine. If this is NOT the case, write in the Journal what actions you took to correct this.