SECTION 5.0 - DATA MANAGEMENT AND REPORTING

5.1 DATA MANAGEMENT

All water quality data collected by Baffinland or designate from the various environmental programs will be stored electronically in a spreadsheet database (Microsoft Excel) or using alternative software designed specifically for environmental data management.

QA/QC measures relating to data validation will include the following:

1. Designation of a suitable person to act as Water Quality Database Manager (WQDM).
2. Upon receipt, laboratory analytical data will be reviewed by the WQDM to check for completeness, typos, outlying values, etc. The analytical laboratory will be immediately notified of any anomalous results.
3. At a suitable frequency (e.g. once per month) the spreadsheet database should be updated by the WQDM using: i) results provided in electronic format by the analytical laboratories, and ii) copies of the field parameter monitoring records forwarded from site
4. The WQDM will be responsible for ensuring that a third party (e.g. another staff member) carries out a QA/QC check on a minimum of ten percent of newly entered data.

5.2 REPORTING

All documents prepared by Baffinland or their designate for submission to the regulators will be reviewed by senior staff and Baffinland prior to issue, as per the company's standard practice and quality management system.

SECTION 6.0 - REFERENCES

1. APHA *et al*, 1989. Standard Methods for the Examination of Water and Wastewater; AHPA, AWWA and WPCF, 17th ed.

2. Environment Canada, 2002. Metal Mining Guidance Document for Aquatic Environmental Effects Monitoring. http://www.ec.gc.ca/eem/English/MetalMining/Guidance/default.cfm.

3. INAC, 1996. Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "B" Licenses in Collecting Representative Water Samples and the Field and for Submission of a QA/QC Plan. Prepared by Department of Indian and Northern Affairs Canada Water Resources Division and the Northwest Territories Water Board, July 1996.

4. Knight Piésold, 2008. Baffinland Iron Mines Corporation - Mary River Project - Site Water Management Plan, Ref. No. NB102-00181/10-5, Rev. 1. North Bay: Knight Piésold, 2008.

5. USEPA, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms; 5th Ed., USEPA, ref. No. EPA-821-R-02-012.

TABLE 2.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

SURFACE WATER SAMPLING PROGRAM - QUALITY ASSURANCE AND QUALITY CONTROL PLAN

SUMMARY OF RECOMMENDED WATER SAMPLE VOLUMES, METHOD DETECTION LIMITS, PRESERVATIVES AND SAMPLE STORAGE TIMES

Parameter	Method Detection Limit	Required Sample Bottle	Sample Preservative	Maximum Sample Storage Time	
				Preferred	Maximum
General Chemistry					
Total metals	variable	250mL plastic	0.5mL conc. nitric acid	6 months	-
Dissolved metals[1]	variable	250mL plastic	cool 4°C	7 days	-
Anions	variable	1L plastic	cool 4°C	7 days	-
TSS[4]	3 mg/L	1L plastic	cool 4°C	7 days	-
pH	0.01 pH unit	250mL plastic	cool 4°C	4 hours	14 days
Conductivity	0.2µS/cm	250mL plastic	cool 4°C	28 days	-
Total hardness	0.5mg/L	250mL plastic	cool 4°C	6 months	-
Total acidity / alkalinity	0.5mg/L	500mL plastic	cool 4°C	14 days	-
Nutrients					
BOD_5[8]	5mg/L	1L plastic	cool 4°C	4 hours	7 days
Total ammonia	0.005mg/L	250mL plastic	2mL sulphuric acid, cool 4°C	28 days	-
Nitrate	0.005mg/L	500mL plastic	cool 4°C	48 hours	7 days
Nitrite	0.002mg/L	500mL plastic	cool 4°C	48 hours	7 days
Orthophosphate	0.002mg/L	250mL plastic	cool 4°C	48 hours	7 days
TOC[5]	0.01mg/L	125 ml, glas, amber	2ml HCl acid	28 days	-
Biological					
Chlorophyll	$0.2mg/m^3$	1 L amber glass	cool 4°C	72 hours	3 days[9]
Phenophytin	$0.2mg/m^3$	1 L amber glass	cool 4°C	72 hours	3 days[9]
Sub-lethal Toxicity Testing[7]	N/A	20L plastic tote	cool 4°C	7 days	
Bacterial					
Fecal coliforms	1MPN	125mL sterile plastic or glass	cool 4°C	6hrs	48hrs
Organics					
TPH[2]	1.0 mg/L	500mL brown glass[6]	2mL sulphuric acid	14 days	-
BTEX[3]	0.0005 mg/L	100mL two septum vial[6]	2mL sulphuric acid, cool 4°C	14 days	-

Notes:
1. Sample must be field filtered using a 0.45µm disposable filter and syringe.
2. Total petroleum hydrocarbons.
3. Benzene, toluene, ethyl benzene, xylenes.
4. Total suspended solids.
5. Total organic carbon.
6. Zero sample headspace.
7. Type of test organism selected will depend upon objectives of testing.
8. Biochemical oxygen demand - 5 day test.
9. For samples with pH >7, the sample may be preserved by filtering through a glass fibre filter and storing the filter and residue in an airtight plastic bag in a freezer for up to 3 weeks.

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TABLE 2.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

SURFACE WATER SAMPLING PROGRAM - QUALITY ASSURANCE AND QUALITY CONTROL PLAN

SUMMARY OF RECOMMENDED FIELD QA/QC WATER SAMPLES

QA/QC Sample	Purpose	Description	Frequency	Prepared By
Field blank	Identification of potential contaminants arising from sample collection. The field blank bottle is prefilled with laboratory deionized water and is handled in the same way as regular sample bottles (i.e., opened and closed during sample collection). The bottle is submitted as a routine sample.	Bottle contains prefilled deionized water. Bottle is handled the same as one would handle regular samples.	Ten percent of all samples collected will be QA/QC.	Field staff
Travel blank	Identification of potential contaminants arising from sample storage, shipping and laboratory handling. The travel blank accompanies the samples to the laboratory but is not taken out into the field, or opened.	Sealed bottle containing deionized water provided by analytical laboratory	Ten percent of all samples collected will be QA/QC.	Analytical laboratory
Field duplicate	Assesses sample variability and precision of laboratory analytical methods	Duplicate sample selected at random.	Ten percent of all samples collected will be QA/QC.	Field staff

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ATTACHMENTS