



May 30, 2013

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## RE: Iqaluit Supplementary Water Supply Sampling Parameters

Dear Ms. Beaulieu:

In the fall of 2012, the City of Iqaluit (City) started a Supplementary Water Supply Plan. Part of this plan was to confirm the suitability of Apex River as a supplemental water source to Lake Geraldine (the municipal raw water supply). The consultant retained by the City developed a sampling plan that determined the parameters and frequency of testing as well as sampling locations. The parameters are based on the parameters located in Schedule C of Water License No. 3AM-IQA0611 as well as other parameters that the consultant deemed necessary to sample.

The sampling plan divides certain groups of parameters and locations into weekly and monthly samples. Weekly samples are going to be taken at the two proposed extraction points. Please see Appendix A for a list of weekly samples. Monthly samples are going to be taken at the two proposed extraction points as well as the hydrometric station located on Apex River and the raw water intake to the Water Treatment Plant (WTP). Please see Appendix B for the list of monthly samples. Please note that the Hydrocarbons and Polycyclic Aromatic Hydrocarbons are only being tested at the proposed extraction points with a onetime sample taken at the WTP to provide a reference point.

The City wants to ensure that when the Supplementary Water Supply Plan and Preliminary Design is submitted with the Application for Amendment that all sampling parameters required by the Nunavut Water Board are contained within the Sampling Plan.

The City is requesting that the Nunavut Water Board review the weekly and monthly sampling parameters listed in Appendix A and B and determine if the parameters are adequate. If any parameters are missing, please notify us as soon as possible so we can adjust the plan accordingly.

Sincerely,

Paul Clow  
Project Officer  
City of Iqaluit

**Appendix A**  
**Weekly Sampling Parameters**

Dissolved Metals			
Cadmium	Aluminum	Chromium	Iron
Lithium	Magnesium	Manganese	Potassium
Sodium	Strontium	Sulphur	Phosphorus
Barium	Silicon	Boron	Calcium
Cobalt	Copper	lead	Antimony
Molybdenum	Nickel	Selenium	Silver
Arsenic	Thallium	Tin	Titanium
Uranium	Vanadium	Zinc	Beryllium
Total Metals			
Cadmium	Aluminum	Chromium	Iron
Lithium	Magnesium	Manganese	Potassium
Sodium	Strontium	Sulphur	Phosphorus
Barium	Silicon	Boron	Calcium
Cobalt	Copper	Lead	Antimony
Molybdenum	Nickel	Selenium	Silver
Arsenic	Thallium	Tin	Titanium
Uranium	Vanadium	Zinc	Beryllium
RCAP Package			
Alkalinity	Carbonate	Bicarbonate	Hydroxide
Chloride	Conductivity	Dissolved Organic Carbon	Hardness
Dissolved Metals (see above)	Ion Balance (% difference)	Anion and Cation Sum	Nitrate and Nitrite
pH	Orthophosphate	Saturated pH and Langlier Index (20C)	Saturated pH and Langlier Index (4C)
Sulphate	Total Dissolved Solids (calculated)	Dissolved Metals (see above)	Total Metals (see above)
Microbiology			
Coliform/E-coli	Fecal Coliform		
Other Inorganic Parameters			
Acidity	Total Dissolved Solids	Total Suspended Solids	Ammonia
Total Kjeldahl Nitrogen (TKN)	Turbidity	Total Inorganic Carbon	Total Organic Carbon
Total Phosphorus			

**Appendix B**  
**Monthly Sampling Parameters**

Dissolved Metals			
Cadmium	Aluminum	Chromium	Iron
Lithium	Magnesium	Manganese	Potassium
Sodium	Strontium	Sulphur	Phosphorus
Barium	Silicon	Boron	Calcium
Cobalt	Copper	lead	Antimony
Molybdenum	Nickel	Selenium	Silver
Arsenic	Thallium	Tin	Titanium
Uranium	Vanadium	Zinc	Beryllium
Total Metals			
Cadmium	Aluminum	Chromium	Iron
Lithium	Magnesium	Manganese	Potassium
Sodium	Strontium	Sulphur	Phosphorus
Barium	Silicon	Boron	Calcium
Cobalt	Copper	Lead	Antimony
Molybdenum	Nickel	Selenium	Silver
Arsenic	Thallium	Tin	Titanium
Uranium	Vanadium	Zinc	Beryllium
RCAP Package			
Alkalinity	Carbonate	Bicarbonate	Hydroxide
Chloride	Conductivity	Dissolved Organic Carbon	Hardness
Dissolved Metals (see above)	Ion Balance (% difference)	Anion and Cation Sum	Nitrate and Nitrite
pH	Orthophosphate	Saturated pH and Langlier Index (20C)	Saturated pH and Langlier Index (4C)
Sulphate	Total Dissolved Solids (calculated)	Dissolved Metals (see above)	Total Metals (see above)
Microbiology			
Coliform/E-coli	Fecal Coliform		
Other Inorganic Parameters			
Acidity	Total Dissolved Solids	Total Suspended Solids	Ammonia
Total Kjeldahl Nitrogen (TKN)	Turbidity	Total Inorganic Carbon	Total Organic Carbon
Total Phosphorus			
Hydrocarbons			
F1 (C6-C10)	Benzene	Toluene	Ethylbenzene
Xylene	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	Acenaphthylene	Antracene	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b,j)fluoranthene	Chrysene	Bibenz(a,h)anthracene
Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene
2-Methylnaphthalene	Naphthalene	Phenanthrene	