

APPENDIX-G

QA/QC Plan for Water Quality Management

QA/QC of Water Supply to the Hamlet of Hall Beach in Baffin Region

The population of the Hamlet of Hall Beach in 2010 is 829 and annual water consumption is 24,953 cubic meters. The main source is the natural lake. There is an annual storage Reservoir built next to this lake. Water is extracted to the Treatment Plant through an intake pipe directly from this storage Reservoir. The intake line is heat traced with electric heating cables. The facility is being operated by the electricity.

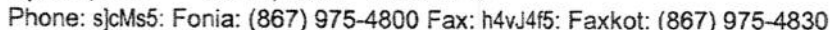
Water is disinfected inside the Treatment plant with chlorine following the guidelines given to them by the Department of Health and Social Services of Government of Nunavut. Hamlet is responsible to supply safe drinking water to the community. The regular water quality is monitored by the hamlet and QA/QC is followed along with the Department of Health and Social Services.

Hamlet tests Chlorine residual contents in the water of each water truck before delivery to satisfy the National Drinking Water Guidelines. Five samples are collected from five different locations. Sample must be kept cold but not frozen and sent via the local health centre lab box to Iqaluit Environmental Health office lab. Hamlet follows the guidelines given to them by the Department of Health and Social Services for sampling, preservation, and shipping.

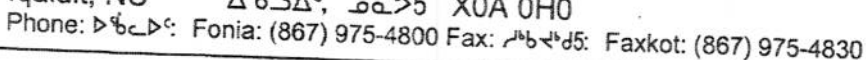
The Environmental health officers also sample at least twice annually from the field and ship the samples with them to the lab.

The Lab conducts testing on the microbiological parameters and finds the quality of water is always in good standing order.

The QA/QC plan and Procedure of the lab, sampling etc along with the hamlet is attached.



Please refer to the *Public Water Supply Regulations* pursuant to the *Public Health Act* for additional information.



For more information on drinking water disinfection, Please contact an Environmental Health Officer at (867) 975-4800.

CHLORINE MIXING INSTRUCTIONS FOR CALCIUM HYPOCHLORITE 65 %

1. Put on rubber apron, rubber gloves, and face shield.
2. Read manufacturer's safety data sheet for Calcium Hypochlorite.
3. Close valves on tanks.
4. Fill mix tank on work bench with (120) litres of water.
5. Add four (4) kilo-gram (bottles) of calcium hypochlorite 65% to water.
6. Mix solution for two (2) hours.
7. Fill feed tank by opening valve at bottom of mix tank.
8. Rinse mix tank and agitator with water.
9. Reintroduce clear one inch pipe from mix tank in feed tank.
10. Test first truck of day for adequate chlorination by using HATCH Colorimeter test kit. Let the sample sit for 20 minutes then test for FREE CHLORINE per the manual. The chlorine dosage should read between 0.5 and 1.0 mg/litres before delivery.
11. Adjust the stroke and/or rate of the injection pump to either increase or decrease the chlorine dosage if required. Retest FREE CHLORINE after adjusting the stroke and/or rate.



Instructions:

1. Drain any water from the tank.
2. Close any drains and add 5 gallons of warm water to the tank.
3. Add 2 cups of liquid household bleach (i.e. javex) for disinfection.
4. Using a new or clean brush (mop or long handled brush is recommended), thoroughly clean the entire inside.
5. Drain the tank and flush the interior with fresh (treated) water. Ensure all dirt, etc. has been removed.
6. Refill tank with treated water for storage and use.

NOTE:

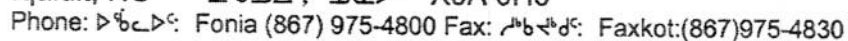
Tank cleaning and disinfection is recommended once per year or more often if necessary.



To ensure safe drinking water, follow the procedures outlined below at least twice a year or as required:

1. If there is excessive rust present in the interior, please ensure that this rust is scraped out.
2. The interior should then be rinsed in order to remove particles of rust.
3. Fill tank with water and add 1 gallon of 5% chlorine bleach (Javex) per 1000 gallons of water.
4. If possible, drive the truck around town to allow for proper mixing and to ensure the surface area in the interior is superchlorinated.
5. Let this solution stand for 12-24 hours to ensure proper contact time for super-chlorination.
6. Drain truck completely and fill with drinking water.
7. Contact the Environmental Health Officer to submit a water sample for bacterial analysis.

Ensure that during the super-chlorination procedure the hose is also filled with chlorinated water for complete sanitation.



To disinfect drinking water from a lake, river, stream, snow, or ice source, make sure you **BOIL THE WATER FOR AT LEAST 1 MINUTE** to kill any harmful bacteria, viruses, or parasites.



WATER SAMPLING

- Environmental Health Department
Health and Social Services, Baffin
P.O. Box 1000, Station 1046
Iqaluit, NU X0A 0H0**

- Revised October 2004

[illegible][illegible]

UV Sterilizer Log

November 2010

[illegible]

December 2010

[illegible]

Sample Tracking Log

January 2010

[illegible]

Feb-10

[illegible]

March 2010

[illegible]

April 2010

[illegible]

Daily Temperature Log - Refrigerator

January 2010

	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
Temperature above 4°C																															
Temperature = 0°C to 4°C																															
Temperature below 0°C																															
Corrective Action Taken																															
Cleaning Conducted																															
Initial																															

Notes:

February 2010

	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
Temperature above 4°C																												
Temperature = 0°C to 4°C																												
Temperature below 0°C																												
Corrective Action Taken																												
Cleaning Conducted																												
Initial																												

Notes:

Daily Temperature Log - Incubator

January 2010																															
	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
Temperature above 35°C																															
Temperature = 35°C ± 0.5°C																															
Temperature below 35°C																															
Corrective Action Taken																															
Cleaning Conducted																															
Initial																															

Notes:

February 2010																														
	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		
Temperature above 35°C																														
Temperature = 35°C ± 0.5°C																														
Temperature below 35°C																														
Corrective Action Taken																														
Cleaning Conducted																														
Initial																														

Notes: