# APPENDIX 7B

## WATER AND SEDIMENT QUALITY

**Appendix 7B-1 Surface Water and Sediment Quality Baseline Report**

**Appendix 7B-2 Memorandum: Development of Site Specific Water Quality Objectives for Application in the Final EIS Water Quality Assessment**

# APPENDIX 7B-1

# SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT

Knight Piésold

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

# SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT

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# BAFFINLAND IRON MINES CORPORATION
# MARY RIVER PROJECT

## SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT
## (REF. NO. NB102-181/30-5)

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**MARY RIVER PROJECT**

# SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT (REF. NO. NB102-181/30-5)

## EXECUTIVE SUMMARY

This document is a compilation of the environmental surface water and sediment quality data from sampling programs performed by Knight Piésold Ltd. and their sub-consultants from 2005 to 2011. Stream sampling completed by Baffinland Iron Mines Corporation (BIMC) in 2009 and 2010 is also included. The data have been summarized for the seven sampling years and compared to applicable criteria, and trends have been analyzed. The 2011 sampling program was completed with future monitoring requirements considered, however the data was also used as additional baseline data.

Streams naturally have elevated concentrations or values for the following parameters: dissolved oxygen, turbidity, aluminum and iron. There were also some instances where the CCME guidelines were exceeded for the following parameters: copper, total suspended solids, silver, selenium, lead, pH and nickel.

Lake profiling in 2011 generally indicates that the lakes are thermally stratified in the summer and are isothermic, uniformly mixed undergoing turnover in the fall. Parameters that were generally at or above the respective guidelines in Camp Lake and Mary Lake included aluminum, cadmium and copper; Sheardown Lake generally had elevated concentrations of iron and copper. Steensby area lakes generally had elevated aluminum concentrations.

Sediment quality at sites across the project area was generally good with naturally higher levels of chromium, copper, nickel and aluminum within the Mine Site. In Mary Lake elevated concentrations of total phosphorus were noted and in Sheardown Lake (Northwest Basin), elevated concentrations of total phosphorus, total Kjeldhal nitrogen (TKN) and total organic carbon (TOC) were noted.

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**SURFACE WATER AND SEDIMENT QUALITY**
**BASELINE REPORT**
**(REF. NO. NB102-181/30-5)**

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**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

# SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT (REF. NO. NB102-181/30-5)

## SECTION 1.0 - INTRODUCTION

The Mary River Project (the Project) consists of a proposed iron ore mine and associated facilities located on North Baffin Island, in the Qikiqtani Region of Nunavut (see Figure 1.1). The Project involves the construction, operation, closure and reclamation of an 18 million tonne per annum (Mt/a) open pit mine that will operate for 21 years. The high-grade iron ore to be mined is suitable for international shipment after crushing and screening with no chemical processing facilities. A railway system will transport the ore from the mine area to an all season deep-water port and ship loading facility at Steensby Port where the ore will be loaded into ore carriers for overseas shipment through Foxe Basin. A dedicated fleet of cape-sized ice-breaking ore carriers and some non-icebreaking ore carriers and conventional ships will be used during the open water season to ship the iron ore to markets.

This environmental baseline study report has been prepared in support of the Final Environmental Impact Statement (FEIS) for the Project, to be submitted by Baffinland Iron Mines Corporation (Baffinland) to the Nunavut Impact Review Board (NIRB).

### 1.1 OBJECTIVES

This document is a compilation of the environmental surface water quality and sediment quality data for baseline surface water and sediment sampling programs performed by Knight Piésold Ltd. (KPL), their sub-consultants and Baffinland Iron Mines Corporation (BIMC) from 2005-2011. The data have been summarized for the seven sampling years, compared to applicable criteria, and trends have been analyzed. This report has been prepared to support the FEIS. The 2011 sampling was completed with future monitoring requirements considered, however the data was also used as additional baseline data.

### 1.2 STUDY AREA

For the purpose of this baseline study, the study area includes water bodies in the vicinity of the Milne Port, Milne Inlet Tote Road, Mine Site, Railway and Steensby Port Local Study Areas (LSAs).

### 1.3 SUMMARY OF ANNUAL STUDIES

Stream water quality has been studied in the Project area since 2005 by KPL and North/South Consultants Inc. (North/South), with sampling locations being modified each year to reflect changing Project components. During 2005 and 2006, the Project focused on exploration activities. In 2007, exploration continued and operations and facilities were expanded. In 2008, the bulk sample program was initiated. Sampling at specific locations within the Mine Site was completed by BIMC in 2009 and 2010. In 2011, KPL completed water and sediment quality programs based on future monitoring requirements. The Surface Water and Sediment Quality Study should be examined with these activities

in mind. Drilling operations did take place prior to 2005, thus it is possible for these activities to have influenced specific areas before the baseline sampling commenced. This report is an update to the 2010 annual report, for the purpose of including and presenting the 2011 data.

Lake water quality/limnology was studied in 2006 by KPL and in 2007 and 2008 by North/South on behalf of KPL. Sediment quality was sampled in 2005 and 2006 by KPL and in 2007 and 2008 by North/South. Lake and sediment quality were studied in 2011 based on future monitoring requirements. Stream and lake water quality sample locations are shown on Figures 1.2 through 1.5. Sediment sampling locations are shown on Figures 1.6 and 1.8.

Results of the various studies are presented in the following reports:

- "2005/2006 Baseline Water Quality Summary Report" (Ref. No. NB102-00181/4-5), Knight Piésold Ltd., March 13, 2007
- "2007 Baseline Water Quality Summary Report" (Ref. No. NB102-00181/7-5), Knight Piésold Ltd., June 6, 2008
- "Freshwater Aquatic Environment Baseline Report: Lake Limnology and Lower Trophic Levels: 2007" North/South Consultants Inc., March 2008
- "Surface Water and Sediment Quality Baseline Report" (Ref. No. NB102-00181/25-2), Knight Piésold Ltd., October 29, 2010, issued for DEIS
- "Compendium to Surface Water and Sediment Quality Baseline Report" (Ref. No. NB102-00181/25-16), Knight Piésold Ltd., December 31, 2010

## SECTION 2.0 - METHODS

### 2.1 STREAM WATER QUALITY

#### 2.1.1 Sampling Locations and Seasons

Between 2005 and 2008, sampling was generally undertaken during the spring (June), summer (July) and fall (August/September) during the open water season. In 2009 and 2010 sampling was completed during the summer only. In 2011, sampling was completed in the summer and fall. Sample locations were modified each year based on current and proposed Project activities, and were also dependent on factors such as accessibility, weather conditions, wildlife sightings and flow conditions at the time of sampling. In 2007, samples were collected from certain locations (A0-10, C0-10, E0-03, E0-10, E3-01, E4-01, F0-01, G0-01, G0-09 and L0-01) on a weekly basis by KPL personnel. The weekly sampling of these and additional sites was completed by BIMC in 2008 to meet regulatory requirements. Since these samples were collected for regulatory purposes rather than for baseline conditions, they have not been included in this report.

In general, stream sampling areas in each year are described as follows:

| Year | General Stream Sampling Areas |
|---|---|
| 2005 | • Mine Site (includes Mining Area, Mine Infrastructure Area, Exploration Facilities Area) and vicinity<br>• Potential transportation routes to Milne Port and Steensby Port |
| 2006 | • Mine Site (includes Mining Area, Mine Infrastructure Area, Exploration Facilities Area) and vicinity<br>• Potential transportation routes to Milne Port and Steensby Port |
| 2007 | • Mine Site (includes Mining Area, Mine Infrastructure Area, Exploration Facilities Area) and vicinity<br>• Railway |
| 2008 | • Mine Site (includes Mining Area, Mine Infrastructure Area, Exploration Facilities Area) and vicinity<br>• Railway<br>• Steensby Port<br>• Milne Port |
| 2009 | • Mine Site |
| 2010 | • Mine Site |
| 2011 | • Mine Site<br>• Steensby Port<br>• Milne Port |

In addition to streams, sampling locations included rivers, drainage courses and lakes. Tables 2.1 to 2.4 provide a detailed summary of all sample locations, including UTM coordinates.

### 2.1.2 Parameters

In situ parameters (temperature, dissolved oxygen (DO), pH and specific conductance/conductivity) were generally measured at each site and UTM coordinates were recorded using a handheld Global Positioning System (GPS). Grab samples were collected for laboratory analysis for the parameters listed in the laboratory quote in Appendix A of the compendium report (Ref. No. NB102-00181/30-6). The 2009-2011 laboratory quotes have not been included in this Appendix, as correspondence with the laboratory was done by BIMC. Physical characteristics of the stream were also recorded, such as approximate width, depth, flow rate, amount of riparian vegetation, etc.

### 2.1.3 Sampling Methods

In situ measurements at each location were collected using a YSI 556 MPS (2005), an Hydrolab Quanta (2006, limited use in 2007/2008) or a YSI 600 QS Sonde (2007/2008) and a YSI 6820 V2 Sonde in 2011. Measurements were recorded on the sample record forms. Appendix B of the compendium report contains available field record sheets.

Surface water samples were collected by trained field staff using standard protocols. The following steps were taken when collecting samples:

- Samples were collected from flowing sections (unless otherwise noted) and were obtained by either wading into the stream or by collecting the sample from the stream bank
- Samples were collected in an upstream direction, and sampling gloves were worn at all times
- Samples were obtained by placing the sample bottle beneath the surface of the water with the bottle opening facing downwards to reduce the amount of surface residue collected. In some cases the stream was very shallow; in these cases the sample was collected from the surface.
- Samples were collected into clean sample bottles provided by the laboratory. For bottles where acid preservative was required, samples were transferred from a clean bottle into the bottle containing preservative.
- Samples for dissolved metals were filtered in the field at the time of collection using an Acrodisc® 60 mm Syringe with a 0.45 µm Supor® membrane filter and the sample was preserved (acidified with nitric acid). Ten (10) mL of sample water was dispensed from each syringe/filter apparatus prior to filling the sample bottles, as per the manufacturer's directions. In the fall of 2011, a shortage of Acrodisc filters (due to shipping delays) occurred and non-sterile filters were used at a small number of sites. This was noted on the respective field record sheet.

As soon as possible after collection, samples were stored on ice in coolers and shipped to the laboratory under chain-of-custody protocols. Samples were submitted for testing to SGS Lakefield in Lakefield, ON in 2005 and Exova Accutest Laboratories Ltd. (Exova) in

Ottawa, ON in 2006. Testing of metals was sub-contracted to the ALS Laboratory Group (ALS) in Vancouver, BC from 2007 to 2011.

### 2.1.4 Laboratory Methods

Analytical methods for the parameters measured at Exova and ALS are provided in Appendix A of the compendium report, and available laboratory certificates of analysis are provided in Appendix C of the compendium report. Laboratory quotes for 2009-2011 were determined through BIMC and are not included.

### 2.1.5 Field Quality Assurance/Quality Control

Field quality assurance/quality control (QA/QC) procedures included standard precautions to avoid sample contamination (e.g. gloves were worn during sample collection and handling), use of standard sampling protocols and inclusion of QA/QC samples.

QA/QC sample descriptions and collection frequencies are summarized below:

- Field blanks were prepared in the field using deionized water. These samples were field filtered and preserved using the same methodology as for actual water sample collection. The number of field blanks collected was equivalent to 5% of the total number of samples collected, or one per sampling event, whichever was greater.
- Duplicate samples were collected immediately following the collection of the original sample. The number of duplicate samples collected was equivalent to 10% of the total number of samples collected or one per sampling event, whichever was greater.
- Trip blanks were provided by the laboratory and were submitted whenever possible given weather and shipping constraints. These blanks were prepared by the analytical laboratory by filling one set of sample bottles with deionized water. Trip blanks were left unopened and kept in a cooler which accompanied the samplers on a specific day before being submitted to the laboratory with other samples.
- Equipment blanks were performed in 2005, 2006 and 2011 by running deionized water over the equipment used during sample collection. Approximately one equipment blank was collected per day when the equipment required decontamination. In 2011, an equipment blank was collected in the summer, from two possible samplers, prior to use.

QA/QC samples were analyzed for the same parameters as the actual samples.

Field meters were calibrated prior to departure and/or in the field, depending on the specifications of the instrument and the parameter being measured. Where required, meters were also subject to regular verifications during the field program using distilled or deionized water and standards for turbidity, conductivity and pH.

### 2.1.6 Data Analysis

#### 2.1.6.1 Analytical Quality Assurance/Quality Control

Analytical and field precision were determined using the analytical results obtained for the duplicate samples, through the application of relative percent difference (RPD) calculations. Data were considered to be imprecise if the RPD between the duplicate samples was 25% or greater, for concentrations that were 5 times greater than the method detection limits (MDL). All imprecise data sets were flagged and investigated, where possible, to determine the cause of the discrepancy.

Field blank samples were used to assess the potential sources of contamination associated with the sample containers, preservatives, filters and filter apparatus, sample handling and transportation, as well as any potential contamination from the analytical procedures. Analytical results for field blanks should not exceed more than 5 times the MDL. Where a result was over five times the MDL, the result was bolded in the summary table and noted in the QA/QC section.

Additionally, all water quality data were evaluated qualitatively for potential outliers and transcription or analytical errors. Where values were encountered that departed considerably from results obtained at the same site during other sampling periods and/or where one replicate sample differed notably from the others, the measurement was flagged as suspect and if possible, an explanation for the differences was considered. For statistical purposes, values considered to be outliers were removed from the data set. When possible, values were verified against analytical laboratory reports for transcription errors and/or requests were made to the analytical laboratory to verify the values through sample reanalysis and/or verification of reporting accuracy. In 2008, this form of data evaluation was commenced, but due to an extended stoppage of work, analytical checks were no longer possible due to the sample holding times being exceeded. KPL was provided executable results for 2009 and 2010, and therefore certificates of analysis were not provided. QC and checks on the data from these two years could not be performed.

The analytical laboratories are Canadian Association for Laboratory Accreditation (CALA) certified facilities and adhere to routine laboratory QA/QC procedures.

#### 2.1.6.2 Analysis of Results

Summary statistics were generated for the specified areas in the vicinity of the Mine Site, the area between the Mine Site and Milne Port and the area between the Mine Site and Steensby Port (including the Mid-Rail area).

The following statistics were calculated:

- Number of Sites - the number of sites included in a specified area was calculated.
- Number of Samples - the number of samples included in an area was calculated.
- Number of Detects - the number of results above the MDL for a specific parameter was calculated for each area.
- Percentage of Detects - the percentage of results above the MDL for a specific parameter was calculated.
- Minimum - the lowest value/result for a specific parameter in an area was calculated.
- Maximum Detected - the maximum value/result for a specific parameter in an area was calculated.
- Mean - calculated for parameters for which >50% of the results are detectable
- $90^{th}$ Percentile - the calculated value below which 90% of the results for a specific parameter fall.
- $95^{th}$ Percentile - the calculated value below which 95% of the results for a specific parameter fall.

A summary of the statistical data for stream water quality is provided in Tables 3.1 to 3.6.

Water quality data were compared to the Receiving Water Quality Guidelines in 2011. These guidelines consist mainly of the most current CCME water quality guidelines for the protection of aquatic life (PAL; updated in 2011). These guidelines also consist of one or more values from project-specific criteria calculated by KPL and were taken from the following guides:

- "A Compendium of Working Water Quality Guidelines for British Columbia", BC MOE, Updated August 2006.
- Ontario Regulation 560/94 "Effluent Monitoring and Effluent Limits - Metal Mining Sector", 2007.

Site-specific tables for all stream water quality sampling locations with comparisons to the Receiving Water Quality Guidelines are included in Appendix D of the compendium report.

## 2.2 LAKE WATER QUALITY

### 2.2.1 Sampling Locations and Seasons

Sampling was generally undertaken during the summer (July) and fall (August/September). Winter (May) samples also were collected in 2007 and 2008. Sample locations were modified

each year based on current and proposed Project activities, and were also dependent on factors such as accessibility, weather/ice conditions and wildlife sightings.

In general, stream sampling areas in each year are described as follows:

| Year | General Stream Sampling Areas |
|---|---|
| 2006 | • Mine Site (includes Mine Infrastructure Area and Exploration Facilities Area) and Mary Lake |
| 2007 | • Mine Site (includes Mine Infrastructure Area and Exploration Facilities Area) and Mary Lake |
| 2008 | • Mine Site (includes Mine Infrastructure Area and Exploration Facilities Area) and Mary Lake<br>• Steensby Port and vicinity<br>• Railway (including Mid-Rail Camp Lake) |
| 2011 | • Mid-Rail area<br>• Area between Mine Site and Milne Port |

Sampling sites varied between the ice-cover and open-water season programs, due in part to conditions encountered in the winter (e.g. some sites were frozen to the lake bottom and could not be sampled). Table 2.4 provides a detailed summary of all sample locations for lake water quality.

Total depth, ice thickness (where applicable) and UTM coordinates were also recorded at each site for each sampling period. UTM coordinates were recorded using handheld GPS units. Secchi disk depth was measured at most sites during the open-water season.

### 2.2.2 Parameters

In situ parameters (temperature, DO, turbidity, pH and specific conductance/conductivity) were generally measured at each site. Grab samples were collected for laboratory analysis for the parameters listed in the laboratory quotes in Appendix A of the compendium report. In situ data was provided by KPL and North/South and is provided in Appendix B of the compendium report.

### 2.2.3 Sampling Methods

For winter sampling, sites were accessed using snowmobiles, and holes were augered through the ice. A water quality meter or a weighted, metered line was used to determine water depth, and an extendible gaff or a weighted, metered line was used to measure ice thickness. Snow depth was measured with a meter stick. Slush ice/snow was removed from sampling sites prior to sample collection.

During the open water season, sites were accessed with, and sampled from, a zodiac equipped with a gas-powered motor. Sampling was initiated after the boat was anchored and stabilized as much as possible (some drift was unavoidable due to wind). Water depth was measured with a

Hydrolab Quanta multi-parameter probe (2006), Strike Master Polar Vision hand-held digital sonar or its equivalent (2007 and 2008) and a YSI 6820 V2 Sonde (2011).

During winter sampling, in situ measurements were taken using a Hydrolab Quanta (2006), a Horiba U-10 Water Quality Checker (2007), or a YSI 600 QS Sonde (2008). In the open water season, a Hydrolab Quanta was used in 2006. In 2007, measurements were taken using a YSI 85, Analite 160 Turbidity Meter, and a YSI 60. In 2008, a Horiba W-22XD was used for in situ profiling. In 2011, a YSI 6820 V2 Sonde was used. Depth profiles for DO, temperature, pH, specific conductance and, in most years, turbidity were measured at 0.5 to 1 m intervals over the depth of the lake. In 2007, turbidity was measured to a maximum depth of 15 m during the open water season, which was the maximum length of the cable. Available in situ and depth profile measurements are provided in Appendix B of the compendium report.

The Secchi disk depth was measured at each site, where possible, as the average of two measurements: the depth at which a black and white disk lowered into the water from the shady side of the boat was no longer visible; and the depth at which the disk reappeared when raised from the water column.

Lake water samples were collected by field staff using standard protocols, including the use of sampling gloves. The Kemmerer, van Dorn or Beta Bottle water samplers were cleaned before use and were rinsed with water from the site prior to sampling. Water samples were generally collected one metre below the ice (in winter) or from the water surface (in the open-water season), and one metre above the sediment; however in 2008, there were several sample locations for which only a shore sample was collected due to lack of boat access.

Sample bottles provided by the analytical laboratories were filled and processed according to instructions provided by the laboratories. Where required, preservatives were added as soon as possible after sample collection and then the bottles were thoroughly mixed. Samples for dissolved metals were filtered in the field at the time of sample collection using an Acrodisc® 32 mm Syringe with a 0.45 µm Supor® membrane filter and the sample was preserved (acidified with nitric acid). Ten (10) mL of sample water was dispensed from each syringe/filter apparatus prior to filling the sample bottles provided by the analytical laboratory.

As soon as possible after collection, samples were kept cool and in the dark and shipped to the laboratory under chain-of-custody protocols. All samples were submitted for testing to both ALS and Exova. Starting in 2008, all samples were submitted for testing to Exova, who sub contracted the metals analysis to ALS.

### 2.2.4 Laboratory Methods

Analytical methods for parameters measured at Exova and ALS are provided in Appendix A of the compendium report, and available laboratory certificates of analysis are provided in Appendix C of the compendium report. Laboratory quotes for 2009-2011 were determined through BIMC and are not included.

### 2.2.5 Field Quality Assurance/Quality Control

Field QA/QC procedures included standard precautions to avoid sample contamination (e.g. gloves were worn during sample collection and handling), use of standard sampling protocols and inclusion of QA/QC samples. Lake-specific QA/QC samples were not collected in 2006, as the lake water quality sampling and stream water sampling programs were combined; all QA/QC samples were collected at stream sampling locations.

QA/QC sample descriptions and collection frequencies are summarized below:

- Field Blanks were prepared in the field using deionized water. These samples were treated in the same manner as actual samples. The field blanks were field filtered and preserved using the same methodology as for actual water sample collection. In 2007, 2008 and 2011 a minimum of one field blank was submitted to the analytical laboratories during each sampling period.
- Replicate samples were collected at several locations as close in time as possible to other samples taken at these locations. In 2007, 2008 and 2011, a minimum of two triplicate samples were collected during each sampling period: one triplicate near the surface; and one triplicate near the bottom.
- Trip blanks were included whenever possible given weather and shipping constraints. These blanks were prepared by the analytical laboratory by filling one set of sample bottles with deionized water. Trip blanks were transported to the site with the empty sample bottles but were left unopened, and were then submitted for analysis along with the field samples.

QA/QC samples were analyzed for the same parameters as the actual samples.

Field meters were calibrated prior to departure and/or in the field, depending on the specifications of the instrument and the parameter being measured. Meters were also subject to regular verifications during the field program using distilled or deionized water and standards for turbidity, conductivity and pH.

### 2.2.6 Analytical QA/QC

QA/QC water quality samples (i.e. triplicate samples, field blanks and trip blanks) were assessed according to standard criteria to evaluate precision and identify potential sample contamination issues (i.e. BCMELP 1998). Lake-specific QA/QC samples were not collected in 2006, as the lake water quality sampling and stream water sampling programs were combined (all QA/QC samples were collected at stream sampling locations). In 2007, 2008 and 2011, the lake water quality sampling was completed as a separate program from the stream sampling, and therefore lake-specific QA/QC sampling was completed also.

Field blank results were also evaluated for evidence of sample contamination. Values for any parameter that exceeded five times the MDL were considered to be indicative of sample contamination and/or laboratory error.

Additionally, water quality data from 2005-2007 were evaluated qualitatively for potential outliers and transcription or analytical errors. Where values were encountered that departed considerably from results obtained at the same site during other sampling periods and/or where one replicate sample differed notably from the others, the measurement was flagged as suspect. In these instances, values were verified against analytical laboratory reports for transcription errors and/or requests were made to the analytical laboratory to verify the values through sample re-analysis and/or verification of reporting accuracy. In 2008, this form of data evaluation was commenced, but due to an extended stoppage of work, analytical checks were no longer possible due to sample holding times being exceeded.

The analytical laboratories are CALA certified facilities and adhere to routine laboratory QA/QC procedures.

### 2.2.7 Analysis of Results

Summary statistics for each lake were generated from the 2006 to 2011 data, including mean, standard deviation and percent detectable results (above MDL). A lake-wide mean only was calculated for sample locations with two or less samples collected. Measurements below the MDL were assigned a value at the detection limit for statistical analysis purposes. Lake-wide means were calculated as the mean of both top and bottom samples where 50% or more of the results were detectable.

Water quality data were compared to the Receiving Water Quality Guidelines in 2011. These guidelines consist mainly of the most current CCME water quality guidelines for the protection of aquatic life (PAL; updated in 2011). These guidelines also consist of one or more values from project-specific criteria calculated by KPL and were taken from the following guides:

- "A Compendium of Working Water Quality Guidelines for British Columbia", BC MOE, Updated August 2006
- Ontario Regulation 560/94 "Effluent Monitoring and Effluent Limits - Metal Mining Sector", 2007

## 2.3 SEDIMENT QUALITY

### 2.3.1 Sampling Locations and Seasons

Sediment sampling was generally undertaken during the fall (August/September). Winter (May) samples were also collected in 2007 and 2008. Sample locations were modified each year based on current and proposed Project activities and were dependent on factors such as accessibility, weather/ice conditions and wildlife sightings. In general, sampling areas in each year are described as follows:

| Year | General Sediment Sampling Areas |
|---|---|
| 2005 | • Mine Site (includes Mining Area, Mine Infrastructure Area and Exploration Facilities Area), Mary Lake and vicinity |
| 2006 | • Mine Site (includes Mining Area, Mine Infrastructure Area and Exploration Facilities Area), Mary Lake and vicinity |
| 2007 | • Mine Site (includes Mining Area, Mine Infrastructure Area and Exploration Facilities Area), Mary Lake and vicinity |
| 2008 | • Mine Site (includes Mining Area, Mine Infrastructure Area, Exploration Facilities Area), Mary Lake and vicinity<br>• Steensby Port and surrounding area (includes Steensby Port area lakes and streams) |
| 2011 | • Mine Site<br>• Steensby Port and surrounding area<br>• Mid-Rail area |

Sampling sites varied between the ice-cover and open-water season programs in part due to conditions encountered in the winter (i.e., some sites were frozen to the bottom and could not be sampled). Table 2.5 lists all sediment sampling locations from 2005-2011.

### 2.3.2 Parameters

Analyzed sediment quality parameters included nutrients, metals, major ions and particle size. A detailed list of parameters is provided in Appendix A of the compendium report. The 2011 laboratory quotes have not been included in this Appendix, as correspondence with the laboratory was done by BIMC. Physical characteristics of the stream were also recorded, such as approximate width, depth, flow rate, amount of riparian vegetation, etc.

UTM coordinates, a site description (i.e. water depth, ice depth) and observations of sediment odour and appearance (texture, colour) were collected at each site.

### 2.3.3 Sampling Methods

Different sampling methods were employed for lake and stream sediment sampling. In each case the sediment fraction was collected from the top 5 cm of the benthos layer. This was done to facilitate comparison to the CCME Canadian Sediment Quality Guidelines (CSQG; 1999, updated to 2010) and because analysis of this fraction would more than likely detect a post-Project effect than a deeper sample. Available field record sheets are included in Appendix B of the compendium report.

2.3.3.1 Lake Sediment Sampling

Lake sediment samples were collected with an Ekman sampler (225 $cm^2$) in August 2006 and May 2007 and with a Petit Ponar grab sampler (225 $cm^2$) in the fall of 2007, 2008 and 2011. The samplers were slowly lowered and raised (at ~0.3 m/s for North/South and ~0.5 m/s for KPL) to minimize turbulence and to prevent creation of shock waves. In 2006, the contents of the Eckman were visually assessed through the top of the device; for more consolidated sediments the contents of the Eckman were released into a plastic pan. If not consolidated, the sample was obtained by reaching in through the top of the Eckman. For all other years, once retrieved, the sampler was placed in a plastic pan, the water was gently poured or siphoned off and, if the grab met the conditions of acceptability, the sample was processed. The grab samples collected by North/South had to meet the following criteria of acceptability:

- Overlying water was either clear (if present) or not excessively turbid
- The sediment-water interface was intact without signs of channelling, sample washout or over-penetration
- Desired depth of penetration was achieved (minimum penetration depth of 6 to 8 cm)
- There was no evidence of incomplete closure of the device or that the sampler was inserted on an angle or tilted upon retrieval

Sub-samples were then collected either from within the sampler (where sediments were not consolidated) or after the sampler had been removed from the pan. The upper 5 cm of sediments were removed with a stainless steel spatula or a graduated corer, avoiding the edges of the sampler. Sub-samples were then placed in a glass bowl for compositing, where required, and the un-used sediments were placed in a bucket to be released after the sampling was completed.

In May 2007, only one grab sample was collected per site. In the open-water seasons of 2007, 2008 and 2011, a minimum of one to two grab samples were collected to provide sufficient sample for analysis. Where more than one grab sample was collected, samples were separated spatially, but as close together as feasible to ensure that sampling disturbances from one grab sample did not affect another sample. Replicate grab samples were homogenized.

2.3.3.2 Stream Sediment Sampling

In streams (including rivers), sediments were collected from up to 14 different micro-sites within the sampling area, until sufficient sample was collected to fill the required sample containers. Stream sediment samples were collected from within the wetted perimeter of the watercourse, usually in water from 10 to 40 cm deep and as near as possible to the established water quality sample location. Samples were collected by wading in an upstream direction, collecting sediments from the surface

of the stream bed in run and riffle areas at micro-sites where sufficient fines (particles <2 mm diameter) had accumulated. Care was taken to minimize the disturbance of the stream bottom in order to preserve site integrity for subsequent sampling for benthic invertebrates.

Sediments were collected using a clean, 500 mL sample jar. The jar was inserted approximately 5 to 10 cm into the bottom sediments and a stainless steel spatula or a clean gloved hand was inserted under the opening of the jar to trap the sediments. The jar was then slowly raised out of the stream, excess water was carefully decanted, and the upper 5 cm of sediments was extruded into a stainless steel bowl for compositing.

As soon as possible after collection, samples were stored on ice and in coolers. All samples were submitted for testing to Exova.

### 2.3.4 Laboratory Methods

Analytical methods for parameters measured at Exova are provided in Appendix A of the compendium report.

### 2.3.5 Field Quality Assurance/Quality Control

Standard QA/QC procedures were adhered to during the collection of sediment samples (i.e. wearing gloves) and samples were analyzed at an accredited analytical laboratory. In particular, equipment was thoroughly cleaned between sites and was rinsed with ambient water prior to sampling at each site. Triplicate samples were collected at eight sampling sites in 2007 and two sampling sites in 2008 to provide a measure of variability and precision. In addition to the triplicate samples, homogenate duplicates were collected at two sampling sites in 2008.

### 2.3.6 Data Analysis

#### 2.3.6.1 Analytical Quality Assurance/Quality Control

QA/QC sediment quality samples (i.e. triplicate and homogenate duplicate) were assessed according to standard criteria to evaluate precision and identify potential sample contamination issues (BCMELP 1998).

Generally, all sediment quality data were evaluated qualitatively for potential outliers and transcription or analytical errors. Where values were encountered that departed considerably from results obtained at the same site during other sampling periods and/or where one replicate sample differed notably from the others, the measurement was flagged as suspect. In these instances, values were verified against analytical laboratory reports for transcription errors and/or requests were made to the analytical laboratory to verify the values through sample re-analysis and/or verification of reporting accuracy.

The analytical laboratory is a CALA certified facility and adheres to routine laboratory QA/QC procedures.

2.3.6.2 Analysis of Results

Means were derived for the purposes of presentation and discussion of results. Any value below an MDL was assigned a value equal to the detection limits for data analysis purposes.

Sediment quality data were compared to the CCME Canadian Sediment Quality Guidelines (CCME 1999, updated to 2011) and to the Ontario Sediment Quality Guidelines (OSQG; MOE 1993) for parameters for which there are no CCME sediment quality guidelines. The CCME CSQG for sediment includes a lower level, the Interim Sediment Quality Guidelines (ISQG), and an upper level, the Potable Effect Level (PEL), while the OSQG include Lowest Effect Levels (LEL) and Severe Effect Levels (SEL). The ISQG are currently under development with the intent to derive the guidelines based on multiple approaches.

In addition, The ISQG are currently only based on a modification of the National Status and Trends Program (modified NSTP) approach and only cover select parameters. In the future, the ISQG will also consider the Spiked-Sediment Toxicity Test (SSTT) approach. It is recommended by the CCME that the ISQG be used in conjunction with other supporting information (i.e. the OSQG) and that this set of guidelines be treated as full sediment quality guidelines. In consideration of this recommendation, the OSQG LEL and SEL have been used to support the CCME ISQG. Results over the ISQG, PEL, LEL and SEL guidelines were bolded and highlighted in different colour coding in the summary tables and noted in the relevant QA/QC section.

# SECTION 3.0 - RESULTS

## 3.1 STREAM WATER QUALITY

The in situ and analytical data summary statistics for water quality samples for 2005 through 2011 are provided in Tables 3.1 to 3.6. The stream water quality data were evaluated according to the Receiving Water Quality Objectives. The available site-specific analytical and in situ data for stream water quality sampling locations between 2005 and 2011 are provided in Appendix D of the compendium report.

The following sections summarize the stream water quality for each key Project area. For areas where no sampling has been completed since 2008, the analysis was taken from the report "Surface Water and Sediment Quality Baseline Report", Ref. No. NB102-00181/25-2, October 29, 2010. Areas sampled in 2009-2011 were compared to the Receiving Water Quality Guidelines, and no CCME Water Quality Index was calculated. Areas that have not been sampled since 2008 were not updated to the newer guidelines (see Appendix D).

It should be noted that for some parameters, MDLs were previously at or above the respective guidelines. Because of this, the mean concentrations for certain areas are above the guidelines, inaccurately indicating that the average concentration is in exceedance. The MDLs for these parameters were lowered to values below the guidelines in recent years to allow for accurate comparisons.

### 3.1.1 Mine Site

#### 3.1.1.1 Tom River Area

The Tom River Area is situated in a separate watershed and therefore is considered to provide background water quality information compared to all other areas within the Mine Site because no impact from activities within the Mine Site will affect the area. It was sampled between 2005 and 2008, and was not part of the 2009-2011 sampling programs.

Water temperatures for the Tom River Area sites ranged from -0.10 to 13.6°C. Specific conductance (SpC) values ranged from 0.042 to 0.212 mS/cm. Values for pH were neutral to slightly alkaline, ranging from 6.90 to 8.90.

DO concentrations were greater than CCME guidelines and averaged 12.77 mg/L.

Alkalinity and hardness were similar in value and ranged from 23 to 106 mg/L as $CaCO_3$ and 22.0 to 118.0 mg/L as $CaCO_3$, respectively. Total Dissolved Solids (TDS) concentrations ranged from 31 to 148 mg/L. Total Suspended Solids (TSS) concentrations were all relatively low, being below the MDL of 2 to 3 mg/L. Sulphate, bromide, chloride, most nitrogen based compounds, phenols, total organic carbon (TOC), dissolved organic carbon (DOC) and total Kjeldhal nitrogen (TKN) were generally detected in low concentrations. The MDL for

some analyses completed in 2006 were above the current CCME guideline of 0.06 mg/L. Concentrations of nitrate ranged from below the MDL to 0.10 mg/L.

Values for turbidity ranged from 0.1 to 18.4 NTU with an average of 2.0 NTU.

Sample sites I0-01 and I0-04 for June 2007 both had total aluminum concentrations above the CCME guidelines (0.125 and 0.116 mg/L, respectively). The concentrations of all other measured parameters were less than their respective CCME guidelines.

No exceedances were identified when the data was compared to the Canadian Drinking Water Quality Guidelines.

3.1.1.2 Upstream of Deposits

Data from the sites upstream of the deposits were evaluated using the Receiving Water Quality Guidelines (see Appendix D). The sampling locations included in this area are G0-09, G6-01, H0-01, H1-01 and H2-01. The only site sampled since 2008 was G0-09, so any changes in the statistical analysis are based on this sampling location. G0-09 was also a weekly sampling site in previous years.

Water temperatures for the sites upstream of the deposits ranged from -0.1 to 14.9ºC. Values for in situ specific conductance ranged from 0.011 to 0.218 mS/cm. In situ pH ranged from 6.72 to 8.34, suggesting generally neutral to slightly alkaline surface water.

Concentrations of aluminum, copper, iron and one concentration of lead were noted above the RQWG in previous years, with mean concentrations of 0.22 mg/L, 0.00112 mg/L, 0.21 mg/L and 0.00025 mg/L, respectively. Sample location G0-09 had no concentrations above the guidelines in 2009 or 2010. As this area was upstream of the deposits, it is likely that natural elevation of these parameters occurs in this area.

3.1.1.3 Downstream of Deposits

The sampling locations included in this area include C0-01, C0-05, C0-10, E0-01, E0-03, E0-04, E3-01, E4-01, E0-10, E0-11, E0-12, E0-20, E0-21, E3-02, E3-03, F0-01, G0-01, G0-03, G0-05, G0-10, G3-01 and G0-07.

Water temperatures ranged from -0.1 to 17.1ºC. In situ specific conductance ranged from 0.007 to 8.253 mS/cm. In situ pH ranged from 6.14 to 8.64, indicating a range of slightly acidic to slightly alkaline water.

Several concentrations of DO were above CCME guidelines and ranged from 2.1 to 24 mg/L, with a mean concentration of 12.74 mg/L.

Sample location E3-01 has historically exceeded the guidelines for most parameters; the reason for this is likely due to drilling. Because of the large number of exceedances, E3-01 was separated out from the other sites located downstream of the deposits.

For all other sample locations downstream of the deposits, aluminum and iron concentrations were generally above the RWQG for most sites. Other parameters for which at least one exceedance was noted are copper, pH (both lab and in situ) chloride, cadmium, vanadium, dissolved oxygen, selenium, chromium and silver.

In situ pH ranged from 6.14 to 8.64, with a mean of 7.81, indicating slightly alkaline to slightly acidic conditions. Specific conductance ranged from 0.007 to 8.253 mS/cm, with the highest values being noted for E3-01. Aluminum concentrations ranged from below the respective MDL to 7 mg/L, with a mean concentration of 0.201 mg/L. Iron concentrations ranged from below the respective MDL to 6.09 mg/L, with a mean concentration of 0.2 mg/L.

#### 3.1.1.4 Mary River – Downstream of Mary Lake

This area includes sample locations A0-01 and A0-10. Neither of these locations was sampled in 2011, thus the water quality from these sites was evaluated according to the CCME guidelines (up to 2008). The data analysis has been taken from the "Surface Water and Sediment Quality Baseline Report", Ref. No. NB102-00181/25-2.

Water temperatures ranged from -0.1 to 11.7°C. Values for SpC ranged from 0.040 to 0.178 mS/cm. The pH for the sites on Mary River, downstream of Mary Lake, varied between neutral and slightly alkaline (6.60 to 8.28) with an average pH value of 7.55.

All concentrations of DO were above CCME guidelines and ranged from 9.97 to 14.75 mg/L.

Alkalinity and hardness were similar and ranged from 20 to 68 mg/L as $CaCO_3$ and from below the MDL to 72.7 mg/L as $CaCO_3$, respectively. Turbidity ranged from 0.3 to 2.7 NTU. Concentrations of TSS ranged from below the MDL of 2 to 9 mg/L with 95% of the results being below the MDL. Concentrations of TDS ranged from below the MDL to 77 mg/L with an average concentration of 44 mg/L. Sulphate, bromide, chloride, nutrients, phenols, TOC and DOC were generally all low and/or below their respective MDLs.

Aluminum, copper, iron, lead and silver had concentrations above CCME guidelines. The aluminum concentrations above the CCME guidelines were 0.102 and 0.360 mg/L. One copper concentration (site A0-10 in June 2006) was at the

CCME guideline of 0.004 mg/L. The lead concentration (site A0-10 in June 2006) above the CCME guideline was 0.008 mg/L. The silver concentration (site A0-10 in June 2006) above the CCME guideline was 0.0006 mg/L.

When compared to the Canadian Drinking Water Quality Guidelines, the only concentration above the CDWQG was at A0-10, with an iron concentration exceeding the guideline limit in 2007.

3.1.1.5 Tributary of Mary Lake

At the request of North/South, a tributary (B3-01) flowing into Mary Lake from the west was sampled once in 2008. When reviewed, it was found that none of the parameters exceeded the CCME guidelines or the Canadian Drinking Water Quality Guidelines. Statistics were not calculated on data from this site, as only a single sample was collected by KPL.

3.1.1.6 Tributaries of Sheardown Lake

The sampling locations in this area include D0-01, D1-00, D1-01, D1-03, D1-05, D1-07, D1-10, SDLT-1-US, SDLT-R1, SDLT-R4, SDLT-9, SDLT-12-US and D-Streams 1-6. All sites, with the exception of D-Stream samples 1-6, were sampled in 2011.

Upon comparison to the RWQG, copper and cadmium concentrations were generally above the guidelines for several sites. There was at least one exceedance for aluminum, iron and DO. It should be noted that the D-Stream sample locations only had two DO exceedances – no other parameters were above the CCME guidelines.

In situ pH ranged from 6.78 to 8.44, with a mean value of 7.75, indicating neutral to slightly alkaline water in the area. Specific conductance ranged from 0.02 to 0.29 mS/cm, with a mean of 0.15 mS/cm. Copper concentrations ranged from below the respective MDL to 0.0070 mg/L, with a mean concentration of 0.0020 mg/L, which is equal to the guideline. Cadmium concentrations ranged from below the respective MDL to 0.00012 mg/L which is above the guideline of 0.000029 mg/L.

3.1.1.7 Background Tributary to Mary River

Sample locations in this area include E2-03, E2-05, E2-08 and E2-01. None of these sites were sampled in 2011, with E2-03, E2-05 and E2-08 being sampled in 2005 only and E2-01 being sampled up to 2008. The data analysis has been taken from the “Surface Water and Sediment Quality Baseline Report”, Ref. No. NB102-00181/25-2.

Water temperatures for the Background Tributary to Mary River ranged from 0.3 to 15.3°C. Values for SpC ranged from 0.016 to 0.149 mS/cm. Surface water at the

Background Tributary to Mary River sites were near neutral to slightly alkaline with pH values ranging between 6.27 to 8.18, with an average of 7.65.

Several concentrations of DO were outside the CCME guidelines and ranged from 8.87 to 15.61 mg/L.

Alkalinity and hardness concentrations were similar with concentrations ranging from 6 to 84 mg/L as $CaCO_3$ and 7.9 to 94.7 mg/L as $CaCO_3$, respectively. Concentrations of TSS were generally low for all of the sites and ranged from below the MDL to 4 mg/L with 83% of the results being below the MDL. Concentrations of TDS ranged from 34 to 112 mg/L with an average of 64 mg/L. Sulphate, bromide, chloride, nutrients, phenols, TOC and DOC concentrations were all generally low with several of these parameters below the MDLs.

3.1.1.8 Tributaries of Camp Lake

Sample locations in this area include J0-01, J1-01, J2-01, K0-01, L0-01 and M0-01. None of these sites were sampled in 2009-2011.

Sample sites K0-01, L0-01 and M0-01 all had a minimum of one aluminum exceedance when compared to the CCME guidelines (2008). Other exceedances noted in situ DO, pH, ammonia, iron, copper and lead, but in most cases there was only one exceedance. Sites J0-01, J1-01 and J2-01 did not have any parameters above the CCME guidelines.

In situ pH values ranged from 4.94 to 8.71 with a mean of 7.87; it is likely that the 4.94 is erroneous as the remaining pH values range between 7 and 8.5. Specific conductance values ranged from 0 to 0.25 mS/cm, with a mean of 0.13 mS/cm.

Aluminum concentrations ranged from below the respective MDL to 0.189 mg/L, with a mean concentration of 0.02 mg/L.

3.1.1.9 Drainages off of the Deposit

Sample locations in this area include E3-08, K0-05, K1-01, L1-02, L1-06, L1-08, L1-09, L2-03 and F0-05, with E3-08, L1-08, L1-09 and L2-03 being sampled in 2011.

In situ pH ranged from 6.27 to 8.33 with a mean value of 7.71, indicating slightly acidic to slightly alkaline water in the area. Specific conductance ranged from 0.016 to 0.92 mS/cm. Very few parameters had concentrations above the respective RWQG or CCME, depending on the years sampled, and in most cases there was only one exceedance for a parameter at a site. Three of the sites did have aluminum concentrations above the respective guidelines. Other parameters included chromium, copper, iron, lead and vanadium, all of which were elevated at E3-08 in the summer of 2011. Elevated parameters at other sites included barium,

copper, iron and chloride. Aluminum ranged from below the respective MDL to 2.53 mg/L, with a mean concentration of 0.118 mg/L. Hardness concentrations ranged from 8 to 1,204 mg/L as $CaCO_3$.

### 3.1.2 Proposed Railway and Steensby Port Area

In general, the Proposed Railway and Steensby Port Area sites were chosen based on potential transportation routes. Other sites within these areas were chosen based on other requirements of the Project for any given period. The areas consist of the following sub-areas: Cockburn Area, Ravn River - Upstream of Angajurjualuk Lake, Rowley River, Steensby Port Area, Mid-Rail Camp Area and Sampling Locations between Camp Lake and Steensby Port. The following is a summary of water quality within the area. Figure 1.3 shows all locations sampled between 2005 and 2011.

#### 3.1.2.1 Cockburn Area

Data from the sites in the Cockburn area were evaluated using the Receiving Water Quality Guidelines (see Appendix D). The sites included in this area are S1-100, S2-065 and S2-070.

In-situ pH measurements ranged from 5.88 to 7.55 indicating slightly acidic to neutral water in the area. The mean pH of 6.57 is slightly above the RWQG lower limit of 6.5. This limit is also the CCME PAL lower limit. Specific conductance ranged from 0.01 to 0.02 mS/cm.

Chloride concentrations range between 1 and 3 mg/L with a mean concentration of 1.14 mg/L. This is well below the RWQG (and CCME PAL) guideline of 120 mg/L. Alkalinity, bromide, nutrients, phenols, sulphate, TKN, TOC, DOC and TSS concentrations were all generally low with several of these parameters below the MDLs.

All three sites did have aluminum concentrations above the respective guidelines. Aluminum ranged from above the respective MDL to 0.204 mg/L, with a mean concentration of 0.049 mg/L.

#### 3.1.2.2 Ravn River - Upstream of Angajurjualuk Lake

This area includes sample location S2-030 only.

In situ pH ranged from 6.43 to 8.50 with a mean value of 7.19, indicating neutral to slightly alkaline water in the area. Specific conductance ranged from 0.01 to 0.04 mS/cm. Hardness concentrations ranged from 3 to 18 mg/L as $CaCO_3$.

Aluminum concentrations ranged from 0.014 mg/L to 0.153 mg/L. Two aluminum concentrations were above the respective RWQG or CCME, 0.118 mg/L in September 2006 and 0.153 mg/L in August 2008.

Concentrations of antimony, arsenic, beryllium, bismuth, boron, cadmium, chromium, cobalt, lithium, mercury, selenium, silver, thallium, tin and vanadium were all below the MDLs.

3.1.2.3 Rowley River

This area includes sample location S2-100 only.

In situ pH values ranged from 6.14 to 8.48 with a mean value of 7.26, indicating slightly acidic to slightly alkaline water in the area. Specific conductance values ranged from 0.01 to 0.03 mS/cm, with a mean of 0.02 mS/cm. Hardness concentrations ranged from 4 to 9.1 mg/L as $CaCO_3$.

Aluminum concentrations ranged from 0.012 mg/L to 0.148 mg/L. Forty-three percent (43%) of the aluminum concentrations in this area were above the respective RWQG or CCME, 0.126 mg/L in June 2007, 0.148 mg/L in July 2008 and 0.0283 mg/L in August 2008.

3.1.2.4 Steensby Port Area

Sample locations in this area include S-Camp-DS, SL3-OUT (km 10 Lake) and km 3 Lake. The lake at km 3 is a historic site that was sampled in 2008.

In situ pH values ranged from 6.36 to 7.28 with a mean of 6.91, which indicates that the water is slightly acidic. Specific conductance values ranged from 0.011 to 0.292 mS/cm, with a mean of 0.10 mS/cm. Hardness ranged from 3.7 to 341.0 mg/L as $CaCO_3$.

Sample sites km 3 Lake and S-Camp-DS were both above the respective guidelines for copper in 2008. Other exceedances noted for S-Camp-DS were DO, chloride, aluminum and iron for km 3 Lake. SL3-Out had one exceedance in cadmium in July 2011 and km 3 Lake also had an exceedance for iron.

3.1.2.5 Mid-Rail Camp Area

Sample locations in this area include Nivek Out, Nivek In and MRC.

In situ pH values ranged from 5.57 to 6.39, indicating slightly acidic water in the area. The mean value of 6.09 is slightly below the RWQG lower limit of 6.5. This limit is also the CCME PAL lower limit. Specific conductance values ranged

from 0.012 to 0.02 mS/cm, with a mean of 0.02 mS/cm. Hardness concentrations ranged from 3.5 to 12.9 mg/L as $CaCO_3$.

Aluminum concentrations ranged from 0.008 to 0.2 mg/L with a mean concentration of 0.059 mg/L. Nivek Out site had elevated aluminum concentrations of 0.0143mg/L in June 2008, 0.0091 mg/L in July 2008 and 0.1530 mg/L in August 2008. Nivek In site had elevated aluminum concentrations of 0.0483 mg/L in June 2008 and 0.0549 mg/L in August 2008. MRC had one elevated concentration of 0.2mg/L in August 2011.

Both Nivek Out and MRC sites had elevated iron concentrations. Iron concentrations ranged from 0.13 mg/L to 0.98 mg/L with a mean value of 0.36 mg/L, which is above the respective RWQG of 0.30 mg/L.

#### 3.1.2.6 Camp Lake to Steensby Port

Sample locations in this area include S1-010, S1-011, S1-020, S1-030, S1-040, S1-050, S1-060, S1-070, S1-080, S1-090, S1-110, S1-120, S2-010, S2-020, S2-040, S2-050, S2-060 and S2-120.

Seven of the sample locations within this area were sampled in 2011 (see Figure 1.2). The majority of these sample locations, both historical and recent, had elevated aluminum levels and had pH (in situ and laboratory) values below the minimum of 6.5 during at least one sampling event. Aluminum concentrations ranged from 0.004 and 0.412 mg/L. Elevated iron concentrations were noted at two locations. No other parameters were outside the guidelines.

### 3.1.3 Mine Site to Milne Port

The Mine Site to Milne Port area consists of the following sub-areas: Milne Port Camp and the area between Camp Lake and Milne Port. Sample locations are shown on Figure 1.2. The following is a summary of water quality within each area.

#### 3.1.3.1 Milne Port Area

Data from the sites in the Milne Port area were evaluated using the Receiving Water Quality Guidelines (see Appendix D). The only site included in this area is M-Camp-DS.

In-situ pH measurements ranged from 7.70 to 8.79; indicating slightly alkaline to neutral water in the area. Specific conductance ranged from 1.29 to 2.23 mS/cm. Hardness values ranged from 62.9 to 754 mg/L as $CaCO_3$, with the mean value of 411 mg/L as $CaCO_3$. Additional comments on the data are as follows:

- Aluminum concentrations ranged from below the respective MDL to 7 mg/L, with a mean concentration of 0.201 mg/L
- Iron concentrations ranged from below the respective MDL to 6.09 mg/L, with a mean concentration of 0.2 mg/L
- All samples had chloride concentrations above RWQO guideline of 120 mg/L. Chloride concentration ranged from 317 to 581 mg/L, with a mean value of 471 mg/L
- A limited number of samples from M-Camp-DS also had elevated concentrations of $NO_2^-$aluminum, copper and iron
- $NO_2^-$ concentrations ranged from the MDL to 0.17 mg/L, with a mean value of 0.10 mg/L. The RWQO guideline for $NO_2^-$ is 0.06 mg/L
- Aluminum concentrations ranged from 0.014 mg/L to 0.717 mg/L, with a mean value of 0.181 mg/L. The RWQO guideline for aluminum is 0.1 mg/L when the pH is greater than 6.5.
- Copper concentrations ranged from 0.0008 to 0.0028 mg/L, with a mean value of 0.0020 mg/L. The RWQO guideline for copper is 0.002 mg/L.
- Iron concentrations ranged from the MDL to 0.71 mg/L, with a mean value of 0.19 mg/L. The RWQO guideline for iron is 0.3 mg/L.

#### 3.1.3.2 Mine Site to Milne Port

The area between the Mine Site and Milne Port includes N1-010, N1-020, N1-025, N1-030, N1-040, N1-050, N1-053, N1-058, N1-060, N1-070, N1-080, N1-090, N1-100, N1-110, N2-010, N2-013, N2-020, N2-030 and N2-060. Six (6) out of the nineteen (19) sites in the area had elevated aluminum concentrations according to the RWQO guideline. These six (6) sites include N1-025, N1-030, N1-110, N2-013, N2-020 and N2-060. Between these nineteen (19) sites, the aluminum concentration ranged from 0.003 to 9.8 mg/L, with a mean value of 0.169 mg/L.

### 3.1.4 QA/QC

There were instances between 2005 and 2011 where holding times for some parameters (mainly turbidity, $NO_2$, $NO_3$ and $NO_2$+$NO_3$) were exceeded due to unforeseen circumstances (i.e., weather preventing shipping of samples from site). A summary of samples exceeding the recommended holding times is provided in Appendix E of the compendium report. KPL did not complete the 2009 or 2010 sampling and therefore any results from potential holding time exceedances have not been included in this report.

In situ DO data in 2006 had many suspect values, all of which are summarized in Appendix E of the compendium report. These suspect values were removed from the summary statistics and raw data sets. The data were flagged as suspect if DO concentrations were below a concentration of 9.50 mg/L for fast flowing cold waters, as DO concentrations below this value are not likely to naturally occur under these conditions. If one data set on a given date was considered suspect, all of the data sets for that date were also suspect, despite the fact that they

may have had values that met the previously mentioned restrictions. In 2007, 2008 and 2011, in situ DO readings below 9.5 mg/L were left in, but were bolded to flag them.

The 2005 QA/QC program consisted of field blank, filter blank and equipment blank samples. The analysis results indicated that there were few values that exceeded the data quality objectives, with conductivity, total ammonia, turbidity, total aluminum, total tin and dissolved zinc being the only exceptions. In 2006, blank sample results exceeding the data quality objectives included total ammonia, turbidity, total and dissolved calcium, total and dissolved potassium, total and dissolved sodium and total and dissolved copper. The values for total ammonia and turbidity appeared to be random and were not likely a reflection of the data quality. The continuous data quality objective exceedances noted for total and dissolved calcium, total and dissolved potassium, total and dissolved sodium and total and dissolved copper were likely a result of contaminated deionized water and therefore were not a reflection of the overall quality of the data or the field or laboratory techniques. In 2007, blank sample results exceeding the data quality objectives included sulphate, conductivity, hardness, calcium, magnesium, sodium, potassium and copper.

A total of 43 duplicate samples were submitted for analysis in 2005 and 2006. Of these 43 sets of samples, only 12 pairs of parameters had measured concentrations that were greater than 25% of the Relative Percent Difference (RPD). In 2007, a total of 32 duplicate samples were submitted for analysis. Throughout the season there were 30 pairs of parameters which failed to meet the duplicate sample data quality objectives. Where results were questionable, a re-analysis was performed by the laboratory and the initial results were confirmed. In this case, concentrations with an RPD greater than 25% were bolded and noted in the text.

The 2008 QA/QC program consisted of field blanks and duplicate sampling. Several of the duplicate samples exceeded the convention of “five times the MDL”. The following parameters were exceeded: alkalinity, conductivity, ammonia and ammonium, pH, TDS, total phosphorus, turbidity, hardness, total and dissolved calcium, total and dissolved magnesium, total and dissolved potassium, total and dissolved sodium, total and dissolved aluminum, total and dissolved barium, total and dissolved copper, total iron, total lead, total and dissolved manganese, total and dissolved molybdenum, total and dissolved nickel, total and dissolved silicon, total and dissolved strontium and total and dissolved zinc.

The precision of the duplicate samples was within the criteria of 25% for the RPD with 19 exceptions. Dissolved sodium and dissolved aluminum in duplicate samples collected from Downstream of Deposits exceeded the criteria (23.4 and 22.2%, respectively). Total aluminum, total copper, total iron, total manganese and total silicon in samples collected from Tributaries of Sheardown Lake exceeded the criteria (57.9, 27.2, 44.9, 57.9 and 30.2%, respectively). Total aluminum and total manganese in samples collected from Tributaries of Camp Lake exceeded the criteria (31.8 and 20.4%, respectively). Turbidity and total and dissolved aluminum in samples collected upstream of the deposits exceeded the criteria (35.3, 21.8 and 25.8%, respectively). TSS, total phosphorus and turbidity in samples from drainages off the Deposit exceeded the criteria (20.8, 22.9 and 25.3%, respectively). When samples exceeded five times the MDL, the values were bolded and noted in the text.

Field and trip blanks were collected in 2011; elevated concentrations of chlorophyll-a, chloride, conductivity and TDS were noted for field blanks; all of these elevated parameters, with the exception of the chlorophyll-a concentration, were from a specific blank. One trip blank also had an elevated ammonia concentration. It is possible that the deionized water used for those samples was contaminated, or that improvements can be made with regards to sampling.

Eleven duplicate samples were collected in 2011. Of these samples, only four pairs of parameters had an RPD of greater than 25%. Three of the parameter pairs were from the same set of samples. It is possible that these differences are a result of natural variability in the water, but it is always beneficial for sampling protocols to be reviewed and improved upon if necessary.

A summary of all QA/QC results for 2005-2011 is located in Appendix E.

## 3.2 LAKE WATER QUALITY

Lake samples were collected from the following locations between 2005 and 2011:

- Mary Lake, shallow and deep sites
- Camp Lake, shallow and deep sites
- Sheardown Lake, including shallow sites in the northwest and southeast basins and miscellaneous near shore sites
- Mid-Rail Camp Lake
- Steensby area lakes
- Lakes near Milne Inlet
- A candidate reference lake

Site-specific analytical and in situ data for lake water quality sampling locations are provided on Table 3.7 and in Appendix D of the compendium report.

The average water temperatures of the lake samples range from 3.7 to 16.4°C, while average values for SpC range from 0.013 to 0.21 mS/cm. Average concentrations of DO range from 0.12 to 19.57 mg/L and some results are reported to be below the CCME guidelines.

Average values for in situ pH exceeded the CCME guidelines during several sampling programs and range from 5.9 to 8.1, which indicates that the lake water in this area is slightly acidic to slightly alkaline.

Average alkalinity and hardness concentrations were found to be similar and range from 5 to 85 mg/L as $CaCO_3$ and from 6 to 89 mg/L as $CaCO_3$, respectively, while average turbidity values range from 0.3 to 3.7 NTU. Average TDS concentrations range from 13.0 to 206 mg/L and were either measured directly in the lab or calculated by lab personnel. The majority of the reported TDS concentrations were calculated and not measured directly. Average TSS concentrations range from 2.0 to 4.1 mg/L.

There are several parameters that were reported to be above the CCME guidelines. These include the following:

- Mary Lake: Nitrite (average of 0.10 mg/L), aluminum (average of 0.053 mg/L), cadmium (average of 0.000034 mg/L) and copper (average of 0.0032 mg/L)
- Camp Lake: Phenols (average of 0.001 mg/L), cadmium (average of 0.000023 mg/L) and copper (average of 0.0021 mg/L)
- Sheardown Lake, northwest basin: Aluminum (average of 0.016 mg/L), copper (average of 0.001 mg/L) and iron (average of 0.04 mg/L)
- Sheardown Lake, southeast basin: Aluminum (average of 0.057 mg/L) and copper (average of 0.0011 mg/L)
- Sheardown Lake, nearshore: Aluminum (average of 0.197 mg/L) and copper (average of 0.0011 mg/L)
- Steensby Area, Lake ST6: Aluminum (average of 0.107 mg/L)
- Steensby Area, Lake ST28: Aluminum (average of 0.026 mg/L)
- Steensby Area, Lake ST92: Aluminum (average of 0.039 mg/L)
- Steensby Area, 3 km Lake: Aluminum (average of 0.028 mg/L)
- Steensby Area, Lake ST81: Aluminum (average of 0.147 mg/L) and iron (average of 0.538 mg/L)
- Steensby Area, Lake ST29: Aluminum (average of 0.034 mg/L)
- Steensby Area, Lake ST32: Aluminum (average of 0.0374 mg/L) and phenols (average of 0.006 mg/L)
- Steensby Area, 10 km Lake: Aluminum (average of 0.0253 mg/L)
- Katiktok Lake: Aluminum (average of 5.75 mg/L), boron (average of 10.5 mg/L), molybdenum (average of 0.087 mg/L) and uranium (average of 0.117 mg/L)
- Midrail Camp Lake: Aluminum (average of 0.0097 mg/L)
- Mary Lake Tributary 2: Copper (average of 0.00141 mg/L)
- Sheardown Lake Tributary 1: Copper (average of 0.003 mg/L)

Depth profiles were collected for certain sites between 2006 and 2008 and again in 2011. The 2011 depth profiles were measured by KPL in late July (summer) and late-August early-September (fall). The lakes measured included lakes between the Mine Site and Milne Inlet, Midrail Camp, Mary Lake, Camp Lake, Sheardown Lake and the Steensby area lakes. The parameters that were measured at various depths included temperature, DO, conductivity, turbidity, specific conductance and pH.

The summer 2011 results generally show that the temperature, DO, turbidity and pH decrease with depth and that the conductivity remains relatively constant or increases slightly with depth. This indicates that the lakes were thermally stratified, which is normal during the summer. Specifically, the decrease in temperature was typically 0.2˚C/m, but reached a maximum of approximately 0.6˚C/m in some lakes at shallow depths. The surface temperatures ranged from approximately 6 to 13˚C.

The fall 2011 results show that the temperature, DO, specific conductance and pH were relatively constant. This indicates that the lakes were isothermic, uniformly mixed and undergoing turnover, which is normal during the fall. The surface temperatures ranged from 8 to 11.5˚C.

### 3.2.1 QA/QC

As indicated above, lake-specific QA/QC samples were not collected in 2006, as the lake water quality sampling and stream water sampling programs were combined (all QA/QC samples were collected at stream sampling locations).

The 2006 lake water vertical profiling data collected for DO on 01-Aug-06 (DL0 01, DL0-02 and BL0-03), 02-Aug-06 (JL0-01) and 31-Aug-06 (BL0-01) were very sporadic. These readings may have resulted from lowering the Hydrolab Quanta too quickly so that equilibrium conditions were not being achieved prior to data collection, or potentially the unit was not calibrated effectively or was malfunctioning.

The 2007 QA/QC program conducted by North/South indicated several parameters exceeding the 18% criterion for RPD (North/South, 2007). It also indicated one parameter being five times the MDL in a field blank submitted in May 2007. All metals measurements in field and trip blanks in 2007 were either below the MDL or less than five times the MDL.

The 2008 QA/QC program conducted by North/South indicated that the precision of the triplicate and duplicate samples was within the criteria of 18% for RPD with one exception. Dissolved sodium measured in the triplicate samples collected from Mary Lake in May 2008 exceeded the 18% criterion (20.79%). All but five parameters were below the respective MDLs for the field blanks collected in 2008. The five parameters that were not below were at or slightly above, but all were less than five times the MDL. Two trip blanks were collected in 2008 (August and September). The blank collected in August showed all but four parameters below the MDL. The remaining four parameters were all slightly above the limit, but were less than five times the limit. The blank collected in September 2008 showed thirty-seven parameters above the MDL, with twenty-two of those being much greater than five times higher than the MDL. The reason for the high concentrations is unknown.

The 2011 QA/QC program conducted by KPL consisted of equipment blanks, field blanks and duplicates. Equipment blanks were collected on two pieces of equipment, the Kemmerer and Beta bottle samplers, before the lake sampling commenced in the summer. The Kemmerer sampler was not used for the lake sampling, but the results are available in Appendix E. The Beta bottle equipment blank had dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, dissolved barium, dissolved boron, total and dissolved manganese, dissolved molybdenum, dissolved silicon, dissolved strontium and dissolved uranium concentrations that were significantly higher than the respective MDLs. It is possible that, although the Beta bottle was cleaned using a mild detergent and rinsed with deionized water prior to use, a more thorough cleaning from a certified company would be better suited, given that the equipment had been stored for an extended period of time. The field blanks collected from the lake sites all had parameter concentrations less than five times the MDL with the exception of one chlorophyll-a concentration. It is possible that this elevated concentration is anomalous.

Ten duplicate samples and two triplicate samples were collected in 2011. The majority paired parameters were less than five times the MDL; five paired parameters were above 25% RPD for duplicates (manganese, turbidity, aluminum and TOC). Neither of the triplicate samples had paired parameters above the 18% RPD.

## 3.3 SEDIMENT QUALITY

The in situ and analytical data summary statistics for sediment quality samples are provided in Table 3.5. As indicated in section 2.3.6.2, the sediment quality data were compared to the CCME ISQG (CCME, 1999, updated to 2011), the CCME PEL (CCME, 1999, updated to 2011) and to the OSQG (MOE, 1993) for parameters for which there are no CCME sediment quality guidelines. The site-specific analytical and in situ data for sediment quality sampling locations are provided in Table 3.8 and in Appendix D of the compendium report.

The following sections summarize the sediment quality for each key Project area.

### 3.3.1 Mine Site

The Mine Site consists of the following areas: Tom River Area, Upstream of Deposits, Downstream of Deposits, Mary River - Downstream of Mary Lake, Tributaries of Sheardown Lake, Background Tributary to Mary River, Tributaries of Camp Lake, Mary Lake, Camp Lake, the northwest basin of Sheardown Lake, the southeast basin of Sheardown Lake, Sheardown Lake nearshore, Sheardown Lake offshore and Sheardown Lake Tributary. The following is a summary of the sediment quality within the areas.

#### 3.3.1.1 Tom River Area

Between 2006 and 2007, four composite sediment samples were collected from the two Tom River area sites (I0-01, lower reaches of Tom River, and I0-04, upper reaches of Tom River, downstream of the confluence of I1 tributary with the main stream). The streambed composition was predominantly comprised of cobbles and boulders with sediment samples being collected from the riffle pools behind the larger boulders.

The sediment sample results were all below their respective CCME guideline limits. However, the following metals and non-metals were notably higher in the upstream sediment samples (I0-04) than in the lower reaches of the Tom River (I0-01): aluminum, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, nickel, potassium, strontium, vanadium and zinc.

TOC, nitrite, nitrate and total phosphorus concentrations were below the MDL to low in the Tom River sediment samples.

3.3.1.2 Upstream of Deposits

Three sediment samples were collected from two locations upstream of the deposits from 2005 to 2007; H0-01, Mary River (upstream of all known iron ore deposits) and G0-09 in a downstream to upstream direction. The streambed composition was predominantly comprised of cobbles and boulders with sediment samples being collected from the riffle pools behind the larger boulders.

Sediment metals concentrations were generally low upstream of the deposits with only one sample exceeding the OSQG limits for iron in 2006. Higher aluminum and manganese concentrations were noted in sites upstream of the deposits compared to sites further downstream along the Mary River.

TOC, nitrite and nitrate concentrations were low or below the MDLs for all years. Total phosphorus concentrations ranged from not detected to 120 µg/g.

3.3.1.3 Downstream of Deposits

Eight sediment samples were collected from six sites downstream of the Deposits from 2005 to 2007 and an additional eight sediment samples were collected in 2011. The sites are as follows from downstream to upstream: C0-01 (upstream of Mary Lake), C0-05, C0-10, E0-01, E0-03 (Mary River, upstream of confluence with E2 tributary and just downstream of known iron ore deposits) and G0-03. The 2011 sites included E0-04, E0-12, E1-01, E3-01, E3-02 and E3-03. The streambed composition was predominantly comprised of cobbles and boulders with sediments being sampled from riffle pools behind larger boulders.

Sediment metals concentrations were generally low downstream of the deposits with one parameter exceeding CCME ISQG at three sites; chromium at G0-03 in 2005 and at C0-10 and C0-01 in 2007. Two parameters exceeded the OSQG at five sites; iron at C0-10 and C0-01 in 2007 and at E0-03 in 2011 and nickel at G0-03 in 2005 and at E0-01 and C0-01 in 2007.

TOC, nitrite and nitrate concentrations were low to below the MDLs. Total phosphorus concentrations ranged from below the detection limit to 240 µg/g at E0-03 in 2005.

3.3.1.4 Mary River - Downstream of Mary Lake

Two sediment samples were collected at one site (A0-01) from the Mary River downstream of Mary Lake in 2005 and 2007. The site is also upstream of Angajurjualuk Lake and has a streambed composition of predominantly cobbles and boulders with sediments being sampled from riffle pools behind larger boulders.

Sediment metals concentrations were generally low with one parameter exceeding CCME ISQG; chromium in 2007. One nickel concentration exceeded the OSQG in 2007.

TOC, nitrite and nitrate concentrations were below or at the limits of detection. Total phosphorus concentrations ranged from 130 µg/g in 2005 to 500 µg/g in 2007.

3.3.1.5 Tributaries of Sheardown Lake

Seven sediment samples were collected from seven sites at the tributaries of Sheardown Lake: D1-01 located upstream of the lake, D0-01 located at the lake outlet, Sheardown Lake-Trib1-DS, Sheardown Lake-Trib1-US, Sheardown Lake-Trib9-US, Sheardown Lake-Trib12-US and Sheardown Lake-Trib12-DS. Four additional sediment samples were collected in 2011 from four sites; D0-01, D1-05, D1-07 and D1-10. The streambed at these locations is predominantly comprised of boulders and cobbles with sediment samples being collected from the accumulated sediments from riffle pools behind larger boulders.

The sediments sampled were generally low in metals with two parameters exceeding CCME ISQG at five sites; chromium at Sheardown Lake-Trib1-US, Sheardown Lake-Trib9-US and at Sheardown Lake-Trib12-DS in 2007 and at D1-070 and D1-10 in 2011 and copper at D1-05 and D1-10 in 2011. One parameter exceeded OSQG at eight sites; nickel at Sheardown Lake-Trib1-DS, Sheardown Lake-Trib1-US, Sheardown Lake-Trib9-US, Sheardown Lake-Trib12-US and Sheardown Lake-Trib12-DS in 2007 and at D1-05, D1-070 and D1-10 in 2011.

Nutrients and TOC were generally low with two parameters exceeding the CCME ISQG at three sites; Total Kjeldahl Nitrogen (TKN) at Sheardown Lake-Trib12-US in 2007and at D1-05 and D1-10 in 2011 and TOC at D1-10 in 2011. Total phosphorus concentrations ranged from below detection (<100 µg/g) to 390 µg/g at D0-01 in 2005.

3.3.1.6 Background Tributary to Mary River

One sediment sample was collected from the background tributary to Mary River in 2005: E2-01 (at the base of the E2 tributary to Mary River). Additional sediment samples were collected in 2011: E0-20 and E0-21. The streambed composition of the site is predominantly comprised of sand with visible gravel bars.

Sediment metals concentrations were low with only one parameter exceeding CCME ISQG or the OSQG: chromium at E0-21 in 2011. Two parameters exceeded OSQG: iron at E0-20 in 2011 and nickel at E0-21 in 2011. There were generally higher aluminum and manganese sediment concentrations at this site compared to sites downstream.

TOC, nitrite and nitrate concentrations were below the limits of detection. The total phosphorus concentration was 220 µg/g.

3.3.1.7 Tributaries of Camp Lake

Seven sediment samples were collected from seven sites from the tributaries of Camp Lake: FS-01 (located within the L0 main-stem), K0-01, J0-01, Camp Lake-Trib1-US, Camp Lake-Trib1-DS, Camp Lake-Trib2-US and Camp Lake-Trib2-DS. The streambed composition was predominantly comprised of cobbles and boulders at FS-01 and K0-01 with sediment samples being obtained from riffle pools from behind larger boulders. The streambed was predominantly sand at J0-01. The streambed composition of the other sites, although not formally recorded during site inspections, is likely either comprised of cobbles and boulders or sand based on general knowledge of the areas.

Two parameters exceeded the CCME ISQG at three sites; chromium at Camp Lake-Trib1-US and Camp Lake-Trib1-DS in 2007 and copper at FS-01 in 2005 and at Camp Lake-Trib1-US in 2007. Two parameters exceeded the OSQG at four sites: iron at Camp Lake-Trib1-US in 2007 and nickel at FS-01 in 2005 and at Camp Lake-Trib1-US, Camp Lake-Trib1-DS and Camp Lake-Trib2-DS in 2007.

Nutrients and TOC were generally low with TOC concentrations ranging from not detected to 0.53% and nitrate ranging from not detected to 1 µg/g.

3.3.1.8 Mary Lake

Seven composite sediment samples were collected from five sites on Mary Lake: BL0-01 (northern portion of Mary Lake, offshore from the outlet of Tom River and waters that drain from Camp Lake), BL0-05 (southern portion of Mary Lake, offshore from outlet of Mary River), BL0-03, BL0-04 and BL0-06. The sediment composition for these sites can generally be described as fine sands and silts with organic layers and gravel at depth.

Sediment metals and non-metals results were all below the CCME limits with the exception of chromium and copper. The chromium sediment concentrations at BL0-01 in 2006 and at BL0-01 and BL0-04 in 2007 were 50, 60 and 82 µg/g, respectively, which exceeded the CCME ISQG guidelines, while the results at BL0-03 and BL0-06 in 2007 exceeded both the CCME ISQG and PEL guidelines with concentrations of 92 and 98 µg/g, respectively. The copper sediment concentration at BL0-06 in 2007 was 38 µg/g which exceeded the CCME ISQG guideline of 37.3-µg/g. Other notably higher sediment concentrations exceeding the OSQG (either the LEL or the SEL) include: iron at sites BL0-01 in 2006 and at BL0-01, BL0-03, BL0-04 and BL0-06 in 2007; manganese at BL0-01, BL0-03, BL0-04 and BL0-06 in 2007 and nickel at BL0-01and BL0-05 in 2006 and at BL0-01, BL0-03, BL0-04, BL0-05 and BL0-06 in 2007.

Nitrite and nitrate concentrations were generally low to below the limits of detection in the Mary Lake sediment samples. TKN and TOC concentrations were higher, some of which exceeded the OSQG by more than two times. Phosphorus sediment concentrations were also higher with the following sites exceeding the OSQG by up to more than two times: BL0-01 in 2006 and BL0-01, BL0-03, BL0-04 and BL0-06 in 2007.

3.3.1.9 Camp Lake

Six sediment samples were collected from five sites at Camp Lake in 2007: JL0-01, JL0-02, JL0-07, JL0-09 and JL0-010. The lake sediments were generally comprised of silt and clay to sand; brown, dark grey/brown or red and brown; and loose to compact.

Sediment metals and non-metals results were all below their respective CCME guideline limits with the exception of chromium and copper. The chromium sediment concentration at sites JL0-01 in May and September 2007, JL0-02 in August 2007 and JL0-07 and JL0-09 in September 2007 were 76, 80, 79, 78 and 50 µg/g, respectively, which exceeded the CCME ISQG guideline of 37.3 µg/g. Copper sediment concentrations at sites JL0-01 (May and summer), JL0-02 and JL0-07 in 2007 were 37, 44, 41 and 45 µg/g, respectively, which exceeded the CCME ISQG guideline of 35.7 µg/g. Other notably higher sediment concentrations exceeding the OSQG at most of the sites include: iron, manganese and nickel.

Nitrite and nitrate concentrations were below the limits of detection to very low in the Camp Lake sediment samples. TKN concentrations were higher, more than five times the OSQG, in most samples and TOC ranged from below the limits of detection to more than two times the OSQG. Phosphorus concentrations were higher and ranged from below the limits of detection to two and a half times the OSQG.

3.3.1.10 Northwest Basin of Sheardown Lake

Sixteen sediment samples were collected from seven sites in the northwest basin of Sheardown Lake: DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5, DL0-01-6 and DL0-01-7. The sediment composition for these sites was generally comprised of silt and clay to silt; brown, dark brown or red; and compact. In one instance (DL0-01-1 in 2008) the sediment was too compact to collect a sample.

Sediment metals and non-metals results were all below their respective CCME guideline limits with the exception of arsenic, chromium and copper. Arsenic sediment concentration at site DL0-01-3 in 2008 was 6.3 µg/g which exceeded the CCME ISQG of 5.9 µg/g but not the PEL of 17 µg/g.

The chromium concentration at DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5 and DL0-01-6 in 2007, at DL0-01-2, DL0-01-3, DL0-01-4 and DL0-01-5 in 2008 and at DL0-01-1 and DL0-01-5 in 2011 ranged from 46 to 94 µg/g, which exceeded the CCME ISQG guidelines of 37.3 and 90 µg/g, the ISQG and PEL, respectively.

Copper sediment concentrations at sites DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4 and DL0-01-5 in 2007, at DL0-01-2, DL0-01-4 and DL0-01-5 in 2008 and at DL0-01-1 DL0-01-5 in 2011 ranged from 38 to 57 µg/g which exceeded the CCME ISQG guideline of 35.7 µg/g.

Other notably higher sediment concentrations exceeding the OSQG (either the LEL or the SEL) include the following:

- Iron at sites DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5 and DL0-01-6 in 2007, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5, DL0-01-7 in 2008 and DL0-01-1, DL0-01-5 in 2011
- Manganese at sites DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5 and DL0-01-6 in 2007, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5, DL0-01-7 in 2008 and DL0-01-1 in 2011
- Nickel at all sites
- Phosphorus at sites DL0-01-1, DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5, DL0-01-6 and DL0-01-7 in 2007 and DL0-01-2, DL0-01-3, DL0-01-4, DL0-01-5, DL0-01-7 in 2008.

Nitrite and nitrate concentrations were generally below the limits of detection to low in the northwest basin of Sheardown Lake. TKN concentrations were higher and most exceeded the OSQG by up to eight times. TOC concentrations were also higher and most sample results exceeded the OSQG by more than four times. Phosphorus concentrations ranged from 500 to 2,700 µg/g, over the OSQG of 600 and 2,000 µg/g, the ISQG and PEL, respectively.

3.3.1.11 Southeast Basin of Sheardown Lake

Five sediment samples were collected from four sites in the southeast basin of Sheardown Lake: DL0-02-1, DL0-02-2, DL0-02-3 and DL0-02-4. The sediment composition for these sites was generally comprised of clay, silt and trace sand to coarse and fine sand; brown, grey/brown or brown and green; loose to compact, with some vegetation inclusions.

Sediment metals and non-metals results were all below their respective CCME guideline limits with the exception of chromium. The chromium sediment concentrations at sites DL0-02-1 in May 2007 and at DL0-02-1, DL0-02-2 and DL0-02-4 in September 2007 ranged from 71 to 80 µg/g, which exceeded the CCME ISQG of 37.3 µg/g. Other notably higher sediment concentrations exceeding the OSQG included: iron, nickel and manganese.

Nitrite and nitrate concentrations were generally below the limits of detection to low in the southeast basin of Sheardown Lake. TKN concentrations ranged from below the limits of detection to more than eight times the OSQG of 0.055%. One TOC concentration was higher than average and was more than five times the OSQG of 1%. Phosphorus concentrations were higher and exceeded the OSQG by up to more than two times.

3.3.1.12 Sheardown Lake Nearshore

Three sediment samples were collected from three stations on the nearshore of Sheardown Lake during crushing and screening operations of the 2008 bulk sample program; DD-Hab 4-Stn 1 (composed of sand, trace silt), DD-Hab 4-Stn 2 (composed of sand, trace silt and clay) and DD-Hab 4-Stn 3 (composed of sand, trace silt and clay).

Sediment sample metal and non-metal results were all below their respective CCME guideline limits. The nickel concentration was notably higher and at the OSQG limit of 16 µg/g at DD-Hab-Stn 2.

Nutrient concentrations were below the limits of detection to low on the nearshore of Sheardown Lake.

3.3.1.13 Sheardown Lake Offshore

Three sediment samples were collected from three stations on the offshore of Sheardown Lake: DD-Hab9-Stn 1 (composed of sand, trace silt and clay), D-Hab 9-Stn 2 (composed of clayey sand, some silt) and DD-Hab 9-Stn 3 (composed of sand, trace silt and clay).

Sediment sample metal and non-metal results were all below their respective CCME guideline limits with the exception of arsenic and chromium. The arsenic sediment concentration at DD-Hab9-Stn 3 was 10.5 µg/g, which exceeds the CCME ISQG of 5.9 µg/g but not the PEL of 17 µg/g. Chromium sediment concentrations at all three stations were 40, 71 and 68 µg/g, respectively, which exceed the CCME ISQG of 37.3 µg/g but not the PEL of 90 µg/g. Copper sediment concentrations at DD-Hab9-Stn 2 and DD-Hab9 Stn 3 were 39 and 44 µg/g respectively, which exceed the CCME ISQG of 35.7 µg/g. Other notably higher sediment concentrations exceeding the OSQG include: iron, manganese and nickel.

Nutrient concentrations were below the limits of detection too low for most samples from the offshore of Sheardown Lake. Phosphorus concentrations were higher and exceeded the OSQG by up to more than two times.

3.3.1.14 Sheardown Lake Tributary

Three sediment samples were collected from three sites on the Sheardown Lake Tributary in 2008: SDLT1-R1 (composed of sand, trace silt and clay), SDLT1-R 2A (composed of sand, trace silt and clay) and SDLT1-R 4 (composed of sand, trace silt and clay).

Sediment sample metal and non-metal concentrations were all below their respective CCME guideline limits with the exception of cadmium, chromium and copper. Cadmium concentration at site SDLT1-R4 was 0.7 µg/g, which exceeded the CCME ISQG of 0.6 µg/g. Chromium concentrations at sites SDLT1-R1 and SDLT1-R4 were 54 and 124 µg/g, respectively, which exceeded the CCME ISQG of 37.3 µg/g and the result at site SDLT1-R4 exceeded the CCME PEL of 90 µg/g. The copper concentration at site SDLT1-R4 was 41, which exceeded the CCME ISQG of 35.7 µg/g. Other notably higher sediment concentrations exceeding the OSQG include: iron, manganese and nickel.

Nitrite, nitrate, TOC and phosphorus concentrations were generally low to below the limits of detection in the Sheardown Lake Tributary. Concentrations for TKN ranged from 0.01 to 0.07% which exceeds the OSQG of 0.055%.

3.3.2 Railway Alignment and Steensby Port Area

The following is a summary of sediment quality along the proposed railway alignment and at the Steensby Port area.

3.3.2.1 Southern Sites

Thirteen sediment samples were collected from thirteen southern sites in 2008: ST3, ST6, ST24, ST28, ST92, ST88, ST81, ST29, ST32, Stream 17, Stream 18, Stream 19 and Stream 24.

Sediment sample metal and non-metal concentrations were all below their respective CCME guideline limits with the exception of mercury, cadmium, chromium, copper, lead and zinc, as follows:

- Mercury concentrations at sites ST28 and ST29 were both 0.2 µg/g which exceeds the CCME ISQG of 0.17 µg/g
- Cadmium concentrations at sites ST24 and ST29 were 2.9 and 0.6 µg/g, respectively, which are at or exceed the CCME ISQG of 0.6 µg/g
- Chromium concentrations at sites ST3, ST6, ST24, ST88, ST29 and Stream 19 were 73, 40, 81, 63, 44 and 38 µg/g, respectively, which exceed the CCME ISQG of 37.3 µg/g

- Copper concentrations at sites ST3, ST6, ST24, ST28, ST29, ST32 and Stream 19 were 43, 69, 42, 54, 117, 64 and 59 µg/g, respectively, which exceed the CCME ISQG of 35.7 µg/g
- Lead concentration at site ST24 was 173 µg/g which exceeds the CCME ISQG of 35 µg/g
- Zinc concentrations at sites ST24 and ST29 were 911 and 142 µg/g, respectively, which exceed the CCME ISQG of 123 µg/g. The result at ST24 exceeds the CCME PEL of 315 µg/g.
- Other notably higher sediment concentrations exceeding the OSQG include: iron and nickel

Nitrite and nitrate concentrations were generally low to below the limits of detection at the southern sites. Concentrations for TKN ranged from low to more than five times the OSQG of 0.48%. Concentrations for TOC ranged from low to more than three times the OSQG of 10%. Phosphorus concentrations ranged from 300 to 2,100 µg/g, above the OSQG of 2,000 µg/g.

### 3.3.3 QA/QC

The 2007 QA/QC sampling conducted by North/South indicated that the majority of the triplicate samples for which RPD could be reliably calculated were within the acceptable level of precision (≤18%). RPD values for 27 triplicate measurements exceeded the RPD. In particular, RPD values for the majority of parameters measured at C0-01-sed exceeded this level, indicating relatively heterogeneous sediment quality in this area.

The 2008, QA/QC protocols were conducted by North/South. One triplicate sample and one duplicate sample were collected from the northwest basin of Sheardown Lake. Higher concentrations were noted in the parameters of boron, chromium, manganese and the particle size analysis for clay in the samples. A summary of sediment sample QA/QC results is provided in Appendix F of the compendium report.

## SECTION 4.0 - CONCLUSIONS

The following conclusions have been determined as a result of the data analysis for the 2005 to 2011 surface water and sediment quality programs:

- Streams naturally have elevated concentrations or values for the following parameters: DO, turbidity, aluminum and iron. There were also some instances where CCME guidelines were exceeded in the following parameters: copper, TSS, silver, selenium, lead, pH and nickel.
- Lake profiling in 2011 generally indicated thermally stratified lakes in the summer and isothermic, uniformly mixed lakes undergoing turnover in the fall. Parameters that were generally at or above the respective guidelines in Camp Lake and Mary Lake included aluminum, cadmium and copper; Sheardown Lake generally had elevated concentrations of iron and copper. Steensby area lakes generally had elevated aluminum concentrations.
- Sediment quality at sites across the project area was generally good with naturally higher levels of chromium, copper, nickel and aluminum within the Mine Site. In Mary Lake, elevated concentrations of total phosphorus were noted and in Sheardown Lake (Northwest Basin), elevated concentrations of total phosphorus, TKN and TOC were noted.

## SECTION 5.0 - REFERENCES

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## SECTION 7.0 - CERTIFICATION

This report was prepared, reviewed and approved by the undersigned.

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**TABLE 2.1**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**2005-2011 MINE SITE STREAM WATER SAMPLE LOCATIONS**

Print Dec/22/11 12:14:06

| Current Site ID | 2005 Site ID | GPS Coordinates[1] UTM E (m) | GPS Coordinates[1] UTM N (m) | Sampled In: 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mary River | | | | | | | | | | | |
| A0-01 | EKP-2903 | 559019 | 7900094 | yes | yes | yes | yes | no | no | no | Just upstream from Angajurjualuk Lake |
| **A0-10**[2] | EKP-2834 | 557391 | 7903368 | yes | yes | yes | yes | no | no | no | Outflow from Mary Lake |
| B3-01 | - | - | - | no | no | no | yes | no | no | no | Inflow to Mary Lake |
| C0-01[2] | EKP-2835A | 556305 | 7906894 | yes | yes | yes | no | no | no | no | Upstream of Mary Lake |
| C0-05 | - | 558352 | 7909170 | no | no | yes | yes | no | no | yes | Mary River - Between C0-10 and C0-01 |
| **C0-10**[2] | EKP-2835B | 560669 | 7911633 | yes | yes | yes | no | yes | yes | no | Downstream ~200 m from confluence of D-Lake outflow with Mary River |
| D0-01 | EKP-2901 | 560765 | 7911692 | yes | yes | yes | yes | no | no | yes | Outflow from D-Lake |
| D1-00 | - | 560329 | 7913512 | no | no | no | yes | no | no | yes | Mouth of Sheardown Lake |
| D1-01[3] | EKP-2895 | 560753 | 7913507 | yes | yes | yes | yes | no | no | yes | Upstream of D-Lake and road to main deposit. Same as SDLT-1-DS and SDLT-1-R2A. |
| D1-03 | EKP-2894 | 561260 | 7913655 | yes | no | no | no | no | no | yes | Upstream of D1-01 |
| D1-05 | EKP-2893 | 561397 | 7913558 | yes | no | no | yes | no | no | yes | Upstream of D1-01 |
| D1-07 | EKP-2892 | 562052 | 7913203 | yes | no | no | no | no | no | yes | Upstream of D1-01 |
| D1-10 | EKP-2891 | 562533 | 7912873 | yes | no | no | no | no | no | yes | Upstream of D1-01 |
| D-Stream-1 | - | 560964 | 7912998 | no | no | yes | yes | no | no | no | Stream inflow to D-Lake |
| D-Stream-2 | - | 560777 | 7912867 | no | no | yes | yes | no | no | no | Stream inflow to D-Lake |
| D-Stream-3 | - | 561770 | 7911809 | no | no | yes | yes | no | no | no | Stream inflow to D-Lake |
| D-Stream-4 | - | 560629 | 7912638 | no | no | no | yes | no | no | no | Stream inflow to D-Lake |
| D-Stream-5 | - | 560719 | 7912501 | no | no | no | yes | no | no | no | Stream inflow to D-Lake |
| D-Stream-6 | - | 560893 | 7912263 | no | no | yes | yes | no | no | no | Stream inflow to D-Lake |
| SDLT-1-DS[3] | - | 560753 | 7913507 | no | no | no | no | no | no | yes | |
| SDLT-1-US | - | 561568 | 7913498 | no | no | no | no | no | no | yes | Unable to collect in July 2011 due to water flowing under boulders |
| SDLT-1-R1 | - | 560320 | 7913504 | no | no | no | no | no | no | yes | Located 30 m downstream of D1-00 |
| SDLT-1-R2A[3] | - | 560739 | 7913502 | no | no | no | no | no | no | yes | |
| SDLT-1-R4 | - | 561490 | 7913533 | no | no | no | no | no | no | yes | |
| SDLT-9-US | - | 561770 | 7911810 | no | no | no | no | no | no | yes | Stream inflow into Sheardown Lake |
| SDLT-12-DS | - | 560776 | 7912867 | no | no | no | no | no | no | no | Stream inflow to Sheardown (D-Lake) - same location as D-Stream-2 |
| SDLT-12-US | - | 561102 | 7912835 | no | no | no | no | no | no | yes | |
| E0-01 | - | 560949 | 7911531 | no | yes | yes | yes | no | no | no | Mary River - upstream of confluence with outflow from D-Lake |
| E2-01 | EKP-2843 | 562348 | 7911310 | yes | yes | yes | yes | no | no | no | E2 tributary, just upstream of confluence with Mary River |
| E2-03 | EKP-2842 | 562850 | 7911542 | yes | no | no | no | no | no | no | Small tributary to E2, only sampled once (June 2005) |
| E2-05 | EKP-2841 | 564486 | 7910340 | yes | no | no | no | no | no | no | Mid-stream portion of E2 tributary, between two shallow lakes |
| E2-08 | EKP-2840 | 567004 | 7909175 | yes | no | no | no | no | no | no | Uppermost sample point on E2 tributary, upstream of small lakes |
| **E0-03**[2] | EKP-2856 | 562974 | 7912472 | yes | yes | yes | no | yes | yes | yes | Just downstream of canyon portion of Mary River |
| E0-04 | EKP-2842 | 562946 | 7912216 | no | no | no | no | no | no | yes | Upstream of discharge from ore stockpiles and waste water treatment discharge location |
| **E3-01**[2] | EKP-2858 | 563872 | 7913003 | yes | yes | yes | no | yes | yes | yes | Small tributary draining main deposit area, downstream of salt mixing area |
| **E3-02** | EKP-2887 | 563681 | 7913064 | no | no | no | no | no | no | yes | Small tributary draining main deposit area, downstream of salt mixing area. Site moved 85 m u/s of original coordinates in July 2011, as original location was dry. |
| E3-03 | EKP-2887 | 563759 | 7913203 | yes | no | no | no | no | no | yes | In situ parameters only. One set of data for June 2005. |
| E3-08 | EKP-2886 | 563606 | 7913945 | yes | no | no | no | no | no | yes | Small stream in main deposit area. Moved 100 m to the East in July 2011. |
| **E4-01**[2] | EKP-2857 | 563962 | 7913062 | yes | yes | yes | no | yes | yes | yes | Small tributary draining main deposit area, downstream of salt mixing area |
| **E0-10**[2] | - | 564405 | 7913004 | no | yes | yes | no | yes | no | yes | 50-100 m downstream of confluence of F tributary with Mary River |
| **E0-11** | EKP-2842 | 569315 | 7913008 | no | no | no | no | no | no | yes | Upstream of discharge from ROM and Open Pit - site moved from original location due to unsafe conditions |
| **E0-12** | EKP-2842 | 563169 | 7912675 | no | no | no | no | no | no | yes | Downstream of discharge from ROM and Open Pit |
| **E0-20** | - | 561688 | 7911272 | no | no | no | no | no | no | yes | Downstream of discharge of treated sewage effluent and ore storm water location |
| **E0-21** | - | 562444 | 7911724 | no | no | no | no | no | no | yes | Downstream of discharge of treated sewage effluent and ore storm water location |
| **F0-01**[2] | EKP-2854 | 564483 | 7913015 | yes | yes | yes | no | no | no | yes | Lowest portion of F tributary prior to confluence with Mary River |
| F0-02 | - | 564684 | 7913917 | no | no | no | yes | no | no | no | Downstream of F0-05 |
| F0-05[2] | - | 565132 | 7916181 | no | yes | yes | no | no | no | no | Mid-stream portion of F tributary, potentially upstream of deposits |
| **G0-01**[2] | EKP-2853 | 564459 | 7912984 | yes | yes | yes | no | no | no | yes | Mary River - just upstream of confluence with outflow from F tributary |
| G0-03 | EKP-2890 | 567204 | 7912587 | yes | yes | yes | yes | yes | yes | no | Mary River, just below deposits 2, 3 and 3A |
| G0-05 | - | 569184 | 7913059 | no | yes | yes | yes | no | no | no | Mary River, 200 to 300 m downstream of confluence with G3 tributary |
| G3-01 | - | 569295 | 7913285 | no | yes | yes | yes | no | no | no | G3 tributary - small and to immediate east of deposits 2, 3 and 3A |
| G0-07 | - | 570456 | 7913817 | no | yes | yes | yes | no | no | no | Mary River, upstream of deposits 2, 3 and 3A |
| **G0-09**[2] | - | 571546 | 7916317 | no | yes | yes | no | yes | yes | no | Mary River, upstream of deposits 2, 3 and 3A |
| G0-10 | - | - | - | no | no | no | no | yes | no | no | |
| G6-01 | - | 571406 | 7916629 | no | yes | yes | yes | no | no | no | G6 tributary - just upstream of confluence with Mary River |
| H0-01 | EKP-2902 | 571409 | 7917611 | yes | yes | yes | yes | no | no | no | Lowest portion of the northeastern tributary to Mary River |
| H1-01 | - | 571346 | 7917850 | no | yes | yes | yes | no | no | no | Lowest portion of the northwestern tributary to Mary River |
| H1-02 | - | 569211 | 7921645 | no | no | no | yes | no | no | no | Upper reach of the northwestern tributary to Mary River |
| Tom River | | | | | | | | | | | |
| I0-01 | - | 555470 | 7914139 | no | yes | yes | yes | no | no | no | Tom River - below road and braided river section |
| I0-04 | - | 557152 | 7918991 | no | yes | yes | yes | no | no | no | Tom River - 100 to 200 m below confluence of I1 tributary |
| I0-06 | EKP-2864 | 557298 | 7919412 | yes | yes | yes | yes | no | no | no | Tom River - upstream of confluence of I1 tributary |
| I1-01 | EKP-2865 | 557318 | 7919381 | yes | yes | yes | yes | no | no | no | I1 tributary, just upstream of confluence with Tom River |
| I1-02 | - | 559750 | 7919900 | no | no | no | yes | no | no | no | I1 tributary, at upper reach of tributary |
| Camp Lake Area | | | | | | | | | | | |
| J0-01 | EKP-2839 | 555701 | 7913773 | yes | yes | yes | yes | no | no | no | Outflow from J-Lake |
| J1-01 | EKP-2885 | 556325 | 7914900 | yes | yes | yes | yes | no | no | no | J1 stream, drains into northwest region of J-Lake |
| J2-01 | - | 557511 | 7913865 | no | yes | yes | yes | no | no | no | J2 stream, drains into southeastern region of J-Lake |
| K0-01 | EKP-2884 | 557390 | 7915030 | yes | yes | yes | yes | no | no | no | K0 stream, lowest region - drains to north region of J-Lake |
| K0-05 | EKP-2846 | 558865 | 7916090 | yes | no | no | yes | no | no | no | Mid-reaches tributary to K0 tributary |
| K1-01 | - | 559443 | 7916930 | no | no | no | yes | no | no | no | K1 stream, upper reaches - drains to K0, which drains to north region of Camp Lake |
| **L0-01**[2] | EKP-2883 | 557681 | 7914959 | yes | yes | yes | no | no | no | no | L0 stream, lowest region, drains to northeast region of J-Lake |
| L1-02 | EKP-2847 | 558765 | 7915121 | yes | no | no | no | no | no | no | L1 is northern tributary to L0 stream |
| L1-06 | EKP-2848 | 560047 | 7915874 | yes | no | no | no | no | no | no | Small tributary, upstream of L1-02. Sampled once (June 2005). |
| L1-08 | EKP-2849 | 561076 | 7915068 | yes | no | no | yes | no | no | yes | Small tributary upstream of L1-02 |
| L1-09 | EKP-2849 | 558407 | 7914885 | no | no | no | no | no | no | yes | Downstream mixing area from west waste rock discharge |
| L2-03 | EKP-2896 | 559081 | 7914425 | yes | no | no | no | no | no | yes | L2 is southern tributary to L0 stream |
| M0-01 | EKP-2880 | 557801 | 7914410 | yes | yes | yes | yes | no | no | no | M0 stream, lowest region - drains to western region of J-Lake |

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Tables 2.1 to 2.5.xls]Table 2.1

**NOTES:**

1. GPS COORDINATES ARE IN UTM NAD 83, ZONE 17W.
2. **BOLD** INDICATES THAT THE SITE WAS A 2007 FIELD SEASON WEEKLY WATER QUALITY SITE. WEEKLY SAMPLING IN 2008 WAS COMPLETED BY BIMC.
3. SAMPLE SITES D1-01, SDLT-1-DS AND SDLT-R2A WERE ALL LOCATED WITHIN 20M OF EACH OTHER, THUS ONLY ONE SAMPLE WAS COLLECTED AND LABELED AS D1-01.

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | SMR | AD | SRA |

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**TABLE 2.2**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**2005-2011 MINE SITE TO STEENSBY PORT STREAM WATER SAMPLE LOCATIONS**

Print Dec/22/11 12:14:06

| Current Site ID | 2005 Site ID | GPS Coordinates[1] UTM E (m) | UTM N (m) | Sampled In: 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cockburn Area | | | | | | | | | | | |
| S1-100 | EKP-2819 | 592196 | 7817661 | yes | yes | yes | yes | no | no | no | Cockburn Lake outlet creek |
| S2-065 | - | 606957 | 7846923 | no | no | yes | yes | no | no | yes | Inflow to Cockburn Lake - collected 271 m from GPS point in July 2011 |
| S2-070 | - | 607575 | 7841240 | no | yes | yes | yes | no | no | yes | Narrowing flowing water section in northern portion of Cockburn Lake - sampled 158 m d/s of GPS point in July 2011 due to favourable flow |
| Ravn River - Upstream of Angajurjualuk Lake | | | | | | | | | | | |
| S2-030 | EKP-2915 | 592664 | 7892583 | yes | yes | yes | yes | no | no | yes | Ravn River, upstream of Angajurjualuk Lake |
| Rowley River | | | | | | | | no | no | | |
| S2-100 | EKP-2912 | 623035 | 7799885 | yes | no | yes | yes | no | no | no | Lower reaches of the Rowley River |
| Steensby Port Area | | | | | | | | | | | |
| S-Camp-DS | - | 594790 | 7800518 | no | no | no | yes | no | no | yes | Downstream of Steensby Camp. Sample not collected in August 2011 - site was dry |
| SL3-Out (Km10 Lake) | - | 598700 | 7808138 | no | no | yes | yes | no | no | yes | |
| Km3 Lake | - | 597760 | 7800154 | no | no | no | yes | no | no | no | |
| Mid-Rail Camp Area | | | | | | | | | | | |
| MRC | - | 597333 | 7875117 | no | no | no | no | no | no | yes | Discharge location for Mid-Rail Camp. Sample location moved to coordinates listed in this table, in August 2011. |
| Nivek-IN | - | 595781 | 7876683 | no | no | no | yes | no | no | no | Inflow to Nivek Lake - Unable to sample in 2011 due to water being stagnant. |
| Nivek-Out | - | 593784 | 7873743 | no | no | no | yes | no | no | yes | Outflow from Nivek Lake |
| Sampling Locations Between Camp Lake and Steensby Port | | | | | | | | | | | |
| S1-010 | EKP-2837 | 556793 | 7893941 | yes | yes | no | no | no | no | no | Ravn River, downstream of Angajurjualuk Lake |
| S1-011 | EKP-2836 | 541193 | 7893559 | yes | no | no | no | no | no | no | Only sampled once (June 2005) |
| S1-020 | EKP-2911 | 571168 | 7857573 | yes | no | no | no | no | no | no | Only sampled once (September 2005) |
| S1-030 | EKP-2838 | 572536 | 7851075 | yes | yes | no | no | no | no | no | Fast flowing river joining two lakes, southeast of Nina Bang Lake |
| S1-040 | EKP-2825 | 572723 | 7849086 | yes | yes | no | no | no | no | no | Fast flowing river, further downstream of S1-030 (same watershed) |
| S1-050 | EKP-2824 | 575381 | 7846638 | yes | no | no | no | no | no | no | Lower reaches of watershed that drains directly into Tariujaq Arm |
| S1-060 | EKP-2823 | 577215 | 7844740 | yes | yes | no | no | no | no | no | Lower reaches of small watershed that drains directly into Tariujaq Arm |
| S1-070 | EKP-2822 | 580144 | 7840336 | yes | yes | no | no | no | no | no | Lower reaches of watershed that drains directly into Tariujaq Arm |
| S1-080 | EKP-2821 | 588755 | 7825451 | yes | yes | no | no | no | no | no | Lower reaches of watershed to immediate northwest of Cockburn Lake |
| S1-090 | EKP-2820 | 589516 | 7823113 | yes | no | no | no | no | no | no | Lower reaches of small watershed near southwestern portion of Cockburn Lake |
| S1-110 | EKP-2818 | 598208 | 7807296 | yes | yes | no | no | no | no | yes | Very bouldery wide stream, near Steensby Inlet |
| S1-120 | EKP-2817 | 594989 | 7802669 | yes | yes | no | no | no | no | yes | Stream section among small lakes and swampy areas, near Steensby Inlet |
| S2-010 | - | 570650 | 7905046 | no | yes | no | no | no | no | yes | Mid reaches of main stem of river that drains into northern central portion of Angajurjualuk Lake |
| S2-020 | - | 585234 | 7899946 | no | yes | no | no | no | no | yes | Mid reaches of main stem of river that drains into northeastern portion of Angajurjualuk Lake. Sample collected from E585407 N7900062 in August 2011 due to braiding in the river. |
| S2-040 | - | 597777 | 7880427 | no | yes | no | no | no | no | yes | Slow moving wide river in very boggy upland area |
| S2-050 | - | 606940 | 7847916 | no | yes | no | no | no | no | yes | Lowest reaches of first order tributary to Cockburn River, just north of Cockburn Lake |
| S2-060 | EKP-2914 | 607224 | 7847820 | yes | yes | no | no | no | no | yes | Cockburn River, just upstream of confluence with S2-050 tributary waters |
| S2-120 | EKP-2913 | 626604 | 7780184 | yes | no | no | no | no | no | no | Windless Lake outlet river |

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Tables 2.1 to 2.5.xls]Table 2.2

**NOTES:**

1. GPS COORDINATES ARE IN UTM NAD 83, ZONE 17W.

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | SMR | AD | SRA |

Knight Piésold CONSULTING

**TABLE 2.3**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**2005-2011 MINE SITE TO MILNE PORT STREAM WATER SAMPLE LOCATIONS**

Print Dec/22/11 12:17:33

| 2006 Site ID | 2005 Site ID | GPS Coordinates[1] UTM E | UTM N | Sampled In: 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N1 and N2 Water Quality Sites Downstream of Separate Routes (near Milne Port) | | | | | | | | | | | |
| N1-010 | EKP-2801 | 505899 | 7976039 | yes | yes | no | no | no | no | no | Reference site for N1 and N2 sites, near Milne Port |
| N1-020 | EKP-2802 | 502527 | 7973838 | yes | yes | no | no | no | no | yes | Lower reaches of Phillips Creek watershed, near Milne Inlet |
| N1-025 | - | 511928 | 7966788 | no | yes | no | no | no | no | no | Main stem of Phillips Creek, downstream of combined flows from two main tributaries |
| N1-030 | EKP-2803 | 515322 | 7965323 | yes | yes | no | no | no | no | no | Lower reaches of Phillips Creek eastern tributary |
| N1 Water Quality Sites | | | | | | | | | | | |
| N1-040 | EKP-2804 | 515013 | 7964184 | yes | yes | no | no | no | no | no | Phillips Creek western tributary, upstream of confluence with N1-030 waters |
| N1-050 | EKP-2805 | 521853 | 7948851 | yes | yes | no | no | no | no | no | First order tributary to Phillips Creek western tributary |
| N1-053 | - | 523055 | 7944751 | no | yes | no | no | no | no | no | Main stem of Phillips Creek western tributary |
| N1-058 | - | 525399 | 7936371 | no | yes | no | no | no | no | yes | Main stem Phillips Creek western tributary, at outlet of Katiktok Lake |
| N1-060 | EKP-2806 | 525962 | 7936771 | yes | yes | no | no | no | no | yes | First order tributary to Phillips Creek western tributary, merges with Phillips Creek just below N1-058 |
| N1-070 | EKP-2808 | 528474 | 7926550 | yes | yes | no | no | no | no | no | Upper reaches of Ravn River watershed |
| N1-080 | EKP-2810 | 535444 | 7919329 | yes | yes | no | no | no | no | no | Upper reaches of Ravn River watershed |
| N1-090 | EKP-2812 | 539684 | 7921281 | yes | yes | no | no | no | no | no | Upper reaches of Ravn River watershed |
| N2 - Water Quality Sites | | | | | | | | | | | |
| N2-010 | - | 518676 | 7963600 | no | yes | no | no | no | no | no | First order tributary to Phillips Creek eastern tributary, upstream of N1-030 |
| N2-013 | - | 521219 | 7960686 | no | yes | no | no | no | no | no | Main stem of Phillips Creek eastern tributary upstream of where N2-010 merges with main stem |
| N2-020 | - | 526827 | 7954660 | no | yes | no | no | no | no | no | First order tributary to Phillips Creek, eastern tributary, upstream of where N2-013 |
| N2-030 | - | 533593 | 7945985 | no | yes | no | no | no | no | no | First order tributary to Phillips Creek eastern tributary, upper reaches of Phillips Creek |
| N2-060 | - | 544933 | 7923192 | no | yes | no | no | no | no | no | Upper reaches of Ravn River watershed |
| N1 and N2 Water Quality Sites Upstream of Separate Routes (near Exploration Property) | | | | | | | | | | | |
| N1-100 | EKP-2814 | 545060 | 7922182 | yes | yes | no | no | no | no | no | Upper reaches of Ravn River watershed, just upstream of an un-named lake |
| N1-110 | EKP-2815 | 550784 | 7917490 | yes | yes | no | no | no | no | no | Upper reaches of Ravn River watershed |
| Milne Camp | | | | | | | | | | | |
| M-Camp-DS | - | 503219 | 7976481 | no | no | no | yes | no | no | yes | Downstream of Milne Camp - sample was collected from pool in 2011 due to insufficient flow in the stream d/s of the road |

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Tables 2.1 to 2.5.xls]Table 2.3

**NOTES:**

1. GPS COORDINATES ARE IN UTM NAD 83, ZONE 17W.

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | SMR | AD | SMR |

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**TABLE 2.4**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**2005-2011 LAKE SURFACE WATER QUALITY SAMPLE LOCATIONS**

Print Dec/22/11 12:18:24

| Current Site ID | 2005 Site ID | GPS Coordinates [1] | | Sampled In | | | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UTM E (m) | UTM N (m) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | |
| **Mary Lake** | | | | | | | | | | | |
| BL0-01 | - | 554495 | 7912116 | no | yes | yes | yes | no | no | no | Northern portion of Mary Lake |
| BL0-03 | - | 552680 | 7906651 | no | no | yes | yes | no | no | no | |
| BL0-04 | - | 553817 | 7904886 | no | no | yes | yes | no | no | no | |
| BL0-05 | - | 554632 | 7906031 | no | yes | yes | yes | no | no | yes | Southern portion of Mary Lake |
| BL0-05-B4 | - | 555115 | 7906774 | no | no | no | no | no | no | yes | Southern portion of Mary Lake near mixing zone from Mary River |
| BL0-06 | - | 555924 | 7903760 | no | no | yes | yes | no | no | no | |
| **Mary Lake Tributary 2** | | | | | | | | | | | |
| MLST2 | - | 552111 | 7905088 | no | no | no | yes | no | no | no | |
| **Candidate Reference Lake** | | | | | | | | | | | |
| CRL-3 | - | 565703 | 7904839 | no | no | no | yes | no | no | no | |
| **Camp Lake** | | | | | | | | | | | |
| JL0-01 | - | 557108 | 7914369 | no | yes | yes | yes | no | no | yes | Central region of Camp Lake |
| JL0-02 | - | 557615 | 7914750 | no | no | yes | yes | no | no | yes | |
| JL0-09 | - | 556335 | 7913955 | no | no | yes | yes | no | no | no | |
| **Sheardown Lake Northwest Basin** | | | | | | | | | | | |
| DL0-01-1 | - | 560080 | 7913128 | no | no | yes | yes | no | no | yes | Treated sewage effluent discharge into Sheardown |
| DL0-01-2 | - | 560353 | 7912924 | no | no | yes | yes | no | no | no | |
| DL0-01-3 | - | 560474 | 7912833 | no | no | yes | no | no | no | no | |
| DL0-01-4 | - | 560695 | 7913043 | no | no | yes | yes | no | no | no | |
| DL0-01-5 | - | 559798 | 7913356 | no | no | yes | yes | no | no | yes | Treated sewage effluent discharge into Sheardown |
| DL0-01-7 | - | 560525 | 7912609 | no | no | yes | yes | no | no | yes | Treated sewage effluent discharge into Sheardown |
| D-LAKE-01 | - | 559798 | 7913513 | no | no | no | no | no | no | yes | Treated sewage effluent discharge into Sheardown |
| D-LAKE-02 | - | 559898 | 7913613 | no | no | no | no | no | no | yes | Treated sewage effluent discharge into Sheardown |
| D-LAKE-03 | - | 559750 | 7913613 | no | no | no | no | no | no | yes | Treated sewage effluent discharge into Sheardown |
| D-LAKE-05 | - | 559998 | 7913413 | no | no | no | no | no | no | yes | Treated sewage effluent discharge into Sheardown |
| **Sheardown Lake Nearshore** | | | | | | | | | | | |
| SDL1 | - | 560347 | 7913430 | no | no | no | yes | no | no | no | |
| SDL2 | - | 560310 | 7913469 | no | no | no | yes | no | no | no | |
| SDL3 | - | 560264 | 7913482 | no | no | no | yes | no | no | no | |
| SDL4 | - | 559941 | 7913085 | no | no | no | yes | no | no | no | |
| SDL5 | - | 559960 | 7913039 | no | no | no | yes | no | no | no | |
| SDL6 | - | 559991 | 7912998 | no | no | no | yes | no | no | no | |
| DD-Hab 4-Stn 1 | - | 560420 | 7913355 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| DD-Hab 4-Stn 2 | - | 560374 | 7913391 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| DD-Hab 4-Stn 3 | - | 560351 | 7913426 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| DD-Hab 9-Stn 1 | - | 560259 | 7913455 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| DD-Hab 9-Stn 2 | - | 560323 | 7913402 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| DD-Hab 9-Stn 3 | - | 560354 | 7913358 | no | no | no | no | no | no | yes | Char habitat potentially impacted by dust or water diversion |
| **Sheardown Lake Southeast Basin** | | | | | | | | | | | |
| DL0-02-1 | - | 560814 | 7912116 | no | no | yes | yes | no | no | no | |
| DL0-02-3 | - | 561046 | 7911915 | no | no | yes | yes | no | no | no | |
| DL0-02-4 | - | 561512 | 7911832 | no | no | yes | yes | no | no | no | |
| DL0-02-6 | - | 560756 | 7912167 | no | no | yes | no | no | no | no | |
| **Milne Port to Mine Site** | | | | | | | | | | | |
| Katiktok | - | 526077 | 7934563 | no | no | no | no | no | no | yes | |
| Km 32 Lake | - | 521532 | 7951697 | no | no | no | no | no | no | yes | |
| **Mid-Rail Camp Lake** | | | | | | | | | | | |
| Nivek | - | 596471 | 7875521 | no | no | no | yes | no | no | yes | Shore sample from Nivek Lake |
| NS-Nivek | - | 594884 | 7875690 | no | no | no | yes | no | no | no | |
| MRC2 | - | 596777 | 7874972 | no | no | no | no | no | no | yes | Discharge location for Mid-Rail Camp |
| **Steensby Area Lakes** | | | | | | | | | | | |
| ST3 (NSC Lake 1) | - | 593065 | 7802932 | no | no | no | yes | no | no | yes | |
| ST6 (NSC Lake 2) | - | 593046 | 7802378 | no | no | no | yes | no | no | no | |
| ST24 (NSC Lake 3) | - | 594438 | 7802376 | no | no | no | yes | no | no | yes | |
| ST28 (NSC Lake 4) | - | 595578 | 7803287 | no | no | no | yes | no | no | yes | |
| ST92 (NSC Lake 5) | - | 597616 | 7803081 | no | no | no | yes | no | no | yes | |
| ST195 (NSC Lake 6) | - | 601115 | 7801178 | no | no | no | yes | no | no | no | Incorrect lake sampled in July 2011. |
| ST88 (NSC Lake 6) | - | 599123 | 7802100 | no | no | no | yes | no | no | no | |
| ST81 (NSC Lake 8) | - | 596850 | 7799678 | no | no | no | yes | no | no | no | |
| ST29 (NSC Lake 9) | - | 594537 | 7801529 | no | no | no | yes | no | no | yes | |
| ST32 (NSC Lake 10) | - | 595189 | 7801595 | no | no | no | yes | no | no | no | |
| ST347 (ST110) | - | 596757 | 7805878 | no | no | no | no | no | no | yes | |
| ST347-2 (ST110) | - | 596588 | 7804501 | no | no | no | no | no | no | yes | |
| ST347-3 (ST110) | - | 598246 | 7806674 | no | no | no | no | no | no | yes | |
| 3 km Lake (ST353) (NSC Lake 7) | - | 597184 | 7800305 | no | no | no | yes | no | no | yes | |
| 10 km Lake (ST352) | - | 600382 | 7806693 | no | no | no | yes | no | no | yes | |

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Tables 2.1 to 2.5.xls]Table 2.4

**NOTES:**
1. GPS COORDINATES ARE IN UTM NAD 83, ZONE 17W.

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | RDW | AD | SRA |

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**TABLE 2.5**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**2005-2011 SEDIMENT QUALITY SAMPLE LOCATIONS**

Print Dec/22/11 12:22:23

| Current Site ID | 2005 Site ID | GPS Coordinates [1] | | Sampled In | | | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UTM E (m) | UTM N (m) | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | |
| **Mary Lake** | | | | | | | | | | | |
| BL0-01 (Sed) | - | 554695 | 7913212 | no | yes | yes | no | no | no | no | Northern portion of Mary Lake near the outlet of Tom River |
| BL0-03 Sed | - | 552680 | 7906651 | no | no | yes | no | no | no | no | |
| BL0-04 Sed | - | 553817 | 7904886 | no | no | yes | no | no | no | no | |
| BL0-05 (Sed) | - | 554771 | 7906033 | no | yes | yes | no | no | no | no | Southern portion of Mary Lake near outlet of Mary River |
| BL0-06 Sed | - | 555924 | 7903760 | no | no | yes | no | no | no | no | |
| **Mary River** | | | | | | | | | | | |
| A0-01 (Sed) | - | 559019 | 7900094 | yes | no | yes | no | no | no | no | Downstream of Mary Lake subcatchment, just upstream from Angajurjualuk Lake |
| C0-01 (Sed) | - | 556305 | 7906894 | yes | no | yes | no | no | no | no | Upstream of Mary Lake subcatchment |
| C0-05 Sed | - | 558352 | 7909171 | no | no | yes | no | no | no | yes | Mary River - between C0-01 and C0-10 |
| C0-10 | - | 560531 | 7911516 | no | yes | yes | no | no | no | no | Downstream of all proposed mine facilities, downstream ~200 m from confluence of Sheardown Lake outflow with Mary River |
| D0-01 | EKP-2901 | 560765 | 7911692 | yes | no | no | no | no | no | yes | Lake 2 subcatchment, outflow from Sheardown Lake |
| D1-01 | EKP-2895 | 560753 | 7913507 | yes | no | no | no | no | no | no | Lake 2 subcatchment, upstream of Sheardown Lake and road to main deposit |
| D1-05 | EKP-2893 | 561397 | 7913558 | no | no | no | no | no | no | yes | Upstream of D1-01 |
| D1-07 | EKP-2892 | 562052 | 7913203 | no | no | no | no | no | no | yes | Upstream of D1-01 |
| D1-10 | EKP-2891 | 562533 | 7912873 | no | no | no | no | no | no | yes | Upstream of D1-01 |
| E0-01 Sed | - | 560949 | 7911531 | no | no | yes | no | no | no | no | Mary River - upstream of confluence with outflow from Sheardown Lake |
| E0-03 | EKP-2856 | 562086 | 7911575 | yes | no | no | no | no | no | yes | North Fork MR subcatchment, just downstream of canyon portion of Mary River |
| E0-04 | EKP-2842 | 562946 | 7912216 | no | no | no | no | no | no | yes | |
| E0-12 | EKP-2842 | 563169 | 7912675 | no | no | no | no | no | no | yes | Downstream of discharge from ROM and Open Pit |
| E0-20 | - | 561688 | 7911272 | no | no | no | no | no | no | yes | Downstream of discharge of treated sewage effluent and ore storm water location |
| E0-21 | - | 562444 | 7911724 | no | no | no | no | no | no | yes | Downstream of discharge of treated sewage effluent and ore storm water location |
| E2-01 | EKP-2843 | 562348 | 7911310 | yes | no | no | no | no | no | no | South Fork MR subcatchment, just upstream of confluence with Mary River |
| E3-01 | EKP-2858 | 563868 | 7913001 | no | no | no | no | no | no | yes | Small tributary draining main deposit area, downstream of salt mixing area |
| E3-02 | EKP-2887 | 563698 | 7912980 | no | no | no | no | no | no | yes | |
| E3-03 | EKP-2887 | 563759 | 7913203 | no | no | no | no | no | no | yes | |
| E4-01 | EKP-2857 | 563962 | 7913062 | no | no | no | no | no | no | yes | Small tributary draining main deposit area, downstream of salt mixing area |
| G0-03 Sed | - | 567204 | 7912587 | no | no | yes | no | no | no | no | Mary River, just downstream of deposits 2, 3 and 3A |
| G0-09 | - | 571546 | 7916317 | no | yes | yes | no | no | no | no | Mary River upstream of all 3 of the identified iron deposits |
| H0-01 | EKP-2902 | 571409 | 7914611 | yes | no | no | no | no | no | no | North Fork MR subcatchment, southernmost portion of the northeastern tributary to Mary River |
| **Tom River** | | | | | | | | | | | |
| I0-01 | - | 555470 | 7914139 | no | yes | yes | no | no | no | no | Lower reaches of the Tom River, south of road and braided river section |
| I0-04 | - | 557152 | 7918991 | no | yes | yes | no | no | no | no | Mid-reaches of the Tom River, 100 to 200 m below confluence of I1 tributary |
| **Camp Lake** | | | | | | | | | | | |
| JL0-01-Sed | - | 557101 | 7914386 | no | no | yes | no | no | no | no | Central region of Camp Lake |
| JL0-02-Sed | - | 557615 | 7914750 | no | no | yes | no | no | no | no | |
| JL0-07-Sed | - | 556705 | 7914182 | no | no | yes | no | no | no | no | |
| JL0-09-Sed | - | 556335 | 7913955 | no | no | yes | no | no | no | no | |
| JL0-10-Sed | - | 556082 | 7913753 | no | no | yes | no | no | no | no | |
| **Sheardown Lake Northwest Basin** | | | | | | | | | | | |
| DL0-01-Sed | - | 560075 | 7913158 | no | no | yes | no | no | no | yes | Treated sewage effluent discharge into Sheardown |
| DL0-01-2 Sed | - | 560353 | 7912924 | no | no | yes | yes | no | no | no | |
| DL0-01-3 Sed | - | 560474 | 7912833 | no | no | yes | yes | no | no | no | |
| DL0-01-4 Sed | - | 560695 | 7913043 | no | no | yes | yes | no | no | no | |
| DL0-01-5 Sed | - | 559798 | 7913356 | no | no | yes | yes | no | no | yes | Treated sewage effluent discharge into Sheardown |
| DL0-01-6 Sed | - | 559723 | 7913389 | no | no | yes | yes | no | no | no | |
| DL0-01-7 Sed | - | 560525 | 7912609 | no | no | yes | yes | no | no | yes | Treated sewage effluent discharge into Sheardown |
| **Sheardown Lake Southeast Basin** | | | | | | | | | | | |
| DL0-02-Sed | - | 560812 | 7912127 | no | no | yes | no | no | no | no | |
| DL0-02-1 Sed | - | 560814 | 7912116 | no | no | yes | no | no | no | no | |
| DL0-02-2 Sed | - | 561161 | 7911866 | no | no | yes | no | no | no | no | |
| DL0-02-3 Sed | - | 561046 | 7911915 | no | no | yes | no | no | no | no | |
| DL0-02-4 Sed | - | 561512 | 7911832 | no | no | yes | no | no | no | no | |
| **Sheardown Lake Tributaries** | | | | | | | | | | | |
| SDLT-1 DS | - | 560753 | 7913507 | no | no | yes | no | no | no | no | |
| SDLT-1 US | - | 561568 | 7913498 | no | no | yes | no | no | no | no | |
| SDLT1-R1-Sed | - | 560320 | 7913504 | no | no | no | yes | no | no | no | |
| SDLT1-R2A-Sed | - | 560739 | 7913502 | no | no | no | yes | no | no | no | |
| SDLT1-R4-Sed | - | 561490 | 7913533 | no | no | no | yes | no | no | no | |
| SDLT-9 US | - | 561770 | 7911810 | no | no | yes | no | no | no | no | |
| SDLT-12 DS | - | 560776 | 7912867 | no | no | yes | no | no | no | no | |
| SDLT-12 US | - | 561102 | 7912835 | no | no | yes | no | no | no | no | |
| **Camp Lake Tributaries** | | | | | | | | | | | |
| CLT-1 DS | - | 557645 | 7914878 | no | no | yes | no | no | no | no | |
| CLT-1 US | - | 558504 | 7915022 | no | no | yes | no | no | no | no | |
| CLT-2 DS | - | 557466 | 7914969 | no | no | yes | no | no | no | no | |
| CLT-2 US | - | 557454 | 7915246 | no | no | yes | no | no | no | no | |
| FS-01 | - | 558264 | 7914877 | yes | no | no | no | no | no | no | Lake 1 subcatchment |
| J0-01 | EKP-2839 | 555701 | 7913773 | yes | no | no | no | no | no | no | Lake 1 subcatchment |
| K0-01 | EKP-2884 | 557390 | 7915030 | yes | no | no | no | no | no | no | Lake 1 subcatchment |
| L1-08 | - | 558516 | 7914996 | no | no | no | no | no | no | yes | Discharge location from west waste rock discharge |
| L1-09 | - | 558407 | 7914885 | no | no | no | no | no | no | yes | Downstream mixing area from west waste rock discharge |
| L2-03 | - | 558641 | 7914828 | no | no | no | no | no | no | yes | Upstream receiving environment for west waste rock discharge |
| **Sheardown Lake Nearshore Dust Monitoring** | | | | | | | | | | | |
| DD-Hab 4-Stn 1 | - | 560420 | 7913355 | no | no | no | yes | no | no | no | |
| DD-Hab 4-Stn 2 | - | 560374 | 7913391 | no | no | no | yes | no | no | no | |
| DD-Hab 4-Stn 3 | - | 560351 | 7913426 | no | no | no | yes | no | no | no | |
| **Sheardown Lake Offshore Dust Monitoring** | | | | | | | | | | | |
| DD-Hab 9-Stn 1 | - | 560259 | 7913455 | no | no | no | yes | no | no | no | |
| DD-Hab 9-Stn 2 | - | 560323 | 7913402 | no | no | no | yes | no | no | no | |
| DD-Hab 9-Stn 3 | - | 560354 | 7913358 | no | no | no | yes | no | no | no | |
| **Steensby Area** | | | | | | | | | | | |
| Lake ST3 (NSC Lake 1) | - | 593065 | 7802932 | no | no | no | yes | no | no | no | |
| Lake ST6 (NSC Lake 2) | - | 593046 | 7802378 | no | no | no | yes | no | no | no | |
| Lake ST24 (NSC Lake 3) | - | 594438 | 7802376 | no | no | no | yes | no | no | no | |
| Lake ST28 (NSC Lake 4) | - | 595631 | 7803308 | no | no | no | yes | no | no | no | |
| Lake ST92 (NSC Lake 5) | - | 597616 | 7803081 | no | no | no | yes | no | no | no | |
| Lake ST88 (NSC Lake 6) | - | 599123 | 7802100 | no | no | no | yes | no | no | no | |
| Lake ST81 (NSC Lake 8) | - | 596944 | 7799639 | no | no | no | yes | no | no | no | |
| Lake ST29 (NSC Lake 9) | - | 594508 | 7801523 | no | no | no | yes | no | no | no | |
| Lake ST32 (NSC Lake 10) | - | 595189 | 7801595 | no | no | no | yes | no | no | no | |
| Lake ST347 | - | 596757 | 7805878 | no | no | no | no | no | no | yes | |
| Lake ST347-2 | - | 596588 | 7804501 | no | no | no | no | no | no | yes | |
| Lake ST347-3 | - | 598246 | 7806674 | no | no | no | no | no | no | yes | |
| Steensby Inlet Stream 17 | - | 595001 | 7802717 | no | no | no | yes | no | no | no | |
| Steensby Inlet Stream 18 | - | 594683 | 7801483 | no | no | no | yes | no | no | no | |
| Steensby Inlet Stream 19 | - | 594402 | 7801209 | no | no | no | yes | no | no | no | |
| Steensby Inlet Stream 24 | - | 594792 | 7800250 | no | no | no | yes | no | no | no | |

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Tables 2.1 to 2.5.xls]Table 2.5

**NOTES:**

1. GPS COORDINATES ARE IN UTM NAD 83, ZONE 17W.

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | RDW | SMR | SRA |

Knight Piésold CONSULTING

**TABLE 3.1**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 11:10:15

| Site ID | Sample Date | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Alkalinity mg/L CaCO3 | Br- mg/L | Cl- mg/L | Conductivity uS/cm | NH3+NH4 mg/L N | NO2- mg/L N | NO3- mg/L N | NO2+NO3 mg/L N | Phenols mg/L | Chlorophyll-a mg/m3 | Pheophytin-a mg/m3 | SO4- mg/L | TKN mg/L | TOC mg/L | DOC mg/L | TSS mg/L | TDS mg/L | Hardness mg/L CaCO3 | Phosphorus Total |
| **Receiving Water Quality Objectives** | | - | - | 9.5 | 6.5 - 9.0 | - | - | 120 | - | 0.021-2313 | 0.06 | 13 | - | 0.004 | - | - | - | - | - | - | - | - | - |
| **MDL (2005)** | | | | | | 2 | 0.3 | 0.2 | 1 | 0.1 | 0.06 | 0.05 | 0.06 | 0.001 | | | 0.5 | | | | | 30 | 0.5 | 0.02 |
| **MDL (2006)** | | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | | | 1 | | | | | 5 | 1 | 0.01 |
| **MDL (2007)** | | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | | | 1 | 0.1 | 0.5 | 0.5 | 2 | 5 | 1 | 0.003 |
| **MDL (2008)** | | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | | | 1 | 0.1 | 0.5 | 0.5 | 2 | 5 | 0.5 | 0.003 |
| **MDL (2011)** | | | | | | 5 | 0.25 | 1 | 5 | 0.02 | 0.1 | 0.1 | 0.1 | 0.001 | 0.2 | 0.2 | 1 | 0.1 | 0.5 | 0.5 | 2 | 1 | 0.5 | 0.003 |
| **Mary River - Downstream of Mary Lake:** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | | 41 | 41 | 38 | 41 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 5 | 5 | 42 | 22 | 22 | 22 | 22 | 42 | 42 | 42 |
| Number of Detects | | 41 | 41 | 38 | 41 | 42 | 0 | 42 | 42 | 25 | 12 | 0 | 0 | 1 | 3 | 2 | 29 | 14 | 22 | 22 | 1 | 39 | 41 | 16 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 0% | 100% | 100% | 60% | 29% | 0% | 0% | 2% | 60% | 40% | 69% | 64% | 100% | 100% | 5% | 93% | 98% | 38% |
| Minimum | | -0.01 | 0.04 | 9.97 | 6.60 | 20 | ND | 0.9 | 42 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.4 | 1.4 | ND | ND | ND | ND |
| Maximum Detected | | 11.67 | 0.18 | 14.75 | 8.28 | 68 | ND | 4.0 | 136 | 0.80 | 0.060 | ND | ND | 0.001 | 1.5 | 2.9 | 3 | 0.86 | 3.6 | 3.2 | 9 | 77 | 73 | 0.100 |
| Mean | | 5.52 | 0.06 | 12.54 | 7.55 | 32 | 0.17 | 2.3 | 68 | 0.09 | 0.011 | 0.09 | 0.10 | 0.001 | 0.50 | 1.34 | 2 | 0.20 | 1.9 | 1.8 | 2 | 44 | 32 | 0.017 |
| 90th Percentile | | 9.21 | 0.08 | 14.003 | 7.94 | 40 | 0.30 | 4.0 | 88 | 0.20 | 0.055 | 0.10 | 0.10 | 0.001 | 1.02 | 2.54 | 3 | 0.38 | 2.3 | 2.0 | 2 | 57 | 42 | 0.035 |
| 95th Percentile | | 9.46 | 0.09 | 14.51 | 7.99 | 42 | 0.30 | 4.0 | 91 | 0.58 | 0.060 | 0.10 | 0.10 | 0.001 | 1.26 | 2.72 | 3 | 0.43 | 2.7 | 2.9 | 2 | 59 | 44 | 0.097 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Number of samples | | 357 | 356 | 304 | 357 | 413 | 347 | 370 | 418 | 347 | 347 | 413 | 390 | 345 | 45 | 45 | 357 | 242 | 255 | 255 | 312 | 418 | 397 | 390 |
| Number of Detects | | 357 | 356 | 304 | 357 | 411 | 109 | 310 | 418 | 174 | 123 | 75 | 71 | 9 | 26 | 21 | 287 | 130 | 255 | 254 | 116 | 415 | 397 | 249 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 31% | 84% | 100% | 50% | 35% | 18% | 18% | 3% | 58% | 47% | 80% | 54% | 100% | 100% | 37% | 99% | 100% | 64% |
| Minimum | | -0.1 | 0.007 | 2.10 | 6.14 | ND | ND | ND | 13 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.7 | ND | ND | ND | 5 | ND |
| Maximum Detected | | 17.07 | 8.253 | 24.00 | 8.64 | 166 | 39.00 | 2890.0 | 9090 | 0.90 | 0.100 | 0.7 | 0.7 | 0.002 | 3.8 | 2.8 | 16 | 1.40 | 14.9 | 9.6 | 171 | 5910 | 4210 | 1.007 |
| Mean | | 5.65 | 0.440 | 12.74 | 7.81 | 58 | 0.79 | 115.2 | 468 | 0.07 | 0.014 | 0.1 | 0.1 | 0.001 | 0.684 | 0.551 | 3 | 0.17 | 1.7 | 1.6 | 6 | 307 | 219 | 0.018 |
| 90th Percentile | | 11.30 | 0.603 | 14.86 | 8.20 | 97 | 0.52 | 157.3 | 681 | 0.10 | 0.060 | 0.2 | 0.2 | 0.001 | 1.50 | 1.06 | 7 | 0.27 | 2.8 | 2.7 | 8 | 536 | 316 | 0.030 |
| 95th Percentile | | 12.95 | 2.473 | 15.13 | 8.31 | 121 | 4.44 | 764.4 | 2628 | 0.40 | 0.060 | 0.4 | 0.4 | 0.001 | 1.780 | 2.000 | 8 | 0.33 | 3.4 | 3.2 | 18 | 1706 | 1160 | 0.060 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of samples | | 74 | 74 | 74 | 74 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 32 | 32 | 76 | 53 | 53 | 53 | 53 | 76 | 75 | 76 |
| Number of Detects | | 74 | 74 | 74 | 74 | 76 | 0 | 58 | 76 | 38 | 7 | 16 | 16 | 2 | 11 | 16 | 64 | 19 | 53 | 53 | 6 | 74 | 75 | 26 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 0% | 76% | 100% | 50% | 9% | 21% | 21% | 3% | 34% | 50% | 84% | 36% | 100% | 100% | 11% | 97% | 100% | 34% |
| Minimum | | 0.05 | 0.02 | 8.91 | 6.78 | 12 | ND | ND | 24 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.0 | 0.7 | ND | ND | 9.0 | ND |
| Maximum Detected | | 16.21 | 0.29 | 101.80 | 8.44 | 157 | ND | 27.0 | 293 | 0.80 | 0.100 | 0.27 | 0.27 | 0.001 | 3.2 | 23.7 | 16 | 0.77 | 4.6 | 4.4 | 21 | 190 | 171.0 | 0.100 |
| Mean | | 5.84 | 0.15 | 31.84 | 7.75 | 74 | 0.23 | 4.5 | 157 | 0.09 | 0.030 | 0.10 | 0.10 | 0.001 | 1 | 2 | 4 | 0.13 | 2.7 | 2.6 | 3 | 102 | 81.1 | 0.015 |
| 90th Percentile | | 12.11 | 0.24 | 92.65 | 8.21 | 124 | 0.30 | 12.5 | 245 | 0.30 | 0.100 | 0.16 | 0.16 | 0.001 | 1.80 | 4.56 | 7 | 0.17 | 3.6 | 3.3 | 2 | 159 | 132.0 | 0.030 |
| 95th Percentile | | 13.48 | 0.26 | 98.72 | 8.29 | 130 | 0.30 | 14.3 | 273 | 0.40 | 0.100 | 0.20 | 0.20 | 0.001 | 2.100 | 8.080 | 13 | 0.21 | 4.0 | 3.6 | 6 | 178 | 143.3 | 0.100 |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | | | 16 | 6 | 6 | 6 | 6 | 16 | 16 | 16 |
| Number of Detects | | 16 | 16 | 16 | 16 | 16 | 1 | 13 | 16 | 12 | 1 | 0 | 0 | 1 | | | 15 | 4 | 6 | 6 | 1 | 16 | 16 | 4 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 6% | 81% | 100% | 75% | 6% | 0% | 0% | 6% | | | 94% | 67% | 100% | 100% | 17% | 100% | 100% | 25% |
| Minimum | | 0.27 | 0.016 | 8.87 | 6.27 | 6 | ND | ND | 19 | ND | ND | ND | ND | ND | | | ND | ND | 1.8 | 1.6 | ND | 34 | 7.9 | ND |
| Maximum Detected | | 15.32 | 0.149 | 15.61 | 8.18 | 84 | 0.80 | 4.0 | 172 | 1.50 | 0.060 | ND | ND | 0.004 | | | 6 | 0.34 | 3.4 | 3.3 | 4 | 112 | 94.7 | 0.100 |
| Mean | | 5.67 | 0.097 | 12.27 | 7.65 | 52 | 0.27 | 1.1 | 104 | 0.30 | 0.033 | 0.08 | 0.08 | 0.001 | | | 2 | 0.20 | 2.4 | 2.2 | 2 | 64 | 53.8 | 0.024 |
| 90th Percentile | | 13.17 | 0.136 | 14.865 | 7.99 | 72 | 0.30 | 2.0 | 152 | 0.85 | 0.060 | 0.10 | 0.10 | 0.001 | | | 5 | 0.32 | 3.0 | 2.8 | 3 | 99 | 79.0 | 0.060 |
| 95th Percentile | | 13.86 | 0.140 | 15.198 | 8.04 | 76 | 0.43 | 3.3 | 164 | 1.28 | 0.060 | 0.10 | 0.10 | 0.002 | | | 5 | 0.33 | 3.2 | 3.1 | 4 | 107 | 85.6 | 0.100 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 66 | 66 | 58 | 65 | 74 | 63 | 66 | 74 | 63 | 63 | 74 | 71 | 63 | 3 | 3 | 66 | 44 | 46 | 46 | 55 | 74 | 72 | 71 |
| Number of Detects | | 66 | 66 | 58 | 65 | 73 | 37 | 46 | 74 | 30 | 54 | 7 | 7 | 2 | 1 | 3 | 46 | 30 | 46 | 46 | 15 | 73 | 72 | 41 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 99% | 59% | 70% | 100% | 48% | 86% | 9% | 10% | 3% | 33% | 100% | 70% | 68% | 100% | 100% | 27% | 99% | 100% | 58% |
| Minimum | | -0.1 | 0.011 | 10 | 6.72 | ND | ND | ND | 11 | ND | ND | ND | ND | ND | ND | 0.2 | ND | ND | 0.7 | 0.7 | ND | ND | 5 | ND |
| Maximum Detected | | 14.89 | 0.218 | 14.81 | 8.34 | 102 | 0.3 | 8 | 231 | 0.80 | 0.06 | 0.16 | 0.16 | 0.003 | 0.4 | 1.5 | 7 | 0.75 | 5.6 | 5.3 | 36 | 150 | 113 | 0.1 |
| Mean | | 4.75 | 0.09 | 12.62 | 7.77 | 48.95 | 0.18 | 2.29 | 103.53 | - | 0.01 | - | - | - | - | 0.87 | 2.58 | 0.20 | 1.78 | 1.71 | - | 66.62 | 51.01 | 0.01 |
| 90th Percentile | | 9.67 | 0.16 | 14.20 | 8.17 | 85.70 | 0.25 | 5.00 | 178.70 | 0.13 | 0.01 | 0.10 | 0.10 | 0.00 | 0.36 | 1.38 | 5.00 | 0.40 | 4.10 | 3.95 | 9.20 | 116.00 | 89.37 | 0.03 |
| 95th Percentile | | 10.54 | 0.17 | 14.57 | 8.24 | 93.00 | 0.25 | 5.75 | 200.25 | 0.24 | 0.02 | 0.13 | 0.13 | 0.00 | 0.38 | 1.44 | 5.00 | 0.51 | 4.63 | 4.35 | 19.50 | 130.50 | 101.90 | 0.04 |
| **Tom River Area** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 46 | 46 | 41 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 6 | 6 | 46 | 27 | 27 | 27 | 27 | 46 | 46 | 46 |
| Number of Detects | | 46 | 46 | 41 | 46 | 46 | 0 | 34 | 46 | 25 | 18 | 4 | 2 | 3 | 3 | 2 | 39 | 15 | 27 | 27 | 4 | 46 | 46 | 20 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 0% | 74% | 100% | 54% | 39% | 9% | 4% | 7% | 50% | 33% | 85% | 56% | 100% | 100% | 15% | 100% | 100% | 43% |
| Minimum | | -0.1 | 0.042 | 9.60 | 6.90 | 23 | ND | ND | 47 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.8 | 0.8 | ND | 31 | 22 | ND |
| Maximum Detected | | 13.55 | 0.212 | 15.77 | 8.90 | 106 | ND | 7 | 227 | 0.60 | 0.100 | 0.10 | 0.10 | 0.001 | 0.3 | 0.3 | 5 | 0.50 | 5.2 | 4.8 | 3 | 148 | 118 | 0.100 |
| Mean | | 4.57 | 0.105 | 12.77 | 7.79 | 55 | 0.18 | 2 | 112 | 0.07 | 0.020 | 0.09 | 0.10 | 0.001 | 0 | 0 | 2 | 0.19 | 2.3 | 2.1 | 2 | 71 | 57 | 0.014 |
| 90th Percentile | | 10.70 | 0.165 | 14.76 | 8.25 | 89 | 0.30 | 3 | 175 | 0.10 | 0.060 | 0.10 | 0.10 | 0.001 | 0.30 | 0.25 | 5 | 0.43 | 4.4 | 4.0 | 2 | 113 | 93 | 0.025 |
| 95th Percentile | | 11.29 | 0.194 | 14.79 | 8.60 | 99 | 0.30 | 6 | 214 | 0.28 | 0.090 | 0.10 | 0.10 | 0.001 | 0.30 | 0.28 | 5 | 0.47 | 4.6 | 4.1 | 3 | 139 | 110 | 0.055 |
| **Tributaries of Camp Lake** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of samples | | 101 | 101 | 91 | 100 | 104 | 101 | 104 | 104 | 101 | 101 | 104 | 101 | 101 | | | 104 | 53 | 55 | 55 | 56 | 104 | 102 | 101 |
| Number of Detects | | 101 | 101 | 91 | 100 | 104 | 9 | 69 | 104 | 53 | 28 | 6 | 6 | 3 | | | 83 | 41 | 55 | 55 | 11 | 103 | 102 | 34 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 9% | 66% | 100% | 52% | 28% | 6% | 6% | 3% | | | 80% | 77% | 100% | 100% | 20% | 99% | 100% | 34% |
| Minimum | | -0.17 | 0.00 | 9.40 | 4.94 | 10 | ND | ND | 21 | ND | ND | ND | ND | ND | | | ND | ND | 1.3 | 1.2 | ND | ND | 9 | ND |
| Maximum Detected | | 17.81 | 0.25 | 16.51 | 8.71 | 133 | 0.30 | 16 | 268 | 0.80 | 0.060 | 0.26 | 0.26 | 0.002 | | | 7 | 0.44 | 5.8 | 5.4 | 5 | 174 | 149 | 0.110 |
| Mean | | 6.07 | 0.13 | 12.33 | 7.87 | 73.92 | - | 2.35 | 148.16 | 0.10 | - | - | - | - | | | 2.45 | 0.19 | 3.04 | 2.91 | - | 94.24 | 77.87 | - |
| 90th Percentile | | 11.14 | 0.21 | 14.30 | 8.33 | 113 | 0.30 | 5 | 232 | 0.40 | 0.060 | 0.10 | 0.10 | 0.001 | | | 5 | 0.29 | 4.6 | 4.4 | 3 | 151 | 123 | 0.030 |
| 95th Percentile | | 13.14 | 0.23 | 14.82 | 8.43 | 120 | 0.30 | 9 | 242 | 0.60 | 0.060 | 0.10 | 0.10 | 0.001 | | | 5 | 0.33 | 5.0 | 4.6 | 4 | 157 | 132 | 0.100 |
| **Drainages off Deposit** | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Number of samples | | 54 | 53 | 45 | 54 | 55 | 50 | 55 | 55 | 50 | 49 | 54 | 49 | 49 | 7 | 7 | 55 | 38 | 41 | 41 | 43 | 55 | 51 | 50 |
| Number of Detects | | 54 | 53 | 45 | 54 | 55 | 11 | 34 | 55 | 24 | 1 | 10 | 6 | 2 | 3 | 1 | 29 | 22 | 41 | 41 | 13 | 51 | 51 | 25 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 22% | 62% | 100% | 48% | 2% | 19% | 12% | 4% | 43% | 14% | 53% | 58% | 100% | 100% | 30% | 93% | 100% | 50% |
| Minimum | | 0.08 | 0.02 | 9.22 | 6.27 | 7.00 | ND | ND | 17.00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.11 | 0.60 | ND | ND | 8.00 | ND |
| Maximum Detected | | 12.87 | 170.00 | 16.04 | 8.33 | 136.00 | 13.00 | 1000.00 | 2780.00 | 0.60 | 0.10 | 0.21 | 0.21 | 0.00 | 9.00 | 0.90 | 8.00 | 68.00 | 4.40 | 4.30 | 87.00 | 2230.00 | 1204.00 | 0.14 |
| Mean | | 5.26 | 22.46 | 12.72 | 7.76 | 66.22 | - | 26.39 | 202.44 | - | - | - | - | - | - | - | 1.94 | 4.25 | 1.28 | 1.33 | - | 134.75 | 103.18 | - |
| 90th Percentile | | 10.62 | 108.20 | 14.59 | 8.14 | 99.00 | 0.30 | 19.00 | 252.60 | 0.22 | 0.06 | 0.11 | 0.10 | 0.00 | 4.26 | 0.48 | 4.00 | 0.39 | 2.20 | 2.20 | 6.80 | 164.40 | 129.00 | 0.03 |
| 95th Percentile | | 11.89 | 152.00 | 14.87 | 8.17 | 107.00 | 0.30 | 49.90 | 346.60 | 0.46 | 0.10 | 0.14 | 0.14 | 0.00 | 6.63 | 0.69 | 5.00 | 43.30 | 2.60 | 2.40 | 11.80 | 225.20 | 162.50 | 0.10 |

Knight Piésold CONSULTING

**TABLE 3.1**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 11:10:15

| Site ID | Sample Date | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Turbidity NTU | Aluminum Total | Antimony Total | Arsenic Total | Barium Total | Beryllium Total | Bismuth Total | Boron Total | Cadmium Total | Calcium Total | Chromium Total | Cobalt Total | Copper Total | Iron Total | Lead Total | Lithium Total | Magnesium Total | Manganese Total |
| **Receiving Water Quality Objectives** | | - | - | 9.5 | 6.5 - 9.0 | - | 0.005 or 0.1 | - | 0.005 | - | - | - | 1.5 | 0.000029 | - | 0.0047 | - | 0.002 | 0.3 | 0.001 | - | - | - |
| **MDL (2005)** | | | | | | 0.1 | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 |
| **MDL (2006)** | | | | | | 0.1 | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 |
| **MDL (2007)** | | | | | | 0.1 | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **MDL (2008)** | | | | | | 0.1 | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000010 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **MDL (2011)** | | | | | | 0.1 | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **Mary River - Downstream of Mary Lake:** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | | 41 | 41 | 38 | 41 | 38 | 42 | 17 | 42 | 42 | 17 | 17 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 41 | 12 | 42 | 42 |
| Number of Detects | | 41 | 41 | 38 | 41 | 38 | 38 | 0 | 0 | 17 | 0 | 0 | 2 | 0 | 42 | 1 | 1 | 14 | 33 | 7 | 0 | 42 | 18 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 90% | 0% | 0% | 40% | 0% | 0% | 5% | 0% | 100% | 2% | 2% | 33% | 79% | 17% | 0% | 100% | 43% |
| Minimum | | -0.01 | 0.04 | 9.97 | 6.60 | 0.3 | ND | ND | ND | ND | ND | ND | ND | ND | 0.96 | ND | ND | ND | ND | ND | ND | 2.0 | ND |
| Maximum Detected | | 11.67 | 0.18 | 14.75 | 8.28 | 2.7 | 0.360 | ND | ND | 0.01000 | ND | ND | 0.060 | ND | 14.60 | 0.0010 | 0.0003 | 0.0040 | 0.39 | 0.00026 | ND | 8.8 | 0.03020 |
| Mean | | 5.52 | 0.06 | 12.54 | 7.55 | 1.2 | 0.046 | 0.0002 | 0.0012 | 0.00769 | 0.0018 | 0.0004 | 0.011 | 0.000014 | 6.64 | 0.0005 | 0.0002 | 0.0009 | 0.06 | 0.00011 | 0.005 | 3.7 | 0.00784 |
| 90th Percentile | | 9.21 | 0.08 | 14.003 | 7.94 | 2.2 | 0.070 | 0.0004 | 0.0046 | 0.01000 | 0.0050 | 0.0005 | 0.010 | 0.000017 | 8.95 | 0.0005 | 0.0003 | 0.0010 | 0.08 | 0.00020 | 0.005 | 4.8 | 0.01000 |
| 95th Percentile | | 9.46 | 0.09 | 14.51 | 7.99 | 2.4 | 0.088 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.010 | 0.000017 | 9.28 | 0.0007 | 0.0003 | 0.0010 | 0.12 | 0.00021 | 0.005 | 5.1 | 0.01000 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Number of samples | | 357 | 356 | 304 | 357 | 397 | 402 | 228 | 408 | 402 | 228 | 228 | 400 | 408 | 406 | 402 | 400 | 399 | 403 | 403 | 202 | 406 | 401 |
| Number of Detects | | 357 | 356 | 304 | 357 | 393 | 386 | 23 | 54 | 251 | 20 | 20 | 54 | 58 | 406 | 113 | 86 | 261 | 284 | 143 | 30 | 406 | 223 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 99% | 96% | 10% | 13% | 62% | 9% | 9% | 14% | 14% | 100% | 28% | 22% | 65% | 70% | 35% | 15% | 100% | 56% |
| Minimum | | -0.1 | 0.007 | 2.10 | 6.14 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.00 | ND | ND | ND | ND | ND | ND | 0.01 | ND |
| Maximum Detected | | 17.07 | 8.253 | 24.00 | 8.64 | 44.6 | 7.000 | 0.0020 | 0.0120 | 1.01140 | 0.0100 | 0.0100 | 0.200 | 0.00060 | 1600.00 | 0.0500 | 0.0078 | 1.0009 | 6.09 | 0.01900 | 0.284 | 167.0 | 1.00191 |
| Mean | | 5.65 | 0.440 | 12.74 | 7.81 | 5.0 | 0.201 | 0.0002 | 0.0010 | 0.03015 | 0.0013 | 0.0008 | 0.015 | 0.00004 | 64.28 | 0.0015 | 0.0003 | 0.0038 | 0.20 | 0.00042 | 0.012 | 12.7 | 0.02164 |
| 90th Percentile | | 11.30 | 0.603 | 14.86 | 8.20 | 11.4 | 0.405 | 0.0004 | 0.0020 | 0.03959 | 0.0050 | 0.0010 | 0.020 | 0.00010 | 92.35 | 0.0025 | 0.0004 | 0.0020 | 0.39 | 0.00100 | 0.025 | 22.5 | 0.06628 |
| 95th Percentile | | 12.95 | 2.473 | 15.13 | 8.31 | 15.9 | 0.722 | 0.0005 | 0.0050 | 0.13360 | 0.0050 | 0.0025 | 0.050 | 0.00019 | 368.50 | 0.0041 | 0.0005 | 0.0024 | 0.68 | 0.00100 | 0.049 | 48.9 | 0.11550 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of samples | | 74 | 74 | 74 | 74 | 74 | 74 | 61 | 75 | 74 | 61 | 61 | 75 | 75 | 75 | 75 | 75 | 74 | 74 | 74 | 45 | 75 | 74 |
| Number of Detects | | 74 | 74 | 74 | 74 | 74 | 68 | 1 | 5 | 62 | 0 | 0 | 20 | 23 | 75 | 8 | 5 | 67 | 35 | 20 | 0 | 75 | 54 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 92% | 2% | 7% | 84% | 0% | 0% | 27% | 31% | 100% | 11% | 7% | 91% | 47% | 27% | 0% | 100% | 73% |
| Minimum | | 0.05 | 0.02 | 8.91 | 6.78 | 0.1 | ND | ND | ND | ND | ND | ND | ND | ND | 2.30 | ND | ND | ND | ND | ND | ND | 1.4 | ND |
| Maximum Detected | | 16.21 | 0.29 | 101.80 | 8.44 | 15.8 | 0.720 | 0.0004 | 0.0050 | 0.01750 | ND | ND | 0.05 | 0.00012 | 33.00 | 0.0030 | 0.0008 | 0.0070 | 0.81 | 0.00080 | ND | 22.0 | 0.01980 |
| Mean | | 5.84 | 0.15 | 31.84 | 7.75 | 1.1 | 0.043 | 0.0002 | 0.0013 | 0.00909 | 0.0017 | 0.0004 | 0.01 | 0.00002 | 15.66 | 0.0006 | 0.0002 | 0.0020 | 0.08 | 0.00013 | 0.005 | 10.2 | 0.00378 |
| 90th Percentile | | 12.11 | 0.24 | 92.65 | 8.21 | 1.7 | 0.077 | 0.0004 | 0.0050 | 0.01269 | 0.0050 | 0.0005 | 0.02 | 0.00005 | 25.88 | 0.0007 | 0.0003 | 0.0031 | 0.12 | 0.00024 | 0.005 | 16.9 | 0.01000 |
| 95th Percentile | | 13.48 | 0.26 | 98.72 | 8.29 | 4.2 | 0.249 | 0.0004 | 0.0050 | 0.01358 | 0.0050 | 0.0005 | 0.05 | 0.00005 | 27.06 | 0.0008 | 0.0003 | 0.0031 | 0.26 | 0.00031 | 0.005 | 18.6 | 0.01014 |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | | 16 | 16 | 16 | 16 | 16 | 15 | 12 | 16 | 16 | 12 | 12 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 |
| Number of Detects | | 16 | 16 | 16 | 16 | 16 | 10 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 16 | 1 | 0 | 10 | 11 | 2 | 0 | 16 | 12 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 67% | 0% | 6% | 75% | 0% | 0% | 25% | 0% | 100% | 6% | 0% | 63% | 69% | 13% | 0% | 100% | 75% |
| Minimum | | 0.27 | 0.016 | 8.87 | 6.27 | 0.2 | ND | ND | ND | ND | ND | ND | ND | ND | 1.62 | ND | ND | ND | ND | ND | ND | 0.9 | ND |
| Maximum Detected | | 15.32 | 0.149 | 15.61 | 8.18 | 10.8 | 0.270 | ND | 0.005 | 0.010 | ND | ND | 0.06 | ND | 17.90 | 0.0020 | ND | 0.0012 | 0.22 | 0.0010 | ND | 12.3 | 0.0173 |
| Mean | | 5.67 | 0.097 | 12.27 | 7.65 | 1.2 | 0.031 | 0.0003 | 0.003 | 0.007 | 0.004 | 0.0004 | 0.02 | 0.000012 | 10.67 | 0.0008 | 0.0002 | 0.0009 | 0.06 | 0.0002 | 0.005 | 6.7 | 0.0061 |
| 90th Percentile | | 13.17 | 0.136 | 14.865 | 7.99 | 1.9 | 0.042 | 0.0004 | 0.005 | 0.010 | 0.005 | 0.0005 | 0.06 | 0.000015 | 16.25 | 0.0014 | 0.0003 | 0.0011 | 0.08 | 0.0004 | 0.005 | 10.1 | 0.0100 |
| 95th Percentile | | 13.86 | 0.140 | 15.198 | 8.04 | 4.7 | 0.118 | 0.0004 | 0.005 | 0.010 | 0.005 | 0.0005 | 0.06 | 0.000016 | 16.85 | 0.0017 | 0.0003 | 0.0012 | 0.13 | 0.0007 | 0.005 | 10.7 | 0.0118 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 66 | 66 | 58 | 65 | 68 | 74 | 37 | 74 | 74 | 37 | 37 | 73 | 74 | 74 | 74 | 73 | 74 | 74 | 74 | 35 | 74 | 74 |
| Number of Detects | | 66 | 66 | 58 | 65 | 68 | 74 | 1 | 3 | 40 | 18 | 0 | 1 | 2 | 74 | 15 | 13 | 48 | 60 | 20 | 0 | 73 | 38 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 100% | 3% | 4% | 54% | 49% | 0% | 1% | 3% | 100% | 20% | 18% | 65% | 81% | 27% | 0% | 99% | 51% |
| Minimum | | -0.1 | 0.011 | 10 | 6.72 | 0.5 | 0.0035 | ND | ND | ND | ND | ND | ND | ND | 0.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | | 14.89 | 0.218 | 14.81 | 8.34 | 34.6 | 2.97 | 0.0004 | 0.005 | 0.0147 | 0.005 | ND | 0.05 | 0.000017 | 22 | 0.004 | 0.00074 | 0.00273 | 2.2 | 0.00129 | ND | 12 | 0.0215 |
| Mean | | 4.75 | 0.09 | 12.62 | 7.77 | 6.59 | 0.22 | - | - | 0.01 | - | - | - | - | 10.37 | - | - | 0.00112 | 0.21 | - | - | 5.68 | 0.01 |
| 90th Percentile | | 9.67 | 0.16 | 14.20 | 8.17 | 20.33 | 0.38 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 18.28 | 0.00203 | 0.00030 | 0.00200 | 0.45 | 0.00080 | 0.01 | 9.89 | 0.01 |
| 95th Percentile | | 10.54 | 0.17 | 14.57 | 8.24 | 26.06 | 0.94 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 19.18 | 0.00268 | 0.00033 | 0.00203 | 0.76 | 0.00100 | 0.01 | 10.58 | 0.01 |
| **Tom River Area** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 46 | 46 | 41 | 46 | 45 | 46 | 25 | 46 | 46 | 25 | 25 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 19 | 46 | 46 |
| Number of Detects | | 46 | 46 | 41 | 46 | 45 | 45 | 25 | 0 | 25 | 0 | 0 | 3 | 2 | 46 | 2 | 2 | 25 | 22 | 9 | 0 | 46 | 22 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 98% | 100% | 0% | 54% | 0% | 0% | 7% | 4% | 100% | 4% | 4% | 54% | 48% | 20% | 0% | 100% | 48% |
| Minimum | | -0.1 | 0.042 | 9.60 | 6.90 | 0.1 | ND | 0.0001 | ND | ND | ND | ND | ND | ND | 4.00 | ND | ND | ND | ND | ND | ND | 3.0 | ND |
| Maximum Detected | | 13.55 | 0.212 | 15.77 | 8.90 | 18.4 | 0.219 | 0.0004 | ND | 0.01030 | ND | ND | 0.06 | 0.000017 | 24.40 | 0.0020 | 0.0003 | 0.0011 | 0.29 | 0.00100 | ND | 14.1 | 0.01000 |
| Mean | | 4.57 | 0.105 | 12.77 | 7.79 | 2.0 | 0.048 | 0.0002 | 0.0012 | 0.00750 | 0.0016 | 0.0005 | 0.01 | 0.000012 | 11.65 | 0.0006 | 0.0002 | 0.0009 | 0.06 | 0.00014 | 0.005 | 6.8 | 0.00549 |
| 90th Percentile | | 10.70 | 0.165 | 14.76 | 8.25 | 4.5 | 0.121 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.000017 | 19.35 | 0.0005 | 0.0003 | 0.0010 | 0.14 | 0.00025 | 0.005 | 11.2 | 0.01000 |
| 95th Percentile | | 11.29 | 0.194 | 14.79 | 8.60 | 9.5 | 0.165 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.000017 | 22.35 | 0.0010 | 0.0003 | 0.0010 | 0.19 | 0.00030 | 0.005 | 13.2 | 0.01000 |
| **Tributaries of Camp Lake** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of samples | | 101 | 101 | 91 | 100 | 96 | 104 | 48 | 104 | 104 | 48 | 48 | 103 | 104 | 104 | 104 | 103 | 104 | 104 | 104 | 32 | 104 | 104 |
| Number of Detects | | 101 | 101 | 91 | 100 | 96 | 82 | 1 | 0 | 55 | 0 | 0 | 4 | 1 | 104 | 6 | 1 | 81 | 58 | 10 | 0 | 104 | 46 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 100% | 79% | 2% | 0% | 53% | 0% | 0% | 4% | 1% | 100% | 6% | 1% | 78% | 56% | 10% | 0% | 100% | 44% |
| Minimum | | -0.17 | 0.00 | 9.40 | 4.94 | 0.1 | ND | ND | ND | ND | ND | ND | ND | ND | 2.00 | ND | ND | ND | ND | ND | ND | 1.0 | ND |
| Maximum Detected | | 17.81 | 0.25 | 16.51 | 8.71 | 4.2 | 0.189 | 0.0004 | ND | 0.01440 | ND | ND | 0.06 | 0.000100 | 31.20 | 0.0140 | 0.0003 | 0.0030 | 0.500 | 0.0020 | ND | 18.1 | 0.02000 |
| Mean | | 6.07 | 0.13 | 12.33 | 7.87 | 0.64 | 0.02 | - | - | 0.01 | - | - | - | - | 15.57 | - | - | 0.00 | 0.05 | - | - | 9.47 | - |
| 90th Percentile | | 11.14 | 0.21 | 14.30 | 8.33 | 1.1 | 0.040 | 0.0004 | 0.0050 | 0.01097 | 0.0050 | 0.0005 | 0.01 | 0.000064 | 24.60 | 0.0022 | 0.0003 | 0.0020 | 0.079 | 0.0003 | 0.005 | 15.0 | 0.01000 |
| 95th Percentile | | 13.14 | 0.23 | 14.82 | 8.43 | 1.4 | 0.049 | 0.0004 | 0.0050 | 0.01200 | 0.0050 | 0.0005 | 0.03 | 0.000100 | 26.06 | 0.0043 | 0.0003 | 0.0020 | 0.110 | 0.0010 | 0.005 | 16.0 | 0.01000 |
| **Drainages off Deposit** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Number of samples | | 54 | 53 | 45 | 54 | 55 | 54 | 46 | 54 | 54 | 46 | 46 | 53 | 41 | 54 | 42 | 53 | 54 | 54 | 44 | 36 | 54 | 54 |
| Number of Detects | | 54 | 53 | 45 | 54 | 54 | 48 | 0 | 5 | 46 | 0 | 0 | 8 | -13 | 54 | -6 | 6 | 43 | 16 | 0 | 3 | 54 | 37 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 98% | 89% | 0% | 9% | 85% | 0% | 0% | 15% | -32% | 100% | -14% | 11% | 80% | 30% | 0% | 8% | 100% | 69% |
| Minimum | | 0.08 | 0.02 | 9.22 | 6.27 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2.00 | ND | ND | ND | ND | ND | ND | 1.00 | ND |
| Maximum Detected | | 12.87 | 170.00 | 16.04 | 8.33 | 72.60 | 2.53 | ND | 0.01 | 0.13 | ND | ND | 0.18 | 0.00 | 440.00 | 0.01 | 0.00 | 0.00 | 3.07 | ND | 0.01 | 30.30 | 0.07 |
| Mean | | 5.26 | 22.46 | 12.72 | 7.76 | 2.81 | 0.10 | - | - | 0.01 | - | - | - | - | 24.97 | - | - | 0.00 | - | - | - | 9.33 | 0.01 |
| 90th Percentile | | 10.62 | 108.20 | 14.59 | 8.14 | 3.44 | 0.10 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.05 | 0.00 | 29.81 | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.01 | 14.44 | 0.01 |
| 95th Percentile | | 11.89 | 152.00 | 14.87 | 8.17 | 10.40 | 0.50 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.06 | 0.00 | 40.31 | 0.00 | 0.00 | 0.00 | 0.65 | 0.00 | 0.01 | 15.67 | 0.03 |

Knight Piésold CONSULTING

**TABLE 3.1**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 11:10:15

| Site ID | Sample Date | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Mercury Total | Molybdenum Total | Nickel Total | Potassium Total | Selenium Total | Silicon Total | Silver Total | Sodium Total | Strontium Total | Thallium Total | Tin Total | Titanium Total | Uranium Total | Vanadium Total | Zinc Total |
| **Receiving Water Quality Objectives** | | - | - | 9.5 | 6.5 - 9.0 | 0.000026 | 0.073 | 0.083 | - | 0.001 | - | 0.0001 | - | - | 0.0008 | - | - | 0.015 | 0.006 | 0.03 |
| **MDL (2005)** | | | | | | - | 0.0003 | 0.001 | 0.02 | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL (2006)** | | | | | | - | 0.005 | 0.005 | 0.01 | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | | | | | | 0.00005 | 0.00005 | 0.0005 | 2 | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | | | | | | 0.00001 | 0.00005 | 0.0005 | 0.05 | 0.001 | 0.05 | 0.00001 | 0.05 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2011)** | | | | | | 0.00001 | 0.00005 | 0.0005 | 0.05 | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Mary River - Downstream of Mary Lake:** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | | 41 | 41 | 38 | 41 | 42 | 42 | 42 | 42 | 42 | 12 | 42 | 41 | 42 | 24 | 42 | 17 | 12 | 42 | 42 |
| Number of Detects | | 41 | 41 | 38 | 41 | 0 | 10 | 3 | 36 | 0 | 12 | 1 | 36 | 42 | 0 | 1 | 2 | 12 | 0 | 3 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 24% | 7% | 86% | 0% | 100% | 2% | 88% | 100% | 0% | 2% | 12% | 100% | 0% | 7% |
| Minimum | | -0.01 | 0.04 | 9.97 | 6.60 | ND | ND | ND | ND | ND | 0.37 | ND | ND | 0.0044 | ND | ND | ND | 0.00012 | ND | ND |
| Maximum Detected | | 11.67 | 0.18 | 14.75 | 8.28 | ND | 0.00500 | 0.0050 | 2.00 | ND | 0.97 | 0.00060 | 2.00 | 0.0102 | ND | 0.0100 | 0.018 | 0.00077 | ND | 0.010 |
| Mean | | 5.52 | 0.06 | 12.54 | 7.55 | 0.00008 | 0.00305 | 0.0033 | 0.67 | 0.001 | 0.52 | 0.00009 | 0.73 | 0.0077 | 0.0001 | 0.0061 | 0.008 | 0.00054 | 0.001 | 0.002 |
| 90th Percentile | | 9.21 | 0.08 | 14.003 | 7.94 | 0.00010 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.66 | 0.00010 | 2.00 | 0.0100 | 0.0002 | 0.0100 | 0.010 | 0.00076 | 0.001 | 0.002 |
| 95th Percentile | | 9.46 | 0.09 | 14.51 | 7.99 | 0.00010 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.80 | 0.00010 | 2.00 | 0.0102 | 0.0002 | 0.0100 | 0.012 | 0.00077 | 0.001 | 0.004 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Number of samples | | 357 | 356 | 304 | 357 | 389 | 397 | 398 | 402 | 408 | 197 | 404 | 405 | 398 | 295 | 404 | 224 | 201 | 402 | 406 |
| Number of Detects | | 357 | 356 | 304 | 357 | 3 | 187 | 168 | 376 | 32 | 197 | 39 | 397 | 398 | 20 | 35 | 86 | 198 | 60 | 120 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 1% | 47% | 42% | 94% | 8% | 100% | 10% | 98% | 100% | 7% | 9% | 38% | 99% | 15% | 30% |
| Minimum | | -0.1 | 0.007 | 2.10 | 6.14 | ND | ND | ND | ND | ND | 0.25 | ND | ND | 0.001 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | | 17.07 | 8.253 | 24.00 | 8.64 | 0.00010 | 1.00047 | 1.0007 | 22.50 | 0.085 | 7.65 | 0.00100 | 76.50 | 7.8700 | 0.0020 | 0.1000 | 0.24 | 1.00285 | 0.020 | 0.052 |
| Mean | | 5.65 | 0.440 | 12.74 | 7.81 | 0.00006 | 0.00514 | 0.0060 | 1.56 | 0.002 | 1.27 | 0.00007 | 3.71 | 0.2649 | 0.0002 | 0.0050 | 0.02 | 0.00750 | 0.001 | 0.004 |
| 90th Percentile | | 11.30 | 0.603 | 14.86 | 8.20 | 0.00010 | 0.00500 | 0.0050 | 3.00 | 0.005 | 2.05 | 0.00010 | 5.03 | 0.4002 | 0.0002 | 0.0100 | 0.03 | 0.00465 | 0.002 | 0.010 |
| 95th Percentile | | 12.95 | 2.473 | 15.13 | 8.31 | 0.00010 | 0.00500 | 0.0050 | 5.68 | 0.005 | 2.52 | 0.00010 | 19.38 | 1.6855 | 0.0005 | 0.0100 | 0.05 | 0.00536 | 0.005 | 0.014 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of samples | | 74 | 74 | 74 | 74 | 75 | 74 | 74 | 75 | 75 | 44 | 75 | 75 | 74 | 64 | 75 | 61 | 44 | 75 | 75 |
| Number of Detects | | 74 | 74 | 74 | 74 | 0 | 57 | 54 | 70 | 0 | 44 | 0 | 70 | 74 | 0 | 3 | 6 | 43 | 2 | 18 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 77% | 73% | 93% | 0% | 100% | 0% | 93% | 100% | 0% | 4% | 10% | 98% | 3% | 24% |
| Minimum | | 0.05 | 0.02 | 8.91 | 6.78 | ND | ND | ND | ND | ND | 0.27 | ND | ND | 0.0010 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | | 16.21 | 0.29 | 101.80 | 8.44 | ND | 0.01140 | 0.0077 | 2.74 | ND | 4.39 | ND | 3.26 | 0.0272 | ND | 0.0100 | 0.04 | 0.01170 | 0.002 | 0.006 |
| Mean | | 5.84 | 0.15 | 31.84 | 7.75 | 0.00005 | 0.00232 | 0.0022 | 1.31 | 0.002 | 1.38 | 0.00004 | 0.93 | 0.0096 | 0.0001 | 0.0023 | 0.01 | 0.00267 | 0.001 | 0.002 |
| 90th Percentile | | 12.11 | 0.24 | 92.65 | 8.21 | 0.00010 | 0.00500 | 0.0050 | 2.05 | 0.005 | 1.80 | 0.00010 | 2.00 | 0.0141 | 0.0002 | 0.0100 | 0.01 | 0.00642 | 0.001 | 0.003 |
| 95th Percentile | | 13.48 | 0.26 | 98.72 | 8.29 | 0.00010 | 0.00500 | 0.0050 | 2.35 | 0.005 | 2.93 | 0.00010 | 2.46 | 0.0158 | 0.0002 | 0.0100 | 0.02 | 0.01030 | 0.001 | 0.004 |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 16 | 13 | 16 | 12 | 4 | 16 | 16 |
| Number of Detects | | 16 | 16 | 16 | 16 | 0 | 4 | 10 | 15 | 0 | 4 | 0 | 15 | 16 | 0 | 0 | 0 | 4 | 0 | 5 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 25% | 63% | 94% | 0% | 100% | 0% | 94% | 100% | 0% | 0% | 0% | 100% | 0% | 31% |
| Minimum | | 0.27 | 0.016 | 8.87 | 6.27 | ND | ND | ND | ND | ND | 0.75 | ND | ND | 0.0011 | ND | ND | ND | 0.000228 | ND | ND |
| Maximum Detected | | 15.32 | 0.149 | 15.61 | 8.18 | ND | 0.0050 | 0.005 | 2.00 | ND | 1.26 | ND | 2.00 | 0.0129 | ND | ND | ND | 0.00072 | ND | 0.004 |
| Mean | | 5.67 | 0.097 | 12.27 | 7.65 | 0.0001 | 0.0014 | 0.002 | 0.71 | 0.003 | 1.03 | 0.0001 | 0.53 | 0.0062 | 0.0002 | 0.003 | 0.005 | 0.00044 | 0.001 | 0.002 |
| 90th Percentile | | 13.17 | 0.136 | 14.865 | 7.99 | 0.0001 | 0.0050 | 0.005 | 0.79 | 0.005 | 1.24 | 0.0001 | 0.77 | 0.0105 | 0.0002 | 0.010 | 0.010 | 0.00066 | 0.001 | 0.003 |
| 95th Percentile | | 13.86 | 0.140 | 15.198 | 8.04 | 0.0001 | 0.0050 | 0.005 | 1.12 | 0.005 | 1.25 | 0.0001 | 1.24 | 0.0122 | 0.0002 | 0.010 | 0.010 | 0.00069 | 0.001 | 0.003 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 66 | 66 | 58 | 65 | 72 | 73 | 73 | 73 | 74 | 35 | 73 | 74 | 73 | 49 | 73 | 37 | 36 | 73 | 74 |
| Number of Detects | | 66 | 66 | 58 | 65 | 0 | 32 | 7 | 66 | 0 | 35 | 4 | 73 | 72 | 0 | 4 | 11 | 36 | 8 | 15 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 44% | 10% | 90% | 0% | 100% | 5% | 99% | 99% | 0% | 5% | 30% | 100% | 11% | 20% |
| Minimum | | -0.1 | 0.011 | 10 | 6.72 | ND | ND | ND | ND | ND | 0.274 | ND | ND | ND | ND | ND | ND | 0.000068 | ND | ND |
| Maximum Detected | | 14.89 | 0.218 | 14.81 | 8.34 | ND | 0.005 | 0.005 | 2 | ND | 4.51 | 0.0001 | 3.95 | 0.02 | ND | 0.032000002 | 0.114 | 0.00659 | 0.0034 | 0.0124 |
| Mean | | 4.75 | 0.09 | 12.62 | 7.77 | - | - | - | 0.87 | - | 1.11 | - | 1.37 | 0.01 | - | - | - | 0.00 | - | - |
| 90th Percentile | | 9.67 | 0.16 | 14.20 | 8.17 | 0.00 | 0.01 | 0.01 | 1.46 | 0.00 | 1.59 | 0.00 | 2.88 | 0.02 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.01 |
| 95th Percentile | | 10.54 | 0.17 | 14.57 | 8.24 | 0.00 | 0.01 | 0.01 | 2.00 | 0.00 | 2.37 | 0.00 | 3.18 | 0.02 | 0.00 | 0.01 | 0.05 | 0.01 | 0.00 | 0.01 |
| **Tom River Area** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | | 46 | 46 | 41 | 46 | 46 | 46 | 46 | 46 | 46 | 19 | 46 | 46 | 46 | 29 | 46 | 25 | 19 | 46 | 46 |
| Number of Detects | | 46 | 46 | 41 | 46 | 0 | 17 | 0 | 42 | 0 | 19 | 0 | 45 | 46 | 0 | 0 | 1 | 19 | 0 | 3 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 37% | 0% | 91% | 0% | 100% | 0% | 98% | 100% | 0% | 0% | 4% | 100% | 0% | 7% |
| Minimum | | -0.1 | 0.042 | 9.60 | 6.90 | ND | ND | ND | ND | ND | 0.34 | ND | ND | 0.0025 | ND | ND | ND | 0.00007 | ND | ND |
| Maximum Detected | | 13.55 | 0.212 | 15.77 | 8.90 | ND | 0.00500 | ND | 2.00 | ND | 1.06 | ND | 3.20 | 0.0147 | ND | ND | 0.01 | 0.00350 | ND | 0.002 |
| Mean | | 4.57 | 0.105 | 12.77 | 7.79 | 0.00007 | 0.00238 | 0.0026 | 0.76 | 0.002 | 0.66 | 0.00006 | 0.92 | 0.0072 | 0.0001 | 0.0047 | 0.01 | 0.00125 | 0.001 | 0.001 |
| 90th Percentile | | 10.70 | 0.165 | 14.76 | 8.25 | 0.00010 | 0.00500 | 0.0050 | 0.93 | 0.005 | 0.97 | 0.00010 | 1.74 | 0.0130 | 0.0002 | 0.0100 | 0.01 | 0.00331 | 0.001 | 0.001 |
| 95th Percentile | | 11.29 | 0.194 | 14.79 | 8.60 | 0.00010 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.99 | 0.00010 | 2.60 | 0.0142 | 0.0002 | 0.0100 | 0.01 | 0.00347 | 0.001 | 0.002 |
| **Tributaries of Camp Lake** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of samples | | 101 | 101 | 91 | 100 | 102 | 103 | 103 | 103 | 104 | 32 | 103 | 104 | 103 | 62 | 103 | 48 | 33 | 103 | 104 |
| Number of Detects | | 101 | 101 | 91 | 100 | 0 | 33 | 37 | 95 | 1 | 32 | 0 | 98 | 102 | 0 | 3 | 0 | 33 | 1 | 23 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 32% | 36% | 92% | 1% | 100% | 0% | 94% | 99% | 0% | 3% | 0% | 100% | 1% | 22% |
| Minimum | | -0.17 | 0.00 | 9.40 | 4.94 | ND | ND | ND | ND | ND | 0.25 | ND | ND | ND | ND | ND | ND | 0.00005 | ND | ND |
| Maximum Detected | | 17.81 | 0.25 | 16.51 | 8.71 | ND | 0.00500 | 0.0050 | 2.00 | 0.005 | 2.05 | ND | 3.30 | 0.0317 | ND | 0.0100 | ND | 0.00295 | 0.001 | 0.012 |
| Mean | | 6.07 | 0.13 | 12.33 | 7.87 | - | - | - | 0.99 | - | 1.09 | - | 0.81 | 0.01 | - | - | - | 0.00 | - | - |
| 90th Percentile | | 11.14 | 0.21 | 14.30 | 8.33 | 0.00010 | 0.00500 | 0.0050 | 1.93 | 0.005 | 1.69 | 0.00010 | 1.78 | 0.0150 | 0.0002 | 0.0100 | 0.01 | 0.00210 | 0.001 | 0.003 |
| 95th Percentile | | 13.14 | 0.23 | 14.82 | 8.43 | 0.00010 | 0.00500 | 0.0050 | 2.00 | 0.005 | 1.78 | 0.00010 | 2.00 | 0.0163 | 0.0002 | 0.0100 | 0.01 | 0.00256 | 0.001 | 0.005 |
| **Drainages off Deposit** | | | | | | | | | | | | | | | | | | | | |
| Number of sites | | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Number of samples | | 54 | 53 | 45 | 54 | 50 | 53 | 53 | 53 | 54 | 36 | 53 | 54 | 52 | 51 | 53 | 46 | 37 | 53 | 51 |
| Number of Detects | | 54 | 53 | 45 | 54 | 0 | 39 | 11 | 52 | 1 | 36 | 2 | 53 | 52 | 0 | 1 | 4 | 36 | 3 | 5 |
| Percentage of Detects | | 100% | 100% | 100% | 100% | 0% | 74% | 21% | 98% | 2% | 100% | 4% | 98% | 100% | 0% | 2% | 9% | 97% | 6% | 10% |
| Minimum | | 0.08 | 0.02 | 9.22 | 6.27 | ND | ND | ND | ND | ND | 0.31 | ND | ND | 0.00 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | | 12.87 | 170.00 | 16.04 | 8.33 | ND | 0.01 | 0.01 | 20.10 | 0.01 | 7.37 | 0.00 | 15.50 | 0.22 | ND | 0.01 | 0.17 | 0.00 | 0.01 | 0.01 |
| Mean | | 5.26 | 22.46 | 12.72 | 7.76 | - | 0.00 | - | 1.26 | - | 0.97 | - | 1.05 | 0.02 | - | - | - | 0.00 | - | - |
| 90th Percentile | | 10.62 | 108.20 | 14.59 | 8.14 | 0.00 | 0.01 | 0.01 | 1.89 | 0.01 | 1.24 | 0.00 | 1.95 | 0.03 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| 95th Percentile | | 11.89 | 152.00 | 14.87 | 8.17 | 0.00 | 0.01 | 0.01 | 2.18 | 0.01 | 1.80 | 0.00 | 2.89 | 0.07 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 |



| REV | DATE | DESCRIPTION | PREPD | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT NB102-181/30-5 | AMP | ML | RAC |

Knight Piésold CONSULTING

**TABLE 3.2**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE DISSOLVED METALS**

Print Dec/22/11 17:38:17

| Site ID | Laboratory Results | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aluminum Dissolved | Antimony Dissolved | Arsenic Dissolved | Barium Dissolved | Beryllium Dissolved | Bismuth Dissolved | Boron Dissolved | Cadmium Dissolved | Calcium Dissolved | Chromium Dissolved | Cobalt Dissolved | Copper Dissolved | Iron Dissolved | Lead Dissolved | Lithium Dissolved | Magnesium Dissolved | Manganese Dissolved |
| **MDL (2005)** | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 |
| **MDL (2006)** | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 |
| **MDL (2007)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **MDL (2008)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000010 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **MDL (2011)** | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 |
| **Mary River - Downstream of Mary Lake** | | | | | | | | | | | | | | | | | |
| Number of sites | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | 42 | 17 | 42 | 42 | 17 | 17 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 12 | 42 | 42 |
| Number of Detects | 28 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 13 | 4 | 0 | 0 | 41 | 14 |
| Percentage of Detects | 67% | 0% | 0% | 40% | 0% | 0% | 0% | 0% | 98% | 0% | 0% | 31% | 10% | 0% | 0% | 98% | 33% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.019 | ND | ND | 0.01000 | ND | ND | ND | ND | 13.20 | ND | ND | 0.0038 | 0.22 | ND | ND | 9.04 | 0.03280 |
| Mean | 0.007 | - | - | - | - | - | - | - | 6.64 | - | - | - | - | - | - | 3.63 | - |
| 90th Percentile | 0.010 | 0.0004 | 0.0046 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 9.05 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | 0.005 | 4.86 | 0.01000 |
| 95th Percentile | 0.014 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 9.41 | 0.0010 | 0.0003 | 0.0010 | 0.05 | 0.00100 | 0.005 | 5.09 | 0.01000 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | | | |
| Number of sites | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Number of samples | 407 | 221 | 392 | 399 | 221 | 218 | 403 | 388 | 409 | 395 | 389 | 400 | 409 | 403 | 210 | 409 | 401 |
| Number of Detects | 324 | -11 | -2 | 234 | -13 | -17 | 21 | 9 | 408 | 29 | -5 | 223 | 44 | 15 | 27 | 409 | 207 |
| Percentage of Detects | 80% | -5% | -1% | 59% | -6% | -8% | 5% | 2% | 100% | 7% | -1% | 56% | 11% | 4% | 13% | 100% | 52% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.68 | ND |
| Maximum Detected | 212.000 | 42.1000 | 3.8100 | 13.10000 | 823.0000 | 0.5000 | 1.50 | 80.00000 | 1480.00 | 2.5000 | 0.0020 | 0.0500 | 3.00 | 0.67000 | 2.640 | 968.00 | 4.67000 |
| Mean | 0.565 | 0.1907 | 0.0107 | 0.08782 | 3.7252 | 0.0031 | 0.02 | 0.20626 | 63.80 | 0.0075 | 0.0002 | 0.0013 | 0.06 | 0.00220 | 0.025 | 14.94 | 0.02588 |
| 90th Percentile | 0.028 | 0.0005 | 0.0020 | 0.05614 | 0.0050 | 0.0015 | 0.02 | 0.00010 | 92.06 | 0.0020 | 0.0003 | 0.0017 | 0.05 | 0.00100 | 0.025 | 22.32 | 0.01000 |
| 95th Percentile | 0.092 | 0.0005 | 0.0050 | 0.12730 | 0.0050 | 0.0025 | 0.05 | 0.00010 | 379.20 | 0.0030 | 0.0005 | 0.0023 | 0.13 | 0.00100 | 0.054 | 53.44 | 0.07210 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | | | |
| Number of sites | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Number of samples | 75 | 60 | 75 | 75 | 60 | 60 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 44 | 75 | 75 |
| Number of Detects | 50 | 0 | 3 | 61 | 0 | 0 | 20 | 20 | 75 | 7 | 0 | 67 | 14 | 2 | 0 | 75 | 46 |
| Percentage of Detects | 67% | 0% | 4% | 81% | 0% | 0% | 27% | 27% | 100% | 9% | 0% | 89% | 19% | 3% | 0% | 100% | 61% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 2.00 | ND | ND | ND | ND | ND | ND | 1.00 | ND |
| Maximum Detected | 0.268 | ND | 0.0050 | 0.01790 | ND | ND | 0.05 | 0.00010 | 32.70 | 0.0070 | ND | 0.0055 | 0.08 | 0.00100 | ND | 21.70 | 0.01000 |
| Mean | 0.012 | 0.0002 | 0.0013 | 0.00901 | 0.0017 | 0.0004 | 0.01 | 0.00005 | 15.77 | 0.0010 | 0.0002 | 0.0019 | 0.03 | 0.00028 | 0.005 | 10.16 | 0.00305 |
| 90th Percentile | 0.011 | 0.0004 | 0.0050 | 0.01296 | 0.0050 | 0.0005 | 0.02 | 0.00010 | 25.36 | 0.0010 | 0.0003 | 0.0030 | 0.05 | 0.00100 | 0.005 | 16.24 | 0.01000 |
| 95th Percentile | 0.020 | 0.0004 | 0.0050 | 0.01367 | 0.0050 | 0.0005 | 0.05 | 0.00010 | 26.86 | 0.0050 | 0.0003 | 0.0031 | 0.07 | 0.00100 | 0.005 | 18.09 | 0.01000 |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | | | |
| Number of sites | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | 16 | 12 | 16 | 16 | 12 | 12 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 |
| Number of Detects | 6 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 16 | 1 | 0 | 9 | 1 | 1 | 0 | 16 | 12 |
| Percentage of Detects | 38% | 0% | 6% | 75% | 0% | 0% | 0% | 0% | 100% | 6% | 0% | 56% | 6% | 6% | 0% | 100% | 75% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 1.65 | ND | ND | ND | ND | ND | ND | 0.95 | ND |
| Maximum Detected | 0.019 | ND | 0.0050 | 0.01000 | ND | ND | ND | ND | 17.80 | 0.0040 | ND | 0.0011 | 0.05 | 0.00100 | ND | 12.20 | 0.01420 |
| Mean | 0.006 | 0.0003 | 0.0028 | 0.00651 | 0.0035 | 0.0004 | 0.02 | 0.00008 | 10.60 | 0.0011 | 0.0002 | 0.0009 | 0.03 | 0.00037 | 0.005 | 6.67 | 0.00513 |
| 90th Percentile | 0.011 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.05 | 0.00010 | 15.20 | 0.0010 | 0.0003 | 0.0010 | 0.05 | 0.00100 | 0.005 | 9.54 | 0.01000 |
| 95th Percentile | 0.018 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.05 | 0.00010 | 16.75 | 0.0018 | 0.0003 | 0.0010 | 0.05 | 0.00100 | 0.005 | 10.63 | 0.01105 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | | | |
| Number of sites | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | 74 | 37 | 74 | 74 | 37 | 37 | 73 | 74 | 74 | 74 | 73 | 74 | 74 | 74 | 35 | 74 | 74 |
| Number of Detects | 64 | 0 | 2 | 37 | 0 | 0 | 0 | 1 | 73 | 7 | 3 | 74 | 71 | 71 | 17 | 69 | 34 |
| Percentage of Detects | 86% | 0% | 3% | 50% | 0% | 0% | 0% | 1% | 99% | 9% | 4% | 100% | 96% | 96% | 49% | 93% | 46% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.0003 | ND | ND | ND | ND | ND |
| Maximum Detected | 0.874 | ND | 0.0050 | 0.01370 | ND | ND | ND | 0.00010 | 23.00 | 0.0160 | 0.0003 | 0.0050 | 0.67 | 0.00100 | 0.005 | 13.50 | 0.01000 |
| Mean | 0.039 | - | - | - | - | - | - | - | 10.63 | - | - | 0.0011 | 0.05 | 0.00055 | - | 5.83 | - |
| 90th Percentile | 0.036 | 0.0001 | 0.0010 | 0.01000 | 0.0005 | 0.0005 | 0.01 | 0.00010 | 18.87 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 10.34 | 0.01000 |
| 95th Percentile | 0.161 | 0.0002 | 0.0010 | 0.01133 | 0.0014 | 0.0005 | 0.01 | 0.00010 | 21.14 | 0.0014 | 0.0002 | 0.0019 | 0.12 | 0.00100 | 0.005 | 11.80 | 0.01000 |
| **Tom River Area** | | | | | | | | | | | | | | | | | |
| Number of sites | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | 45 | 24 | 46 | 46 | 24 | 24 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 18 | 46 | 46 |
| Number of Detects | 31 | 0 | 0 | 24 | 0 | 0 | 0 | 1 | 46 | 3 | 0 | 22 | 0 | 2 | 0 | 46 | 16 |
| Percentage of Detects | 69% | 0% | 0% | 52% | 0% | 0% | 0% | 2% | 100% | 7% | 0% | 48% | 0% | 4% | 0% | 100% | 35% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 4.00 | ND | ND | ND | ND | ND | ND | 3.00 | ND |
| Maximum Detected | 0.015 | ND | ND | 0.01020 | ND | ND | ND | 0.00010 | 24.20 | 0.0040 | ND | 0.0010 | ND | 0.00100 | ND | 14.10 | 0.01000 |
| Mean | 0.006 | 0.0002 | 0.0012 | 0.00752 | 0.0016 | 0.0005 | 0.01 | 0.00007 | 11.57 | 0.0009 | 0.0002 | 0.0008 | 0.03 | 0.00053 | 0.005 | 6.73 | 0.00542 |
| 90th Percentile | 0.009 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 18.05 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | 0.005 | 10.70 | 0.01000 |
| 95th Percentile | 0.009 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 22.00 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | 0.005 | 12.90 | 0.01000 |
| **Tributaries of Camp Lake** | | | | | | | | | | | | | | | | | |
| Number of sites | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Number of samples | 103 | 48 | 104 | 103 | 48 | 48 | 103 | 104 | 103 | 104 | 103 | 103 | 102 | 104 | 32 | 103 | 102 |
| Number of Detects | 41 | 0 | 0 | 52 | 0 | 0 | 0 | 1 | 103 | 10 | 0 | 77 | 24 | 0 | 0 | 102 | 43 |
| Percentage of Detects | 40% | 0% | 0% | 50% | 0% | 0% | 0% | 1% | 100% | 10% | 0% | 75% | 24% | 0% | 0% | 99% | 42% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 2.00 | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.023 | ND | ND | 0.01440 | ND | ND | ND | 0.00010 | 30.80 | 0.0080 | ND | 0.0060 | 0.32 | ND | ND | 18.10 | 0.02000 |
| Mean | 0.005 | 0.0002 | 0.0013 | 0.00893 | 0.0020 | 0.0004 | 0.01 | 0.00007 | 15.35 | 0.0012 | 0.0002 | 0.0014 | 0.04 | 0.00058 | 0.005 | 9.30 | 0.00665 |
| 90th Percentile | 0.007 | 0.0004 | 0.0050 | 0.01094 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 24.48 | 0.0010 | 0.0003 | 0.0020 | 0.05 | 0.00100 | 0.005 | 15.00 | 0.01000 |
| 95th Percentile | 0.010 | 0.0004 | 0.0050 | 0.01207 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 25.75 | 0.0037 | 0.0003 | 0.0020 | 0.05 | 0.00100 | 0.005 | 16.08 | 0.01000 |
| **Drainages off Deposit** | | | | | | | | | | | | | | | | | |
| Number of sites | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Number of samples | 49 | 41 | 49 | 49 | 41 | 41 | 48 | 49 | 49 | 49 | 48 | 49 | 49 | 49 | 36 | 49 | 49 |
| Number of Detects | 40 | 3 | 4 | 41 | 3 | 3 | 3 | 3 | 49 | 3 | 5 | 40 | 8 | 3 | 2 | 49 | 33 |
| Percentage of Detects | 82% | 7% | 8% | 84% | 7% | 7% | 6% | 6% | 100% | 6% | 10% | 82% | 16% | 6% | 6% | 100% | 67% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 2.00 | ND | ND | ND | ND | ND | ND | 0.80 | ND |
| Maximum Detected | 0.040 | 0.0004 | 0.0050 | 0.02820 | 0.0050 | 0.0010 | 0.05 | 0.00010 | 77.40 | 0.0013 | 0.0003 | 0.0020 | 0.39 | 0.00100 | 0.013 | 30.20 | 0.02630 |
| Mean | 0.006 | - | - | 0.00807 | - | - | - | - | 17.15 | - | - | 0.0009 | - | - | - | 8.91 | 0.00378 |
| 90th Percentile | 0.012 | 0.0004 | 0.0018 | 0.01012 | 0.0050 | 0.0005 | 0.02 | 0.00010 | 28.34 | 0.0010 | 0.0002 | 0.0016 | 0.03 | 0.00100 | 0.006 | 14.24 | 0.01000 |
| 95th Percentile | 0.014 | 0.0004 | 0.0050 | 0.01600 | 0.0050 | 0.0005 | 0.05 | 0.00010 | 34.60 | 0.0010 | 0.0003 | 0.0017 | 0.05 | 0.00100 | 0.010 | 15.20 | 0.01054 |

Knight Piésold CONSULTING

**TABLE 3.2**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE DISSOLVED METALS**

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| Site ID | Laboratory Results | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mercury Dissolved | Molybdenum Dissolved | Nickel Dissolved | Potassium Dissolved | Selenium Dissolved | Silicon Dissolved | Silver Dissolved | Sodium Dissolved | Strontium Dissolved | Thallium Dissolved | Tin Dissolved | Titanium Dissolved | Uranium Dissolved | Vanadium Dissolved | Zinc Dissolved |
| **MDL (2005)** | | 0.0003 | 0.001 | 0.02 | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL (2006)** | - | 0.005 | 0.005 | 0.01 | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | 0.00005 | 0.00005 | 0.0005 | 2 | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | 0.00001 | 0.00005 | 0.0005 | 0.05 | 0.001 | 0.05 | 0.00001 | 0.05 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2011)** | 0.00001 | 0.00005 | 0.0005 | 0.05 | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Mary River - Downstream of Mary Lake** | | | | | | | | | | | | | | | |
| Number of sites | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | 12 | 42 | 42 | 42 | 42 | 12 | 42 | 42 | 42 | 24 | 42 | 17 | 12 | 42 | 42 |
| Number of Detects | 0 | 11 | 0 | 36 | 0 | 12 | 0 | 36 | 42 | 0 | 0 | 0 | 12 | 1 | 7 |
| Percentage of Detects | 0% | 26% | 0% | 86% | 0% | 100% | 0% | 86% | 100% | 0% | 0% | 0% | 100% | 2% | 17% |
| Minimum | ND | ND | ND | ND | ND | 0.31 | ND | ND | 0.0043 | ND | ND | ND | 0.00010 | ND | ND |
| Maximum Detected | ND | 0.00500 | ND | 2.00 | ND | 0.57 | ND | 2.0000 | 0.0120 | ND | ND | ND | 0.00075 | 0.001 | 0.010 |
| Mean | - | - | - | 0.67 | - | 0.42 | - | 0.7818 | 0.0077 | - | - | - | 0.00054 | - | - |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.56 | 0.0001 | 2.0000 | 0.0100 | 0.0002 | 0.0100 | 0.01 | 0.00074 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.57 | 0.0001 | 2.0000 | 0.0102 | 0.0002 | 0.0100 | 0.01 | 0.00074 | 0.001 | 0.010 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | |
| Number of sites | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Number of samples | 204 | 396 | 393 | 410 | 405 | 204 | 400 | 410 | 405 | 297 | 399 | 232 | 208 | 402 | 405 |
| Number of Detects | -9 | 183 | 70 | 384 | 1 | 204 | -9 | 402 | 405 | -3 | -4 | 9 | 204 | 10 | 89 |
| Percentage of Detects | -4% | 46% | 18% | 94% | 0% | 100% | -2% | 98% | 100% | -1% | -1% | 4% | 98% | 2% | 22% |
| Minimum | ND | ND | ND | ND | ND | 0.21 | ND | ND | 0.001 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 31.00000 | 84.70000 | 0.0500 | 19.70 | 4.200 | 927.00 | 2680 | 110.00 | 857 | 0.001 | 0.10 | 55.00 | 1.83000 | 0.010 | 9.900 |
| Mean | 0.15198 | 0.21643 | 0.0031 | 1.47 | 0.012 | 5.44 | 6.7001 | 3.77 | 2.6 | 0.0002 | 0.00 | 0.25 | 0.01099 | 0.001 | 0.032 |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.67 | 0.005 | 1.32 | 0.0001 | 5.487 | 0.3846 | 0.00020 | 0.01 | 0.01 | 0.00442 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00500 | 0.0050 | 5.39 | 0.006 | 1.51 | 0.0001 | 18.000 | 2.020 | 0.001 | 0.010 | 0.01 | 0.00526 | 0.005 | 0.014 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | |
| Number of sites | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Number of samples | 44 | 75 | 75 | 75 | 75 | 44 | 75 | 75 | 75 | 64 | 75 | 60 | 44 | 75 | 75 |
| Number of Detects | 0 | 59 | 53 | 70 | 2 | 44 | 0 | 70 | 75 | 0 | 0 | 0 | 43 | 11 | 26 |
| Percentage of Detects | 0% | 79% | 71% | 93% | 3% | 100% | 0% | 93% | 100% | 0% | 0% | 0% | 98% | 15% | 35% |
| Minimum | ND | ND | ND | ND | ND | 0.11 | ND | ND | 0.0017 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | 0.01410 | 0.0077 | 2.71 | 0.005 | 4.33 | ND | 3.2300 | 0.0267 | ND | ND | ND | 0.01150 | 0.002 | 0.010 |
| Mean | 0.00002 | 0.00247 | 0.0022 | 1.30 | 0.002 | 1.30 | 0.000045 | 0.9365 | 0.0095 | 0.0001 | 0.0024 | 0.01 | 0.00258 | 0.001 | 0.004 |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.10 | 0.005 | 1.75 | 0.0001 | 2.0000 | 0.0140 | 0.0002 | 0.0100 | 0.01 | 0.00628 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00503 | 0.0050 | 2.33 | 0.005 | 2.93 | 0.0001 | 2.4640 | 0.0155 | 0.0002 | 0.0100 | 0.01 | 0.00981 | 0.002 | 0.010 |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | |
| Number of sites | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | 4 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 16 | 13 | 16 | 12 | 4 | 16 | 16 |
| Number of Detects | 0 | 4 | 11 | 15 | 0 | 4 | 1 | 15 | 16 | 0 | 0 | 0 | 4 | 3 | 8 |
| Percentage of Detects | 0% | 25% | 69% | 94% | 0% | 100% | 6% | 94% | 100% | 0% | 0% | 0% | 100% | 19% | 50% |
| Minimum | ND | ND | ND | ND | ND | 0.69 | ND | ND | 0.0010 | ND | ND | ND | 0.00022 | ND | ND |
| Maximum Detected | ND | 0.00500 | 0.0050 | 2.00 | ND | 1.16 | 0.00010 | 2.0000 | 0.0127 | ND | ND | ND | 0.00069 | 0.001 | 0.010 |
| Mean | 0.00002 | 0.00144 | 0.0022 | 0.70 | 0.003 | 0.98 | 0.0001 | 0.5226 | 0.0060 | 0.0002 | 0.0030 | 0.01 | 0.00043 | 0.001 | 0.004 |
| 90th Percentile | 0.00004 | 0.00500 | 0.0050 | 0.76 | 0.005 | 1.16 | 0.0001 | 0.7075 | 0.0100 | 0.0002 | 0.0100 | 0.01 | 0.00064 | 0.001 | 0.010 |
| 95th Percentile | 0.00004 | 0.00500 | 0.0050 | 1.09 | 0.005 | 1.16 | 0.0001 | 1.1788 | 0.0114 | 0.0002 | 0.0100 | 0.01 | 0.00066 | 0.001 | 0.010 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | |
| Number of sites | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | 36 | 73 | 73 | 73 | 74 | 35 | 73 | 74 | 73 | 49 | 73 | 37 | 36 | 73 | 74 |
| Number of Detects | 3 | 32 | 3 | 66 | 0 | 35 | 0 | 73 | 72 | 0 | 0 | 3 | 36 | 4 | 13 |
| Percentage of Detects | 8% | 44% | 4% | 90% | 0% | 100% | 0% | 99% | 99% | 0% | 0% | 8% | 100% | 5% | 18% |
| Minimum | ND | ND | ND | ND | ND | 0.21 | ND | ND | ND | ND | ND | ND | 0.00006 | ND | ND |
| Maximum Detected | 0.00010 | 0.00500 | 0.0050 | 2.00 | ND | 2.43 | ND | 4.1400 | 0.0217 | ND | ND | 0.05 | 0.00857 | 0.002 | 0.010 |
| Mean | - | - | - | 0.87 | - | 0.84 | - | 1.3503 | 0.0097 | - | - | - | 0.00279 | - | - |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.001 | 1.14 | 0.0001 | 2.9490 | 0.0166 | 0.0001 | 0.0100 | 0.01 | 0.00525 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.001 | 1.19 | 0.0001 | 3.3000 | 0.0175 | 0.0001 | 0.0100 | 0.01 | 0.00707 | 0.001 | 0.010 |
| **Tom River Area** | | | | | | | | | | | | | | | |
| Number of sites | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of samples | 18 | 46 | 46 | 46 | 46 | 18 | 46 | 46 | 46 | 25 | 46 | 24 | 18 | 46 | 46 |
| Number of Detects | 0 | 17 | 0 | 42 | 0 | 18 | 0 | 45 | 46 | 0 | 0 | 0 | 18 | 4 | 13 |
| Percentage of Detects | 0% | 37% | 0% | 91% | 0% | 100% | 0% | 98% | 100% | 0% | 0% | 0% | 100% | 9% | 28% |
| Minimum | ND | ND | ND | ND | ND | 0.30 | ND | ND | 0.0027 | ND | ND | ND | 0.00006 | ND | ND |
| Maximum Detected | ND | 0.00500 | ND | 2.00 | ND | 0.94 | ND | 2.8000 | 0.0144 | ND | ND | ND | 0.00344 | 0.002 | 0.010 |
| Mean | 0.00002 | 0.00249 | 0.0027 | 0.76 | 0.002 | 0.59 | 0.0001 | 0.9259 | 0.0071 | 0.0001 | 0.0050 | 0.01 | 0.00121 | 0.001 | 0.006 |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 0.82 | 0.005 | 0.91 | 0.0001 | 1.5550 | 0.0130 | 0.0002 | 0.0100 | 0.01 | 0.00317 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.005 | 0.92 | 0.0001 | 2.6000 | 0.0140 | 0.0002 | 0.0100 | 0.01 | 0.00333 | 0.001 | 0.010 |
| **Tributaries of Camp Lake** | | | | | | | | | | | | | | | |
| Number of sites | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Number of samples | 33 | 101 | 101 | 103 | 104 | 31 | 103 | 104 | 101 | 62 | 103 | 48 | 32 | 103 | 104 |
| Number of Detects | 0 | 30 | 35 | 94 | 1 | 31 | 0 | 97 | 101 | 0 | 0 | 0 | 31 | 11 | 104 |
| Percentage of Detects | 0% | 30% | 35% | 91% | 1% | 100% | 0% | 93% | 100% | 0% | 0% | 0% | 97% | 11% | 100% |
| Minimum | ND | ND | ND | ND | ND | 0.24 | ND | ND | 0.0018 | ND | ND | ND | ND | ND | 0.001 |
| Maximum Detected | ND | 0.00500 | 0.0100 | 2.00 | 8.000 | 2.02 | ND | 3.4000 | 0.0323 | ND | ND | ND | 0.00298 | 0.002 | 0.017 |
| Mean | 0.00002 | 0.00282 | 0.0034 | 0.99 | 0.079 | 1.04 | 0.000081 | 0.7838 | 0.0090 | 0.0001 | 0.0055 | 0.01 | 0.00113 | 0.001 | 0.006 |
| 90th Percentile | 0.00005 | 0.00500 | 0.0050 | 1.93 | 0.005 | 1.71 | 0.0001 | 1.7170 | 0.0146 | 0.0002 | 0.0100 | 0.01 | 0.00207 | 0.001 | 0.010 |
| 95th Percentile | 0.00005 | 0.00500 | 0.0050 | 2.00 | 0.005 | 1.78 | 0.0001 | 2.0000 | 0.0168 | 0.0002 | 0.0100 | 0.01 | 0.00232 | 0.002 | 0.010 |
| **Drainages off Deposit** | | | | | | | | | | | | | | | |
| Number of sites | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Number of samples | 37 | 48 | 48 | 48 | 48 | 36 | 48 | 49 | 48 | 46 | 48 | 41 | 37 | 48 | 49 |
| Number of Detects | 0 | 39 | 8 | 47 | 2 | 36 | 4 | 48 | 48 | 3 | 3 | 3 | 36 | 3 | 6 |
| Percentage of Detects | 0% | 81% | 17% | 98% | 4% | 100% | 8% | 98% | 100% | 7% | 6% | 7% | 97% | 6% | 12% |
| Minimum | ND | ND | ND | ND | ND | 0.31 | ND | ND | 0.0010 | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | 0.00500 | 0.0050 | 2.20 | 0.005 | 1.53 | 0.0001 | 4.3200 | 0.2420 | 0.0002 | 0.0100 | 0.01 | 0.00397 | 0.002 | 0.010 |
| Mean | - | 0.00094 | - | 0.85 | - | 0.70 | - | 0.8132 | 0.0204 | - | - | - | 0.00156 | - | - |
| 90th Percentile | 0.00001 | 0.00500 | 0.0050 | 1.38 | 0.003 | 0.93 | 0.0001 | 1.8960 | 0.0343 | 0.0002 | 0.0100 | 0.01 | 0.00284 | 0.001 | 0.010 |
| 95th Percentile | 0.00006 | 0.00500 | 0.0050 | 1.94 | 0.005 | 1.07 | 0.0001 | 2.4860 | 0.0825 | 0.0002 | 0.0100 | 0.01 | 0.00328 | 0.002 | 0.010 |



| 0 | 2000-11 | ISSUED WITH REPORT | NB/JD | AMP | ML | RPC |
|---|---|---|---|---|---|---|
| REV | DATE | ISSUE/REVISION | BY | PREPD | CHK'D | APP'D |

Knight Piésold CONSULTING

**TABLE 3.3**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO STEENSBY PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Sep/28/10 13:44:07

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC mS/cm | DO Total | pH | Alkalinity Total | Br- mg/L | Cl- mg/L | Conductivity uS/cm | NH3+NH4 mg/L N | NO2- mg/L N | NO3- mg/L N | NO2+NO3 mg/L N | Phenols mg/L | SO4- mg/L | TKN mg/L | TOC mg/L | DOC mg/L | TSS mg/L | TDS mg/L | Hardness mg/L CaCO3 | Phosphorus Total | Turbidity NTU |
| **Receiving Water Quality Objectives** | - | - | 9.50 | 6.5 - 9.0 | - | - | 120 | - | 0.021-231.3 | 0.060 | 13.00 | - | 0.004 | - | - | - | - | - | - | - | - | - |
| **MDL (2005)** | | | | | 2 | 0.3 | 0.2 | 1 | 0.1 | 0.06 | 0.05 | 0.06 | 0.001 | 0.5 | | | | | 30 | 0.5 | 0.02 | 0.1 |
| **MDL2006)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | | | | | 5 | 1 | 0.01 | 0.1 |
| **MDL (2007)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | 0.1 | 0.5 | 0.5 | 2 | 5 | 1 | 0.003 | 0.1 |
| **MDL (2008)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | 0.1 | 0.5 | 0.5 | 2 | 5 | 0.5 | 0.003 | 0.1 |
| **MDL (2011)** | | | | | 5 | 0.25 | 1 | 5 | 0.02 | 0.1 | 0.1 | 0.1 | 0.001 | 1 | 0.1 | 0.5 | 0.5 | 2 | 1 | 0.5 | 0.003 | 0.1 |
| **Cockburn Area** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 25 | 25 | 25 | 25 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 22 | 22 | 22 | 22 | 29 | 29 | 29 | 29 |
| Number of Detects | 25 | 25 | 25 | 25 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 22 | 22 | 22 | 22 | 29 | 29 | 29 | 29 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.02 | 0.01 | 10.30 | 5.88 | 3.00 | 0.05 | 1.00 | 6.00 | 0.02 | 0.00 | 0.05 | 0.06 | 0.001 | 0.50 | 0.05 | 0.50 | 0.50 | 2.00 | 5.00 | 1.00 | 0.003 | 0.20 |
| Maximum Detected | 13.48 | 0.02 | 14.90 | 7.55 | 8.00 | 0.30 | 3.00 | 33.00 | 0.70 | 0.10 | 0.11 | 0.11 | 0.001 | 2.00 | 0.37 | 4.00 | 3.30 | 2.00 | 49.00 | 4.50 | 0.100 | 9.00 |
| Mean | 5.51 | 0.01 | 12.76 | 6.57 | 4.97 | 0.21 | 1.14 | 11.45 | 0.08 | 0.02 | 0.10 | 0.10 | 0.00 | 1.14 | 0.12 | 1.35 | 1.24 | 2.00 | 10.21 | 2.38 | 0.01 | 1.50 |
| 90th Percentile | 12.73 | 0.01 | 14.41 | 7.20 | 5.00 | 0.26 | 1.26 | 15.20 | 0.10 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | 0.18 | 2.14 | 1.95 | 2.00 | 22.80 | 3.14 | 0.020 | 3.40 |
| **Ravn River - Upstream of Angajurjualuk Lake** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 10 | 10 | 9 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 |
| Number of Detects | 10 | 10 | 9 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.23 | 0.01 | 9.54 | 6.43 | 5.00 | 0.05 | 1.00 | 9.00 | 0.02 | 0.00 | 0.05 | 0.06 | 0.001 | 1.00 | 0.10 | 1.00 | 1.10 | 2.00 | 6.00 | 3.00 | 0.00 | 0.70 |
| Maximum Detected | 16.06 | 0.04 | 15.21 | 8.50 | 21.00 | 0.30 | 3.00 | 40.00 | 0.30 | 0.10 | 0.12 | 0.12 | 0.001 | 9.00 | 0.40 | 5.70 | 4.90 | 2.00 | 66.00 | 18.00 | 0.100 | 4.10 |
| Mean | 5.32 | 0.02 | 12.79 | 7.19 | 10.92 | 0.19 | 1.34 | 26.25 | 0.06 | 0.02 | 0.10 | 0.10 | 0.00 | 1.90 | 0.19 | 2.64 | 2.39 | 2.00 | 20.50 | 10.18 | 0.013 | 1.93 |
| 90th Percentile | 15.98 | 0.04 | 14.63 | 8.07 | 15.90 | 0.25 | 2.00 | 39.10 | 0.11 | 0.05 | 0.10 | 0.10 | 0.001 | 2.00 | 0.31 | 5.21 | 4.55 | 2.00 | 25.40 | 17.26 | 0.010 | 3.39 |
| **Rowley River** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.17 | 6.14 | 5.00 | 0.05 | 1.00 | 13.00 | 0.02 | 0.00 | 0.05 | 0.06 | 0.001 | 0.60 | 0.10 | 0.90 | 0.90 | 2.00 | 8.00 | 4.00 | 0.00 | 0.30 |
| Maximum Detected | 6.97 | 0.03 | 13.94 | 8.48 | 13.00 | 0.30 | 3.00 | 31.00 | 0.70 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | 0.29 | 2.30 | 1.90 | 8.00 | 60.00 | 9.10 | 0.100 | 3.20 |
| Mean | 4.31 | 0.02 | 13.05 | 7.26 | 7.00 | 0.23 | 1.46 | 18.00 | 0.12 | 0.01 | 0.09 | 0.09 | 0.00 | 1.09 | 0.14 | 1.23 | 1.17 | 3.00 | 18.57 | 5.92 | 0.017 | 1.05 |
| 90th Percentile | 6.81 | 0.03 | 13.87 | 8.15 | 11.80 | 0.27 | 2.40 | 25.60 | 0.30 | 0.03 | 0.10 | 0.10 | 0.001 | 1.40 | 0.22 | 1.85 | 1.60 | 5.00 | 36.00 | 8.44 | 0.044 | 2.60 |
| **Steensby Port Area** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Number of Detects | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 1.3 | 0.011 | 8.79 | 6.36 | 5 | 0.25 | 2 | 17 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1.00 | 0.10 | 0.80 | 0.50 | 2.00 | 11.00 | 3.70 | 0.003 | 0.10 |
| Maximum Detected | 12.06 | 0.292 | 13.37 | 7.28 | 108 | 0.25 | 300 | 1330 | 0.21 | 0.1 | 0.1 | 0.1 | 0.001 | 76.00 | 0.43 | 6.90 | 7.00 | 16.00 | 864.00 | 341.00 | 0.036 | 11.1 |
| Mean | 5.95 | 0.10 | 11.80 | 6.91 | 28.83 | 0.25 | 36.50 | 194.00 | 0.04 | 0.01 | 0.10 | 0.10 | 0.00 | 9.33 | 0.17 | 2.56 | 2.42 | 3.33 | 126.08 | 53.01 | 0.01 | 1.53 |
| 90th Percentile | 9.45 | 0.20 | 13.20 | 7.22 | 87.60 | 0.25 | 32.90 | 288.20 | 0.04 | 0.01 | 0.10 | 0.10 | 0.001 | 7.90 | 0.26 | 3.77 | 3.67 | 3.80 | 187.00 | 102.54 | 0.007 | 2.19 |
| **Mid-Rail Camp Area** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Number of Detects | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.61 | 0.012 | 8.96 | 5.57 | 5 | 0.25 | 1 | 12 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1.00 | 0.10 | 3.00 | 2.20 | 2.00 | 8.00 | 3.50 | 0.003 | 0.40 |
| Maximum Detected | 15.04 | 0.02 | 12.94 | 6.39 | 10 | 0.25 | 7 | 40 | 0.04 | 0.1 | 0.1 | 0.1 | 0.001 | 1.00 | 0.53 | 5.50 | 4.90 | 3.00 | 26.00 | 12.90 | 0.016 | 7.10 |
| Mean | 6.16 | 0.02 | 11.76 | 6.09 | 6.44 | 0.25 | 2.89 | 23.78 | 0.02 | 0.03 | 0.10 | 0.10 | 0.00 | 1.00 | 0.24 | 4.11 | 3.42 | 2.11 | 15.56 | 8.06 | 0.007 | 2.07 |
| 90th Percentile | 11.98 | 0.02 | 12.90 | 6.35 | 10.00 | 0.25 | 5.40 | 31.20 | 0.03 | 0.10 | 0.10 | 0.10 | 0.001 | 1.00 | 0.39 | 5.34 | 4.58 | 2.20 | 20.40 | 10.98 | 0.015 | 5.90 |
| **Camp Lake to Steensby Port** | | | | | | | | | | | | | | | | | | | | | | |
| **S1-010** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.01 | 0.012 | 10.98 | 6.49 | 7.00 | 0.05 | 0.30 | 18.00 | 0.02 | 0.06 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 19.00 | 5.58 | 0.01 | 0.23 |
| Maximum Detected | 8.92 | 0.053 | 15.45 | 7.33 | 22.00 | 0.30 | 3.80 | 58.00 | 0.40 | 0.10 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 30.00 | 20.00 | 0.100 | 28.70 |
| Mean | 2.39 | 0.02 | 13.31 | 6.90 | 12.08 | 0.24 | 1.40 | 32.25 | 0.23 | 0.07 | 0.06 | 0.07 | 0.00 | 1.25 | | | | | 27.25 | 9.72 | 0.04 | 7.96 |
| 90th Percentile | 6.42 | 0.04 | 14.97 | 7.24 | 18.40 | 0.30 | 2.96 | 49.30 | 0.40 | 0.09 | 0.09 | 0.09 | 0.001 | 2.00 | | | | | 30.00 | 16.18 | 0.076 | 20.72 |
| **S1-011** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.22 | 0.01 | 13.40 | 7.48 | 8.00 | 0.30 | 0.60 | 22.00 | 0.20 | 0.06 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 30.00 | 9.20 | 0.02 | 0.36 |
| Maximum Detected | 0.22 | 0.01 | 13.40 | 7.48 | 8.00 | 0.30 | 0.60 | 22.00 | 0.20 | 0.06 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 30.00 | 9.20 | 0.02 | 0.36 |
| Mean | 0.22 | 0.01 | 13.40 | 7.48 | 8.00 | 0.30 | 0.60 | 22.00 | 0.20 | 0.06 | 0.05 | 0.06 | 0.00 | 0.50 | | | | | 30.00 | 9.20 | 0.02 | 0.36 |
| 90th Percentile | 0.22 | 0.01 | 13.40 | 7.48 | 8.00 | 0.30 | 0.60 | 22.00 | 0.20 | 0.06 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 30.00 | 9.20 | 0.020 | 0.36 |
| **S1-020** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.70 | 0.03 | 15.81 | 7.11 | 18.00 | 0.30 | 0.30 | 40.00 | 0.90 | 0.06 | 0.05 | 0.06 | 0.002 | 0.70 | | | | | 30.00 | 13.50 | 0.1 | 0.70 |
| Maximum Detected | 0.70 | 0.03 | 15.81 | 7.11 | 18.00 | 0.30 | 0.30 | 40.00 | 0.90 | 0.06 | 0.05 | 0.06 | 0.002 | 0.70 | | | | | 30.00 | 13.50 | 0.1 | 0.70 |
| Mean | 0.70 | 0.03 | 15.81 | 7.11 | 18.00 | 0.30 | 0.30 | 40.00 | 0.90 | 0.06 | 0.05 | 0.06 | 0.00 | 0.70 | | | | | 30.00 | 13.50 | 0.10 | 0.70 |
| 90th Percentile | 0.70 | 0.03 | 15.81 | 7.11 | 18.00 | 0.30 | 0.30 | 40.00 | 0.90 | 0.06 | 0.05 | 0.06 | 0.002 | 0.70 | | | | | 30.00 | 13.50 | 0.100 | 0.70 |
| **S1-030** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 1.72 | 0.03 | 12.57 | 6.74 | 16.00 | 0.05 | 0.50 | 39.00 | 0.03 | 0.01 | 0.05 | 0.06 | 0.001 | 0.70 | | | | | 27.00 | 15.40 | 0.01 | 0.14 |
| Maximum Detected | 7.37 | 0.04 | 14.14 | 7.53 | 22.00 | 0.30 | 1.00 | 46.00 | 2.10 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 30.00 | 18.00 | 0.1 | 0.22 |
| Mean | 3.52 | 0.03 | 13.40 | 7.05 | 18.00 | 0.24 | 0.73 | 41.25 | 0.63 | 0.05 | 0.06 | 0.07 | 0.00 | 1.05 | | | | | 29.25 | 16.65 | 0.04 | 0.19 |
| 90th Percentile | 6.13 | 0.04 | 13.95 | 7.37 | 20.80 | 0.30 | 0.94 | 44.50 | 1.56 | 0.06 | 0.09 | 0.09 | 0.001 | 1.64 | | | | | 30.00 | 17.91 | 0.076 | 0.21 |
| **S1-040** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.88 | 0.04 | 11.41 | 6.50 | 16.00 | 0.05 | 0.80 | 37.00 | 0.02 | 0.01 | 0.05 | 0.06 | 0.001 | 0.90 | | | | | 24.00 | 16.00 | 0.01 | 0.20 |
| Maximum Detected | 7.04 | 0.05 | 15.71 | 7.53 | 25.00 | 0.30 | 1.00 | 52.00 | 0.30 | 0.06 | 0.10 | 0.10 | 0.002 | 3.00 | | | | | 40.00 | 25.00 | 0.020 | 0.50 |
| Mean | 3.87 | 0.04 | 13.14 | 7.18 | 19.75 | 0.11 | 0.95 | 43.25 | 0.12 | 0.02 | 0.09 | 0.09 | 0.00 | 1.97 | | | | | 30.75 | 19.50 | 0.01 | 0.33 |
| 90th Percentile | 6.75 | 0.05 | 14.98 | 7.50 | 23.50 | 0.23 | 1.00 | 49.90 | 0.25 | 0.04 | 0.10 | 0.10 | 0.002 | 2.70 | | | | | 38.20 | 23.80 | 0.017 | 0.47 |
| **S1-050** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | 3 | 3 | 3 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 3.46 | 0.02 | 11.09 | 6.12 | 7.00 | 0.30 | 0.50 | 19.00 | 0.10 | 0.06 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 30.00 | 7.55 | 0.02 | 0.31 |
| Maximum Detected | 8.95 | 0.02 | 14.35 | 7.02 | 8.00 | 0.30 | 1.30 | 24.00 | 0.30 | 0.06 | 0.05 | 0.06 | 0.002 | 0.60 | | | | | 30.00 | 10.20 | 0.1 | 0.34 |
| Mean | 5.86 | 0.02 | 12.88 | 6.51 | 7.63 | 0.30 | 0.77 | 21.00 | 0.20 | 0.06 | 0.05 | 0.06 | 0.00 | 0.53 | | | | | 30.00 | 8.47 | 0.05 | 0.33 |
| 90th Percentile | 8.20 | 0.02 | 14.12 | 6.90 | 7.98 | 0.30 | 1.14 | 23.20 | 0.28 | 0.06 | 0.05 | 0.06 | 0.002 | 0.58 | | | | | 30.00 | 9.69 | 0.084 | 0.34 |
| **S1-060** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.00 | 5.13 | 3.00 | 0.05 | 0.90 | 14.00 | 0.03 | 0.01 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 9.00 | 3.88 | 0.01 | 0.60 |
| Maximum Detected | 7.38 | 0.02 | 16.04 | 6.94 | 5.00 | 0.30 | 1.30 | 17.00 | 0.40 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 31.00 | 5.77 | 0.1 | 1.55 |
| Mean | 2.22 | 0.01 | 14.49 | 6.07 | 4.18 | 0.24 | 1.10 | 15.00 | 0.21 | 0.05 | 0.06 | 0.07 | 0.00 | 0.93 | | | | | 25.00 | 4.87 | 0.04 | 1.06 |
| 90th Percentile | 5.37 | 0.02 | 15.97 | 6.79 | 5.00 | 0.30 | 1.27 | 16.40 | 0.34 | 0.06 | 0.09 | 0.09 | 0.001 | 1.58 | | | | | 30.70 | 5.54 | 0.076 | 1.40 |
| **S1-070** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | -0.06 | 0.01 | 9.44 | 5.30 | 2.00 | 0.05 | 0.30 | 10.00 | 0.05 | 0.01 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 8.00 | 1.00 | 0.01 | 0.54 |
| Maximum Detected | 8.39 | 0.01 | 16.11 | 6.45 | 7.00 | 0.30 | 1.10 | 12.00 | 0.80 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 30.00 | 3.39 | 0.1 | 1.91 |
| Mean | 2.27 | 0.01 | 13.92 | 5.79 | 4.25 | 0.24 | 0.70 | 11.50 | 0.29 | 0.05 | 0.07 | 0.07 | 0.00 | 0.93 | | | | | 24.50 | 2.67 | 0.04 | 1.15 |
| 90th Percentile | 6.01 | 0.01 | 16.07 | 6.35 | 6.40 | 0.30 | 1.07 | 12.00 | 0.62 | 0.06 | 0.09 | 0.09 | 0.001 | 1.58 | | | | | 30.00 | 3.34 | 0.076 | 1.80 |
| **S1-080** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | -0.07 | 0.01 | 11.24 | 5.86 | 2.00 | 0.05 | 0.20 | 6.00 | 0.02 | 0.01 | 0.05 | 0.06 | 0.001 | 0.50 | | | | | 5.00 | 1.87 | 0.01 | 0.60 |
| Maximum Detected | 7.03 | 0.01 | 14.74 | 6.76 | 5.00 | 0.30 | 1.00 | 10.00 | 0.40 | 0.06 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 31.00 | 3.00 | 0.1 | 2.30 |
| Mean | 3.56 | 0.01 | 12.83 | 6.31 | 4.25 | 0.11 | 0.80 | 7.50 | 0.13 | 0.03 | 0.09 | 0.09 | 0.00 | 1.63 | | | | | 12.00 | 2.22 | 0.03 | 1.19 |
| 90th Percentile | 6.31 | 0.01 | 14.35 | 6.69 | 5.00 | 0.23 | 1.00 | 9.10 | 0.30 | 0.05 | 0.10 | 0.10 | 0.001 | 2.00 | | | | | 23.80 | 2.70 | 0.073 | 1.94 |
| **S1-090** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 2 | 2 | 2 | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 2 | 2 | 2 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |
| Minimum | 0.87 | 0.01 | 8.96 | 6.56 | 2.00 | 0.30 | 0.40 | 12.00 | 0.10 | 0.06 | 0.05 | 0.06 | 0.001 | 0.80 | | | | | 30.00 | 3.50 | 0.02 | 0.81 |
| Maximum Detected | 9.96 | 0.01 | 15.76 | 6.65 | 4.00 | 0.30 | 1.10 | 13.00 | 0.20 | 0.06 | 0.07 | 0.07 | 0.001 | 0.90 | | | | | 30.00 | 3.95 | 0.02 | 1.38 |
| Mean | 5.42 | 0.01 | 12.36 | 6.61 | 3.00 | 0.30 | 0.75 | 12.50 | 0.15 | 0.06 | 0.06 | 0.07 | 0.00 | 0.85 | | | | | 30.00 | 3.73 | 0.02 | 1.09 |
| 90th Percentile | 9.05 | 0.01 | 15.08 | 6.64 | 3.80 | 0.30 | 1.03 | 12.90 | 0.19 | 0.06 | 0.07 | 0.07 | 0.001 | 0.89 | | | | | 30.00 | 3.91 | 0.020 | 1.32 |
| **S1-110** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.71 | 0.01 | 11.82 | 5.73 | 3.00 | 0.05 | 2.00 | 15.00 | 0.03 | 0.01 | 0.05 | 0.06 | 0.001 | 0.90 | 0.10 | 0.80 | 0.70 | 2.00 | 10.00 | 3.00 | 0.003 | 0.30 |
| Maximum Detected | 7.42 | 0.12 | 15.07 | 7.06 | 7.90 | 0.30 | 4.80 | 35.00 | 0.90 | 0.10 | 0.10 | 0.10 | 0.001 | 2.00 | 0.11 | 1.10 | 1.10 | 2.00 | 40.00 | 7.79 | 0.100 | 0.95 |
| Mean | 3.40 | 0.05 | 13.44 | 6.35 | 5.32 | 0.24 | 3.40 | 24.67 | 0.27 | 0.05 | 0.08 | 0.08 | 0.00 | 1.25 | 0.11 | 0.95 | 0.90 | 2.00 | 25.33 | 4.66 | 0.03 | 0.49 |
| 90th Percentile | 6.56 | 0.09 | 14.65 | 6.86 | 6.95 | 0.30 | 4.40 | 31.50 | 0.70 | 0.08 | 0.10 | 0.10 | 0.001 | 1.75 | 0.11 | 1.07 | 1.06 | 2.00 | 40.00 | 6.19 | 0.060 | 0.72 |
| **S1-120** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.35 | 0.02 | 11.18 | 6.61 | 4.00 | 0.05 | 2.00 | 17.00 | 0.02 | 0.01 | 0.05 | 0.06 | 0.001 | 1.10 | 0.10 | 2.60 | 2.20 | 2.00 | 11.00 | 5.00 | 0.003 | 0.51 |
| Maximum Detected | 8.63 | 0.03 | 16.61 | 6.74 | 15.00 | 0.30 | 22.00 | 115.00 | 0.60 | 0.10 | 0.10 | 0.10 | 0.001 | 6.00 | 0.10 | 2.70 | 2.40 | 2.00 | 75.00 | 25.90 | 0.100 | 2.90 |
| Mean | 2.54 | 0.02 | 14.33 | 6.66 | 8.67 | 0.24 | 7.02 | 48.00 | 0.25 | 0.05 | 0.08 | 0.08 | 0.00 | 2.52 | 0.10 | 2.65 | 2.30 | 2.00 | 40.50 | 11.49 | 0.03 | 1.34 |
| 90th Percentile | 6.22 | 0.03 | 16.44 | 6.72 | 13.50 | 0.30 | 15.50 | 86.00 | 0.60 | 0.08 | 0.10 | 0.10 | 0.001 | 4.50 | 0.10 | 2.69 | 2.38 | 2.00 | 67.50 | 19.80 | 0.060 | 2.35 |
| **S2-010** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 5 | 5 | 5 | 5 |
| Number of Detects | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 5 | 5 | 5 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.13 | 0.06 | 11.77 | 7.60 | 34.00 | 0.05 | 1.00 | 63.00 | 0.02 | 0.01 | 0.10 | 0.10 | 0.001 | 2.00 | 0.10 | 1.30 | 1.30 | 2.00 | 41.00 | 27.00 | 0.003 | 1.30 |
| Maximum Detected | 6.96 | 0.11 | 13.90 | 8.14 | 55.00 | 0.25 | 10.00 | 146.00 | 0.08 | 0.10 | 0.10 | 0.10 | 0.001 | 9.00 | 0.10 | 1.40 | 1.40 | 2.00 | 95.00 | 62.50 | 0.020 | 5.90 |
| Mean | 3.50 | 0.08 | 13.13 | 7.90 | 45.40 | 0.13 | 3.20 | 98.60 | 0.04 | 0.05 | 0.10 | 0.10 | 0.00 | 4.00 | 0.10 | 1.35 | 1.35 | 2.00 | 64.20 | 44.42 | 0.011 | 2.78 |
| 90th Percentile | 6.25 | 0.10 | 13.86 | 8.10 | 53.80 | 0.25 | 7.20 | 130.00 | 0.07 | 0.10 | 0.10 | 0.10 | 0.001 | 7.00 | 0.10 | 1.39 | 1.39 | 2.00 | 84.60 | 58.30 | 0.020 | 4.58 |
| **S2-020** | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 

Knight Piésold CONSULTING

**TABLE 3.3**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO STEENSBY PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Sep/28/10 13:44:07

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC mS/cm | DO Total | pH | Aluminium Total | Antimony Total | Arsenic Total | Barium Total | Beryllium Total | Bismuth Total | Boron Total | Cadmium Total | Calcium Total | Chromium Total | Cobalt Total | Copper Total | Iron Total | Lead Total | Lithium Total | Maganesium Total | Manganese Total | Mercury Total | Molybdenum Total |
| **Receiving Water Quality Objectives** | - | - | 9.50 | 6.5 - 9.0 | 0.005 or 0.1 | - | 0.0050 | - | - | - | 1.50 | 0.00003 | - | 0.0047 | - | 0.00200 | 0.30 | 0.00100 | - | - | - | 0.00003 | 0.073 |
| **MDL (2005)** | | | | | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 | - | 0.0003 |
| **MDL 2006)** | | | | | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 | - | 0.005 |
| **MDL (2007)** | | | | | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00005 | 0.00005 |
| **MDL (2008)** | | | | | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 |
| **MDL (2011)** | | | | | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 |
| **Cockburn Area** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 25 | 25 | 25 | 25 | 29 | 19 | 29 | 29 | 19 | 19 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 16 | 29 | 29 | 29 | 29 |
| Number of Detects | 25 | 25 | 25 | 25 | 29 | 19 | 29 | 29 | 19 | 19 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 16 | 29 | 29 | 29 | 29 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.02 | 0.01 | 10.30 | 5.88 | 0.009 | 0.0001 | 0.0001 | 0.00153 | 0.0005 | 0.0003 | 0.01 | 0.00001 | 0.20 | 0.0005 | 0.0001 | 0.00044 | 0.02 | 0.00005 | 0.005 | 0.10 | 0.000339 | 0.00001 | 0.00005 |
| Maximum Detected | 13.48 | 0.02 | 14.90 | 7.55 | 0.204 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0005 | 0.06 | 0.0001 | 1.05 | 0.001 | 0.0003 | 0.0013 | 0.24 | 0.00100 | 0.005 | 0.45 | 0.01380 | 0.00010 | 0.00500 |
| Mean | 5.51 | 0.01 | 12.76 | 6.57 | 0.049 | 0.0001 | 0.0009 | 0.00514 | 0.00121 | 0.0005 | 0.01 | 0.00 | 0.56 | 0.00 | 0.0002 | 0.0008 | 0.06 | 0.00042 | 0.01 | 0.26 | 0.00514 | 0.00005 | 0.00180 |
| 90th Percentile | 12.73 | 0.01 | 14.41 | 7.20 | 0.108 | 0.0004 | 0.0018 | 0.01000 | 0.00500 | 0.0005 | 0.01 | 0.00010 | 0.77 | 0.0010 | 0.0002 | 0.0010 | 0.11 | 0.00100 | 0.005 | 0.36 | 0.01000 | 0.00010 | 0.00500 |
| **Ravn River - Upstream of Angajurjualuk Lake** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 10 | 10 | 9 | 10 | 12 | 7 | 12 | 12 | 7 | 7 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 | 12 | 12 | 12 | 12 |
| Number of Detects | 10 | 10 | 9 | 10 | 12 | 7 | 12 | 12 | 7 | 7 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 | 12 | 12 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.23 | 0.01 | 9.54 | 6.43 | 0.014 | 0.0001 | 0.0001 | 0.00166 | 0.0005 | 0.0003 | 0.01 | 0.00001 | 0.50 | 0.0005 | 0.0001 | 0.00056 | 0.06 | 0.00005 | 0.005 | 0.37 | 0.00106 | 0.00001 | 0.00005 |
| Maximum Detected | 16.06 | 0.04 | 15.21 | 8.50 | 0.153 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0005 | 0.01 | 0.0001 | 4.00 | 0.001 | 0.0003 | 0.0018 | 0.21 | 0.00100 | 0.005 | 2.00 | 0.02000 | 0.00010 | 0.00500 |
| Mean | 5.32 | 0.02 | 12.79 | 7.19 | 0.070 | 0.0001 | 0.0009 | 0.00628 | 0.00114 | 0.00 | 0.01 | 0.00 | 2.13 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00048 | 0.01 | 1.19 | 0.00751 | 0.00006 | 0.00215 |
| 90th Percentile | 15.98 | 0.04 | 14.63 | 8.07 | 0.116 | 0.0002 | 0.0010 | 0.01000 | 0.00230 | 0.0005 | 0.01 | 0.00010 | 3.59 | 0.0010 | 0.0002 | 0.0015 | 0.15 | 0.00100 | 0.005 | 2.00 | 0.01900 | 0.00010 | 0.00500 |
| **Rowley River** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.17 | 6.14 | 0.012 | 0.0001 | 0.0001 | 0.002 | 0.0005 | 0.0003 | 0.01 | 0.00001 | 1.00 | 0.0005 | 0.0001 | 0.00049 | 0.02 | 0.00005 | 0.005 | 0.30 | 0.000454 | 0.00001 | 0.00006 |
| Maximum Detected | 6.97 | 0.03 | 13.94 | 8.48 | 0.148 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0005 | 0.01 | 0.0001 | 2.00 | 0.001 | 0.0003 | 0.0012 | 0.12 | 0.00100 | 0.005 | 1.03 | 0.01000 | 0.00010 | 0.00500 |
| Mean | 4.31 | 0.02 | 13.05 | 7.26 | 0.051 | 0.00 | 0.00 | 0.00468 | 0.00140 | 0.00 | 0.01 | 0.00 | 1.40 | 0.00 | 0.00 | 0.0008 | 0.05 | 0.00035 | 0.01 | 0.59 | 0.00360 | 0.00005 | 0.00151 |
| 90th Percentile | 6.81 | 0.03 | 13.87 | 8.15 | 0.135 | 0.0003 | 0.0026 | 0.01000 | 0.00320 | 0.0005 | 0.01 | 0.00010 | 2.00 | 0.0010 | 0.0002 | 0.0011 | 0.11 | 0.00100 | 0.005 | 0.89 | 0.01000 | 0.00010 | 0.00500 |
| **Steensby Port Area** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Number of Detects | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 1.3 | 0.011 | 8.79 | 6.36 | 0.007 | 0.0001 | 0.0001 | 0.00130 | 0.00050 | 0.0005 | 0.01 | 0.00001 | 0.76 | 0.0005 | 0.0001 | 0.00044 | 0.03 | 0.00005 | 0.005 | 0.41 | 0.00009 | 0.00001 | 0.00005 |
| Maximum Detected | 12.06 | 0.292 | 13.37 | 7.28 | 0.634 | 0.0002 | 0.001 | 0.03080 | 0.00100 | 0.001 | 0.08 | 0.00004 | 96.60 | 0.0012 | 0.0004 | 0.0029 | 0.95 | 0.00047 | 0.01 | 23.50 | 0.01250 | 0.00001 | 0.00192 |
| Mean | 5.95 | 0.10 | 11.80 | 6.91 | 0.083 | 0.00 | 0.00 | 0.00594 | 0.00054 | 0.00 | 0.02 | 0.00 | 14.76 | 0.00 | 0.00 | 0.0012 | 0.13 | 0.00009 | 0.01 | 3.88 | 0.00271 | 0.00001 | 0.00042 |
| 90th Percentile | 9.45 | 0.20 | 13.20 | 7.22 | 0.080 | 0.0001 | 0.0001 | 0.00832 | 0.00050 | 0.0005 | 0.02 | 0.00002 | 30.51 | 0.0010 | 0.0002 | 0.0022 | 0.13 | 0.00010 | 0.005 | 6.67 | 0.00903 | 0.00001 | 0.00112 |
| **Mid-Rail Camp Area** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Number of Detects | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.61 | 0.012 | 8.96 | 5.57 | 0.008 | 0.0001 | 0.0001 | 0.00180 | 0.00050 | 0.0005 | 0.01 | 0.00001 | 0.48 | 0.0005 | 0.0001 | 0.00045 | 0.13 | 0.00005 | 0.005 | 0.58 | 0.00108 | 0.00001 | 0.00005 |
| Maximum Detected | 15.04 | 0.02 | 12.94 | 6.39 | 0.200 | 0.0001 | 0.0001 | 0.00657 | 0.00050 | 0.0005 | 0.01 | 0.00001 | 3.07 | 0.0009 | 0.0005 | 0.0010 | 0.98 | 0.00014 | 0.005 | 1.63 | 0.03950 | 0.00001 | 0.00005 |
| Mean | 6.16 | 0.02 | 11.76 | 6.09 | 0.059 | 0.00 | 0.00 | 0.00394 | 0.00050 | 0.00 | 0.01 | 0.00 | 1.55 | 0.00 | 0.00 | 0.0007 | 0.36 | 0.00007 | 0.01 | 1.03 | 0.01218 | 0.00001 | 0.00005 |
| 90th Percentile | 11.98 | 0.02 | 12.90 | 6.35 | 0.162 | 0.0001 | 0.0001 | 0.00526 | 0.00050 | 0.0005 | 0.01 | 0.00001 | 2.35 | 0.0006 | 0.0003 | 0.0009 | 0.86 | 0.00013 | 0.005 | 1.49 | 0.03654 | 0.00001 | 0.00005 |
| **Camp Lake to Steensby Port** | | | | | | | | | | | | | | | | | | | | | | | |
| **S1-010** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.01 | 0.012 | 10.98 | 6.49 | 0.008 | 0.0004 | 0.001 | 0.002 | 0.005 | 0.0003 | 0.01 | 0.0001 | 1.00 | 0.001 | 0.0002 | 0.0008 | 0.03 | 0.0002 | | 0.64 | 0.0026 | 0.0001 | 0.0003 |
| Maximum Detected | 8.92 | 0.053 | 15.45 | 7.33 | 0.388 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.05 | 0.0001 | 3.96 | 0.001 | 0.0003 | 0.0025 | 0.45 | 0.00100 | | 2.45 | 0.01510 | 0.00010 | 0.00500 |
| Mean | 2.39 | 0.02 | 13.31 | 6.90 | 0.132 | 0.00 | 0.00 | 0.00575 | 0.00500 | 0.00 | 0.02 | 0.00 | 1.92 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00050 | | 1.19 | 0.00768 | 0.00010 | 0.00148 |
| 90th Percentile | 6.42 | 0.04 | 14.97 | 7.24 | 0.305 | 0.0004 | 0.0050 | 0.00940 | 0.00500 | 0.0003 | 0.04 | 0.00010 | 3.24 | 0.0010 | 0.0003 | 0.0020 | 0.35 | 0.00085 | | 1.97 | 0.01357 | 0.00010 | 0.00359 |
| **S1-011** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.22 | 0.01 | 13.40 | 7.48 | 0.010 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.05 | 0.0001 | 1.99 | 0.001 | 0.0003 | 0.0008 | 0.05 | 0.0002 | | 1.03 | 0.01290 | 0.00010 | 0.00030 |
| Maximum Detected | 0.22 | 0.01 | 13.40 | 7.48 | 0.010 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.05 | 0.0001 | 1.99 | 0.001 | 0.0003 | 0.0008 | 0.05 | 0.0002 | | 1.03 | 0.01290 | 0.00010 | 0.00030 |
| Mean | 0.22 | 0.01 | 13.40 | 7.48 | 0.010 | 0.00 | 0.01 | 0.00300 | 0.00500 | 0.00 | 0.05 | 0.00 | 1.99 | 0.0010 | 0.0003 | 0.0008 | 0.05 | 0.00020 | | 1.03 | 0.01290 | 0.00010 | 0.00030 |
| 90th Percentile | 0.22 | 0.01 | 13.40 | 7.48 | 0.010 | 0.0004 | 0.0050 | 0.00300 | 0.00500 | 0.0003 | 0.05 | 0.00010 | 1.99 | 0.0010 | 0.0003 | 0.0008 | 0.05 | 0.00020 | | 1.03 | 0.01290 | 0.00010 | 0.00030 |
| **S1-020** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.70 | 0.03 | 15.81 | 7.11 | 0.033 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.01 | 0.0001 | 2.76 | 0.001 | 0.0003 | 0.0009 | 0.05 | 0.0002 | | 1.62 | 0.00080 | 0.00010 | 0.00030 |
| Maximum Detected | 0.70 | 0.03 | 15.81 | 7.11 | 0.033 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.01 | 0.0001 | 2.76 | 0.001 | 0.0003 | 0.0009 | 0.05 | 0.0002 | | 1.62 | 0.00080 | 0.00010 | 0.00030 |
| Mean | 0.70 | 0.03 | 15.81 | 7.11 | 0.033 | 0.00 | 0.01 | 0.00300 | 0.00500 | 0.00 | 0.01 | 0.00 | 2.76 | 0.0010 | 0.0003 | 0.0009 | 0.05 | 0.00020 | | 1.62 | 0.00080 | 0.00010 | 0.00030 |
| 90th Percentile | 0.70 | 0.03 | 15.81 | 7.11 | 0.033 | 0.0004 | 0.0050 | 0.00300 | 0.00500 | 0.0003 | 0.01 | 0.00010 | 2.76 | 0.0010 | 0.0003 | 0.0009 | 0.05 | 0.00020 | | 1.62 | 0.00080 | 0.00010 | 0.00030 |
| **S1-030** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | | 100% |
| Minimum | 1.72 | 0.03 | 12.57 | 6.74 | 0.004 | 0.0004 | 0.001 | 0.002 | 0.005 | 0.0003 | 0.01 | 0.0001 | 3.28 | 0.001 | 0.0002 | 0.0008 | 0.02 | 0.0002 | | 1.72 | 0.0007 | | 0.0003 |
| Maximum Detected | 7.37 | 0.04 | 14.14 | 7.53 | 0.007 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.05 | 0.0001 | 4.00 | 0.001 | 0.0003 | 0.0013 | 0.05 | 0.00100 | | 2.01 | 0.01000 | | 0.00500 |
| Mean | 3.52 | 0.03 | 13.40 | 7.05 | 0.005 | 0.00 | 0.00 | 0.00475 | 0.00500 | 0.00 | 0.02 | 0.00 | 3.60 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00043 | | 1.88 | 0.00315 | | 0.00148 |
| 90th Percentile | 6.13 | 0.04 | 13.95 | 7.37 | 0.006 | 0.0004 | 0.0050 | 0.00820 | 0.00500 | 0.0003 | 0.04 | 0.00010 | 3.93 | 0.0010 | 0.0003 | 0.0012 | 0.04 | 0.00079 | | 2.01 | 0.00736 | | 0.00359 |
| **S1-040** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.88 | 0.04 | 11.41 | 6.50 | 0.004 | 0.0004 | 0.001 | 0.004 | 0.005 | 0.0003 | 0.01 | 0.0001 | 3.00 | 0.001 | 0.0002 | 0.0008 | 0.03 | 0.0002 | | 2.00 | 0.0017 | 0.0001 | 0.0003 |
| Maximum Detected | 7.04 | 0.05 | 15.71 | 7.53 | 0.011 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.06 | 0.0001 | 5.00 | 0.001 | 0.0003 | 0.001 | 0.05 | 0.001 | | 3.00 | 0.01000 | 0.00010 | 0.00500 |
| Mean | 3.87 | 0.04 | 13.14 | 7.18 | 0.007 | 0.00 | 0.00 | 0.00850 | 0.00500 | 0.00 | 0.02 | 0.00 | 3.85 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00080 | | 2.36 | 0.00793 | 0.00010 | 0.00383 |
| 90th Percentile | 6.75 | 0.05 | 14.98 | 7.50 | 0.010 | 0.0004 | 0.0038 | 0.01000 | 0.00500 | 0.0003 | 0.04 | 0.00010 | 4.82 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 2.83 | 0.01000 | 0.00010 | 0.00500 |
| **S1-050** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 3.46 | 0.02 | 11.09 | 6.12 | 0.022 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.01 | 0.0001 | 1.75 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | | 0.77 | 0.0007 | 0.0001 | 0.0003 |
| Maximum Detected | 8.95 | 0.02 | 14.35 | 7.02 | 0.028 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.06 | 0.0001 | 2.17 | 0.001 | 0.0003 | 0.0008 | 0.05 | 0.00020 | | 1.16 | 0.00290 | 0.00010 | 0.00030 |
| Mean | 5.86 | 0.02 | 12.88 | 6.51 | 0.024 | 0.00 | 0.01 | 0.00300 | 0.00500 | 0.00 | 0.03 | 0.00 | 1.89 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00020 | | 0.91 | 0.00143 | 0.00010 | 0.00030 |
| 90th Percentile | 8.20 | 0.02 | 14.12 | 6.90 | 0.027 | 0.0004 | 0.0050 | 0.00300 | 0.00500 | 0.0003 | 0.05 | 0.00010 | 2.09 | 0.0010 | 0.0003 | 0.0008 | 0.04 | 0.00020 | | 1.09 | 0.00246 | 0.00010 | 0.00030 |
| **S1-060** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.00 | 5.13 | 0.054 | 0.0004 | 0.001 | 0.002 | 0.005 | 0.0003 | 0.01 | 0.0001 | 0.93 | 0.001 | 0.0002 | 0.0008 | 0.05 | 0.0002 | | 0.38 | 0.0007 | 0.0001 | 0.0003 |
| Maximum Detected | 7.38 | 0.02 | 16.04 | 6.94 | 0.101 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.06 | 0.0001 | 1.34 | 0.001 | 0.0004 | 0.0010 | 0.09 | 0.00100 | | 0.58 | 0.01000 | 0.0001 | 0.005 |
| Mean | 2.22 | 0.01 | 14.49 | 6.07 | 0.078 | 0.00 | 0.00 | 0.00450 | 0.00500 | 0.00 | 0.02 | 0.00 | 1.10 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00043 | | 0.49 | 0.00520 | 0.00010 | 0.00148 |
| 90th Percentile | 5.37 | 0.02 | 15.97 | 6.79 | 0.099 | 0.0004 | 0.0050 | 0.00790 | 0.00500 | 0.0003 | 0.04 | 0.00010 | 1.27 | 0.0010 | 0.0004 | 0.0010 | 0.09 | 0.00079 | | 0.57 | 0.00973 | 0.00010 | 0.00359 |
| **S1-070** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | | 100% |
| Minimum | -0.06 | 0.01 | 9.44 | 5.30 | 0.055 | 0.0004 | 0.001 | 0.002 | 0.005 | 0.0003 | 0.01 | 0.0001 | 0.69 | 0.001 | 0.0002 | 0.0008 | 0.03 | 0.0002 | | 0.29 | 0.001 | | 0.0003 |
| Maximum Detected | 8.39 | 0.01 | 16.11 | 6.45 | 0.077 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.06 | 0.0001 | 0.80 | 0.001 | 0.0003 | 0.0010 | 0.07 | 0.00100 | | 0.34 | 0.01000 | | 0.00500 |
| Mean | 2.27 | 0.01 | 13.92 | 5.79 | 0.061 | 0.00 | 0.00 | 0.00400 | 0.00500 | 0.00 | 0.02 | 0.00 | 0.75 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00043 | | 0.31 | 0.00445 | | 0.00148 |
| 90th Percentile | 6.01 | 0.01 | 16.07 | 6.35 | 0.071 | 0.0004 | 0.0050 | 0.00760 | 0.00500 | 0.0003 | 0.04 | 0.00010 | 0.79 | 0.0010 | 0.0003 | 0.0010 | 0.06 | 0.00079 | | 0.33 | 0.00874 | | 0.00359 |
| **S1-080** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | -0.07 | 0.01 | 11.24 | 5.86 | 0.023 | 0.0004 | 0.001 | 0.001 | 0.005 | 0.0003 | 0.01 | 0.0001 | 0.40 | 0.001 | 0.0002 | 0.0008 | 0.02 | 0.0002 | | 0.17 | 0.0008 | 0.0001 | 0.0003 |
| Maximum Detected | 7.03 | 0.01 | 14.74 | 6.76 | 0.081 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0003 | 0.01 | 0.0001 | 0.70 | 0.001 | 0.0003 | 0.0280 | 0.07 | 0.00400 | | 0.29 | 0.01000 | 0.00010 | 0.00500 |
| Mean | 3.56 | 0.01 | 12.83 | 6.31 | 0.051 | 0.00 | 0.00 | 0.00775 | 0.00500 | 0.00 | 0.01 | 0.00 | 0.49 | 0.00 | 0.00 | 0.01 | 0.05 | 0.00155 | | 0.22 | 0.00770 | 0.00010 | 0.00383 |
| 90th Percentile | 6.31 | 0.01 | 14.35 | 6.69 | 0.072 | 0.0004 | 0.0038 | 0.01000 | 0.00500 | 0.0003 | 0.01 | 0.00010 | 0.63 | 0.0010 | 0.0003 | 0.0199 | 0.07 | 0.00310 | | 0.26 | 0.01000 | 0.00010 | 0.00500 |
| **S1-090** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% |
| Minimum | 0.87 | 0.01 | 8.96 | 6.56 | 0.080 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.01 | 0.0001 | 0.83 | 0.001 | 0.0003 | 0.0011 | 0.07 | 0.0002 | | 0.33 | 0.00140 | 0.00010 | 0.00030 |
| Maximum Detected | 9.96 | 0.01 | 15.76 | 6.65 | 0.103 | 0.0004 | 0.005 | 0.00300 | 0.00500 | 0.0003 | 0.06 | 0.0001 | 1.04 | 0.001 | 0.0003 | 0.0015 | 0.08 | 0.0002 | | 0.34 | 0.00640 | 0.00010 | 0.00030 |
| Mean | 5.42 | 0.01 | 12.36 | 6.61 | 0.091 | 0.00 | 0.01 | 0.00300 | 0.00500 | 0.00 | 0.03 | 0.00 | 0.93 | 0.00 | 0.00 | 0.0013 | 0.07 | 0.00020 | | 0.34 | 0.00390 | 0.00010 | 0.00030 |
| 90th Percentile | 9.05 | 0.01 | 15.08 | 6.64 | 0.101 | 0.0004 | 0.0050 | 0.00300 | 0.00500 | 0.0003 | 0.05 | 0.00010 | 1.02 | 0.0010 | 0.0003 | 0.0015 | 0.08 | 0.00020 | | 0.34 | 0.00590 | 0.00010 | 0.00030 |
| **S1-110** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 5 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 5 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.71 | 0.01 | 11.82 | 5.73 | 0.011 | 0.0001 | 0.0001 | 0.00100 | 0.00050 | 0.0003 | 0.01 | 0.00001 | 0.73 | 0.0005 | 0.0001 | 0.0005 | 0.02 | 0.00005 | 0.005 | 0.37 | 0.000528 | 0.00001 | 0.000058 |
| Maximum Detected | 7.42 | 0.12 | 15.07 | 7.06 | 0.047 | 0.0004 | 0.005 | 0.01000 | 0.00500 | 0.0005 | 0.07 | 0.0001 | 1.82 | 0.001 | 0.0003 |

Knight Piésold CONSULTING

**TABLE 3.3**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO STEENSBY PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Sep/28/10 13:44:07

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC mS/cm | DO Total | pH | Nickel Total | Potassium Total | Selenium Total | Silicon Total | Silver Total | Sodium Total | Strontium Total | Thallium Total | Tin Total | Titanium Total | Uranium Total | Vanadium Total | Zinc Total |
| **Receiving Water Quality Objectives** | - | - | 9.50 | 6.5 - 9.0 | 0.0830 | - | 0.001 | - | 0.00010 | - | - | 0.0008 | - | - | 0.015 | 0.006 | 0.030 |
| **MDL (2005)** | | | | | 0.001 | 0.02 | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL2006)** | | | | | 0.005 | 0.01 | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | | | | | 0.0005 | 2 | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | | | | | 0.0005 | 0.05 | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **MDL (2011)** | | | | | 0.0005 | 0.05 | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Cockburn Area** | | | | | | | | | | | | | | | | | |
| Number of samples | 25 | 25 | 25 | 25 | 29 | 29 | 29 | 16 | 29 | 29 | 29 | 22 | 29 | 19 | 16 | 29 | 29 |
| Number of Detects | 25 | 25 | 25 | 25 | 29 | 29 | 29 | 16 | 29 | 29 | 29 | 22 | 29 | 19 | 16 | 29 | 29 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.02 | 0.01 | 10.30 | 5.88 | 0.0005 | 0.15 | 0.001 | 0.31 | 0.000001 | 0.3700 | 0.0020 | 0.0001 | 0.0001 | 0.003 | 0.00007 | 0.0009 | 0.001 |
| Maximum Detected | 13.48 | 0.02 | 14.90 | 7.55 | 0.005 | 2.00 | 0.005 | 1.46 | 0.0001 | 2.1600 | 0.0065 | 0.0002 | 0.0100 | 0.02 | 0.00023 | 0.001 | 0.010 |
| Mean | 5.51 | 0.01 | 12.76 | 6.57 | 0.0021 | 0.42 | 0.00 | 0.66 | 0.000049 | 0.8747 | 0.0032 | 0.0001 | 0.0036 | 0.01 | 0.00011 | 0.001 | 0.004 |
| 90th Percentile | 12.73 | 0.01 | 14.41 | 7.20 | 0.0050 | 0.73 | 0.002 | 1.23 | 0.000100 | 2.0000 | 0.0042 | 0.0002 | 0.0100 | 0.01 | 0.00018 | 0.001 | 0.010 |
| **Ravn River - Upstream of Angajurjualuk Lake** | | | | | | | | | | | | | | | | | |
| Number of samples | 10 | 10 | 9 | 10 | 12 | 12 | 12 | 6 | 12 | 12 | 12 | 8 | 12 | 7 | 6 | 12 | 12 |
| Number of Detects | 10 | 10 | 9 | 10 | 12 | 12 | 12 | 6 | 12 | 12 | 12 | 8 | 12 | 7 | 6 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.23 | 0.01 | 9.54 | 6.43 | 0.0005 | 0.195 | 0.001 | 0.28 | 0.000001 | 0.3400 | 0.0023 | 0.0001 | 0.0001 | 0.005 | 0.00009 | 0.0009 | 0.001 |
| Maximum Detected | 16.06 | 0.04 | 15.21 | 8.50 | 0.0050 | 2.00 | 0.005 | 1.29 | 0.0001 | 2.0000 | 0.0071 | 0.0002 | 0.0100 | 0.01 | 0.00036 | 0.001 | 0.010 |
| Mean | 5.32 | 0.02 | 12.79 | 7.19 | 0.0024 | 0.55 | 0.00 | 0.75 | 0.000054 | 0.7528 | 0.0048 | 0.0001 | 0.0043 | 0.01 | 0.00017 | 0.001 | 0.005 |
| 90th Percentile | 15.98 | 0.04 | 14.63 | 8.07 | 0.0050 | 0.77 | 0.001 | 1.25 | 0.000100 | 1.2960 | 0.0063 | 0.0001 | 0.0100 | 0.01 | 0.00027 | 0.001 | 0.010 |
| **Rowley River** | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 6 | 7 | 5 | 4 | 7 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 6 | 7 | 5 | 4 | 7 | 7 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.17 | 6.14 | 0.0005 | 0.19 | 0.001 | 0.40 | 0.00001 | 0.4700 | 0.0020 | 0.0001 | 0.0001 | 0.003 | 0.00009 | 0.0009 | 0.001 |
| Maximum Detected | 6.97 | 0.03 | 13.94 | 8.48 | 0.005 | 2.00 | 0.005 | 0.74 | 0.0001 | 2.0000 | 0.0052 | 0.0002 | 0.0100 | 0.01 | 0.00026 | 0.001 | 0.01 |
| Mean | 4.31 | 0.02 | 13.05 | 7.26 | 0.0019 | 0.52 | 0.00 | 0.51 | 0.000049 | 1.0114 | 0.0032 | 0.0001 | 0.0031 | 0.01 | 0.00014 | 0.001 | 0.004 |
| 90th Percentile | 6.81 | 0.03 | 13.87 | 8.15 | 0.0050 | 1.06 | 0.003 | 0.67 | 0.000100 | 1.9280 | 0.0045 | 0.0002 | 0.0100 | 0.01 | 0.00022 | 0.001 | 0.010 |
| **Steensby Port Area** | | | | | | | | | | | | | | | | | |
| Number of samples | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Number of Detects | 9 | 9 | 9 | 9 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 1.3 | 0.011 | 8.79 | 6.36 | 0.0005 | 0.23 | 0.001 | 0.22 | 0.000001 | 1.4200 | 0.0034 | 0.0001 | 0.0001 | 0.01 | 0.00003 | 0.001 | 0.001 |
| Maximum Detected | 12.06 | 0.292 | 13.37 | 7.28 | 0.0011 | 3.87 | 0.005 | 1.60 | 0.00001 | 105.0000 | 0.1540 | 0.0002 | 0.0002 | 0.06 | 0.00078 | 0.002 | 0.006 |
| Mean | 5.95 | 0.10 | 11.80 | 6.91 | 0.0006 | 0.87 | 0.00 | 0.69 | 0.000008 | 15.0200 | 0.0250 | 0.0001 | 0.0001 | 0.01 | 0.00015 | 0.001 | 0.002 |
| 90th Percentile | 9.45 | 0.20 | 13.20 | 7.22 | 0.0010 | 1.20 | 0.001 | 1.52 | 0.000010 | 17.8000 | 0.0407 | 0.0001 | 0.0001 | 0.01 | 0.00024 | 0.002 | 0.003 |
| **Mid-Rail Camp Area** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Number of Detects | 4 | 5 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.61 | 0.012 | 8.96 | 5.57 | 0.0005 | 0.37 | 0.001 | 0.17 | 0.000001 | 0.3990 | 0.0022 | 0.0001 | 0.0001 | 0.01 | 0.00002 | 0.001 | 0.001 |
| Maximum Detected | 15.04 | 0.02 | 12.94 | 6.39 | 0.0013 | 0.86 | 0.001 | 1.58 | 0.000015 | 1.2000 | 0.0226 | 0.0001 | 0.0001 | 0.01 | 0.00014 | 0.001 | 0.003 |
| Mean | 6.16 | 0.02 | 11.76 | 6.09 | 0.0007 | 0.61 | 0.00 | 0.63 | 0.000008 | 0.7589 | 0.0095 | 0.0001 | 0.0001 | 0.01 | 0.00006 | 0.001 | 0.002 |
| 90th Percentile | 11.98 | 0.02 | 12.90 | 6.35 | 0.0011 | 0.81 | 0.001 | 1.32 | 0.000011 | 1.0480 | 0.0171 | 0.0001 | 0.0001 | 0.01 | 0.00011 | 0.001 | 0.003 |
| **Camp Lake to Steensby Port** | | | | | | | | | | | | | | | | | |
| **S1-010** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 0.01 | 0.012 | 10.98 | 6.49 | 0.001 | 0.25 | 0.001 | | 0.0001 | 0.3200 | 0.0026 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 8.92 | 0.053 | 15.45 | 7.33 | 0.0050 | 0.92 | 0.005 | | 0.0001 | 1.8300 | 0.0068 | 0.0002 | 0.0100 | 0.01 | | 0.001 | 0.010 |
| Mean | 2.39 | 0.02 | 13.31 | 6.90 | 0.0020 | 0.48 | 0.00 | | 0.000100 | 0.7325 | 0.0039 | 0.0002 | 0.0033 | 0.01 | | 0.001 | 0.004 |
| 90th Percentile | 6.42 | 0.04 | 14.97 | 7.24 | 0.0038 | 0.78 | 0.005 | | 0.000100 | 1.4070 | 0.0057 | 0.0002 | 0.0073 | 0.01 | | 0.001 | 0.008 |
| **S1-011** | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 0 | 1 | 1 | | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 0 | 1 | 1 | | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | - | 100% | 100% | | 100% | 100% |
| Minimum | 0.22 | 0.01 | 13.40 | 7.48 | 0.001 | 0.31 | 0.005 | | 0.0001 | 0.4500 | 0.0033 | - | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 0.22 | 0.01 | 13.40 | 7.48 | 0.001 | 0.31 | 0.005 | | 0.0001 | 0.4500 | 0.0033 | - | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Mean | 0.22 | 0.01 | 13.40 | 7.48 | 0.0010 | 0.31 | 0.01 | | 0.000100 | 0.4500 | 0.0033 | - | 0.0010 | 0.00 | | 0.001 | 0.001 |
| 90th Percentile | 0.22 | 0.01 | 13.40 | 7.48 | 0.0010 | 0.31 | 0.005 | | 0.000100 | 0.4500 | 0.0033 | #NAME? | 0.0010 | 0.003 | | 0.001 | 0.001 |
| **S1-020** | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Number of Detects | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 0.70 | 0.03 | 15.81 | 7.11 | 0.001 | 0.49 | 0.005 | | 0.0001 | 0.3900 | 0.0035 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 0.70 | 0.03 | 15.81 | 7.11 | 0.001 | 0.49 | 0.005 | | 0.0001 | 0.3900 | 0.0035 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Mean | 0.70 | 0.03 | 15.81 | 7.11 | 0.00 | 0.49 | 0.01 | | 0.000100 | 0.3900 | 0.0035 | 0.0002 | 0.0010 | 0.00 | | 0.001 | 0.001 |
| 90th Percentile | 0.70 | 0.03 | 15.81 | 7.11 | 0.0010 | 0.49 | 0.005 | | 0.000100 | 0.3900 | 0.0035 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.001 |
| **S1-030** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 1.72 | 0.03 | 12.57 | 6.74 | 0.001 | 0.49 | 0.001 | | 0.0001 | 0.4900 | 0.0042 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 7.37 | 0.04 | 14.14 | 7.53 | 0.005 | 0.60 | 0.005 | | 0.0001 | 0.6300 | 0.0060 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.01 |
| Mean | 3.52 | 0.03 | 13.40 | 7.05 | 0.0020 | 0.55 | 0.00 | | 0.000100 | 0.5575 | 0.0048 | 0.0002 | 0.0033 | 0.00 | | 0.00 | 0.00 |
| 90th Percentile | 6.13 | 0.04 | 13.95 | 7.37 | 0.0038 | 0.59 | 0.005 | | 0.000100 | 0.6210 | 0.0057 | 0.0002 | 0.0073 | 0.003 | | 0.001 | 0.008 |
| **S1-040** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 0.88 | 0.04 | 11.41 | 6.50 | 0.001 | 0.50 | 0.001 | | 0.0001 | 0.4800 | 0.0050 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 7.04 | 0.05 | 15.71 | 7.53 | 0.005 | 0.68 | 0.005 | | 0.0001 | 0.6900 | 0.0070 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.01 |
| Mean | 3.87 | 0.04 | 13.14 | 7.18 | 0.00 | 0.59 | 0.00 | | 0.000100 | 0.5750 | 0.0056 | 0.0002 | 0.0078 | 0.00 | | 0.00 | 0.01 |
| 90th Percentile | 6.75 | 0.05 | 14.98 | 7.50 | 0.0050 | 0.67 | 0.004 | | 0.000100 | 0.6630 | 0.0065 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **S1-050** | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 3.46 | 0.02 | 11.09 | 6.12 | 0.001 | 0.33 | 0.005 | | 0.0001 | 0.4400 | 0.0032 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 8.95 | 0.02 | 14.35 | 7.02 | 0.001 | 0.40 | 0.005 | | 0.0001 | 0.8600 | 0.0038 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.006 |
| Mean | 5.86 | 0.02 | 12.88 | 6.51 | 0.00 | 0.35 | 0.01 | | 0.000100 | 0.6100 | 0.0036 | 0.0002 | 0.0010 | 0.00 | | 0.00 | 0.003 |
| 90th Percentile | 8.20 | 0.02 | 14.12 | 6.90 | 0.0010 | 0.39 | 0.005 | | 0.000100 | 0.7940 | 0.0038 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.005 |
| **S1-060** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 0.24 | 0.01 | 12.00 | 5.13 | 0.001 | 0.20 | 0.001 | | 0.0001 | 0.5500 | 0.0049 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 7.38 | 0.02 | 16.04 | 6.94 | 0.005 | 0.45 | 0.005 | | 0.0001 | 1.0200 | 0.0070 | 0.0002 | 0.0100 | 0.005 | | 0.001 | 0.010 |
| Mean | 2.22 | 0.01 | 14.49 | 6.07 | 0.00 | 0.29 | 0.00 | | 0.000100 | 0.7325 | 0.0057 | 0.0002 | 0.0033 | 0.004 | | 0.00 | 0.004 |
| 90th Percentile | 5.37 | 0.02 | 15.97 | 6.79 | 0.0038 | 0.40 | 0.005 | | 0.000100 | 0.9390 | 0.0067 | 0.0002 | 0.0073 | 0.005 | | 0.001 | 0.008 |
| **S1-070** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | -0.06 | 0.01 | 9.44 | 5.30 | 0.001 | 0.19 | 0.001 | | 0.0001 | 0.4400 | 0.0030 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 8.39 | 0.01 | 16.11 | 6.45 | 0.005 | 0.35 | 0.005 | | 0.0001 | 0.5000 | 0.0032 | 0.0002 | 0.0100 | 0.004 | | 0.001 | 0.010 |
| Mean | 2.27 | 0.01 | 13.92 | 5.79 | 0.00 | 0.24 | 0.00 | | 0.000100 | 0.4675 | 0.0031 | 0.0002 | 0.0033 | 0.003 | | 0.001 | 0.004 |
| 90th Percentile | 6.01 | 0.01 | 16.07 | 6.35 | 0.0038 | 0.31 | 0.005 | | 0.000100 | 0.4910 | 0.0032 | 0.0002 | 0.0073 | 0.004 | | 0.001 | 0.008 |
| **S1-080** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | -0.07 | 0.01 | 11.24 | 5.86 | 0.001 | 0.12 | 0.001 | | 0.0001 | 0.3600 | 0.0019 | 0.0002 | 0.0010 | 0.003 | | 0.0009 | 0.001 |
| Maximum Detected | 7.03 | 0.01 | 14.74 | 6.76 | 0.005 | 0.17 | 0.005 | | 0.0001 | 0.5500 | 0.0030 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.020 |
| Mean | 3.56 | 0.01 | 12.83 | 6.31 | 0.00 | 0.14 | 0.00 | | 0.000100 | 0.4225 | 0.0025 | 0.0002 | 0.0078 | 0.00 | | 0.00 | 0.010 |
| 90th Percentile | 6.31 | 0.01 | 14.35 | 6.69 | 0.0050 | 0.16 | 0.004 | | 0.000100 | 0.5080 | 0.0030 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.017 |
| **S1-090** | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% |
| Minimum | 0.87 | 0.01 | 8.96 | 6.56 | 0.001 | 0.25 | 0.005 | | 0.0001 | 0.4600 | 0.0033 | 0.0002 | 0.0010 | 0.005 | | 0.0009 | 0.002 |
| Maximum Detected | 9.96 | 0.01 | 15.76 | 6.65 | 0.001 | 0.41 | 0.005 | | 0.0001 | 0.5300 | 0.0045 | 0.0002 | 0.0010 | 0.01 | | 0.0009 | 0.002 |
| Mean | 5.42 | 0.01 | 12.36 | 6.61 | 0.00 | 0.33 | 0.01 | | 0.000100 | 0.4950 | 0.0039 | 0.0002 | 0.0010 | 0.01 | | 0.00 | 0.002 |
| 90th Percentile | 9.05 | 0.01 | 15.08 | 6.64 | 0.0010 | 0.39 | 0.005 | | 0.000100 | 0.5230 | 0.0044 | 0.0002 | 0.0010 | 0.01 | | 0.001 | 0.002 |
| **S1-110** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.71 | 0.01 | 11.82 | 5.73 | 0.0003 | 0.23 | 0.001 | 0.22 | 0.000001 | 1.3300 | 0.0036 | 0.0001 | 0.0001 | 0.003 | 0.00003 | 0.0009 | 0.001 |
| Maximum Detected | 7.42 | 0.12 | 15.07 | 7.06 | 0.005 | 0.49 | 0.005 | 0.26 | 0.0001 | 3.2300 | 0.0066 | 0.0002 | 0.0100 | 0.01 | 0.00003 | 0.001 | 0.010 |
| Mean | 3.40 | 0.05 | 13.44 | 6.35 | 0.00 | 0.30 | 0.00 | 0.24 | 0.000067 | 2.0450 | 0.0045 | 0.0002 | 0.0024 | 0.01 | 0.00003 | 0.00 | 0.003 |
| 90th Percentile | 6.56 | 0.09 | 14.65 | 6.86 | 0.0030 | 0.39 | 0.005 | 0.26 | 0.000100 | 2.7450 | 0.0057 | 0.0002 | 0.0060 | 0.01 | 0.00003 | 0.001 | 0.007 |
| **S1-120** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.35 | 0.02 | 11.18 | 6.61 | 0.0005 | 0.32 | 0.001 | 0.25 | 0.000001 | 1.1000 | 0.0040 | 0.0001 | 0.0001 | 0.003 | 0.00005 | 0.0009 | 0.001 |
| Maximum Detected | 8.63 | 0.03 | 16.61 | 6.74 | 0.005 | 0.78 | 0.005 | 0.45 | 0.0001 | 10.5000 | 0.0180 | 0.0002 | 0.0100 | 0.01 | 0.00005 | 0.001 | 0.010 |
| Mean | 2.54 | 0.02 | 14.33 | 6.66 | 0.00 | 0.48 | 0.00 | 0.35 | 0.000067 | 3.6750 | 0.0081 | 0.0002 | 0.0022 | 0.01 | 0.00005 | 0.00 | 0.003 |
| 90th Percentile | 6.22 | 0.03 | 16.44 | 6.72 | 0.0030 | 0.68 | 0.005 | 0.43 | 0.000100 | 7.8000 | 0.0142 | 0.0002 | 0.0055 | 0.01 | 0.00005 | 0.001 | 0.007 |
| **S2-010** | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Number of Detects | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.13 | 0.06 | 11.77 | 7.60 | 0.0005 | 0.4 | 0.001 | 0.66 | 0.000001 | 0.3700 | 0.0040 | 0.0001 | 0.0001 | 0.01 | 0.00080 | 0.001 | 0.003 |
| Maximum Detected | 6.96 | 0.11 | 13.90 | 8.14 | 0.005 | 1.04 | 0.001 | 0.77 | 0.0001 | 3.7400 | 0.0154 | 0.0001 | 0.0100 | 0.01 | 0.00220 | 0.001 | 0.01 |
| Mean | 3.50 | 0.08 | 13.13 | 7.90 | 0.00 | 0.66 | 0.00 | 0.72 | 0.000060 | 1.4880 | 0.0089 | 0.0001 | 0.0060 | 0.01 | 0.00150 | 0.00 | 0.01 |
| 90th Percentile | 6.25 | 0.10 | 13.86 | 8.10 | 0.0050 | 0.94 | 0.001 | 0.76 | 0.000100 | 3.0720 | 0.0132 | 0.0001 | 0.0100 | 0.01 | 0.00206 | 0.001 | 0.010 |
| **S2-020** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 2 | 6 | 2 | 2 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 2 | 6 | 2 | 2 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.03 | 0.01 | 10.70 | 7.04 | 0.0005 | 0.36 | 0.001 | 1.08 | 0.000001 | 0.4600 | 0.0030 | 0.0001 | 0.0001 | 0.01 | 0.00049 | 0.001 | 0.003 |
| Maximum Detected | 6.81 | 0.05 | 12.80 | 7.47 | 0.005 | 1.23 | 0.001 | 1.11 | 0.0001 | 4.4900 | 0.0273 | 0.0001 | 0.0100 | 0.01 | 0.00159 | 0.001 | 0.010 |
| Mean | 2.26 | 0.03 | 11.66 | 7.21 | 0.00 | 0.69 | 0.00 | 1.10 | 0.000067 | 1.5667 | 0.0102 | 0.0001 | 0.0067 | 0.01 | 0.00104 | 0.00 | 0.01 |
| 90th Percentile | 5.42 | 0.04 | 12.69 | 7.38 | 0.0050 | 1.06 | 0.001 | 1.11 | 0.000100 | 3.3900 | 0.0202 | 0.0001 | 0.0100 | 0.01 | 0.00148 | 0.001 | 0.010 |
| **S2-040** | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 4 |
| Number of Detects | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 3.07 | 0.01 | 9.95 | 5.96 | 0.0005 | 0.15 | 0.001 | 0.36 | 0.000001 | 0.4200 | 0.0020 | 0.0001 | 0.0001 | 0.01 | 0.00005 | 0.001 | 0.003 |
| Maximum Detected | 13.09 | 0.01 | 12.14 | 7.33 | 0.005 | 0.30 | 0.001 | 1.02 | 0.0001 | 1.0400 | 0.0064 | 0.0001 | 0.0100 | 0.01 | 0.00006 | 0.001 | 0.01 |
| Mean | 8.08 | 0.01 | 11.05 | 6.65 | 0.00 | 0.22 | 0.00 | 0.69 | 0.000051 | 0.6660 | 0.0040 | 0.0001 | 0.0051 | 0.01 | 0.00005 | 0.00 | 0.01 |
| 90th Percentile | 12.09 | 0.01 | 11.92 | 7.19 | 0.0050 | 0.28 | 0.001 | 0.95 | 0.000100 | 0.9362 | 0.0057 | 0.0001 | 0.0100 | 0.01 | 0.00005 | 0.001 | 0.010 |
| **S2-050** | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Number of Detects | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.17 | 0.01 | 12.48 | 6.01 | 0.0005 | 0.12 | 0.001 | 0.45 | 0.000001 | 0.3700 | 0.0020 | 0.0001 | 0.0001 | 0.01 | 0.00003 | 0.001 | 0.003 |
| Maximum Detected | 7.08 | 0.09 | 14.46 | 7.01 | 0.005 | 0.20 | 0.001 | 1.10 | 0.0001 | 0.9300 | 0.0044 | 0.0001 | 0.0100 | 0.01 | 0.00004 | 0.001 | 0.01 |
| Mean | 3.41 | 0.03 | 13.31 | 6.42 | 0.00 | 0.16 | 0.00 | 0.78 | 0.000060 | 0.5860 | 0.0033 | 0.0001 | 0.0060 | 0.01 | 0.00003 | 0.00 | 0.01 |
| 90th Percentile | 6.26 | 0.07 | 14.17 | 6.86 | 0.0050 | 0.19 | 0.001 | 1.04 | 0.000100 | 0.8060 | 0.0042 | 0.0001 | 0.0100 | 0.01 | 0.00003 | 0.001 | 0.010 |
| **S2-060** | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 3 | 6 | 3 | 2 | 6 | 6 |
| Number of Detects | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 3 | 6 | 3 | 2 | 6 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Minimum | 0.30 | 0.01 | 11.92 | 6.18 | 0.0005 | 0.20 | 0.001 | 0.29 | 0.000001 | 0.3800 | 0.0020 | 0.0001 | 0.0001 | 0.007 | 0.00009 | 0.0009 | 0.001 |
| Maximum Detected

Knight Piésold CONSULTING

**TABLE 3.4**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO STEENSBY PORT DISSOLVED METALS**

Print Dec/22/11 17:32:58

| Site ID | Laboratory Results | | | | | | | Laboratory Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aluminum Dissolved | Antimony Dissolved | Arsenic Dissolved | Barium Dissolved | Beryllium Dissolved | Bismuth Dissolved | Boron Dissolved | Cadmium Dissolved | Calcium Dissolved | Chromium Dissolved | Cobalt Dissolved | Copper Dissolved | Iron Dissolved | Lead Dissolved | Lithium Dissolved | Magnesium Dissolved | Manganese Dissolved | Mercury Dissolved | Molybdenum Dissolved | Nickel Dissolved | Potassium Dissolved |
| **MDL (2005)** | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 | - | 0.0003 | 0.001 | 0.02 |
| **MDL (2006)** | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 | - | 0.005 | 0.005 | 0.01 |
| **MDL (2007)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00005 | 0.00005 | 0.0005 | 2 |
| **MDL (2008)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.000010 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **MDL (2011)** | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **Cockburn Area** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 29 | 19 | 29 | 29 | 19 | 19 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 16 | 29 | 29 | 16 | 29 | 29 | 29 |
| Number of Detects | 29 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 15 | 1 | 1 | 0 | 29 | 17 | 0 | 15 | 0 | 26 |
| Percentage of Detects | 100% | 0% | 0% | 66% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 52% | 3% | 3% | 0% | 100% | 59% | 0% | 52% | 0% | 90% |
| Minimum | 0.006 | ND | ND | ND | ND | ND | ND | ND | 0.20 | ND | ND | ND | ND | ND | ND | 0.10 | ND | ND | ND | ND | ND |
| Maximum Detected | 0.049 | ND | ND | 0.01000 | ND | ND | ND | ND | 1.05 | ND | ND | 0.0190 | 0.05 | 0.00100 | ND | 0.43 | 0.01360 | ND | 0.00500 | ND | 2.00 |
| Mean | 0.014 | - | - | 0.00490 | - | - | - | - | 0.56 | - | - | 0.0014 | - | - | - | 0.25 | 0.00463 | - | 0.00181 | - | 0.43 |
| 90th Percentile | 0.025 | 0.0004 | 0.0018 | 0.01000 | 0.0050 | 0.0005 | 0.01 | 0.00010 | 0.74 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 0.32 | 0.01000 | 0.00005 | 0.00500 | 0.0050 | 0.83 |
| **Ravn River - Upstream of Angajurjualuk Lake** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 12 | 7 | 12 | 12 | 7 | 7 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 | 12 | 12 | 6 | 12 | 12 | 12 |
| Number of Detects | 11 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 6 | 7 | 0 | 0 | 12 | 8 | 0 | 4 | 0 | 11 |
| Percentage of Detects | 92% | 0% | 0% | 58% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 50% | 58% | 0% | 0% | 100% | 67% | 0% | 33% | 0% | 92% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 0.50 | ND | ND | ND | ND | ND | ND | 0.36 | ND | ND | ND | ND | ND |
| Maximum Detected | 0.025 | ND | ND | 0.01000 | ND | ND | ND | ND | 4.00 | ND | ND | 0.0010 | 0.13 | ND | ND | 2.00 | 0.02000 | ND | 0.00500 | ND | 2.00 |
| Mean | 0.013 | - | - | 0.00591 | - | - | - | - | 2.12 | - | - | - | 0.05 | - | - | 1.17 | 0.00608 | - | - | - | 0.54 |
| 90th Percentile | 0.019 | 0.0002 | 0.0010 | 0.01000 | 0.0023 | 0.0005 | 0.01 | 0.00010 | 3.49 | 0.0010 | 0.0002 | 0.0010 | 0.08 | 0.00100 | 0.005 | 1.99 | 0.01000 | 0.00003 | 0.00500 | 0.0050 | 0.77 |
| **Rowley River** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 5 | 7 | 7 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 4 | 7 | 7 | 7 |
| Number of Detects | 6 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 4 | 0 | 4 | 0 | 6 |
| Percentage of Detects | 86% | 0% | 0% | 71% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 57% | 0% | 0% | 0% | 100% | 57% | 0% | 57% | 0% | 86% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 1.00 | ND | ND | ND | ND | ND | ND | 0.40 | ND | ND | ND | ND | ND |
| Maximum Detected | 0.027 | ND | ND | 0.01000 | ND | ND | ND | ND | 2.00 | ND | ND | 0.0010 | ND | ND | ND | 1.02 | 0.01000 | ND | 0.00500 | ND | 2.00 |
| Mean | 0.010 | - | - | 0.00437 | - | - | - | - | 1.39 | - | - | 0.0008 | - | - | - | 0.59 | 0.00318 | - | 0.00151 | - | 0.50 |
| 90th Percentile | 0.021 | 0.0003 | 0.0026 | 0.01000 | 0.0032 | 0.0005 | 0.01 | 0.00010 | 1.99 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 0.83 | 0.01000 | 0.00004 | 0.00500 | 0.0050 | 1.01 |
| **Steensby Port Area** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Number of Detects | 11 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 12 | 0 | 0 | 10 | 2 | 0 | 0 | 12 | 12 | 0 | 8 | 0 | 12 |
| Percentage of Detects | 92% | 0% | 8% | 100% | 0% | 0% | 33% | 0% | 100% | 0% | 0% | 83% | 17% | 0% | 0% | 100% | 100% | 0% | 67% | 0% | 100% |
| Minimum | ND | ND | ND | 0.00112 | ND | ND | ND | ND | 0.77 | ND | ND | ND | ND | ND | ND | 0.42 | 0.00009 | ND | ND | ND | 0.22 |
| Maximum Detected | 0.021 | ND | 0.0016 | 0.02660 | ND | ND | 0.05 | ND | 96.50 | ND | ND | 0.0022 | 0.07 | ND | ND | 24.30 | 0.00838 | ND | 0.00170 | ND | 3.53 |
| Mean | 0.010 | - | - | 0.00481 | - | - | - | - | 14.76 | - | - | 0.0010 | - | - | - | 3.92 | 0.00144 | - | 0.00039 | - | 0.80 |
| 90th Percentile | 0.019 | 0.0001 | 0.0001 | 0.00748 | 0.0005 | 0.0005 | 0.02 | 0.00001 | 30.23 | 0.0005 | 0.0001 | 0.0019 | 0.04 | 0.00005 | 0.005 | 6.60 | 0.00296 | 0.00001 | 0.00112 | 0.0005 | 1.23 |
| **Mid-Rail Camp Area** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Number of Detects | 7 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 9 | 0 | 4 | 8 | 9 | 0 | 0 | 9 | 9 | 1 | 0 | 3 | 9 |
| Percentage of Detects | 78% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 44% | 89% | 100% | 0% | 0% | 100% | 100% | 11% | 0% | 33% | 100% |
| Minimum | ND | ND | ND | 0.00017 | ND | ND | ND | ND | 0.48 | ND | ND | ND | 0.07 | ND | ND | 0.56 | 0.00080 | ND | ND | ND | 0.36 |
| Maximum Detected | 0.039 | ND | ND | 0.00513 | ND | ND | ND | ND | 3.16 | ND | 0.0005 | 0.0027 | 0.52 | ND | ND | 1.65 | 0.03950 | 0.00001 | ND | 0.0010 | 0.91 |
| Mean | 0.014 | - | - | 0.00334 | - | - | - | - | 1.54 | - | - | 0.0008 | 0.18 | - | - | 1.02 | 0.01128 | - | - | - | 0.59 |
| 90th Percentile | 0.027 | 0.0001 | 0.0001 | 0.00454 | 0.0005 | 0.0005 | 0.01 | 0.00001 | 2.30 | 0.0005 | 0.0003 | 0.0012 | 0.40 | 0.00005 | 0.005 | 1.51 | 0.03606 | 0.00001 | 0.00005 | 0.0009 | 0.84 |
| **Camp Lake to Steensby Port - Sites Sampled in 2005-2011** | | | | | | | | | | | | | | | | | | | | | |
| S1-010 | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 1 | 0 | | 4 | 3 | | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 0% | 75% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 25% | 25% | 0% | | 100% | 75% | | 0% | 0% | 100% |
| Minimum | 0.007 | ND | ND | ND | ND | ND | ND | ND | 1.00 | ND | ND | ND | ND | ND | | 0.60 | ND | | ND | ND | 0.22 |
| Maximum Detected | 0.022 | ND | ND | 0.01000 | ND | ND | ND | ND | 3.55 | ND | ND | 0.0016 | 0.05 | ND | | 2.09 | 0.01000 | | ND | ND | 0.74 |
| Mean | 0.013 | - | - | 0.00450 | - | - | - | - | 1.82 | - | - | - | - | - | | 1.12 | 0.00543 | | - | - | 0.43 |
| 90th Percentile | 0.02 | 0.0004 | 0.0050 | 0.00820 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 2.96 | 0.0010 | 0.0003 | 0.0014 | 0.05 | 0.00076 | | 1.74 | 0.00958 | | 0.00359 | 0.0038 | 0.66 |
| **S1-011** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | 1 | 1 | 1 |
| Number of Detects | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 1 | 1 | | 0 | 0 | 1 |
| Percentage of Detects | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 100% | | 0% | 0% | 100% |
| Minimum | 0.005 | ND | ND | 0.00200 | ND | ND | ND | ND | 2.01 | ND | ND | ND | ND | ND | | 1.10 | 0.01070 | | ND | ND | 0.31 |
| Maximum Detected | 0.005 | ND | ND | 0.00200 | ND | ND | ND | ND | 2.01 | ND | ND | ND | ND | ND | | 1.10 | 0.01070 | | ND | ND | 0.31 |
| Mean | 0.005 | - | - | 0.00200 | - | - | - | - | 2.01 | - | - | - | - | - | | 1.10 | 0.01070 | | - | - | 0.31 |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.00200 | 0.0050 | 0.0003 | 0.05 | 0.00010 | 2.01 | 0.0010 | 0.0003 | 0.0008 | 0.05 | 0.00020 | | 1.10 | 0.01070 | | 0.00030 | 0.0010 | 0.31 |
| **S1-020** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | 1 | 1 | 1 |
| Number of Detects | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | | 1 | 0 | | 0 | 0 | 1 |
| Percentage of Detects | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | 0.010 | ND | ND | 0.00300 | ND | ND | ND | ND | 2.74 | ND | ND | 0.0008 | ND | ND | | 1.59 | ND | | ND | ND | 0.51 |
| Maximum Detected | 0.010 | ND | ND | 0.00300 | ND | ND | ND | ND | 2.74 | ND | ND | 0.0008 | ND | ND | | 1.59 | ND | | ND | ND | 0.51 |
| Mean | 0.010 | - | - | 0.00300 | - | - | - | - | 2.74 | - | - | 0.0008 | - | - | | 1.59 | - | | - | - | 0.51 |
| 90th Percentile | 0.010 | 0.0004 | 0.0050 | 0.00300 | 0.0050 | 0.0003 | 0.01 | 0.00010 | 2.74 | 0.0010 | 0.0003 | 0.0008 | 0.02 | 0.00020 | | 1.59 | 0.00070 | | 0.00030 | 0.0010 | 0.51 |
| **S1-030** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | 4 | 1 | | 0 | 0 | 4 |
| Percentage of Detects | 25% | 0% | 0% | 75% | 0% | 0% | 25% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 25% | | 0% | 0% | 100% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 3.16 | ND | ND | ND | ND | ND | | 1.71 | ND | | ND | ND | 0.51 |
| Maximum Detected | 0.005 | ND | ND | 0.01000 | ND | ND | 0.05 | ND | 4.00 | ND | ND | ND | ND | ND | | 2.11 | 0.01000 | | ND | ND | 0.63 |
| Mean | - | - | - | 0.00500 | - | - | - | - | 3.61 | - | - | - | - | - | | 1.91 | - | | - | - | 0.56 |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.00820 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 3.95 | 0.0010 | 0.0003 | 0.0009 | 0.04 | 0.00076 | | 2.08 | 0.00727 | | 0.00359 | 0.0038 | 0.61 |
| **S1-040** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | | 4 | 1 | | 0 | 0 | 4 |
| Percentage of Detects | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 50% | 0% | 0% | | 100% | 25% | | 0% | 0% | 100% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 3.00 | ND | ND | ND | ND | ND | | 2.00 | ND | | ND | ND | 0.47 |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | ND | ND | 5.00 | ND | ND | 0.0010 | ND | ND | | 3.00 | 0.01000 | | ND | ND | 0.71 |
| Mean | - | - | - | - | - | - | - | - | 3.83 | - | - | - | - | - | | 2.35 | - | | - | - | 0.60 |
| 90th Percentile | 0.005 | 0.0004 | 0.0038 | 0.01000 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 4.79 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 2.82 | 0.01000 | | 0.00500 | 0.0050 | 0.71 |
| **S1-050** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | | 3 | 1 | | 0 | 0 | 3 |
| Percentage of Detects | 100% | 0% | 0% | 100% | 0% | 0% | 33% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 33% | | 0% | 0% | 100% |
| Minimum | 0.012 | ND | ND | 0.00200 | ND | ND | ND | ND | 1.65 | ND | ND | ND | ND | ND | | 0.76 | ND | | ND | ND | 0.32 |
| Maximum Detected | 0.020 | ND | ND | 0.00300 | ND | ND | 0.05 | ND | 2.24 | ND | ND | ND | ND | ND | | 1.22 | 0.00250 | | ND | ND | 0.42 |
| Mean | 0.015 | - | - | 0.00267 | - | - | - | - | 1.87 | - | - | - | - | - | | 0.92 | - | | - | - | 0.36 |
| 90th Percentile | 0.018 | 0.0004 | 0.0050 | 0.00300 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 2.14 | 0.0010 | 0.0003 | 0.0008 | 0.04 | 0.00020 | | 1.13 | 0.00214 | | 0.00030 | 0.0010 | 0.40 |
| **S1-060** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 4 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | | 4 | 1 | | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 0% | 75% | 0% | 0% | 25% | 0% | 100% | 0% | 0% | 25% | 0% | 0% | | 100% | 25% | | 0% | 0% | 100% |
| Minimum | 0.017 | ND | ND | ND | ND | ND | ND | ND | 0.95 | ND | ND | ND | ND | ND | | 0.38 | ND | | ND | ND | 0.20 |
| Maximum Detected | 0.045 | ND | ND | 0.01000 | ND | ND | 0.05 | ND | 1.28 | ND | ND | 0.001 | ND | ND | | 0.53 | 0.01000 | | ND | ND | 0.43 |
| Mean | 0.030 | - | - | 0.00400 | - | - | - | - | 1.08 | - | - | - | - | - | | 0.47 | - | | - | - | 0.30 |
| 90th Percentile | 0.043 | 0.0004 | 0.0050 | 0.00760 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 1.23 | 0.0010 | 0.0003 | 0.0009 | 0.04 | 0.00076 | | 0.52 | 0.00928 | | 0.00359 | 0.0038 | 0.40 |
| **S1-070** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | | 4 | 1 | | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 0% | 75% | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 25% | 0% | 0% | | 100% | 25% | | 0% | 0% | 100% |
| Minimum | 0.015 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | | 0.27 | ND | | ND | ND | 0.18 |
| Maximum Detected | 0.065 | ND | ND | 0.01000 | ND | ND | ND | ND | 0.74 | ND | ND | 0.001 | ND | ND | | 0.32 | 0.01000 | | ND | ND | 0.36 |
| Mean | 0.038 | - | - | 0.00375 | - | - | - | - | 0.55 | - | - | - | - | - | | 0.29 | - | | - | - | 0.24 |
| 90th Percentile | 0.060 | 0.0004 | 0.0050 | 0.00760 | 0.0050 | 0.0003 | 0.04 | 0.00010 | 0.74 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00076 | | 0.31 | 0.00871 | | 0.00359 | 0.0038 | 0.32 |
| **S1-080** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 1 | 4 | 4 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | 4 | 0 | | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | 0.007 | ND | ND | ND | ND | ND | ND | ND | 0.40 | ND | ND | ND | ND | ND | | 0.16 | ND | | ND | ND | 0.12 |
| Maximum Detected | 0.040 | ND | ND | 0.01000 | ND | ND | ND | ND | 0.72 | ND | ND | ND | ND | ND | | 0.29 | ND | | ND | ND | 0.19 |
| Mean | 0.018 | - | - | - | - | - | - | - | 0.51 | - | - | - | - | - | | 0.21 | - | | - | - | 0.14 |
| 90th Percentile | 0.032 | 0.0004 | 0.0038 | 0.01000 | 0.0050 | 0.0003 | 0.01 | 0.00010 | 0.65 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 0.26 | 0.01000 | | 0.00500 | 0.0050 | 0.17 |
| **S1-090** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | | 2 | 2 | 2 |
| Number of Detects | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | | 2 | 1 | | 0 | 0 | 2 |
| Percentage of Detects | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | 0% | | 100% | 50% | | 0% | 0% | 100% |
| Minimum | 0.020 | ND | ND | 0.00200 | ND | ND | ND | ND | 0.89 | ND | ND | 0.0009 | ND | ND | | 0.32 | ND | | ND | ND | 0.23 |
| Maximum Detected | 0.054 | ND | ND | 0.00200 | ND | ND | ND | ND | 1.02 | ND | ND | 0.0013 | ND | ND | | 0.32 | 0.00510 | | ND | ND | 0.40 |
| Mean | 0.037 | - | - | 0.00200 | - | - | - | - | 0.95 | - | - | 0.0011 | - | - | | 0.32 | - | | - | - | 0.32 |
| 90th Percentile | 0.051 | 0.0004 | 0.0050 | 0.00200 | 0.0050 | 0.0003 | 0.05 | 0.00010 | 1.01 | 0.0010 | 0.0003 | 0.0013 | 0.05 | 0.00020 | | 0.32 | 0.00466 | | 0.00030 | 0.0010 | 0.38 |
| **S1-110** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 5 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 6 | 6 | 2 | 6 | 6 | 6 |
| Number of Detects | 5 | 0 | 0 | 5 | 0 | 0 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 2 | 0 | 6 |
| Percentage of Detects | 83% | 0% | 0% | 83% | 0% | 0% | 17% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 50% | 0% | 33% | 0% | 100% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 0.54 | ND | ND | ND | ND | ND | ND | 0.38 | ND | ND | ND | ND | 0.22 |
| Maximum Detected | 0.010 | ND | ND | 0.01000 | ND | ND | 0.05 | ND | 1.88 | ND | ND | ND | ND | ND | ND | 0.84 | 0.01450 | ND | 0.00500 | ND | 0.51 |
| Mean | 0.007 | - | - | 0.00294 | - | - | - | - | 1.00 | - | - | - | - | - | - | 0.52 | - | - | - | - | 0.28 |
| 90th Percentile | 0.010 | 0.0004 | 0.0050 | 0.00600 | 0.0050 | 0.0005 | 0.03 | 0.00010 | 1.42 | 0.0010 | 0.0003 | 0.0009 | 0.04 | 0.00060 | 0.005 | 0.69 | 0.01225 | 0.00001 | 0.00265 | 0.0030 | 0.38 |
| **S1-120** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 5 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 6 | 6 | 2 | 6 | 6 | 6 |
| Number of Detects | 6 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 5 | 5 | 0 | 0 | 6 | 5 | 0 | 2 | 0 | 6 |
| Percentage of Detects | 100% | 0% | 0% | 83% | 0% | 0% | 33% | 0% | 100% | 0% | 0% | 83% | 83% | 0% | 0% | 100% | 83% | 0% | 33% | 0% | 100% |
| Minimum | 0.008 | ND | ND | ND | ND | ND | ND | ND | 1.00 | ND | ND | ND | ND | ND | ND | 0.50 | ND | ND | ND | ND | 0.32 |
| Maximum Detected | 0.025 | ND | ND | 0.01000 | ND | ND | 0.05 | ND | 5.60 | ND | ND | 0.0010 | 0.25 | ND | ND | 2.87 | 0.01890 | ND | 0.00500 | ND | 0.66 |
| Mean | 0.019 | - | - | 0.00375 | - | - | - | - | 2.47 | - | - | 0.0009 | 0.11 | - | - | 1.22 | 0.00683 | - | - | - | 0.44 |
| 90th Percentile | 0.025 | 0.0004 | 0.0050 | 0.00733 | 0.0050 | 0.0005 | 0.03 | 0.00010 | 4.24 | 0.0010 | 0.0003 | 0.0010 | 0.19 | 0.00060 | 0.005 | 2.15 | 0.01445 | 0.00001 | 0.00265 | 0.0030 | 0.60 |
| **S2-010** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 5 | 5 | 5 |
| Number of Detects | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 2 | 0 | 2 | 0 | 5 |
| Percentage of Detects | 80% | 0% | 0% | 40% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 40% | 20% | 0% | 0% | 100% | 40% | 0% | 40% | 0% | 100% |
| Minimum | ND | ND | ND | ND | ND | ND | ND | ND | 6.00 | ND | ND | ND | ND | ND | ND | 3.00 | ND | ND | ND | ND | 0.37 |
| Maximum Detected | 0.014 | ND | ND | 0.01000 | ND | ND | ND | ND | 13.00 | ND | ND | 0.0010 | 0.03 | ND | ND | 7.31 | 0.01000 | ND | 0.00500 | ND | 0.91 |
| Mean | 0.009 | - | - | - | - | - | - | - | 9.26 | - | - | - | - | - | - | 5.11 | - | - | - | - | 0.60 |
| 90th Percentile | 0.012 | 0.0001 | 0.0010 | 0.01000 | 0.0005 | 0.0005 | 0.01 | 0.00010 | 12.20 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 6.79 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.83 |
| **S2-020** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 5 | 5 | 5 |
| Number of Detects | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 2 | 0 | 2 | 0 | 5 |
| Percentage of Detects | 100% | 0% | 0% | 40% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 40% | 20% | 0% | 0% | 100% | 40% | 0% | 40% | 0% | 100% |
| Minimum | 0.011 | ND | ND | ND | ND | ND | ND | ND | 1.00 | ND | ND | ND | ND | ND | ND | 0.58 | ND | ND | ND | ND | 0.34 |
| Maximum Detected | 0.053 | ND | ND | 0.01220 | ND | ND | ND | ND | 12.30 | ND | ND | 0.0011 | 0.03 | ND | ND | 5.93 | 0.01000 | ND | 0.00500 | ND | 1.10 |
| Mean | 0.032 | - | - | - | - | - | - | - | 5.26 | - | - | - | - | - | - | 2.67 | - | - | - | - | 0.63 |
| 90th Percentile | 0.047 | 0.0001 | 0.0010 | 0.01132 | 0.0005 | 0.0005 | 0.01 | 0.00010 | 9.78 | 0.0010 | 0.0002 | 0.0011 | 0.03 | 0.00100 | 0.005 | 4.76 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.98 |
| **S2-040** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 4 | 4 |
| Number of Detects | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 0% | 50% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 25% | 100% | 0% | 0% | 100% | 50% | 0% | 0% | 0% | 100% |
| Minimum | 0.010 | ND | ND | ND | ND | ND | ND | ND | 0.40 | ND | ND | ND | 0.04 | ND | ND | 0.20 | ND | ND | ND | ND | 0.14 |
| Maximum Detected | 0.027 | ND | ND | 0.01000 | ND | ND | ND | ND | 0.94 | ND | ND | 0.0010 | 0.06 | ND | ND | 0.53 | 0.01000 | ND | ND | ND | 0.28 |
| Mean | 0.017 | - | - | - | - | - | - | - | 0.71 | - | - | - | 0.05 | - | - | 0.40 | - | - | - | - | 0.22 |
| 90th Percentile | 0.025 | 0.0001 | 0.0010 | 0.01000 | 0.0005 | 0.0005 | 0.01 | 0.00010 | 0.90 | 0.0010 | 0.0002 | 0.0010 | 0.06 | 0.00100 | 0.005 | 0.52 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.27 |
| **S2-050** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 5 | 5 | 5 |
| Number of Detects | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 5 |
| Percentage of Detects | 100% | 0% | 0% | 40% | 0% | 0% | 0% | 0% | 80% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 40% | 0% | 0% | 0% | 100% |
| Minimum | 0.012 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.10 | ND | ND | ND | ND | 0.09 |
| Maximum Detected | 0.033 | ND | ND | 0.01000 | ND | ND | ND | ND | 0.70 | ND | ND | ND | ND | ND | ND | 0.30 | 0.01000 | ND | ND | ND | 0.20 |
| Mean | 0.020 | - | - | - | - | - | - | - | 0.40 | - | - | - | - | - | - | 0.20 | - | - | - | - | 0.13 |
| 90th Percentile | 0.029 | 0.0001 | 0.0010 | 0.01000 | 0.0005 | 0.0005 | 0.01 | 0.00010 | 0.61 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 0.27 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.19 |
| **S2-060** | | | | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 2 | 6 | 6 | 2 | 6 

Knight Piésold CONSULTING

**TABLE 3.4**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO STEENSBY PORT DISSOLVED METALS**

Print Dec/22/11 17:32:58

| Site ID | Laboratory Results | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Selenium Dissolved | Silicon Dissolved | Silver Dissolved | Sodium Dissolved | Strontium Dissolved | Thallium Dissolved | Tin Dissolved | Titanium Dissolved | Uranium Dissolved | Vanadium Dissolved | Zinc Dissolved |
| **MDL (2005)** | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL (2006)** | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | 0.001 | 0.05 | 0.00001 | 0.05 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2011)** | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Cockburn Area** | | | | | | | | | | | |
| Number of samples | 29 | 16 | 29 | 29 | 29 | 22 | 29 | 19 | 16 | 29 | 29 |
| Number of Detects | 0 | 16 | 0 | 26 | 29 | 0 | 0 | 0 | 16 | 0 | 29 |
| Percentage of Detects | 0% | 100% | 0% | 90% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.26 | ND | ND | 0.0020 | ND | ND | ND | 0.00006 | ND | 0.001 |
| Maximum Detected | ND | 1.20 | ND | 2.0000 | 0.0058 | ND | ND | ND | 0.00012 | ND | 0.010 |
| Mean | - | 0.59 | - | 0.8699 | 0.0031 | - | - | - | 0.00008 | - | 0.005 |
| 90th Percentile | 0.002 | 1.05 | 0.000100 | 1.9520 | 0.0040 | 0.0002 | 0.0100 | 0.01 | 0.00011 | 0.001 | 0.010 |
| **Ravn River - Upstream of Angajurjualuk Lake** | | | | | | | | | | | |
| Number of samples | 12 | 6 | 12 | 12 | 12 | 8 | 12 | 7 | 6 | 12 | 12 |
| Number of Detects | 0 | 6 | 0 | 11 | 12 | 0 | 0 | 0 | 6 | 0 | 12 |
| Percentage of Detects | 0% | 100% | 0% | 92% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.27 | ND | ND | 0.0023 | ND | ND | ND | 0.00007 | ND | 0.001 |
| Maximum Detected | ND | 1.19 | ND | 2.0000 | 0.0066 | ND | ND | ND | 0.00026 | ND | 0.010 |
| Mean | - | 0.65 | - | 0.7312 | 0.0047 | - | - | - | 0.00013 | - | 0.005 |
| 90th Percentile | 0.001 | 1.10 | 0.000100 | 1.2140 | 0.0061 | 0.0001 | 0.0100 | 0.01 | 0.00020 | 0.001 | 0.010 |
| **Rowley River** | | | | | | | | | | | |
| Number of samples | 7 | 4 | 7 | 7 | 7 | 6 | 7 | 5 | 4 | 7 | 7 |
| Number of Detects | 0 | 4 | 0 | 6 | 7 | 0 | 0 | 0 | 4 | 0 | 7 |
| Percentage of Detects | 0% | 100% | 0% | 86% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.39 | ND | ND | 0.0020 | ND | ND | ND | 0.00007 | ND | 0.001 |
| Maximum Detected | ND | 0.46 | ND | 2.0000 | 0.0045 | ND | ND | ND | 0.00021 | ND | 0.010 |
| Mean | - | 0.42 | - | 0.9781 | 0.0031 | - | - | - | 0.00012 | - | 0.004 |
| 90th Percentile | 0.003 | 0.45 | 0.000100 | 1.8260 | 0.0042 | 0.0002 | 0.0100 | 0.01 | 0.00018 | 0.001 | 0.010 |
| **Steensby Port Area** | | | | | | | | | | | |
| Number of samples | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Number of Detects | 0 | 12 | 0 | 12 | 12 | 0 | 0 | 0 | 12 | 0 | 12 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.19 | ND | 1.4500 | 0.0033 | ND | ND | ND | 0.00003 | ND | 0.001 |
| Maximum Detected | ND | 1.47 | ND | 112.0000 | 0.1470 | ND | ND | ND | 0.00069 | ND | 0.006 |
| Mean | - | 0.54 | - | 15.3875 | 0.0239 | - | - | - | 0.00012 | - | 0.002 |
| 90th Percentile | 0.001 | 1.13 | 0.000010 | 17.7700 | 0.0407 | 0.0001 | 0.0001 | 0.01 | 0.00023 | 0.001 | 0.003 |
| **Mid-Rail Camp Area** | | | | | | | | | | | |
| Number of samples | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Number of Detects | 0 | 9 | 0 | 9 | 9 | 0 | 0 | 0 | 9 | 0 | 9 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.16 | ND | 0.4120 | 0.0022 | ND | ND | ND | 0.00001 | ND | 0.001 |
| Maximum Detected | ND | 1.52 | ND | 1.1100 | 0.0203 | ND | ND | ND | 0.00008 | ND | 0.003 |
| Mean | - | 0.56 | - | 0.7223 | 0.0091 | - | - | - | 0.00004 | - | 0.002 |
| 90th Percentile | 0.001 | 1.14 | 0.000010 | 0.9436 | 0.0161 | 0.0001 | 0.0001 | 0.01 | 0.00006 | 0.001 | 0.003 |
| **Camp Lake to Steensby Port - Sites Sampled** | | | | | | | | | | | |
| S1-010 | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.3100 | 0.0020 | ND | ND | ND | | ND | 0.002 |
| Maximum Detected | ND | | ND | 1.6800 | 0.0058 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.6875 | 0.0032 | - | - | - | | - | 0.006 |
| 90th Percentile | 0.005 | | 0.000100 | 1.3020 | 0.0049 | 0.0002 | 0.0073 | 0.00 | | 0.001 | 0.009 |
| **S1-011** | | | | | | | | | | | |
| Number of samples | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Number of Detects | 0 | | 0 | 1 | 1 | 0 | 0 | 0 | | 0 | 1 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4500 | 0.0032 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.4500 | 0.0032 | ND | ND | ND | | ND | 0.001 |
| Mean | - | | - | 0.4500 | 0.0032 | - | - | - | | - | 0.001 |
| 90th Percentile | 0.005 | | 0.000100 | 0.4500 | 0.0032 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.001 |
| **S1-020** | | | | | | | | | | | |
| Number of samples | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Number of Detects | 0 | | 0 | 1 | 1 | 0 | 0 | 0 | | 0 | 1 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.3900 | 0.0034 | ND | ND | ND | | ND | 0.005 |
| Maximum Detected | ND | | ND | 0.3900 | 0.0034 | ND | ND | ND | | ND | 0.005 |
| Mean | - | | - | 0.3900 | 0.0034 | - | - | - | | - | 0.005 |
| 90th Percentile | 0.005 | | 0.000100 | 0.3900 | 0.0034 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.005 |
| **S1-030** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4800 | 0.0040 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.7200 | 0.0060 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.6050 | 0.0048 | - | - | - | | - | 0.005 |
| 90th Percentile | 0.005 | | 0.000100 | 0.6900 | 0.0057 | 0.0002 | 0.0073 | 0.003 | | 0.001 | 0.008 |
| **S1-040** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.5100 | 0.0040 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.7000 | 0.0070 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.5825 | 0.0056 | - | - | - | | - | 0.008 |
| 90th Percentile | 0.004 | | 0.000100 | 0.6700 | 0.0067 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **S1-050** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | 0 | 0 | 0 | | 0 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4300 | 0.0033 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.5700 | 0.0036 | ND | ND | ND | | ND | 0.007 |
| Mean | - | | - | 0.4833 | 0.0035 | - | - | - | | - | 0.004 |
| 90th Percentile | 0.005 | | 0.000100 | 0.5460 | 0.0036 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.006 |
| **S1-060** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.5600 | 0.0047 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 1.0100 | 0.0064 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.7425 | 0.0055 | - | - | - | | - | 0.005 |
| 90th Percentile | 0.005 | | 0.000100 | 0.9410 | 0.0063 | 0.0002 | 0.0073 | 0.003 | | 0.001 | 0.010 |
| **S1-070** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 3 | 4 | 3 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4200 | 0.0028 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.5000 | 0.0031 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.4675 | 0.0029 | - | - | - | | - | 0.005 |
| 90th Percentile | 0.005 | | 0.000100 | 0.4970 | 0.0031 | 0.0002 | 0.0073 | 0.003 | | 0.001 | 0.010 |
| **S1-080** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | 1 | 4 | 1 | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | 0 | 0 | 0 | | 0 | 4 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.3500 | 0.0017 | ND | ND | ND | | ND | 0.001 |
| Maximum Detected | ND | | ND | 0.5700 | 0.0040 | ND | ND | ND | | ND | 0.010 |
| Mean | - | | - | 0.4275 | 0.0027 | - | - | - | | - | 0.008 |
| 90th Percentile | 0.004 | | 0.000100 | 0.5310 | 0.0037 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **S1-090** | | | | | | | | | | | |
| Number of samples | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 |
| Number of Detects | 0 | | 0 | 2 | 2 | 0 | 0 | 0 | | 0 | 2 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4800 | 0.0034 | ND | ND | ND | | ND | 0.002 |
| Maximum Detected | ND | | ND | 0.5400 | 0.0044 | ND | ND | ND | | ND | 0.003 |
| Mean | - | | - | 0.5100 | 0.0039 | - | - | - | | - | 0.003 |
| 90th Percentile | 0.005 | | 0.000100 | 0.5340 | 0.0043 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.003 |
| **S1-110** | | | | | | | | | | | |
| Number of samples | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Number of Detects | 0 | 2 | 0 | 6 | 6 | 0 | 0 | 0 | 2 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.20 | ND | 0.6300 | 0.0027 | ND | ND | ND | 0.00002 | ND | 0.001 |
| Maximum Detected | ND | 0.26 | ND | 3.4400 | 0.0067 | ND | ND | ND | 0.00003 | ND | 0.010 |
| Mean | - | 0.23 | - | 1.8717 | 0.0042 | - | - | - | 0.00003 | - | 0.004 |
| 90th Percentile | 0.005 | 0.25 | 0.000100 | 2.7450 | 0.0055 | 0.0002 | 0.0055 | 0.01 | 0.00003 | 0.001 | 0.007 |
| **S1-120** | | | | | | | | | | | |
| Number of samples | 6 | 2 | 6 | 6 | 6 | 5 | 6 | 5 | 2 | 6 | 6 |
| Number of Detects | 0 | 2 | 0 | 6 | 6 | 0 | 0 | 0 | 2 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.17 | ND | 1.1100 | 0.0040 | ND | ND | ND | 0.00003 | ND | 0.001 |
| Maximum Detected | ND | 0.34 | ND | 9.2700 | 0.0159 | ND | ND | ND | 0.00004 | ND | 0.010 |
| Mean | - | 0.26 | - | 3.4250 | 0.0075 | - | - | - | 0.00004 | - | 0.004 |
| 90th Percentile | 0.005 | 0.32 | 0.000100 | 7.0250 | 0.0126 | 0.0002 | 0.0055 | 0.01 | 0.00004 | 0.001 | 0.007 |
| **S2-010** | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Number of Detects | 0 | 2 | 0 | 5 | 5 | 0 | 0 | 0 | 2 | 0 | 5 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.58 | ND | 0.3300 | 0.0040 | ND | ND | ND | 0.00077 | ND | 0.003 |
| Maximum Detected | ND | 0.61 | ND | 3.3200 | 0.0139 | ND | ND | ND | 0.00187 | ND | 0.010 |
| Mean | - | 0.60 | - | 1.3900 | 0.0082 | - | - | - | 0.00132 | - | 0.007 |
| 90th Percentile | 0.001 | 0.61 | 0.000100 | 2.8000 | 0.0119 | 0.0001 | 0.0100 | 0.01 | 0.00176 | 0.001 | 0.010 |
| **S2-020** | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Number of Detects | 0 | 2 | 0 | 5 | 5 | 0 | 0 | 0 | 2 | 0 | 5 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.79 | ND | 0.4400 | 0.0030 | ND | ND | ND | 0.00041 | ND | 0.003 |
| Maximum Detected | ND | 0.79 | ND | 4.1700 | 0.0255 | ND | ND | ND | 0.00137 | ND | 0.010 |
| Mean | - | 0.79 | - | 1.7500 | 0.0110 | - | - | - | 0.00089 | - | 0.007 |
| 90th Percentile | 0.001 | 0.79 | 0.000100 | 3.4380 | 0.0202 | 0.0001 | 0.0100 | 0.01 | 0.00127 | 0.001 | 0.010 |
| **S2-040** | | | | | | | | | | | |
| Number of samples | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 4 |
| Number of Detects | 0 | 2 | 0 | 4 | 4 | 0 | 0 | 0 | 2 | 0 | 4 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.31 | ND | 0.3800 | 0.0020 | ND | ND | ND | 0.00003 | ND | 0.003 |
| Maximum Detected | ND | 0.91 | ND | 0.8810 | 0.0056 | ND | ND | ND | 0.00006 | ND | 0.010 |
| Mean | - | 0.61 | - | 0.6583 | 0.0041 | - | - | - | 0.00004 | - | 0.007 |
| 90th Percentile | 0.001 | 0.85 | 0.000100 | 0.8243 | 0.0054 | 0.0001 | 0.0100 | 0.01 | 0.00005 | 0.001 | 0.010 |
| **S2-050** | | | | | | | | | | | |
| Number of samples | 5 | 2 | 5 | 5 | 5 | 2 | 5 | 2 | 2 | 5 | 5 |
| Number of Detects | 0 | 2 | 0 | 5 | 5 | 0 | 0 | 0 | 2 | 0 | 5 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.43 | ND | 0.3800 | 0.0020 | ND | ND | ND | 0.00002 | ND | 0.003 |
| Maximum Detected | ND | 1.00 | ND | 0.8710 | 0.0041 | ND | ND | ND | 0.00002 | ND | 0.010 |
| Mean | - | 0.72 | - | 0.5522 | 0.0032 | - | - | - | 0.00002 | - | 0.007 |
| 90th Percentile | 0.001 | 0.94 | 0.000100 | 0.7546 | 0.0041 | 0.0001 | 0.0100 | 0.01 | 0.00002 | 0.001 | 0.010 |
| **S2-060** | | | | | | | | | | | |
| Number of samples | 6 | 2 | 6 | 6 | 6 | 3 | 6 | 3 | 2 | 6 | 6 |
| Number of Detects | 0 | 2 | 0 | 6 | 6 | 0 | 0 | 0 | 2 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 100% |
| Minimum | ND | 0.24 | ND | 0.2200 | 0.0020 | ND | ND | ND | 0.00006 | ND | 0.003 |
| Maximum Detected | ND | 0.47 | ND | 2.1100 | 0.0061 | ND | ND | ND | 0.00009 | ND | 0.011 |
| Mean | - | 0.36 | - | 0.7627 | 0.0033 | - | - | - | 0.00007 | - | 0.008 |
| 90th Percentile | 0.003 | 0.45 | 0.000100 | 1.5480 | 0.0046 | 0.0002 | 0.0100 | 0.01 | 0.00009 | 0.001 | 0.010 |
| **S2-120** | | | | | | | | | | | |
| Number of samples | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Number of Detects | 0 | | 0 | 1 | 1 | 0 | 0 | 0 | | 0 | 1 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 100% |
| Minimum | ND | | ND | 0.4300 | 0.0028 | ND | ND | ND | | ND | 0.008 |
| Maximum Detected | ND | | ND | 0.4300 | 0.0028 | ND | ND | ND | | ND | 0.008 |
| Mean | - | | - | 0.4300 | 0.0028 | - | - | - | | - | 0.008 |
| 90th Percentile | 0.005 | | 0.000100 | 0.4300 | 0.0028 | 0.0002 | 0.0010 | 0.003 | | 0.001 | 0.008 |

I:\1\62\00\181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Table 3.4.xls]Table 3.4

| # | DD/MC/YY | ISSUED WITH REPORT NB/22-181/30-5 | ML | JRR | KDR |
|---|---|---|---|---|---|
| REV | DATE | DESCRIPTION | PREPD | CHK'D | APP'D |

Knight Piésold CONSULTING

**TABLE 3.5**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 15:54:59

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Alkalinity mg/L CaCO3 | Br- mg/L | Cl- mg/L | Conductivity uS/cm | NH3+NH4 mg/L N | NO2- mg/L N | NO3- mg/L N | NO2+NO3 mg/L N | Phenols mg/L | SO4- mg/L | TKN mg/L |
| **Receiving Water Quality Objectives** | - | - | 9.5 | 6.5 - 9.0 | - | - | 120 | - | 0.021-2313 | 0.06 | 13 | - | 0.004 | - | - |
| **MDL (2005)** | | | | | 2 | 0.3 | 0.2 | 1 | 0.1 | 0.06 | 0.05 | 0.06 | 0.001 | 0.5 | |
| **MDL (2006)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | |
| **MDL (2007)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | 0.1 |
| **MDL (2008)** | | | | | 5 | 0.05 | 1 | 5 | 0.02 | 0.005 | 0.1 | 0.1 | 0.001 | 1 | 0.1 |
| **MDL (2011)** | | | | | 5 | 0.25 | 1 | 5 | 0.02 | 0.1 | 0.1 | 0.1 | 0.001 | 1 | 0.1 |
| **Milne Port Area** | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 5 | 3 | 3 | 5 | 5 | 0 | 5 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 60% | 100% | 100% | 60% | 60% | 100% | 100% | 0% | 100% | 100% |
| Minimum | 2.74 | 1.29 | 11.84 | 7.70 | 70.00 | ND | 317.00 | 1380.00 | ND | ND | 0.18 | 0.16 | ND | 15.00 | 0.21 |
| Maximum | 13.26 | 2.23 | 17.37 | 8.79 | 173.00 | 3.23 | 581.00 | 2210.00 | 0.50 | 0.17 | 2.84 | 3.01 | ND | 45.00 | 1.03 |
| Mean | 9.02 | 1.77 | 13.80 | 8.04 | 127.20 | 1.81 | 470.80 | 1784.00 | 0.22 | 0.10 | 0.93 | 0.99 | - | 23.80 | 0.58 |
| 90th Percentile | 13.20 | 2.15 | 16.07 | 8.47 | 162.20 | 2.97 | 579.80 | 2154.00 | 0.48 | 0.17 | 2.02 | 2.12 | 0.001 | 37.00 | 0.90 |
| **N1-010** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 5 | 6 | 5 | 1 | 0 | 0 | 1 | 5 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 83% | 100% | 83% | 17% | 0% | 0% | 17% | 83% | - |
| Minimum | 0.18 | 0.14 | 10.58 | 6.35 | 75.00 | ND | ND | 152.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 11.41 | 0.22 | 13.69 | 8.52 | 119.00 | ND | 2.00 | 205.00 | 0.70 | 0.06 | ND | ND | 0.003 | 3.00 | |
| Mean | 4.22 | 0.18 | 12.38 | 7.71 | 98.83 | - | 1.25 | 187.33 | 0.25 | - | - | - | - | 1.40 | - |
| 90th Percentile | 9.42 | 0.21 | 13.60 | 8.35 | 113.00 | 0.30 | 1.95 | 204.50 | 0.55 | 0.06 | 0.10 | 0.10 | 0.002 | 2.50 | |
| **N1-020** | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 |
| Number of Detects | 8 | 8 | 7 | 8 | 8 | 0 | 8 | 8 | 8 | 1 | 2 | 1 | 0 | 8 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 100% | 100% | 100% | 13% | 25% | 13% | 0% | 100% | 0% |
| Minimum | 0.16 | 0.10 | 10.15 | 7.16 | 48.00 | ND | 0.50 | 103.00 | 0.02 | ND | ND | ND | ND | 0.70 | ND |
| Maximum | 12.41 | 188.00 | 13.94 | 8.31 | 94.00 | ND | 4.00 | 188.00 | 0.40 | 0.10 | 0.22 | 0.22 | ND | 6.00 | ND |
| Mean | 6.30 | 42.86 | 11.96 | 7.84 | 77.88 | - | 1.89 | 155.00 | 0.15 | - | - | - | - | 2.64 | - |
| 90th Percentile | 11.69 | 164.20 | 13.51 | 8.23 | 93.30 | 0.30 | 4.00 | 186.60 | 0.33 | 0.07 | 0.14 | 0.14 | 0.001 | 6.00 | 0.10 |
| **N1-025** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 2 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 67% | 100% | 100% | 33% | 0% | 0% | 0% | 67% | - |
| Minimum | 0.32 | 0.12 | 11.71 | 8.12 | 67.00 | ND | ND | 125.00 | 0.03 | ND | ND | ND | ND | ND | |
| Maximum | 10.41 | 0.16 | 13.03 | 8.21 | 86.00 | ND | 1.00 | 166.00 | 0.10 | 0.02 | ND | ND | ND | 4.00 | |
| Mean | 4.80 | 0.14 | 12.59 | 8.17 | 75.00 | - | 1.00 | 145.33 | 0.07 | - | - | - | - | 2.33 | - |
| 90th Percentile | 9.06 | 0.15 | 13.03 | 8.20 | 83.20 | 0.05 | 1.00 | 161.80 | 0.10 | 0.01 | 0.10 | 0.10 | 0.001 | 3.60 | |
| **N1-030** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 5 | 6 | 6 | 1 | 0 | 0 | 1 | 3 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 83% | 100% | 100% | 17% | 0% | 0% | 17% | 50% | - |
| Minimum | 0.37 | 0.08 | 11.14 | 7.25 | 39.00 | ND | ND | 83.00 | 0.03 | ND | ND | ND | ND | ND | |
| Maximum | 9.45 | 0.16 | 13.31 | 8.21 | 83.00 | ND | 1.10 | 160.00 | 0.70 | 0.06 | ND | ND | 0.001 | 3.00 | |
| Mean | 4.41 | 0.13 | 12.48 | 7.89 | 67.67 | - | 0.83 | 131.83 | 0.32 | - | - | - | - | - | - |
| 90th Percentile | 9.07 | 0.15 | 13.24 | 8.17 | 82.00 | 0.30 | 1.05 | 159.50 | 0.65 | 0.06 | 0.10 | 0.10 | 0.001 | 2.50 | |
| **N1-040** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 3 | 6 | 5 | 1 | 0 | 0 | 0 | 6 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 50% | 100% | 83% | 17% | 0% | 0% | 0% | 100% | - |
| Minimum | 0.06 | 0.13 | 10.47 | 7.30 | 70.00 | ND | ND | 140.00 | ND | ND | ND | ND | ND | 1.00 | |
| Maximum | 10.62 | 0.19 | 13.11 | 8.26 | 102.00 | ND | 1.00 | 205.00 | 0.60 | 0.06 | ND | ND | ND | 6.00 | |
| Mean | 5.45 | 0.16 | 12.00 | 7.99 | 81.00 | - | - | 160.50 | 0.18 | - | - | - | - | 2.25 | - |
| 90th Percentile | 10.33 | 0.18 | 13.05 | 8.22 | 91.50 | 0.30 | 1.00 | 183.00 | 0.40 | 0.06 | 0.10 | 0.10 | 0.001 | 4.00 | |
| **N1-050** | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| Number of Detects | 7 | 7 | 7 | 7 | 7 | 0 | 6 | 7 | 6 | 1 | 0 | 0 | 0 | 7 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 86% | 100% | 86% | 14% | 0% | 0% | 0% | 100% | - |
| Minimum | 0.04 | 0.10 | 10.95 | 7.54 | 52.00 | ND | ND | 105.00 | ND | ND | ND | ND | ND | 0.60 | |
| Maximum | 9.36 | 0.31 | 13.80 | 8.55 | 163.00 | ND | 3.00 | 315.00 | 0.60 | 0.06 | ND | ND | ND | 6.00 | |
| Mean | 4.12 | 0.23 | 12.76 | 8.15 | 123.14 | - | 1.50 | 232.86 | 0.24 | - | - | - | - | 2.39 | - |
| 90th Percentile | 8.73 | 0.31 | 13.73 | 8.44 | 158.80 | 0.30 | 2.34 | 304.80 | 0.48 | 0.06 | 0.10 | 0.10 | 0.001 | 3.90 | |
| **N1-053** | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| Number of Detects | 4 | 4 | 4 | 4 | 4 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 4 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 0% | 100% | 50% | 25% | 0% | 0% | 0% | 100% | - |
| Minimum | -0.08 | 0.15 | 10.81 | 8.15 | 80.00 | ND | ND | 161.00 | ND | ND | ND | ND | ND | 2.00 | |
| Maximum | 9.96 | 0.18 | 13.70 | 8.32 | 93.00 | ND | ND | 190.00 | 0.08 | 0.02 | ND | ND | ND | 7.00 | |
| Mean | 6.40 | 0.16 | 11.95 | 8.22 | 85.75 | - | - | 170.00 | - | - | - | - | - | 3.50 | - |
| 90th Percentile | 9.96 | 0.18 | 13.33 | 8.30 | 90.60 | 0.05 | 1.00 | 182.50 | 0.07 | 0.01 | 0.10 | 0.10 | 0.001 | 5.80 | |
| **N1-058** | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 |
| Number of Detects | 4 | 4 | 3 | 4 | 4 | 0 | 0 | 4 | 3 | 1 | 0 | 0 | 0 | 4 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 0% | 100% | 75% | 25% | 0% | 0% | 0% | 100% | 0% |
| Minimum | 6.37 | 0.14 | 11.05 | 8.11 | 73.00 | ND | ND | 139.00 | ND | ND | ND | ND | ND | 1.00 | ND |
| Maximum | 11.67 | 179.00 | 12.99 | 8.37 | 94.00 | ND | ND | 183.00 | 0.06 | 0.10 | ND | ND | ND | 7.00 | ND |
| Mean | 9.56 | 85.32 | 11.88 | 8.21 | 83.75 | - | - | 162.00 | 0.04 | - | - | - | - | 4.50 | - |
| 90th Percentile | 11.35 | 173.90 | 12.71 | 8.33 | 91.30 | 0.25 | 1.00 | 177.00 | 0.05 | 0.07 | 0.10 | 0.10 | 0.001 | 6.70 | 0.10 |
| **N1-060** | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 |
| Number of Detects | 8 | 8 | 7 | 8 | 8 | 0 | 5 | 8 | 5 | 1 | 1 | 1 | 1 | 8 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 63% | 100% | 63% | 13% | 13% | 13% | 13% | 100% | 50% |
| Minimum | -0.06 | 0.08 | 10.95 | 7.36 | 40.00 | ND | ND | 83.00 | ND | ND | ND | ND | ND | 0.60 | ND |
| Maximum | 13.05 | 326.00 | 14.17 | 8.36 | 170.00 | ND | 3.00 | 333.00 | 0.80 | 0.10 | 0.18 | 0.18 | 0.001 | 12.00 | 0.16 |
| Mean | 6.30 | 71.77 | 12.46 | 8.12 | 116.50 | - | 1.21 | 223.63 | 0.22 | - | - | - | - | 3.41 | - |
| 90th Percentile | 12.71 | 270.70 | 13.76 | 8.35 | 153.20 | 0.30 | 2.30 | 293.80 | 0.66 | 0.07 | 0.12 | 0.12 | 0.001 | 7.10 | 0.15 |
| **N1-070** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 4 | 6 | 4 | 1 | 1 | 1 | 0 | 5 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 67% | 100% | 67% | 17% | 17% | 17% | 0% | 83% | |
| Minimum | -0.05 | 0.07 | 10.32 | 7.58 | 33.00 | ND | ND | 72.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 13.74 | 0.15 | 23.05 | 8.16 | 87.00 | ND | 2.00 | 171.00 | 0.20 | 0.06 | 0.10 | 0.10 | ND | 3.00 | |
| Mean | 6.05 | 0.13 | 13.77 | 7.93 | 66.83 | - | 1.10 | 133.17 | 0.10 | - | - | - | - | 1.30 | |
| 90th Percentile | 11.75 | 0.15 | 18.32 | 8.13 | 80.50 | 0.30 | 1.50 | 160.00 | 0.16 | 0.06 | 0.10 | 0.10 | 0.001 | 2.50 | |
| **N1-080** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 4 | 6 | 6 | 0 | 5 | 6 | 5 | 1 | 0 | 0 | 0 | 5 | |
| Percentage of Detects | 100% | 100% | 80% | 100% | 100% | 0% | 83% | 100% | 83% | 17% | 0% | 0% | 0% | 83% | |
| Minimum | -0.10 | 0.05 | ND | 6.99 | 24.00 | ND | ND | 54.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 14.96 | 0.32 | 13.65 | 8.50 | 167.00 | ND | 5.00 | 321.00 | 0.60 | 0.06 | ND | ND | ND | 4.00 | |
| Mean | 5.90 | 0.21 | 12.14 | 8.05 | 113.33 | - | 1.83 | 216.67 | 0.24 | - | - | - | - | 1.75 | |
| 90th Percentile | 12.88 | 0.31 | 13.58 | 8.45 | 167.00 | 0.30 | 3.70 | 312.00 | 0.55 | 0.06 | 0.10 | 0.10 | 0.001 | 3.05 | |
| **N1-090** | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Number of Detects | 5 | 5 | 5 | 5 | 5 | 0 | 4 | 5 | 5 | 0 | 0 | 0 | 1 | 3 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 80% | 100% | 100% | 0% | 0% | 0% | 20% | 60% | |
| Minimum | 1.45 | 0.09 | 10.16 | 7.53 | 50.00 | ND | ND | 105.00 | 0.03 | ND | ND | ND | ND | ND | |
| Maximum | 14.69 | 0.38 | 12.78 | 8.40 | 195.00 | ND | 1.20 | 361.00 | 0.20 | ND | ND | ND | 0.001 | 1.00 | |
| Mean | 6.46 | 0.25 | 11.57 | 7.95 | 137.80 | - | 0.92 | 260.60 | 0.13 | - | - | - | - | 0.80 | |
| 90th Percentile | 12.72 | 0.36 | 12.53 | 8.28 | 193.00 | 0.30 | 1.12 | 354.20 | 0.20 | 0.06 | 0.10 | 0.10 | 0.001 | 1.00 | |
| **N1-100** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 5 | 6 | 5 | 2 | 0 | 0 | 0 | 6 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 83% | 100% | 83% | 33% | 0% | 0% | 0% | 100% | |
| Minimum | 0.74 | 0.02 | 10.59 | 7.02 | 8.00 | ND | ND | 27.00 | ND | ND | ND | ND | ND | 0.60 | |
| Maximum | 9.35 | 0.09 | 13.40 | 7.92 | 47.00 | ND | 2.00 | 97.00 | 0.50 | 0.06 | ND | ND | ND | 3.00 | |
| Mean | 4.77 | 0.07 | 12.21 | 7.45 | 33.83 | - | 1.17 | 71.83 | 0.19 | - | - | - | - | 1.50 | |
| 90th Percentile | 8.36 | 0.09 | 13.11 | 7.76 | 46.00 | 0.30 | 1.60 | 95.00 | 0.45 | 0.06 | 0.10 | 0.10 | 0.001 | 2.50 | |
| **N1-110** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Number of Detects | 6 | 6 | 6 | 6 | 6 | 0 | 5 | 6 | 3 | 2 | 1 | 1 | 1 | 5 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 83% | 100% | 50% | 33% | 17% | 17% | 17% | 83% | |
| Minimum | 1.99 | 0.02 | 10.25 | 7.02 | 5.00 | ND | ND | 26.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 9.54 | 0.10 | 13.55 | 8.07 | 53.00 | ND | 4.00 | 119.00 | 0.70 | 0.06 | 0.12 | 0.12 | 0.001 | 4.00 | |
| Mean | 5.63 | 0.07 | 11.60 | 7.60 | 37.17 | - | 1.43 | 79.50 | - | - | - | - | - | 1.70 | |
| 90th Percentile | 8.33 | 0.09 | 13.18 | 7.98 | 48.00 | 0.30 | 2.65 | 103.50 | 0.65 | 0.06 | 0.11 | 0.11 | 0.001 | 3.00 | |
| **N2-010** | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Number of Detects | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 0% | 100% | 50% | 50% | 0% | 0% | 0% | 50% | |
| Minimum | 3.64 | 0.07 | 11.32 | 7.62 | 35.00 | ND | ND | 66.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 6.60 | 0.07 | 13.00 | 7.82 | 37.00 | ND | ND | 68.00 | 0.03 | 0.02 | ND | ND | ND | 2.00 | |
| Mean | 5.12 | 0.07 | 12.16 | 7.72 | 36.00 | - | - | 67.00 | - | - | - | - | - | - | |
| 90th Percentile | 6.30 | 0.07 | 12.83 | 7.80 | 36.80 | 0.05 | 1.00 | 67.80 | 0.03 | 0.01 | 0.10 | 0.10 | 0.001 | 1.90 | |
| **N2-013** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 2 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 67% | 100% | 100% | 33% | 0% | 0% | 0% | 67% | |
| Minimum | 1.13 | 0.13 | 11.11 | 8.07 | 69.00 | ND | ND | 130.00 | 0.06 | ND | ND | ND | ND | ND | |
| Maximum | 13.00 | 0.17 | 13.19 | 8.16 | 92.00 | ND | 1.00 | 178.00 | 0.09 | 0.02 | ND | ND | ND | 3.00 | |
| Mean | 5.62 | 0.15 | 12.50 | 8.13 | 83.67 | - | 1.00 | 161.33 | 0.07 | - | - | - | - | 2.00 | |
| 90th Percentile | 10.95 | 0.17 | 13.19 | 8.16 | 91.60 | 0.05 | 1.00 | 177.60 | 0.08 | 0.02 | 0.10 | 0.10 | 0.001 | 2.80 | |
| **N2-020** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 2 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 67% | 100% | 100% | 33% | 0% | 0% | 0% | 67% | |
| Minimum | 1.34 | 0.13 | 11.08 | 8.11 | 70.00 | ND | ND | 131.00 | 0.06 | ND | ND | ND | ND | ND | |
| Maximum | 13.86 | 0.18 | 12.95 | 8.32 | 103.00 | ND | 2.00 | 197.00 | 0.09 | 0.02 | ND | ND | ND | 3.00 | |
| Mean | 6.31 | 0.15 | 12.16 | 8.19 | 88.67 | - | 1.33 | 170.00 | 0.07 | - | - | - | - | 2.00 | |
| 90th Percentile | 11.83 | 0.17 | 12.85 | 8.29 | 101.00 | 0.05 | 1.80 | 194.00 | 0.09 | 0.02 | 0.10 | 0.10 | 0.001 | 2.80 | |
| **N2-030** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 2 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 67% | 100% | 67% | 33% | 0% | 0% | 0% | 67% | |
| Minimum | -0.09 | 0.11 | 11.62 | 8.05 | 62.00 | ND | ND | 124.00 | ND | ND | ND | ND | ND | ND | |
| Maximum | 11.92 | 0.18 | 13.95 | 8.26 | 97.00 | ND | 1.00 | 183.00 | 0.08 | 0.03 | ND | ND | ND | 3.00 | |
| Mean | 4.33 | 0.14 | 13.04 | 8.13 | 76.67 | - | 1.00 | 146.00 | 0.05 | - | - | - | - | 2.00 | |
| 90th Percentile | 9.77 | 0.17 | 13.87 | 8.22 | 91.80 | 0.05 | 1.00 | 172.60 | 0.07 | 0.02 | 0.10 | 0.10 | 0.001 | 2.80 | |
| **N2-060** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Number of Detects | 3 | 3 | 3 | 3 | 3 | 0 | 1 | 3 | 1 | 2 | 0 | 0 | 0 | 3 | |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 0% | 33% | 100% | 33% | 67% | 0% | 0% | 0% | 100% | |
| Minimum | 0.73 | 0.04 | 12.85 | 7.49 | 21.00 | ND | ND | 43.00 | ND | ND | ND | ND | ND | 2.00 | |
| Maximum | 8.83 | 0.10 | 13.60 | 7.88 | 50.00 | ND | 2.00 | 100.00 | 0.03 | 0.02 | ND | ND | ND | 3.00 | |
| Mean | 3.97 | 0.07 | 13.24 | 7.68 | 34.00 | - | - | 67.33 | - | 0.02 | - | - | - | 2.33 | |
| 90th Percentile | 7.53 | 0.09 | 13.53 | 7.84 | 46.20 | 0.05 | 1.80 | 91.80 | 0.03 | 0.02 | 0.10 | 0.10 | 0.001 | 2.80 | |

Knight Piésold CONSULTING

**TABLE 3.5**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 15:54:59

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | TOC mg/L | DOC mg/L | TSS mg/L | TDS mg/L | Hardness mg/L CaCO3 | Phosphorus Total | Turbidity NTU | Aluminum Total | Antimony Total | Arsenic Total | Barium Total | Beryllium Total | Bismuth Total | Boron Total |
| **Receiving Water Quality Objectives** | - | - | 9.5 | 6.5 - 9.0 | - | - | - | - | - | - | - | 0.005 or 0.1 | - | 0.005 | - | - | - | 1.5 |
| **MDL (2005)** | | | | | | | | 30 | 0.5 | 0.02 | 0.1 | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 |
| **MDL (2006)** | | | | | | | | 5 | 1 | 0.01 | 0.1 | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 |
| **MDL (2007)** | | | | | 0.5 | 0.5 | 2 | 5 | 1 | 0.003 | 0.1 | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **MDL (2008)** | | | | | 0.5 | 0.5 | 2 | 5 | 0.5 | 0.003 | 0.1 | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **MDL (2011)** | | | | | 0.5 | 0.5 | 2 | 1 | 0.5 | 0.003 | 0.1 | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **Milne Port Area** | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 |
| Number of Detects | 5 | 5 | 4 | 5 | 5 | 5 | 3 | 5 | 5 | 2 | 5 | 5 | 1 | 1 | 5 | 0 | 1 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 60% | 100% | 100% | 100% | 100% | 100% | 20% | 20% | 100% | 0% | 20% | 80% |
| Minimum | 2.74 | 1.29 | 11.84 | 7.70 | 2.30 | 2.30 | ND | 897.00 | 62.90 | 0.006 | 0.30 | 0.014 | ND | ND | 0.00504 | ND | ND | ND |
| Maximum | 13.26 | 2.23 | 17.37 | 8.79 | 7.30 | 6.50 | 51.00 | 1440.00 | 754.00 | 0.013 | 15.70 | 0.717 | 0.0005 | 0.0040 | 0.02010 | ND | 0.0025 | 0.30 |
| Mean | 9.02 | 1.77 | 13.80 | 8.04 | 4.74 | 4.22 | 12.60 | 1161.80 | 410.78 | 0.010 | 4.22 | 0.181 | - | - | 0.01177 | - | - | 0.12 |
| 90th Percentile | 13.20 | 2.15 | 16.07 | 8.47 | 6.70 | 5.78 | 32.20 | 1404.00 | 646.00 | 0.012 | 10.38 | 0.471 | 0.0005 | 0.0036 | 0.01718 | 0.0025 | 0.0025 | 0.23 |
| **N1-010** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 6 | 6 | 1 | 6 | 3 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 17% | 100% | 50% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | 0.18 | 0.14 | 10.58 | 6.35 | | | | 97.00 | 76.00 | ND | 0.21 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 11.41 | 0.22 | 13.69 | 8.52 | | | | 133.00 | 116.00 | 0.100 | 0.50 | 0.039 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 4.22 | 0.18 | 12.38 | 7.71 | - | - | - | 112.67 | 98.48 | - | 0.38 | - | - | - | - | - | - | - |
| 90th Percentile | 9.42 | 0.21 | 13.60 | 8.35 | | | | 126.50 | 110.50 | 0.060 | 0.50 | 0.027 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-020** | | | | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 2 | 2 | 2 | 8 | 8 | 8 | 8 | 8 | 5 | 8 | 8 | 5 | 5 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 2 | 2 | 0 | 8 | 8 | 1 | 8 | 7 | 0 | 0 | 5 | 0 | 0 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 0% | 100% | 100% | 13% | 100% | 88% | 0% | 0% | 63% | 0% | 0% | 13% |
| Minimum | 0.16 | 0.10 | 10.15 | 7.16 | 1.10 | 1.00 | ND | 57.00 | 53.10 | ND | 0.14 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 12.41 | 188.00 | 13.94 | 8.31 | 1.40 | 1.30 | ND | 122.00 | 94.40 | 0.100 | 5.30 | 5.300 | ND | ND | 2.49000 | ND | ND | 11.00 |
| Mean | 6.30 | 42.86 | 11.96 | 7.84 | 1.25 | 1.15 | - | 94.75 | 79.41 | - | 1.39 | 0.687 | - | - | 0.31652 | - | - | - |
| 90th Percentile | 11.69 | 164.20 | 13.51 | 8.23 | 1.37 | 1.27 | 2.00 | 121.30 | 93.42 | 0.044 | 3.76 | 1.646 | 0.0004 | 0.0050 | 0.75400 | 0.0050 | 0.0004 | 3.34 |
| **N1-025** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | | | | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | | | | 3 | 3 | 1 | 3 | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 33% | 100% | 100% | - | 0% | 0% | - | - | 0% |
| Minimum | 0.32 | 0.12 | 11.71 | 8.12 | | | | 81.00 | 65.00 | ND | 0.60 | 0.006 | | ND | ND | | | ND |
| Maximum | 10.41 | 0.16 | 13.03 | 8.21 | | | | 108.00 | 85.00 | 0.030 | 7.10 | 0.101 | | ND | ND | | | ND |
| Mean | 4.80 | 0.14 | 12.59 | 8.17 | - | - | - | 94.33 | 74.33 | - | 2.80 | 0.040 | - | - | - | - | - | - |
| 90th Percentile | 9.06 | 0.15 | 13.03 | 8.20 | | | | 105.20 | 82.60 | 0.026 | 5.82 | 0.084 | | 0.0010 | 0.01000 | | | 0.01 |
| **N1-030** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 6 | 6 | 3 | 6 | 5 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 50% | 100% | 83% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | 0.37 | 0.08 | 11.14 | 7.25 | | | | 60.00 | 39.80 | ND | 0.14 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 9.45 | 0.16 | 13.31 | 8.21 | | | | 104.00 | 85.00 | 0.100 | 12.10 | 0.113 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 4.41 | 0.13 | 12.48 | 7.89 | - | - | - | 82.17 | 68.97 | - | 2.45 | 0.029 | - | - | - | - | - | - |
| 90th Percentile | 9.07 | 0.15 | 13.24 | 8.17 | | | | 103.50 | 83.50 | 0.060 | 6.55 | 0.067 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-040** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 6 | 6 | 3 | 6 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 50% | 100% | 33% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | 0.06 | 0.13 | 10.47 | 7.30 | | | | 66.00 | 75.00 | ND | 0.13 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 10.62 | 0.19 | 13.11 | 8.26 | | | | 133.00 | 101.00 | 0.100 | 2.50 | 0.067 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 5.45 | 0.16 | 12.00 | 7.99 | - | - | - | 90.50 | 85.23 | - | 0.64 | - | - | - | - | - | - | - |
| 90th Percentile | 10.33 | 0.18 | 13.05 | 8.22 | | | | 116.00 | 96.55 | 0.080 | 1.45 | 0.036 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-050** | | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | | | | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 4 | 4 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | | | | 7 | 7 | 0 | 5 | 3 | 0 | 0 | 4 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 0% | 71% | 43% | 0% | 0% | 57% | 0% | 0% | 0% |
| Minimum | 0.04 | 0.10 | 10.95 | 7.54 | | | | 57.00 | 54.20 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 9.36 | 0.31 | 13.80 | 8.55 | | | | 205.00 | 177.00 | ND | 0.90 | 0.026 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 4.12 | 0.23 | 12.76 | 8.15 | - | - | - | 137.43 | 128.03 | - | 0.37 | - | - | - | 0.00657 | - | - | - |
| 90th Percentile | 8.73 | 0.31 | 13.73 | 8.44 | | | | 184.00 | 172.20 | 0.100 | 0.86 | 0.019 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-053** | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | | | | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | | | | 4 | 4 | 0 | 4 | 1 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | - | - | - | 100% | 100% | 0% | 100% | 25% | - | 0% | 0% | - | - | 0% |
| Minimum | -0.08 | 0.15 | 10.81 | 8.15 | | | | 105.00 | 85.00 | ND | 0.20 | ND | | ND | ND | | | ND |
| Maximum | 9.96 | 0.18 | 13.70 | 8.32 | | | | 123.00 | 95.00 | ND | 0.50 | 0.007 | | ND | ND | | | ND |
| Mean | 6.40 | 0.16 | 11.95 | 8.22 | - | - | - | 110.50 | 88.00 | - | 0.33 | - | - | - | - | - | - | - |
| 90th Percentile | 9.96 | 0.18 | 13.33 | 8.30 | | | | 118.20 | 92.30 | 0.010 | 0.47 | 0.006 | | 0.0010 | 0.01000 | | | 0.01 |
| **N1-058** | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 3 | 4 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 2 | 2 | 4 |
| Number of Detects | 4 | 4 | 3 | 4 | 2 | 2 | 0 | 4 | 4 | 0 | 4 | 3 | 0 | 0 | 2 | 0 | 0 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 0% | 100% | 100% | 0% | 100% | 75% | 0% | 0% | 50% | 0% | 0% | 25% |
| Minimum | 6.37 | 0.14 | 11.05 | 8.11 | 0.90 | 0.80 | ND | 90.00 | 71.00 | ND | 0.20 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 11.67 | 179.00 | 12.99 | 8.37 | 1.10 | 1.10 | ND | 119.00 | 91.20 | ND | 0.70 | 9.800 | ND | ND | 1.52000 | ND | ND | 12.00 |
| Mean | 9.56 | 85.32 | 11.88 | 8.21 | 1.00 | 0.95 | - | 105.25 | 82.38 | - | 0.38 | 2.456 | - | - | - | - | - | - |
| 90th Percentile | 11.35 | 173.90 | 12.71 | 8.33 | 1.08 | 1.07 | 2.00 | 115.10 | 89.73 | 0.010 | 0.61 | 6.864 | 0.0900 | 0.0703 | 1.06700 | 0.4501 | 0.4501 | 8.40 |
| **N1-060** | | | | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 2 | 2 | 2 | 8 | 8 | 8 | 8 | 8 | 5 | 8 | 8 | 5 | 5 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 2 | 2 | 0 | 8 | 8 | 0 | 4 | 3 | 0 | 0 | 4 | 0 | 0 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 100% | 100% | 0% | 100% | 100% | 0% | 50% | 38% | 0% | 0% | 50% | 0% | 0% | 13% |
| Minimum | -0.06 | 0.08 | 10.95 | 7.36 | 1.50 | 0.80 | ND | 63.00 | 41.00 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 13.05 | 326.00 | 14.17 | 8.36 | 1.70 | 1.70 | ND | 216.00 | 192.00 | ND | 0.50 | 0.006 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | 6.30 | 71.77 | 12.46 | 8.12 | 1.60 | 1.25 | - | 136.00 | 113.68 | - | - | - | - | - | - | - | - | - |
| 90th Percentile | 12.71 | 270.70 | 13.76 | 8.35 | 1.68 | 1.61 | 2.00 | 190.80 | 169.60 | 0.044 | 0.43 | 0.006 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.02 |
| **N1-070** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 6 | 6 | 0 | 6 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 0% | 100% | 33% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | -0.05 | 0.07 | 10.32 | 7.58 | | | | 54.00 | 32.40 | ND | 0.16 | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 13.74 | 0.15 | 23.05 | 8.16 | | | | 111.00 | 82.00 | ND | 0.60 | 0.008 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 6.05 | 0.13 | 13.77 | 7.93 | | | | 82.83 | 68.32 | - | 0.36 | - | - | - | - | - | - | - |
| 90th Percentile | 11.75 | 0.15 | 18.32 | 8.13 | | | | 101.00 | 81.00 | 0.060 | 0.55 | 0.007 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-080** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 5 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 4 | 6 | | | | 6 | 6 | 1 | 5 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 80% | 100% | | | | 100% | 100% | 17% | 83% | 33% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | -0.10 | 0.05 | ND | 6.99 | | | | 46.00 | 25.10 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 14.96 | 0.32 | 13.65 | 8.50 | | | | 209.00 | 178.00 | 0.100 | 0.60 | 0.006 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 5.90 | 0.21 | 12.14 | 8.05 | | | | 136.33 | 116.85 | - | 0.28 | - | - | - | - | - | - | - |
| 90th Percentile | 12.88 | 0.31 | 13.58 | 8.45 | | | | 204.50 | 168.50 | 0.065 | 0.49 | 0.006 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-090** | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 3 | 3 | 5 |
| Number of Detects | 5 | 5 | 5 | 5 | | | | 5 | 5 | 2 | 4 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 40% | 80% | 40% | 0% | 0% | 60% | 0% | 0% | 0% |
| Minimum | 1.45 | 0.09 | 10.16 | 7.53 | | | | 63.00 | 54.90 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum | 14.69 | 0.38 | 12.78 | 8.40 | | | | 224.00 | 209.00 | 0.100 | 0.50 | 0.011 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 6.46 | 0.25 | 11.57 | 7.95 | | | | 153.20 | 146.98 | - | 0.32 | - | - | - | 0.00620 | - | - | - |
| 90th Percentile | 12.72 | 0.36 | 12.53 | 8.28 | | | | 214.40 | 203.80 | 0.080 | 0.50 | 0.009 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-100** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 4 | 6 | 1 | 6 | 6 | 0 | 1 | 3 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 67% | 100% | 17% | 100% | 100% | 0% | 17% | 50% | 0% | 0% | 0% |
| Minimum | 0.74 | 0.02 | 10.59 | 7.02 | | | | ND | 8.57 | ND | 0.50 | 0.020 | ND | ND | ND | ND | ND | ND |
| Maximum | 9.35 | 0.09 | 13.40 | 7.92 | | | | 63.00 | 46.30 | 0.100 | 1.40 | 0.066 | ND | 0.0050 | 0.01000 | ND | ND | ND |
| Mean | 4.77 | 0.07 | 12.21 | 7.45 | | | | 39.17 | 32.81 | - | 0.87 | 0.036 | - | - | - | - | - | - |
| 90th Percentile | 8.36 | 0.09 | 13.11 | 7.76 | | | | 59.50 | 44.65 | 0.060 | 1.25 | 0.055 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-110** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | | | | 6 | 6 | 6 | 6 | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | | | | 4 | 6 | 2 | 6 | 6 | 0 | 0 | 2 | 0 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 67% | 100% | 33% | 100% | 100% | 0% | 0% | 33% | 0% | 0% | 0% |
| Minimum | 1.99 | 0.02 | 10.25 | 7.02 | | | | ND | 7.14 | ND | 0.42 | 0.010 | ND | ND | ND | ND | ND | ND |
| Maximum | 9.54 | 0.10 | 13.55 | 8.07 | | | | 77.00 | 52.00 | 0.100 | 4.90 | 0.153 | ND | ND | 0.01000 | ND | ND | ND |
| Mean | 5.63 | 0.07 | 11.60 | 7.60 | | | | 49.00 | 39.02 | - | 2.28 | 0.067 | - | - | - | - | - | - |
| 90th Percentile | 8.33 | 0.09 | 13.18 | 7.98 | | | | 66.00 | 49.50 | 0.060 | 4.27 | 0.114 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N2-010** | | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | | | | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | | | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | | | | 2 | 2 | 0 | 2 | 1 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 0% | 100% | 50% | | 0% | 0% | | | 0% |
| Minimum | 3.64 | 0.07 | 11.32 | 7.62 | | | | 43.00 | 30.00 | ND | 0.40 | ND | | ND | ND | | | ND |
| Maximum | 6.60 | 0.07 | 13.00 | 7.82 | | | | 44.00 | 30.00 | ND | 0.40 | 0.006 | | ND | ND | | | ND |
| Mean | 5.12 | 0.07 | 12.16 | 7.72 | | | | 43.50 | 30.00 | - | 0.40 | - | | - | - | | | - |
| 90th Percentile | 6.30 | 0.07 | 12.83 | 7.80 | | | | 43.90 | 30.00 | 0.010 | 0.40 | 0.006 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-013** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | | | | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | | | | 3 | 3 | 1 | 3 | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 33% | 100% | 100% | | 0% | 0% | | | 0% |
| Minimum | 1.13 | 0.13 | 11.11 | 8.07 | | | | 85.00 | 69.00 | ND | 0.60 | 0.010 | | ND | ND | | | ND |
| Maximum | 13.00 | 0.17 | 13.19 | 8.16 | | | | 116.00 | 91.00 | 0.020 | 10.50 | 0.112 | | ND | ND | | | ND |
| Mean | 5.62 | 0.15 | 12.50 | 8.13 | | | | 105.00 | 82.00 | - | 4.03 | 0.051 | | - | - | | | - |
| 90th Percentile | 10.95 | 0.17 | 13.19 | 8.16 | | | | 115.60 | 90.00 | 0.018 | 8.60 | 0.096 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-020** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | | | | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | | | | 3 | 3 | 2 | 3 | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 67% | 100% | 100% | | 0% | 0% | | | 0% |
| Minimum | 1.34 | 0.13 | 11.08 | 8.11 | | | | 85.00 | 69.00 | ND | 0.80 | 0.005 | | ND | ND | | | ND |
| Maximum | 13.86 | 0.18 | 12.95 | 8.32 | | | | 128.00 | 103.00 | 0.030 | 17.60 | 0.170 | | ND | ND | | | ND |
| Mean | 6.31 | 0.15 | 12.16 | 8.19 | | | | 110.33 | 88.33 | 0.017 | 6.47 | 0.072 | | - | - | | | - |
| 90th Percentile | 11.83 | 0.17 | 12.85 | 8.29 | | | | 126.00 | 101.00 | 0.026 | 14.28 | 0.144 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-030** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | | | | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | | | | 3 | 3 | 1 | 3 | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 33% | 100% | 100% | | 0% | 0% | | | 0% |
| Minimum | -0.09 | 0.11 | 11.62 | 8.05 | | | | 81.00 | 66.00 | ND | 0.60 | 0.012 | | ND | ND | | | ND |
| Maximum | 11.92 | 0.18 | 13.95 | 8.26 | | | | 119.00 | 90.00 | 0.030 | 2.00 | 0.043 | | ND | ND | | | ND |
| Mean | 4.33 | 0.14 | 13.04 | 8.13 | | | | 95.00 | 75.00 | - | 1.27 | 0.032 | | - | - | | | - |
| 90th Percentile | 9.77 | 0.17 | 13.87 | 8.22 | | | | 112.20 | 85.80 | 0.026 | 1.84 | 0.043 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-060** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | | | | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 0 | 0 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | | | | 3 | 3 | 1 | 3 | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | | | | 100% | 100% | 33% | 100% | 100% | | 0% | 0% | | | 0% |
| Minimum | 0.73 | 0.04 | 12.85 | 7.49 | | | | 28.00 | 25.00 | ND | 0.90 | 0.029 | | ND | ND | | | ND |
| Maximum | 8.83 | 0.10 | 13.60 | 7.88 | | | | 65.00 | 47.00 | 0.020 | 6.00 | 0.161 | | ND | ND | | | ND |
| Mean | 3.97 | 0.07 | 13.24 | 7.68 | | | | 43.67 | 34.67 | - | 4.17 | 0.117 | | - | - | | | - |
| 90th Percentile | 7.53 | 0.09 | 13.53 | 7.84 | | | | 59.60 | 44.00 | 0.018 | 5.92 | 0.161 | | 0.0010 | 0.01000 | | | 0.01 |

Knight Piésold CONSULTING

**TABLE 3.5**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 15:54:59

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Cadmium Total | Calcium Total | Chromium Total | Cobalt Total | Copper Total | Iron Total | Lead Total | Lithium Total | Magnesium Total | Manganese Total | Mercury Total | Molybdenum Total | Nickel Total | Potassium Total |
| **Receiving Water Quality Objectives** | - | - | 9.5 | 6.5 - 9.0 | 0.000029 | - | 0.0047 | - | 0.002 | 0.3 | 0.001 | - | - | - | 0.000026 | 0.073 | 0.083 | - |
| **MDL (2005)** | | | | | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 | - | 0.0003 | 0.001 | 0.02 |
| **MDL (2006)** | | | | | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 | - | 0.005 | 0.005 | 0.01 |
| **MDL (2007)** | | | | | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00005 | 0.00005 | 0.0005 | 2 |
| **MDL (2008)** | | | | | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **MDL (2011)** | | | | | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **Milne Port Area** | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 5 | 5 | 4 | 5 | 1 | 5 | 1 | 1 | 5 | 4 | 2 | 3 | 5 | 5 | 1 | 5 | 3 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 20% | 100% | 20% | 20% | 100% | 80% | 40% | 60% | 100% | 100% | 20% | 100% | 60% | 100% |
| Minimum | 2.74 | 1.29 | 11.84 | 7.70 | ND | 12.50 | ND | ND | 0.0008 | ND | ND | ND | 7.70 | 0.00142 | ND | 0.00068 | ND | 0.87 |
| Maximum | 13.26 | 2.23 | 17.37 | 8.79 | 0.00005 | 231.00 | 0.0025 | 0.0005 | 0.0028 | 0.71 | 0.00060 | 0.038 | 46.00 | 0.01790 | 0.00001 | 0.00120 | 0.0027 | 12.30 |
| Mean | 9.02 | 1.77 | 13.80 | 8.04 | - | 107.80 | - | - | 0.0020 | 0.19 | - | 0.025 | 33.20 | 0.01116 | - | 0.00088 | 0.0019 | 8.00 |
| 90th Percentile | 13.20 | 2.15 | 16.07 | 8.47 | 0.00005 | 190.20 | 0.0025 | 0.0005 | 0.0027 | 0.46 | 0.00048 | 0.035 | 44.80 | 0.01766 | 0.00001 | 0.00110 | 0.0026 | 11.78 |
| **N1-010** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | | 6 | 1 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 17% | 0% | - | 100% | 17% | 0% | 0% | 0% | 100% |
| Minimum | 0.18 | 0.14 | 10.58 | 6.35 | ND | 20.00 | ND | ND | ND | ND | ND | | 6.00 | ND | ND | ND | ND | 0.42 |
| Maximum | 11.41 | 0.22 | 13.69 | 8.52 | ND | 31.10 | ND | ND | ND | 0.04 | ND | | 9.23 | 0.01000 | ND | ND | ND | 0.76 |
| Mean | 4.22 | 0.18 | 12.38 | 7.71 | - | 26.68 | - | - | - | - | - | - | 7.95 | - | - | - | - | 0.52 |
| 90th Percentile | 9.42 | 0.21 | 13.60 | 8.35 | 0.00010 | 30.05 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 9.11 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.63 |
| **N1-020** | | | | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 8 | 7 | 8 | 7 | 8 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 0 | 8 | 0 | 0 | 1 | 4 | 0 | 0 | 8 | 3 | 0 | 1 | 1 | 8 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 13% | 50% | 0% | 0% | 100% | 43% | 0% | 14% | 13% | 100% |
| Minimum | 0.16 | 0.10 | 10.15 | 7.16 | ND | 12.80 | ND | ND | ND | ND | ND | ND | 5.15 | ND | ND | ND | ND | 0.30 |
| Maximum | 12.41 | 188.00 | 13.94 | 8.31 | ND | 25.30 | ND | ND | 0.0010 | 0.07 | ND | ND | 8.35 | 0.01630 | ND | 0.00500 | 0.0050 | 0.66 |
| Mean | 6.30 | 42.86 | 11.96 | 7.84 | - | 21.29 | - | - | - | - | - | - | 6.57 | - | - | - | - | 0.39 |
| 90th Percentile | 11.69 | 164.20 | 13.51 | 8.23 | 0.00010 | 25.09 | 0.0010 | 0.0003 | 0.0010 | 0.07 | 0.00100 | 0.005 | 8.11 | 0.01252 | 0.00010 | 0.00500 | 0.0050 | 0.52 |
| **N1-025** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | | 3 | 0 | 0 | 0 | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 33% | 0% | - | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | 0.32 | 0.12 | 11.71 | 8.12 | ND | 16.00 | ND | ND | ND | ND | ND | | 6.00 | ND | ND | ND | ND | 0.35 |
| Maximum | 10.41 | 0.16 | 13.03 | 8.21 | ND | 20.00 | ND | ND | ND | 0.12 | ND | | 8.00 | ND | ND | ND | ND | 0.51 |
| Mean | 4.80 | 0.14 | 12.59 | 8.17 | - | 17.67 | - | - | - | - | - | - | 7.00 | - | - | - | - | 0.46 |
| 90th Percentile | 9.06 | 0.15 | 13.03 | 8.20 | 0.00010 | 19.40 | 0.0010 | 0.0002 | 0.0010 | 0.10 | 0.00100 | | 7.80 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.51 |
| **N1-030** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 3 | 0 | | 6 | 3 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 50% | 0% | - | 100% | 50% | 0% | 0% | 0% | 100% |
| Minimum | 0.37 | 0.08 | 11.14 | 7.25 | ND | 8.74 | ND | ND | ND | ND | ND | | 4.37 | ND | ND | ND | ND | 0.41 |
| Maximum | 9.45 | 0.16 | 13.31 | 8.21 | ND | 19.00 | ND | ND | ND | 0.13 | ND | | 9.00 | 0.01570 | ND | ND | ND | 0.65 |
| Mean | 4.41 | 0.13 | 12.48 | 7.89 | - | 15.59 | - | - | - | - | - | - | 7.23 | - | - | - | - | 0.52 |
| 90th Percentile | 9.07 | 0.15 | 13.24 | 8.17 | 0.00010 | 18.60 | 0.0010 | 0.0003 | 0.0010 | 0.08 | 0.00100 | | 8.87 | 0.01285 | 0.00010 | 0.00500 | 0.0050 | 0.62 |
| **N1-040** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | | 6 | 2 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 17% | 0% | - | 100% | 33% | 0% | 0% | 0% | 100% |
| Minimum | 0.06 | 0.13 | 10.47 | 7.30 | ND | 20.00 | ND | ND | ND | ND | ND | | 5.00 | ND | ND | ND | ND | 0.15 |
| Maximum | 10.62 | 0.19 | 13.11 | 8.26 | ND | 28.00 | ND | ND | ND | 0.06 | ND | | 7.00 | 0.01000 | ND | ND | ND | 0.39 |
| Mean | 5.45 | 0.16 | 12.00 | 7.99 | - | 24.18 | - | - | - | - | - | - | 5.77 | - | - | - | - | 0.26 |
| 90th Percentile | 10.33 | 0.18 | 13.05 | 8.22 | 0.00010 | 27.00 | 0.0010 | 0.0003 | 0.0010 | 0.06 | 0.00100 | | 6.80 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.37 |
| **N1-050** | | | | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 7 | 7 | 7 | 7 | 7 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | | 7 | 1 | 0 | 0 | 0 | 7 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | - | 100% | 14% | 0% | 0% | 0% | 100% |
| Minimum | 0.04 | 0.10 | 10.95 | 7.54 | ND | 13.00 | ND | ND | ND | ND | ND | | 5.29 | ND | ND | ND | ND | 0.34 |
| Maximum | 9.36 | 0.31 | 13.80 | 8.55 | ND | 39.80 | ND | ND | ND | ND | ND | | 18.70 | 0.01000 | ND | ND | ND | 0.54 |
| Mean | 4.12 | 0.23 | 12.76 | 8.15 | - | 29.61 | - | - | - | - | - | - | 13.31 | - | - | - | - | 0.49 |
| 90th Percentile | 8.73 | 0.31 | 13.73 | 8.44 | 0.00010 | 38.84 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 18.28 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.53 |
| **N1-053** | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | 4 | 0 | 0 | 0 | 0 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | - | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | -0.08 | 0.15 | 10.81 | 8.15 | ND | 24.00 | ND | ND | ND | ND | ND | | 5.00 | ND | ND | ND | ND | 0.15 |
| Maximum | 9.96 | 0.18 | 13.70 | 8.32 | ND | 27.00 | ND | ND | ND | ND | ND | | 6.00 | ND | ND | ND | ND | 0.24 |
| Mean | 6.40 | 0.16 | 11.95 | 8.22 | - | 25.50 | - | - | - | - | - | - | 5.50 | - | - | - | - | 0.19 |
| 90th Percentile | 9.96 | 0.18 | 13.33 | 8.30 | 0.00010 | 26.70 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 6.00 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.24 |
| **N1-058** | | | | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of Detects | 4 | 4 | 3 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 2 | 0 | 4 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 50% | 0% | 50% | 0% | 100% |
| Minimum | 6.37 | 0.14 | 11.05 | 8.11 | ND | 22.00 | ND | ND | ND | ND | ND | 0.005 | 4.00 | ND | ND | ND | ND | 0.16 |
| Maximum | 11.67 | 179.00 | 12.99 | 8.37 | ND | 26.30 | ND | ND | ND | ND | ND | 5.000 | 6.18 | 1.35000 | ND | 0.09400 | ND | 0.24 |
| Mean | 9.56 | 85.32 | 11.88 | 8.21 | - | 24.68 | - | - | - | - | - | 2.503 | 5.18 | - | - | - | - | 0.21 |
| 90th Percentile | 11.35 | 173.90 | 12.71 | 8.33 | 0.00703 | 26.03 | 0.3503 | 0.0701 | 0.3503 | 21.01 | 0.03530 | 4.501 | 5.99 | 0.94800 | 0.00703 | 0.06730 | 0.3515 | 0.24 |
| **N1-060** | | | | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 8 | 8 | 8 | 8 | 8 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 0 | 8 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 2 | 0 | 2 | 1 | 8 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 13% | 0% | 0% | 0% | 100% | 25% | 0% | 25% | 13% | 100% |
| Minimum | -0.06 | 0.08 | 10.95 | 7.36 | ND | 12.40 | ND | ND | ND | ND | ND | ND | 1.91 | ND | ND | ND | ND | 0.22 |
| Maximum | 13.05 | 326.00 | 14.17 | 8.36 | ND | 53.80 | ND | ND | 0.0010 | ND | ND | ND | 14.00 | 0.01000 | ND | 0.00500 | 0.0050 | 0.86 |
| Mean | 6.30 | 71.77 | 12.46 | 8.12 | - | 32.33 | - | - | - | - | - | - | 8.37 | - | - | - | - | 0.35 |
| 90th Percentile | 12.71 | 270.70 | 13.76 | 8.35 | 0.00010 | 47.43 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | 0.005 | 12.39 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.52 |
| **N1-070** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | | 6 | 3 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 17% | 0% | 0% | | 100% | 50% | 0% | 0% | 0% | 100% |
| Minimum | -0.05 | 0.07 | 10.32 | 7.58 | ND | 8.86 | ND | ND | ND | ND | ND | | 2.49 | ND | ND | ND | ND | 0.45 |
| Maximum | 13.74 | 0.15 | 23.05 | 8.16 | ND | 19.00 | ND | ND | 0.0010 | ND | ND | | 8.71 | 0.01000 | ND | ND | ND | 0.62 |
| Mean | 6.05 | 0.13 | 13.77 | 7.93 | - | 15.94 | - | - | - | - | - | | 7.07 | - | - | - | - | 0.51 |
| 90th Percentile | 11.75 | 0.15 | 18.32 | 8.13 | 0.00010 | 18.75 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 8.47 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.57 |
| **N1-080** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 4 | 6 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | | 6 | 1 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 80% | 100% | 0% | 100% | 0% | 0% | 17% | 0% | 0% | | 100% | 17% | 0% | 0% | 0% | 100% |
| Minimum | -0.10 | 0.05 | ND | 6.99 | ND | 6.07 | ND | ND | ND | ND | ND | | 2.41 | ND | ND | ND | ND | 0.39 |
| Maximum | 14.96 | 0.32 | 13.65 | 8.50 | ND | 42.90 | ND | ND | 0.0010 | ND | ND | | 17.20 | 0.01000 | ND | ND | ND | 0.78 |
| Mean | 5.90 | 0.21 | 12.14 | 8.05 | - | 28.65 | - | - | - | - | - | | 11.09 | - | - | - | - | 0.66 |
| 90th Percentile | 12.88 | 0.31 | 13.58 | 8.45 | 0.00010 | 41.45 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 16.10 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.78 |
| **N1-090** | | | | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 5 | 5 | 5 | 5 | 0 | 5 | 0 | 0 | 0 | 1 | 1 | | 5 | 1 | 0 | 0 | 1 | 5 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 20% | 20% | | 100% | 20% | 0% | 0% | 20% | 100% |
| Minimum | 1.45 | 0.09 | 10.16 | 7.53 | ND | 14.80 | ND | ND | ND | ND | ND | | 4.38 | ND | ND | ND | ND | 0.27 |
| Maximum | 14.69 | 0.38 | 12.78 | 8.40 | ND | 53.00 | ND | ND | ND | 0.03 | 0.00100 | | 18.80 | 0.03040 | ND | ND | 0.0050 | 0.92 |
| Mean | 6.46 | 0.25 | 11.57 | 7.95 | - | 38.00 | - | - | - | - | - | | 12.46 | - | - | - | - | 0.43 |
| 90th Percentile | 12.72 | 0.36 | 12.53 | 8.28 | 0.00010 | 52.84 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 17.68 | 0.02224 | 0.00010 | 0.00500 | 0.0050 | 0.71 |
| **N1-100** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 4 | 6 | 0 | | 6 | 3 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 67% | 100% | 0% | | 100% | 50% | 0% | 0% | 0% | 100% |
| Minimum | 0.74 | 0.02 | 10.59 | 7.02 | ND | 1.51 | ND | ND | ND | 0.02 | ND | | 1.16 | ND | ND | ND | ND | 0.49 |
| Maximum | 9.35 | 0.09 | 13.40 | 7.92 | ND | 9.34 | ND | ND | 0.0010 | 0.07 | ND | | 5.59 | 0.01830 | ND | ND | ND | 0.81 |
| Mean | 4.77 | 0.07 | 12.21 | 7.45 | - | 6.58 | - | - | 0.0010 | 0.04 | - | | 3.95 | - | - | - | - | 0.61 |
| 90th Percentile | 8.36 | 0.09 | 13.11 | 7.76 | 0.00010 | 9.17 | 0.0010 | 0.0003 | 0.0010 | 0.06 | 0.00100 | | 5.30 | 0.01415 | 0.00010 | 0.00500 | 0.0050 | 0.71 |
| **N1-110** | | | | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | 6 | 0 | 0 | 1 | 5 | 1 | | 6 | 3 | 0 | 0 | 0 | 6 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 17% | 83% | 17% | | 100% | 50% | 0% | 0% | 0% | 100% |
| Minimum | 1.99 | 0.02 | 10.25 | 7.02 | ND | 1.43 | ND | ND | ND | ND | ND | | 0.87 | ND | ND | ND | ND | 0.48 |
| Maximum | 9.54 | 0.10 | 13.55 | 8.07 | ND | 12.00 | ND | ND | 0.0010 | 0.08 | 0.00100 | | 7.00 | 0.01000 | ND | ND | ND | 0.77 |
| Mean | 5.63 | 0.07 | 11.60 | 7.60 | - | 7.86 | - | - | - | 0.05 | - | | 4.70 | - | - | - | - | 0.54 |
| 90th Percentile | 8.33 | 0.09 | 13.18 | 7.98 | 0.00010 | 10.51 | 0.0010 | 0.0003 | 0.0010 | 0.07 | 0.00100 | | 6.12 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.64 |
| **N2-010** | | | | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | | 2 | 0 | 0 | 0 | 0 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | 3.64 | 0.07 | 11.32 | 7.62 | ND | 7.00 | ND | ND | ND | ND | ND | | 3.00 | ND | ND | ND | ND | 0.27 |
| Maximum | 6.60 | 0.07 | 13.00 | 7.82 | ND | 7.00 | ND | ND | ND | ND | ND | | 3.00 | ND | ND | ND | ND | 0.27 |
| Mean | 5.12 | 0.07 | 12.16 | 7.72 | - | 7.00 | - | - | - | - | - | | 3.00 | - | - | - | - | 0.27 |
| 90th Percentile | 6.30 | 0.07 | 12.83 | 7.80 | 0.00010 | 7.00 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 3.00 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.27 |
| **N2-013** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 1 | 2 | 0 | | 3 | 0 | 0 | 0 | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 33% | 67% | 0% | | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | 1.13 | 0.13 | 11.11 | 8.07 | ND | 15.00 | ND | ND | ND | ND | ND | | 7.00 | ND | ND | ND | ND | 0.48 |
| Maximum | 13.00 | 0.17 | 13.19 | 8.16 | ND | 20.00 | ND | ND | 0.0010 | 0.13 | ND | | 10.00 | ND | ND | ND | ND | 0.67 |
| Mean | 5.62 | 0.15 | 12.50 | 8.13 | - | 18.00 | - | - | - | 0.06 | - | | 8.67 | - | - | - | - | 0.60 |
| 90th Percentile | 10.95 | 0.17 | 13.19 | 8.16 | 0.00010 | 19.80 | 0.0010 | 0.0002 | 0.0010 | 0.11 | 0.00100 | | 9.80 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.67 |
| **N2-020** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 1 | 2 | 0 | | 3 | 0 | 0 | 0 | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 33% | 67% | 0% | | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | 1.34 | 0.13 | 11.08 | 8.11 | ND | 16.00 | ND | ND | ND | ND | ND | | 7.00 | ND | ND | ND | ND | 0.45 |
| Maximum | 13.86 | 0.18 | 12.95 | 8.32 | ND | 21.00 | ND | ND | 0.0010 | 0.19 | ND | | 10.00 | ND | ND | ND | ND | 0.68 |
| Mean | 6.31 | 0.15 | 12.16 | 8.19 | - | 19.00 | - | - | - | 0.09 | - | | 9.00 | - | - | - | - | 0.60 |
| 90th Percentile | 11.83 | 0.17 | 12.85 | 8.29 | 0.00010 | 20.80 | 0.0010 | 0.0002 | 0.0010 | 0.16 | 0.00100 | | 10.00 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.68 |
| **N2-030** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | | 3 | 0 | 0 | 0 | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 0% | 67% | 0% | | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | -0.09 | 0.11 | 11.62 | 8.05 | ND | 15.00 | ND | ND | ND | ND | ND | | 6.00 | ND | ND | ND | ND | 0.55 |
| Maximum | 11.92 | 0.18 | 13.95 | 8.26 | ND | 21.00 | ND | ND | ND | 0.05 | ND | | 9.00 | ND | ND | ND | ND | 0.67 |
| Mean | 4.33 | 0.14 | 13.04 | 8.13 | - | 17.33 | - | - | - | 0.04 | - | | 7.33 | - | - | - | - | 0.63 |
| 90th Percentile | 9.77 | 0.17 | 13.87 | 8.22 | 0.00010 | 20.00 | 0.0010 | 0.0002 | 0.0010 | 0.05 | 0.00100 | | 8.60 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.67 |
| **N2-060** | | | | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 2 | 3 | 0 | | 3 | 0 | 0 | 0 | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 0% | 67% | 100% | 0% | | 100% | 0% | 0% | 0% | 0% | 100% |
| Minimum | 0.73 | 0.04 | 12.85 | 7.49 | ND | 4.00 | ND | ND | ND | 0.05 | ND | | 2.00 | ND | ND | ND | ND | 0.50 |
| Maximum | 8.83 | 0.10 | 13.60 | 7.88 | ND | 9.00 | ND | ND | 0.0010 | 0.14 | ND | | 6.00 | ND | ND | ND | ND | 0.73 |
| Mean | 3.97 | 0.07 | 13.24 | 7.68 | - | 6.33 | - | - | 0.0010 | 0.11 | - | | 4.00 | - | - | - | - | 0.61 |
| 90th Percentile | 7.53 | 0.09 | 13.53 | 7.84 | 0.00010 | 8.40 | 0.0010 | 0.0002 | 0.0010 | 0.14 | 0.00100 | | 5.60 | 0.01000 | 0.00010 | 0.00500 | 0.0050 | 0.70 |

Knight Piésold CONSULTING

**TABLE 3.5**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT GENERAL PARAMETERS AND TOTAL METALS**

Print Dec/22/11 15:54:59

| Site ID | In Situ Parameters | | | | Laboratory Results | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temp (°C) | SpC (mS/cm) | DO mg/L | pH | Selenium Total | Silicon Total | Silver Total | Sodium Total | Strontium Total | Thallium Total | Tin Total | Titanium Total | Uranium Total | Vanadium Total | Zinc Total |
| **Receiving Water Quality Objectives** | - | - | 9.5 | 6.5 - 9.0 | 0.001 | - | 0.0001 | - | - | 0.0008 | - | - | 0.015 | 0.006 | 0.03 |
| **MDL (2005)** | | | | | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL (2006)** | | | | | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | | | | | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | | | | | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **MDL (2011)** | | | | | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Milne Port Area** | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 5 | 5 | 4 | 5 | 1 | 5 | 1 | 5 | 5 | 1 | 1 | 1 | 5 | 1 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 20% | 100% | 20% | 100% | 100% | 20% | 20% | 20% | 100% | 20% | 60% |
| Minimum | 2.74 | 1.29 | 11.84 | 7.70 | ND | 0.60 | ND | 0.9440 | 0.0080 | ND | ND | ND | 0.00089 | ND | ND |
| Maximum | 13.26 | 2.23 | 17.37 | 8.79 | 0.010 | 2.06 | 0.000050 | 249.0000 | 0.8040 | 0.0005 | 0.0005 | 0.03 | 0.00257 | 0.005 | 0.015 |
| Mean | 9.02 | 1.77 | 13.80 | 8.04 | - | 0.93 | - | 131.0688 | 0.4216 | - | - | - | 0.00161 | - | 0.008 |
| 90th Percentile | 13.20 | 2.15 | 16.07 | 8.47 | 0.008 | 1.51 | 0.000050 | 231.4000 | 0.6900 | 0.0005 | 0.0005 | 0.02 | 0.00247 | 0.005 | 0.013 |
| **N1-010** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | 0% | 0% | 0% | - | 0% | 17% |
| Minimum | 0.18 | 0.14 | 10.58 | 6.35 | ND | | ND | 0.5800 | 0.0130 | ND | ND | ND | | ND | ND |
| Maximum | 11.41 | 0.22 | 13.69 | 8.52 | ND | | ND | 0.8300 | 0.0210 | ND | ND | ND | | ND | 0.010 |
| Mean | 4.22 | 0.18 | 12.38 | 7.71 | - | - | - | 0.7050 | 0.0167 | - | - | - | - | - | - |
| 90th Percentile | 9.42 | 0.21 | 13.60 | 8.35 | 0.005 | | 0.000100 | 0.8250 | 0.0200 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-020** | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 1 | 8 | 8 | 7 | 5 | 8 | 5 | 1 | 8 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 0 | 1 | 0 | 8 | 7 | 0 | 0 | 0 | 1 | 0 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 25% |
| Minimum | 0.16 | 0.10 | 10.15 | 7.16 | ND | 0.32 | ND | 0.3500 | 0.0067 | ND | ND | ND | 0.00192 | ND | ND |
| Maximum | 12.41 | 188.00 | 13.94 | 8.31 | ND | 0.32 | ND | 1.6800 | 0.0195 | ND | ND | ND | 0.00192 | ND | 0.010 |
| Mean | 6.30 | 42.86 | 11.96 | 7.84 | - | 0.32 | - | 0.8598 | 0.0150 | - | - | - | 0.00192 | - | - |
| 90th Percentile | 11.69 | 164.20 | 13.51 | 8.23 | 0.005 | 0.32 | 0.000100 | 1.5260 | 0.0190 | 0.0002 | 0.0100 | 0.01 | 0.00192 | 0.001 | 0.010 |
| **N1-025** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | - | 0% | - | - | 0% | 0% |
| Minimum | 0.32 | 0.12 | 11.71 | 8.12 | ND | | ND | 0.3400 | 0.0100 | | ND | | | ND | ND |
| Maximum | 10.41 | 0.16 | 13.03 | 8.21 | ND | | ND | 1.1500 | 0.0150 | | ND | | | ND | ND |
| Mean | 4.80 | 0.14 | 12.59 | 8.17 | - | - | - | 0.7000 | 0.0123 | - | - | - | - | - | - |
| 90th Percentile | 9.06 | 0.15 | 13.03 | 8.20 | 0.001 | | 0.000100 | 1.0420 | 0.0144 | | 0.0100 | | | 0.001 | 0.010 |
| **N1-030** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | 0% | 0% | 0% | - | 0% | 0% |
| Minimum | 0.37 | 0.08 | 11.14 | 7.25 | ND | | ND | 0.3000 | 0.0038 | ND | ND | ND | | ND | ND |
| Maximum | 9.45 | 0.16 | 13.31 | 8.21 | ND | | ND | 0.6600 | 0.0120 | ND | ND | ND | | ND | ND |
| Mean | 4.41 | 0.13 | 12.48 | 7.89 | - | - | - | 0.4200 | 0.0086 | - | - | - | - | - | - |
| 90th Percentile | 9.07 | 0.15 | 13.24 | 8.17 | 0.005 | | 0.000100 | 0.5950 | 0.0115 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-040** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | 0% | 0% | 0% | - | 0% | 33% |
| Minimum | 0.06 | 0.13 | 10.47 | 7.30 | ND | | ND | 0.2300 | 0.0150 | ND | ND | ND | | ND | ND |
| Maximum | 10.62 | 0.19 | 13.11 | 8.26 | ND | | ND | 0.4700 | 0.0240 | ND | ND | ND | | ND | 0.010 |
| Mean | 5.45 | 0.16 | 12.00 | 7.99 | - | - | - | 0.3150 | 0.0180 | - | - | - | - | - | - |
| 90th Percentile | 10.33 | 0.18 | 13.05 | 8.22 | 0.005 | | 0.000100 | 0.4150 | 0.0209 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-050** | | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | | 7 | 7 | 7 | 4 | 7 | 4 | | 7 | 7 |
| Number of Detects | 7 | 7 | 7 | 7 | 0 | | 0 | 7 | 7 | 0 | 0 | 0 | | 1 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | 0% | 0% | 0% | - | 14% | 14% |
| Minimum | 0.04 | 0.10 | 10.95 | 7.54 | ND | | ND | 0.3700 | 0.0068 | ND | ND | ND | | ND | ND |
| Maximum | 9.36 | 0.31 | 13.80 | 8.55 | ND | | ND | 1.6100 | 0.0220 | ND | ND | ND | | 0.001 | 0.010 |
| Mean | 4.12 | 0.23 | 12.76 | 8.15 | - | - | - | 0.8514 | 0.0156 | - | - | - | - | - | - |
| 90th Percentile | 8.73 | 0.31 | 13.73 | 8.44 | 0.005 | | 0.000100 | 1.3340 | 0.0207 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-053** | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | | 4 | | | 4 | 4 |
| Number of Detects | 4 | 4 | 4 | 4 | 0 | | 0 | 4 | 4 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | - | 0% | 100% | 100% | - | 0% | - | - | 0% | 0% |
| Minimum | -0.08 | 0.15 | 10.81 | 8.15 | ND | | ND | 0.2200 | 0.0180 | | ND | | | ND | ND |
| Maximum | 9.96 | 0.18 | 13.70 | 8.32 | ND | | ND | 0.5800 | 0.0220 | | ND | | | ND | ND |
| Mean | 6.40 | 0.16 | 11.95 | 8.22 | - | - | - | 0.3425 | 0.0193 | - | - | - | - | - | - |
| 90th Percentile | 9.96 | 0.18 | 13.33 | 8.30 | 0.001 | | 0.000100 | 0.5080 | 0.0211 | | 0.0100 | | | 0.001 | 0.010 |
| **N1-058** | | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 3 | 4 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 4 |
| Number of Detects | 4 | 4 | 3 | 4 | 0 | 2 | 0 | 4 | 4 | 0 | 0 | 0 | 2 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 0% |
| Minimum | 6.37 | 0.14 | 11.05 | 8.11 | ND | 0.34 | ND | 0.2500 | 0.0160 | ND | ND | ND | 0.00018 | ND | ND |
| Maximum | 11.67 | 179.00 | 12.99 | 8.37 | ND | 380.00 | ND | 0.4570 | 18.4000 | ND | ND | ND | 0.12800 | ND | ND |
| Mean | 9.56 | 85.32 | 11.88 | 8.21 | - | 190.17 | - | 0.3545 | 4.6143 | - | - | - | 0.06409 | - | - |
| 90th Percentile | 11.35 | 173.90 | 12.71 | 8.33 | 0.700 | 342.03 | 0.000730 | 0.4282 | 12.8864 | 0.0900 | 0.0730 | 9.00 | 0.11522 | 0.700 | 2.103 |
| **N1-060** | | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 7 | 8 | 8 | 2 | 8 | 8 | 8 | 5 | 8 | 5 | 2 | 8 | 8 |
| Number of Detects | 8 | 8 | 7 | 8 | 0 | 2 | 0 | 8 | 8 | 0 | 0 | 0 | 2 | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 0% |
| Minimum | -0.06 | 0.08 | 10.95 | 7.36 | ND | 0.63 | ND | 0.2700 | 0.0080 | ND | ND | ND | 0.00056 | ND | ND |
| Maximum | 13.05 | 326.00 | 14.17 | 8.36 | ND | 0.67 | ND | 1.0600 | 0.0390 | ND | ND | ND | 0.00090 | ND | ND |
| Mean | 6.30 | 71.77 | 12.46 | 8.12 | - | 0.65 | - | 0.5030 | 0.0226 | - | - | - | 0.00073 | - | - |
| 90th Percentile | 12.71 | 270.70 | 13.76 | 8.35 | 0.005 | 0.67 | 0.000100 | 0.9718 | 0.0327 | 0.0002 | 0.0100 | 0.01 | 0.00087 | 0.001 | 0.010 |
| **N1-070** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 1 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 17% |
| Minimum | -0.05 | 0.07 | 10.32 | 7.58 | ND | | ND | 0.3000 | 0.0057 | ND | ND | ND | | ND | ND |
| Maximum | 13.74 | 0.15 | 23.05 | 8.16 | ND | | ND | 0.9400 | 0.0140 | ND | ND | ND | | ND | 0.010 |
| Mean | 6.05 | 0.13 | 13.77 | 7.93 | - | | - | 0.5550 | 0.0097 | - | - | - | | - | - |
| 90th Percentile | 11.75 | 0.15 | 18.32 | 8.13 | 0.005 | | 0.000100 | 0.7400 | 0.0120 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-080** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 5 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 4 | 6 | 0 | | 0 | 6 | 6 | 0 | 1 | 0 | | 1 | 1 |
| Percentage of Detects | 100% | 100% | 80% | 100% | 0% | | 0% | 100% | 100% | 0% | 17% | 0% | | 17% | 17% |
| Minimum | -0.10 | 0.05 | ND | 6.99 | ND | | ND | 0.3100 | 0.0027 | ND | ND | ND | | ND | ND |
| Maximum | 14.96 | 0.32 | 13.65 | 8.50 | ND | | ND | 3.4500 | 0.0270 | ND | 0.0100 | ND | | 0.001 | 0.010 |
| Mean | 5.90 | 0.21 | 12.14 | 8.05 | - | | - | 1.4717 | 0.0166 | - | - | - | | - | - |
| 90th Percentile | 12.88 | 0.31 | 13.58 | 8.45 | 0.005 | | 0.000100 | 2.7450 | 0.0252 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-090** | | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 3 | 5 | 3 | | 5 | 5 |
| Number of Detects | 5 | 5 | 5 | 5 | 0 | | 0 | 5 | 5 | 0 | 0 | 0 | | 0 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 40% |
| Minimum | 1.45 | 0.09 | 10.16 | 7.53 | ND | | ND | 0.2800 | 0.0076 | ND | ND | ND | | ND | ND |
| Maximum | 14.69 | 0.38 | 12.78 | 8.40 | ND | | ND | 0.6000 | 0.0330 | ND | ND | ND | | ND | 0.010 |
| Mean | 6.46 | 0.25 | 11.57 | 7.95 | - | | - | 0.4420 | 0.0220 | - | - | - | | - | - |
| 90th Percentile | 12.72 | 0.36 | 12.53 | 8.28 | 0.005 | | 0.000100 | 0.5760 | 0.0318 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-100** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 2 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 33% |
| Minimum | 0.74 | 0.02 | 10.59 | 7.02 | ND | | ND | 0.3100 | 0.0012 | ND | ND | ND | | ND | ND |
| Maximum | 9.35 | 0.09 | 13.40 | 7.92 | ND | | ND | 0.9300 | 0.0070 | ND | ND | ND | | ND | 0.010 |
| Mean | 4.77 | 0.07 | 12.21 | 7.45 | - | | - | 0.6133 | 0.0044 | - | - | - | | - | - |
| 90th Percentile | 8.36 | 0.09 | 13.11 | 7.76 | 0.005 | | 0.000100 | 0.8250 | 0.0065 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-110** | | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 6 | 6 | 6 | 6 | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 0 | 3 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 0% | 50% |
| Minimum | 1.99 | 0.02 | 10.25 | 7.02 | ND | | ND | 0.4300 | 0.0011 | ND | ND | ND | | ND | ND |
| Maximum | 9.54 | 0.10 | 13.55 | 8.07 | ND | | ND | 1.6100 | 0.0080 | ND | ND | ND | | ND | 0.010 |
| Mean | 5.63 | 0.07 | 11.60 | 7.60 | - | | - | 0.6800 | 0.0048 | - | - | - | | - | - |
| 90th Percentile | 8.33 | 0.09 | 13.18 | 7.98 | 0.005 | | 0.000100 | 1.0900 | 0.0065 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N2-010** | | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | | 2 | | | 2 | 2 |
| Number of Detects | 2 | 2 | 2 | 2 | 0 | | 0 | 2 | 2 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | 3.64 | 0.07 | 11.32 | 7.62 | ND | | ND | 0.2200 | 0.0040 | | ND | | | ND | ND |
| Maximum | 6.60 | 0.07 | 13.00 | 7.82 | ND | | ND | 0.3300 | 0.0050 | | ND | | | ND | ND |
| Mean | 5.12 | 0.07 | 12.16 | 7.72 | - | | - | 0.2750 | 0.0045 | | - | | | - | - |
| 90th Percentile | 6.30 | 0.07 | 12.83 | 7.80 | 0.001 | | 0.000100 | 0.3190 | 0.0049 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-013** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | 1.13 | 0.13 | 11.11 | 8.07 | ND | | ND | 0.3500 | 0.0090 | | ND | | | ND | ND |
| Maximum | 13.00 | 0.17 | 13.19 | 8.16 | ND | | ND | 0.7500 | 0.0130 | | ND | | | ND | ND |
| Mean | 5.62 | 0.15 | 12.50 | 8.13 | - | | - | 0.5767 | 0.0113 | | - | | | - | - |
| 90th Percentile | 10.95 | 0.17 | 13.19 | 8.16 | 0.001 | | 0.000100 | 0.7260 | 0.0128 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-020** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | | 0 | 3 | 3 | | 0 | | | 1 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | | 0% | | | 33% | 0% |
| Minimum | 1.34 | 0.13 | 11.08 | 8.11 | ND | | ND | 0.3700 | 0.0090 | | ND | | | ND | ND |
| Maximum | 13.86 | 0.18 | 12.95 | 8.32 | ND | | ND | 0.8100 | 0.0140 | | ND | | | 0.001 | ND |
| Mean | 6.31 | 0.15 | 12.16 | 8.19 | - | | - | 0.6033 | 0.0117 | | - | | | - | - |
| 90th Percentile | 11.83 | 0.17 | 12.85 | 8.29 | 0.001 | | 0.000100 | 0.7740 | 0.0136 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-030** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | -0.09 | 0.11 | 11.62 | 8.05 | ND | | ND | 0.3500 | 0.0080 | | ND | | | ND | ND |
| Maximum | 11.92 | 0.18 | 13.95 | 8.26 | ND | | ND | 1.4500 | 0.0150 | | ND | | | ND | ND |
| Mean | 4.33 | 0.14 | 13.04 | 8.13 | - | | - | 0.7700 | 0.0107 | | - | | | - | - |
| 90th Percentile | 9.77 | 0.17 | 13.87 | 8.22 | 0.001 | | 0.000100 | 1.2620 | 0.0138 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-060** | | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 3 | 3 | 3 | 3 | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 100% | 100% | 100% | 100% | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | 0.73 | 0.04 | 12.85 | 7.49 | ND | | ND | 0.2900 | 0.0020 | | ND | | | ND | ND |
| Maximum | 8.83 | 0.10 | 13.60 | 7.88 | ND | | ND | 0.8900 | 0.0080 | | ND | | | ND | ND |
| Mean | 3.97 | 0.07 | 13.24 | 7.68 | - | | - | 0.5233 | 0.0050 | | - | | | - | - |
| 90th Percentile | 7.53 | 0.09 | 13.53 | 7.84 | 0.001 | | 0.000100 | 0.7900 | 0.0074 | | 0.0100 | | | 0.001 | 0.010 |



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|---|---|---|---|---|---|
| REV | DATE | DESCRIPTION | PREPD | CHK'D | APP'D |

Knight Piésold CONSULTING

**TABLE 3.6**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT DISSOLVED METALS**

Print Dec/22/11 17:47:23

| Site ID | Laboratory Results | | | | | | |
|---|---|---|---|---|---|---|---|
| | Aluminum Dissolved | Antimony Dissolved | Arsenic Dissolved | Barium Dissolved | Beryllium Dissolved | Bismuth Dissolved | Boron Dissolved |
| **Receiving Water Quality Objectives** | | | | | | | |
| **MDL (2005)** | 0.004 | 0.0004 | 0.005 | 0.001 | 0.005 | 0.0003 | 0.05 |
| **MDL (2006)** | 0.005 | - | 0.001 | 0.01 | - | - | 0.01 |
| **MDL (2007)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **MDL (2008)** | 0.001 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **MDL (2011)** | 0.003 | 0.0001 | 0.0001 | 0.00005 | 0.0005 | 0.0005 | 0.01 |
| **Milne Port Area** | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 5 | 0 | 1 | 5 | 0 | 0 | 4 |
| Percentage of Detects | 100% | 0% | 20% | 100% | 0% | 0% | 80% |
| Minimum | 0.005 | ND | ND | 0.00025 | ND | ND | ND |
| Maximum | 0.022 | ND | 0.0025 | 0.01850 | ND | ND | 0.30 |
| Mean | 0.010 | - | - | 0.00799 | - | - | 0.10 |
| 90th Percentile | 0.018 | 0.0005 | 0.0021 | 0.01562 | 0.0025 | 0.0025 | 0.21 |
| **N1-010** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 50% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-020** | | | | | | | |
| Number of samples | 8 | 5 | 8 | 8 | 5 | 5 | 8 |
| Number of Detects | 2 | 0 | 0 | 5 | 0 | 0 | 1 |
| Percentage of Detects | 25% | 0% | 0% | 63% | 0% | 0% | 13% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.007 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | 0.00540 | - | - | - |
| 90th Percentile | 0.006 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.03 |
| **N1-025** | | | | | | | |
| Number of samples | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 1 | | 0 | 0 | | | 0 |
| Percentage of Detects | 33% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | 0.005 | | ND | ND | | | ND |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | | 0.0010 | 0.01000 | | | 0.01 |
| **N1-030** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 1 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 17% | 0% | 0% | 50% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.005 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-040** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 50% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-050** | | | | | | | |
| Number of samples | 7 | 4 | 7 | 7 | 4 | 4 | 7 |
| Number of Detects | 1 | 0 | 0 | 4 | 0 | 0 | 1 |
| Percentage of Detects | 14% | 0% | 0% | 57% | 0% | 0% | 14% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.005 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | 0.00657 | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-053** | | | | | | | |
| Number of samples | 4 | | 4 | 4 | | | 4 |
| Number of Detects | 0 | | 0 | 0 | | | 0 |
| Percentage of Detects | 0% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | ND | | ND | ND | | | ND |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | | 0.0010 | 0.01000 | | | 0.01 |
| **N1-058** | | | | | | | |
| Number of samples | 4 | 2 | 4 | 4 | 2 | 2 | 4 |
| Number of Detects | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Percentage of Detects | 0% | 0% | 0% | 50% | 0% | 0% | 0% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | ND |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0001 | 0.0010 | 0.01000 | 0.0005 | 0.0005 | 0.01 |
| **N1-060** | | | | | | | |
| Number of samples | 8 | 5 | 8 | 8 | 5 | 5 | 8 |
| Number of Detects | 0 | 0 | 0 | 4 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 50% | 0% | 0% | 13% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0005 | 0.03 |
| **N1-070** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 50% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-080** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 33% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-090** | | | | | | | |
| Number of samples | 5 | 3 | 5 | 5 | 3 | 3 | 5 |
| Number of Detects | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 0% | 0% | 0% | 60% | 0% | 0% | 20% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | ND | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | 0.00600 | - | - | - |
| 90th Percentile | 0.005 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.04 |
| **N1-100** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 5 | 0 | 0 | 3 | 0 | 0 | 1 |
| Percentage of Detects | 83% | 0% | 0% | 50% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.013 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | 0.007 | - | - | - | - | - | - |
| 90th Percentile | 0.011 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N1-110** | | | | | | | |
| Number of samples | 6 | 3 | 6 | 6 | 3 | 3 | 6 |
| Number of Detects | 3 | 0 | 0 | 2 | 0 | 0 | 1 |
| Percentage of Detects | 50% | 0% | 0% | 33% | 0% | 0% | 17% |
| Minimum | ND | ND | ND | ND | ND | ND | ND |
| Maximum Detected | 0.010 | ND | ND | 0.01000 | ND | ND | 0.05 |
| Mean | - | - | - | - | - | - | - |
| 90th Percentile | 0.009 | 0.0004 | 0.0050 | 0.01000 | 0.0050 | 0.0003 | 0.03 |
| **N2-010** | | | | | | | |
| Number of samples | 2 | | 2 | 2 | | | 2 |
| Number of Detects | 0 | | 0 | 0 | | | 0 |
| Percentage of Detects | 0% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | ND | | ND | ND | | | ND |
| Mean | - | | - | - | | | - |
| 90th Percentile | 0.005 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-013** | | | | | | | |
| Number of samples | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 1 | | 0 | 0 | | | 0 |
| Percentage of Detects | 33% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | 0.006 | | ND | ND | | | ND |
| Mean | - | | - | - | | | - |
| 90th Percentile | 0.006 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-020** | | | | | | | |
| Number of samples | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 1 | | 0 | 0 | | | 0 |
| Percentage of Detects | 33% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | 0.006 | | ND | ND | | | ND |
| Mean | - | | - | - | | | - |
| 90th Percentile | 0.006 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-030** | | | | | | | |
| Number of samples | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 0 | | 0 | 0 | | | 0 |
| Percentage of Detects | 0% | | 0% | 0% | | | 0% |
| Minimum | ND | | ND | ND | | | ND |
| Maximum Detected | ND | | ND | ND | | | ND |
| Mean | - | | - | - | | | - |
| 90th Percentile | 0.005 | | 0.0010 | 0.01000 | | | 0.01 |
| **N2-060** | | | | | | | |
| Number of samples | 3 | | 3 | 3 | | | 3 |
| Number of Detects | 3 | | 0 | 0 | | | 0 |
| Percentage of Detects | 100% | | 0% | 0% | | | 0% |
| Minimum | 0.008 | | ND | ND | | | ND |
| Maximum Detected | 0.025 | | ND | ND | | | ND |
| Mean | 0.017 | | - | - | | | - |
| 90th Percentile | 0.024 | | 0.0010 | 0.01000 | | | 0.01 |

Knight Piésold CONSULTING

**TABLE 3.6**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT DISSOLVED METALS**

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| Site ID | Laboratory Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cadmium Dissolved | Calcium Dissolved | Chromium Dissolved | Cobalt Dissolved | Copper Dissolved | Iron Dissolved | Lead Dissolved | Lithium Dissolved | Magnesium Dissolved | Manganese Dissolved | Mercury Dissolved | Molybdenum Dissolved | Nickel Dissolved | Potassium Dissolved |
| **Receiving Water Quality Objectives** | | | | | | | | | | | | | | |
| **MDL (2005)** | 0.0001 | 0.05 | 0.001 | 0.0003 | 0.0008 | 0.02 | 0.0002 | - | 0.005 | 0.0007 | - | 0.0003 | 0.001 | 0.02 |
| **MDL (2006)** | 0.0001 | 1 | 0.001 | 0.0002 | 0.001 | 0.03 | 0.001 | - | 1 | 0.01 | - | 0.005 | 0.005 | 0.01 |
| **MDL (2007)** | 0.000017 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00005 | 0.00005 | 0.0005 | 2 |
| **MDL (2008)** | 0.000010 | 0.05 | 0.0005 | 0.0001 | 0.0001 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **MDL (2011)** | 0.00001 | 0.05 | 0.0005 | 0.0001 | 0.0005 | 0.03 | 0.00005 | 0.005 | 0.1 | 0.00005 | 0.00001 | 0.00005 | 0.0005 | 0.05 |
| **Milne Port Area** | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 4 |
| Number of Detects | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 2 | 3 | 5 | 0 | 4 | 1 | 3 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 60% | 0% | 0% | 40% | 75% | 100% | 0% | 80% | 20% | 75% |
| Minimum | ND | 1.11 | ND | ND | ND | ND | ND | ND | ND | 0.00044 | ND | ND | ND | ND |
| Maximum | ND | 229.00 | ND | ND | 0.0025 | ND | ND | 0.038 | 45.60 | 0.01190 | ND | 0.00114 | 0.0025 | 10.60 |
| Mean | - | 107.34 | - | - | 0.0012 | - | - | - | 39.20 | 0.00573 | - | 0.00059 | - | 6.49 |
| 90th Percentile | 0.00005 | 191.80 | 0.0034 | 0.0005 | 0.0021 | 0.03 | 0.00026 | 0.035 | 44.55 | 0.01045 | 0.00001 | 0.00107 | 0.0025 | 10.51 |
| **N1-010** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 2 | 0 | 0 | 0 | 0 | | 6 | 1 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 17% | | 0% | 0% | 100% |
| Minimum | ND | 19.00 | ND | ND | ND | ND | ND | | 7.00 | ND | | ND | ND | 0.32 |
| Maximum Detected | ND | 30.00 | 0.0020 | ND | ND | ND | ND | | 8.76 | 0.01000 | | ND | ND | 0.78 |
| Mean | - | 25.97 | - | - | - | - | - | - | 7.96 | - | - | - | - | 0.51 |
| 90th Percentile | 0.00010 | 29.50 | 0.0015 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 8.69 | 0.01000 | | 0.00500 | 0.0050 | 0.64 |
| **N1-020** | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 8 | 8 | 2 | 8 | 8 | 8 |
| Number of Detects | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 3 | 0 | 2 | 0 | 8 |
| Percentage of Detects | 0% | 100% | 13% | 0% | 0% | 0% | 0% | 0% | 100% | 38% | 0% | 25% | 0% | 100% |
| Minimum | ND | 12.10 | ND | ND | ND | ND | ND | ND | 5.37 | ND | ND | ND | ND | 0.22 |
| Maximum Detected | ND | 25.00 | 0.0010 | ND | ND | ND | ND | ND | 8.27 | 0.01540 | ND | 0.00500 | ND | 0.68 |
| Mean | - | 20.75 | - | - | - | - | - | - | 6.55 | - | - | - | - | 0.38 |
| 90th Percentile | 0.00010 | 24.30 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | 0.005 | 8.08 | 0.01162 | 0.00001 | 0.00500 | 0.0050 | 0.51 |
| **N1-025** | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 0 | 3 | 0 | 0 | 0 | 0 | 0 | | 3 | 0 | | 0 | 0 | 3 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 16.00 | ND | ND | ND | ND | ND | | 6.00 | ND | | ND | ND | 0.26 |
| Maximum Detected | ND | 21.00 | ND | ND | ND | ND | ND | | 8.00 | ND | | ND | ND | 0.55 |
| Mean | - | 17.67 | - | - | - | - | - | - | 7.33 | - | - | - | - | 0.44 |
| 90th Percentile | 0.00010 | 20.00 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 8.00 | 0.01000 | | 0.00500 | 0.0050 | 0.54 |
| **N1-030** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 2 | 0 | 0 | 0 | 0 | | 6 | 2 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 33% | | 0% | 0% | 100% |
| Minimum | ND | 9.52 | ND | ND | ND | ND | ND | | 4.64 | ND | | ND | ND | 0.29 |
| Maximum Detected | ND | 19.00 | 0.0010 | ND | ND | ND | ND | | 9.00 | 0.01450 | | ND | ND | 0.70 |
| Mean | - | 15.37 | - | - | - | - | - | - | 7.29 | - | - | - | - | 0.53 |
| 90th Percentile | 0.00010 | 18.50 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 9.00 | 0.01225 | | 0.00500 | 0.0050 | 0.69 |
| **N1-040** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 2 | 0 | 0 | 0 | 0 | | 6 | 2 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 33% | | 0% | 0% | 100% |
| Minimum | ND | 20.00 | ND | ND | ND | ND | ND | | 5.00 | ND | | ND | ND | 0.14 |
| Maximum Detected | ND | 29.00 | 0.0010 | ND | ND | ND | ND | | 7.00 | 0.01000 | | ND | ND | 0.36 |
| Mean | - | 23.92 | - | - | - | - | - | - | 5.91 | - | - | - | - | 0.25 |
| 90th Percentile | 0.00010 | 26.60 | 0.0010 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 6.83 | 0.01000 | | 0.00500 | 0.0050 | 0.35 |
| **N1-050** | | | | | | | | | | | | | | |
| Number of samples | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 7 | 7 | | 7 | 7 | 7 |
| Number of Detects | 0 | 7 | 3 | 0 | 0 | 0 | 0 | | 7 | 1 | | 0 | 0 | 7 |
| Percentage of Detects | 0% | 100% | 43% | 0% | 0% | 0% | 0% | | 100% | 14% | | 0% | 0% | 100% |
| Minimum | ND | 12.30 | ND | ND | ND | ND | ND | | 5.67 | ND | | ND | ND | 0.34 |
| Maximum Detected | ND | 37.40 | 0.0020 | ND | ND | ND | ND | | 17.30 | 0.01000 | | ND | ND | 0.53 |
| Mean | - | 28.74 | - | - | - | - | - | - | 13.04 | - | - | - | - | 0.48 |
| 90th Percentile | 0.00010 | 37.16 | 0.0020 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 17.12 | 0.01000 | | 0.00500 | 0.0050 | 0.52 |
| **N1-053** | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 |
| Number of Detects | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | 4 | 0 | | 0 | 0 | 4 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 24.00 | ND | ND | ND | ND | ND | | 5.00 | ND | | ND | ND | 0.15 |
| Maximum Detected | ND | 28.00 | ND | ND | ND | ND | ND | | 6.00 | ND | | ND | ND | 0.25 |
| Mean | - | 26.00 | - | - | - | - | - | - | 5.50 | - | - | - | - | 0.20 |
| 90th Percentile | 0.00010 | 27.40 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 6.00 | 0.01000 | | 0.00500 | 0.0050 | 0.25 |
| **N1-058** | | | | | | | | | | | | | | |
| Number of samples | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 4 | 4 |
| Number of Detects | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 2 | 0 | 4 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 50% | 0% | 50% | 0% | 100% |
| Minimum | ND | 22.00 | ND | ND | ND | ND | ND | ND | 4.00 | ND | ND | ND | ND | 0.15 |
| Maximum Detected | ND | 29.40 | ND | ND | ND | ND | ND | ND | 6.32 | 0.01000 | ND | 0.00500 | ND | 0.21 |
| Mean | - | 25.00 | - | - | - | - | - | - | 5.19 | - | - | - | - | 0.19 |
| 90th Percentile | 0.00010 | 27.96 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | 0.005 | 6.05 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.21 |
| **N1-060** | | | | | | | | | | | | | | |
| Number of samples | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 8 | 8 | 2 | 8 | 8 | 8 |
| Number of Detects | 0 | 8 | 2 | 1 | 0 | 0 | 0 | 0 | 8 | 2 | 0 | 2 | 0 | 8 |
| Percentage of Detects | 0% | 100% | 25% | 13% | 0% | 0% | 0% | 0% | 100% | 25% | 0% | 25% | 0% | 100% |
| Minimum | ND | 13.10 | ND | ND | ND | ND | ND | ND | 2.09 | ND | ND | ND | ND | 0.20 |
| Maximum Detected | ND | 52.50 | 0.0020 | 0.0004 | ND | ND | ND | ND | 13.60 | 0.01000 | ND | 0.00500 | ND | 0.36 |
| Mean | - | 35.11 | - | - | - | - | - | - | 8.42 | - | - | - | - | 0.28 |
| 90th Percentile | 0.00010 | 45.43 | 0.0013 | 0.0003 | 0.0010 | 0.04 | 0.00100 | 0.005 | 11.78 | 0.01000 | 0.00001 | 0.00500 | 0.0050 | 0.36 |
| **N1-070** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 1 | 0 | 0 | 1 | 0 | | 6 | 1 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 17% | 0% | 0% | 17% | 0% | | 100% | 17% | | 0% | 0% | 100% |
| Minimum | ND | 9.62 | ND | ND | ND | ND | ND | | 2.67 | ND | | ND | ND | 0.46 |
| Maximum Detected | ND | 19.00 | 0.0010 | ND | ND | 0.03 | ND | | 8.24 | 0.01000 | | ND | ND | 0.61 |
| Mean | - | 15.69 | - | - | - | - | - | | 6.95 | - | - | - | - | 0.51 |
| 90th Percentile | 0.00010 | 18.65 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 8.12 | 0.01000 | | 0.00500 | 0.0050 | 0.56 |
| **N1-080** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 2 | 0 | 0 | 0 | 0 | | 6 | 1 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 17% | | 0% | 0% | 100% |
| Minimum | ND | 6.06 | ND | ND | ND | ND | ND | | 2.50 | ND | | ND | ND | 0.39 |
| Maximum Detected | ND | 40.50 | 0.0020 | ND | ND | ND | ND | | 16.00 | 0.01000 | | ND | ND | 0.80 |
| Mean | - | 28.26 | - | - | - | - | - | | 10.97 | - | - | - | - | 0.67 |
| 90th Percentile | 0.00010 | 39.75 | 0.0020 | 0.0003 | 0.0010 | 0.04 | 0.00100 | | 15.50 | 0.01000 | | 0.00500 | 0.0050 | 0.78 |
| **N1-090** | | | | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 |
| Number of Detects | 0 | 5 | 2 | 0 | 0 | 0 | 0 | | 5 | 1 | | 0 | 0 | 5 |
| Percentage of Detects | 0% | 100% | 40% | 0% | 0% | 0% | 0% | | 100% | 20% | | 0% | 0% | 100% |
| Minimum | ND | 14.10 | ND | ND | ND | ND | ND | | 4.69 | ND | | ND | ND | 0.28 |
| Maximum Detected | ND | 52.00 | 0.0020 | ND | ND | ND | ND | | 17.70 | 0.02940 | | ND | ND | 0.99 |
| Mean | - | 37.68 | - | - | - | - | - | | 12.56 | - | - | - | - | 0.45 |
| 90th Percentile | 0.00010 | 51.40 | 0.0020 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 17.02 | 0.02164 | | 0.00500 | 0.0050 | 0.75 |
| **N1-100** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 0 | 0 | 2 | 2 | 0 | | 6 | 1 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 33% | 33% | 0% | | 100% | 17% | | 0% | 0% | 100% |
| Minimum | ND | 1.60 | ND | ND | ND | ND | ND | | 1.24 | ND | | ND | ND | 0.48 |
| Maximum Detected | ND | 9.05 | ND | ND | 0.0010 | 0.06 | ND | | 5.23 | 0.01750 | | ND | ND | 0.85 |
| Mean | - | 6.54 | - | - | - | - | - | | 3.93 | - | - | - | - | 0.61 |
| 90th Percentile | 0.00010 | 9.03 | 0.0010 | 0.0003 | 0.0010 | 0.05 | 0.00100 | | 5.17 | 0.01375 | | 0.00500 | 0.0050 | 0.73 |
| **N1-110** | | | | | | | | | | | | | | |
| Number of samples | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 | 6 | | 6 | 6 | 6 |
| Number of Detects | 0 | 6 | 0 | 0 | 0 | 1 | 0 | | 6 | 2 | | 0 | 0 | 6 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 17% | 0% | | 100% | 33% | | 0% | 0% | 100% |
| Minimum | ND | 1.54 | ND | ND | ND | ND | ND | | 0.93 | ND | | ND | ND | 0.49 |
| Maximum Detected | ND | 11.00 | ND | ND | ND | 0.03 | ND | | 6.00 | 0.01000 | | ND | ND | 0.83 |
| Mean | - | 7.81 | - | - | - | - | - | | 4.68 | - | - | - | - | 0.56 |
| 90th Percentile | 0.00010 | 10.09 | 0.0010 | 0.0003 | 0.0010 | 0.03 | 0.00100 | | 6.00 | 0.01000 | | 0.00500 | 0.0050 | 0.67 |
| **N2-010** | | | | | | | | | | | | | | |
| Number of samples | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | | 2 | 2 | 2 |
| Number of Detects | 0 | 2 | 0 | 0 | 0 | 0 | 0 | | 2 | 0 | | 0 | 0 | 2 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 7.00 | ND | ND | ND | ND | ND | | 3.00 | ND | | ND | ND | 0.19 |
| Maximum Detected | ND | 7.00 | ND | ND | ND | ND | ND | | 3.00 | ND | | ND | ND | 0.25 |
| Mean | - | 7.00 | - | - | - | - | - | | 3.00 | - | - | - | - | 0.22 |
| 90th Percentile | 0.00010 | 7.00 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 3.00 | 0.01000 | | 0.00500 | 0.0050 | 0.24 |
| **N2-013** | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 0 | 3 | 1 | 0 | 0 | 0 | 0 | | 3 | 0 | | 0 | 0 | 3 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 16.00 | ND | ND | ND | ND | ND | | 7.00 | ND | | ND | ND | 0.35 |
| Maximum Detected | ND | 20.00 | 0.0010 | ND | ND | ND | ND | | 10.00 | ND | | ND | ND | 0.73 |
| Mean | - | 18.00 | - | - | - | - | - | | 9.00 | - | - | - | - | 0.58 |
| 90th Percentile | 0.00010 | 19.60 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 10.00 | 0.01000 | | 0.00500 | 0.0050 | 0.71 |
| **N2-020** | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 0 | 3 | 1 | 0 | 0 | 0 | 0 | | 3 | 0 | | 0 | 0 | 3 |
| Percentage of Detects | 0% | 100% | 33% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 16.00 | ND | ND | ND | ND | ND | | 7.00 | ND | | ND | ND | 0.33 |
| Maximum Detected | ND | 23.00 | 0.0010 | ND | ND | ND | ND | | 11.00 | ND | | ND | ND | 0.80 |
| Mean | - | 19.33 | - | - | - | - | - | | 9.67 | - | - | - | - | 0.61 |
| 90th Percentile | 0.00010 | 22.20 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 11.00 | 0.01000 | | 0.00500 | 0.0050 | 0.78 |
| **N2-030** | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 0 | 3 | 0 | 0 | 0 | 0 | 0 | | 3 | 0 | | 0 | 0 | 3 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 15.00 | ND | ND | ND | ND | ND | | 7.00 | ND | | ND | ND | 0.39 |
| Maximum Detected | ND | 21.00 | ND | ND | ND | ND | ND | | 9.00 | ND | | ND | ND | 0.68 |
| Mean | - | 17.33 | - | - | - | - | - | | 7.67 | - | - | - | - | 0.57 |
| 90th Percentile | 0.00010 | 20.00 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 8.60 | 0.01000 | | 0.00500 | 0.0050 | 0.67 |
| **N2-060** | | | | | | | | | | | | | | |
| Number of samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | | 3 | 3 | 3 |
| Number of Detects | 0 | 3 | 0 | 0 | 1 | 1 | 0 | | 3 | 0 | | 0 | 0 | 3 |
| Percentage of Detects | 0% | 100% | 0% | 0% | 33% | 33% | 0% | | 100% | 0% | | 0% | 0% | 100% |
| Minimum | ND | 5.00 | ND | ND | ND | ND | ND | | 3.00 | ND | | ND | ND | 0.48 |
| Maximum Detected | ND | 9.00 | ND | ND | 0.0010 | 0.03 | ND | | 6.00 | ND | | ND | ND | 0.74 |
| Mean | - | 6.67 | - | - | - | - | - | | 4.33 | - | - | - | - | 0.61 |
| 90th Percentile | 0.00010 | 8.40 | 0.0010 | 0.0002 | 0.0010 | 0.03 | 0.00100 | | 5.60 | 0.01000 | | 0.00500 | 0.0050 | 0.71 |

Knight Piésold CONSULTING

**TABLE 3.6**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**STREAM WATER QUALITY DATA SUMMARY STATISTICS - MINE SITE TO MILNE PORT DISSOLVED METALS**

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| Site ID | Laboratory Results | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Selenium Dissolved | Silicon Dissolved | Silver Dissolved | Sodium Dissolved | Strontium Dissolved | Thallium Dissolved | Tin Dissolved | Titanium Dissolved | Uranium Dissolved | Vanadium Dissolved | Zinc Dissolved |
| **Receiving Water Quality Objectives** | | | | | | | | | | | |
| **MDL (2005)** | 0.005 | - | 0.0001 | 0.05 | 0.001 | 0.0002 | 0.001 | 0.003 | - | 0.0009 | 0.001 |
| **MDL (2006)** | 0.001 | - | 0.0001 | 0.05 | 0.001 | - | 0.01 | - | - | 0.001 | 0.01 |
| **MDL (2007)** | 0.001 | 0.05 | 0.00001 | 2 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2008)** | 0.001 | 0.05 | 0.00001 | 0.05 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.001 |
| **MDL (2011)** | 0.001 | 0.05 | 0.000001 | 0.0012 | 0.0001 | 0.0001 | 0.0001 | 0.01 | 0.00001 | 0.001 | 0.003 |
| **Milne Port Area** | | | | | | | | | | | |
| Number of samples | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | 1 | 4 | 0 | 4 | 5 | 0 | 0 | 0 | 4 | 1 | 2 |
| Percentage of Detects | 20% | 80% | 0% | 100% | 100% | 0% | 0% | 0% | 80% | 20% | 40% |
| Minimum | ND | ND | ND | 0.1440 | 0.0005 | ND | ND | ND | ND | ND | ND |
| Maximum | 0.009 | 0.68 | ND | 202.0000 | 0.7550 | ND | ND | ND | 0.00245 | 0.005 | 0.015 |
| Mean | - | 0.44 | - | 97.7610 | 0.3540 | - | - | - | 0.00116 | - | - |
| 90th Percentile | 0.008 | 0.67 | 0.000050 | 174.4000 | 0.6454 | 0.0005 | 0.0005 | 0.01 | 0.00234 | 0.005 | 0.011 |
| **N1-010** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 3 | 2 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 50% | 33% |
| Minimum | ND | | ND | 0.4900 | 0.0130 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 0.9000 | 0.0200 | ND | ND | ND | | 0.004 | 0.010 |
| Mean | - | - | - | 0.7117 | 0.0170 | - | - | - | - | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 0.8650 | 0.0193 | 0.0002 | 0.0100 | 0.003 | | 0.004 | 0.010 |
| **N1-020** | | | | | | | | | | | |
| Number of samples | 8 | 2 | 8 | 8 | 8 | 5 | 8 | 5 | 2 | 8 | 8 |
| Number of Detects | 0 | 2 | 0 | 8 | 8 | 0 | 0 | 0 | 2 | 2 | 3 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 25% | 38% |
| Minimum | ND | 0.27 | ND | 0.3500 | 0.0070 | ND | ND | ND | 0.00074 | ND | ND |
| Maximum Detected | ND | 0.32 | ND | 1.6700 | 0.0195 | ND | ND | ND | 0.00168 | 0.003 | 0.010 |
| Mean | - | 0.30 | - | 0.8370 | 0.0153 | - | - | - | 0.00121 | - | - |
| 90th Percentile | 0.005 | 0.32 | 0.000100 | 1.4040 | 0.0192 | 0.0002 | 0.0100 | 0.01 | 0.00159 | 0.003 | 0.010 |
| **N1-025** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | ND | | ND | 0.2800 | 0.0110 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 0.6400 | 0.0150 | | ND | | | ND | ND |
| Mean | - | - | - | 0.5067 | 0.0127 | - | - | - | - | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.6320 | 0.0144 | | 0.0100 | | | 0.001 | 0.010 |
| **N1-030** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 2 | 2 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 33% | 33% |
| Minimum | ND | | ND | 0.2700 | 0.0041 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 0.6200 | 0.0120 | ND | ND | ND | | 0.003 | 0.010 |
| Mean | - | - | - | 0.4200 | 0.0086 | - | - | - | - | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 0.6050 | 0.0115 | 0.0002 | 0.0100 | 0.003 | | 0.003 | 0.010 |
| **N1-040** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 2 | 1 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 33% | 17% |
| Minimum | ND | | ND | 0.2300 | 0.0150 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 0.6500 | 0.0250 | ND | ND | ND | | 0.003 | 0.010 |
| Mean | - | - | - | 0.3500 | 0.0183 | - | - | - | - | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 0.5300 | 0.0215 | 0.0002 | 0.0100 | 0.003 | | 0.002 | 0.010 |
| **N1-050** | | | | | | | | | | | |
| Number of samples | 7 | | 7 | 7 | 7 | 4 | 7 | 4 | | 7 | 7 |
| Number of Detects | 0 | | 0 | 7 | 7 | 0 | 0 | 0 | | 4 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 57% | 43% |
| Minimum | ND | | ND | 0.3400 | 0.0070 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 1.6100 | 0.0230 | ND | ND | ND | | 0.005 | 0.010 |
| Mean | - | - | - | 0.8429 | 0.0157 | - | - | - | - | 0.003 | - |
| 90th Percentile | 0.005 | | 0.000100 | 1.3040 | 0.0206 | 0.0002 | 0.0100 | 0.003 | | 0.005 | 0.010 |
| **N1-053** | | | | | | | | | | | |
| Number of samples | 4 | | 4 | 4 | 4 | | 4 | | | 4 | 4 |
| Number of Detects | 0 | | 0 | 4 | 4 | | 0 | | | 0 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | ND | | ND | 0.2400 | 0.0180 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 0.4000 | 0.0220 | | ND | | | ND | ND |
| Mean | - | - | - | 0.3000 | 0.0195 | - | - | - | - | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.3760 | 0.0211 | | 0.0100 | | | 0.001 | 0.010 |
| **N1-058** | | | | | | | | | | | |
| Number of samples | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 4 |
| Number of Detects | 0 | 2 | 0 | 4 | 4 | 0 | 0 | 0 | 2 | 0 | 0 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 0% | 0% |
| Minimum | ND | 0.35 | ND | 0.2300 | 0.0150 | ND | ND | ND | 0.00012 | ND | ND |
| Maximum Detected | ND | 0.37 | ND | 0.4070 | 0.0192 | ND | ND | ND | 0.00015 | ND | ND |
| Mean | - | 0.36 | - | 0.3205 | 0.0176 | - | - | - | 0.00014 | - | - |
| 90th Percentile | 0.001 | 0.37 | 0.000100 | 0.3884 | 0.0191 | 0.0001 | 0.0100 | 0.01 | 0.00015 | 0.001 | 0.010 |
| **N1-060** | | | | | | | | | | | |
| Number of samples | 8 | 2 | 8 | 8 | 8 | 5 | 8 | 5 | 2 | 8 | 8 |
| Number of Detects | 0 | 2 | 0 | 8 | 8 | 0 | 0 | 0 | 2 | 3 | 2 |
| Percentage of Detects | 0% | 100% | 0% | 100% | 100% | 0% | 0% | 0% | 100% | 38% | 25% |
| Minimum | ND | 0.67 | ND | 0.2800 | 0.0099 | ND | ND | ND | 0.00030 | ND | ND |
| Maximum Detected | ND | 0.72 | ND | 1.0100 | 0.0365 | ND | ND | ND | 0.00053 | 0.004 | 0.010 |
| Mean | - | 0.70 | - | 0.4608 | 0.0244 | - | - | - | 0.00041 | - | - |
| 90th Percentile | 0.005 | 0.72 | 0.000100 | 0.7902 | 0.0320 | 0.0002 | 0.0100 | 0.01 | 0.00051 | 0.004 | 0.010 |
| **N1-070** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 2 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 33% | 50% |
| Minimum | ND | | ND | 0.3400 | 0.0061 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 0.9000 | 0.0140 | ND | ND | ND | | 0.003 | 0.010 |
| Mean | - | | - | 0.5467 | 0.0095 | - | - | - | | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 0.7100 | 0.0120 | 0.0002 | 0.0100 | 0.003 | | 0.002 | 0.010 |
| **N1-080** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 2 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 33% | 50% |
| Minimum | ND | | ND | 0.2900 | 0.0027 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 3.1200 | 0.0260 | ND | ND | ND | | 0.005 | 0.010 |
| Mean | - | | - | 1.4033 | 0.0164 | - | - | - | | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 2.5400 | 0.0245 | 0.0002 | 0.0100 | 0.003 | | 0.005 | 0.010 |
| **N1-090** | | | | | | | | | | | |
| Number of samples | 5 | | 5 | 5 | 5 | 3 | 5 | 3 | | 5 | 5 |
| Number of Detects | 0 | | 0 | 5 | 5 | 0 | 0 | 0 | | 2 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 40% | 60% |
| Minimum | ND | | ND | 0.2800 | 0.0078 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 0.5900 | 0.0310 | ND | ND | ND | | 0.007 | 0.010 |
| Mean | - | | - | 0.4460 | 0.0218 | - | - | - | | - | 0.006 |
| 90th Percentile | 0.005 | | 0.000100 | 0.5620 | 0.0303 | 0.0002 | 0.0100 | 0.003 | | 0.006 | 0.010 |
| **N1-100** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 1 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 17% | 50% |
| Minimum | ND | | ND | 0.3100 | 0.0013 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 1.0200 | 0.0070 | ND | ND | ND | | 0.002 | 0.010 |
| Mean | - | | - | 0.6367 | 0.0044 | - | - | - | | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 0.8700 | 0.0065 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N1-110** | | | | | | | | | | | |
| Number of samples | 6 | | 6 | 6 | 6 | 3 | 6 | 3 | | 6 | 6 |
| Number of Detects | 0 | | 0 | 6 | 6 | 0 | 0 | 0 | | 1 | 3 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | 0% | 0% | 0% | | 17% | 50% |
| Minimum | ND | | ND | 0.4700 | 0.0011 | ND | ND | ND | | ND | ND |
| Maximum Detected | ND | | ND | 1.6400 | 0.0080 | ND | ND | ND | | 0.001 | 0.010 |
| Mean | - | | - | 0.6983 | 0.0047 | - | - | - | | - | - |
| 90th Percentile | 0.005 | | 0.000100 | 1.1100 | 0.0065 | 0.0002 | 0.0100 | 0.003 | | 0.001 | 0.010 |
| **N2-010** | | | | | | | | | | | |
| Number of samples | 2 | | 2 | 2 | 2 | | 2 | | | 2 | 2 |
| Number of Detects | 0 | | 0 | 2 | 2 | | 0 | | | 0 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | ND | | ND | 0.2200 | 0.0050 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 0.3900 | 0.0050 | | ND | | | ND | ND |
| Mean | - | | - | 0.3050 | 0.0050 | | - | | | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.3730 | 0.0050 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-013** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | ND | | ND | 0.3800 | 0.0090 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 0.8000 | 0.0130 | | ND | | | ND | ND |
| Mean | - | | - | 0.6100 | 0.0113 | | - | | | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.7700 | 0.0128 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-020** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | | 0 | | | 1 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 33% | 0% |
| Minimum | ND | | ND | 0.3300 | 0.0090 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 1.0400 | 0.0140 | | ND | | | 0.001 | ND |
| Mean | - | | - | 0.6833 | 0.0117 | | - | | | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.9680 | 0.0136 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-030** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | | 0 | | | 1 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 33% | 0% |
| Minimum | ND | | ND | 0.3100 | 0.0080 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 0.8200 | 0.0150 | | ND | | | 0.001 | ND |
| Mean | - | | - | 0.5533 | 0.0110 | | - | | | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.7620 | 0.0140 | | 0.0100 | | | 0.001 | 0.010 |
| **N2-060** | | | | | | | | | | | |
| Number of samples | 3 | | 3 | 3 | 3 | | 3 | | | 3 | 3 |
| Number of Detects | 0 | | 0 | 3 | 3 | | 0 | | | 0 | 0 |
| Percentage of Detects | 0% | | 0% | 100% | 100% | | 0% | | | 0% | 0% |
| Minimum | ND | | ND | 0.2700 | 0.0030 | | ND | | | ND | ND |
| Maximum Detected | ND | | ND | 1.0000 | 0.0080 | | ND | | | ND | ND |
| Mean | - | | - | 0.5600 | 0.0050 | | - | | | - | - |
| 90th Percentile | 0.001 | | 0.000100 | 0.8820 | 0.0072 | | 0.0100 | | | 0.001 | 0.010 |

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| REV | DATE | DESCRIPTION | PREPD | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 2/DEC/11 | ISSUED WITH NSECD 19Dec/30-5 | ML | SR | KDE |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Mary Lake Surface | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | BL0-01-S | BL0-01-S | BL0-01-S | BL0-01-S | BL0-01-S | BL0-01-S | BL0-1-S | BL0-03-S | BL0-03-S | BL0-03-S | BL0-03-S | BL0-03-S | BL0-3-S |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 01-Aug-06 | 31-Aug-06 | 08-May-07 | 09-Aug-07 | 19-Sep-07 | 11-May-08 | 06-Aug-08 | 01-Aug-06 | 08-May-07 | 14-Aug-07 | 20-Sep-07 | 18-Sep-07 | 05-Aug-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | 12.33 | 6.20 | 0.8 | 9.2 | 2.1 | | 14.1 | | 1.2 | 10.1 | 5.2 | | 13.5 |
| Specific Conductance | mS/cm | | | | | | 0.093 | 0.138 | 0.185 | 0.111 | 0.178 | | 0.156 | | 0.078 | 0.065 | 0.075 | | 0.092 |
| Dissolved Oxygen | mg/L | | | | | 9.5 | 9.76 | 9.87 | 18.31 | 10.80 | 12.62 | | 10.51 | | 18.36 | 10.45 | 11.03 | | 10.7 |
| pH | - | | | | | 6.5-9.0 | 8.26 | 8.55 | | | 8.40 | | 7.93 | | | | 8.31 | | 7.83 |
| Average Depth (m) | (m) | | | | | | 1 | 1 | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | | | | 1.0 | 1.0 | 1.0 | | | | 1.0 | 1.0 | 1.0 | | |
| Total Depth - May Samples Only | m | | | | | | | | 10.70 | | | | | | 18.50 | | | | |
| Ice Thickness -May Samples Only | m | | | | | | | | 1.80 | | | | | | 1.70 | | | | |
| Airspace - May Samples Only | m | | | | | | | | 0.20 | | | | | | 0.00 | | | | |
| Snow Depth - May Samples Only | m | | | | | | | | 0.25 | | | | | | 0.40 | | | | |
| Water Depth | m | | | | | | | | 8.70 | 10.5 | 11.2 | | 10.6 | | 16.80 | 19.2 | 14.1 | | 16.5 |
| Turbidity | NTU | | | | | | | | 0 | 3.00 | 1.97 | | 4.7 | | 0 | 0.87 | 1.60 | | 2.1 |
| Secchi Disk Depth | m | | | | | | 0.63 | 1.27 | | 2.2 | | | 4.0 | 1.89 | | 4.75 | 3.3 | | 3.5 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.13 | 7.48 | 7.39 | 8.29 | 8.10 | 8.13 | 7.96 | | 6.71 | 8.05 | | 7.92 | 7.77 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 95 | 144 | 203 | 127 | 190 | 257 | 143 | | 91 | 73 | | 84 | 85 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 6.3 | | 0.3 | 1.3 | 0.8 | 0.2 | 0.9 | | 0.2 | 0.7 | | 0.7 | 1.6 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 50 | 75 | 99.2 | 64.1 | 96.1 | 130 | 74.8 | | 43.3 | 35.2 | | 39.4 | 42.6 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 62 | 94 | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 132 | 83 | 123 | 167 | 93 | | 59 | 48 | | 55 | 55 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | *2* | *2* | *2* | *2* | *2* | | *2* | 3 | | *2* | 3 |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 50 | 72 | 103 | 62 | 90 | 120 | 71 | | 48 | 34 | | 38 | 41 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.05* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | | *0.05* | *0.25* | | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | *1* | 2 | 3 | 2 | 6 | 8 | 3 | | 2 | 2 | | 3 | 3 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 3 | 3 | 3 | 5 | 5 | 3 | | 1 | 2 | | 2 | *1* |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.04 | 0.11 | 0.04 | *0.02* | 0.36 | 0.21 | 0.05 | | 0.06 | *0.02* | | 0.13 | 0.05 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | 0.005 | 0.008 | *0.002* | *0.002* | 0.004 | *0.005* | *0.005* | | *0.002* | 0.002 | | *0.002* | *0.005* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.02 | *0.01* | *0.01* | 0.003 | 0.004 | 0.007 | 0.006 | | *0.003* | *0.003* | | *0.003* | 0.006 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.2 | 1.4 | 1.7 | 2.0 | 2.0 | | 1.6 | 2.8 | | 1.5 | 1.7 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.1 | 1.3 | 1.7 | 1.8 | 1.9 | | 1.5 | 1.9 | | 1.5 | 1.5 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | 0.17 | 0.22 | 0.35 | 0.32 | 0.29 | | *0.05* | 0.21 | | 0.12 | 0.21 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | | *0.001* | *0.001* | | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | **0.144** | **0.135** | 0.0094 | 0.0542 | 0.0253 | 0.004500 | 0.030200 | | 0.0083 | 0.0250 | | 0.0162 | 0.058300 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.001* | *0.001* | *0.00010* | *0.00010* | 0.00039 | 0.0000001 | *0.000100* | | *0.00010* | *0.00010* | | 0.00011 | *0.000100* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00985 | 0.00633 | 0.00849 | 0.013400 | 0.007210 | | 0.00472 | 0.00407 | | 0.00419 | 0.004610 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.010000* | | *0.010* | *0.010* | | *0.010* | *0.010000* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.000010* | | **0.000240** | *0.000017* | | *0.000017* | *0.000010* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 15 | 20.2 | 13.3 | 19.7 | 25.2 | 15.6 | | 8.77 | 7.49 | | 8.43 | 9.04 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.001 | 0.001 | 0.00133 | 0.00088 | **0.00429** | 0.001220 | 0.001320 | | 0.00073 | 0.00070 | | 0.00187 | 0.000960 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.18 | 0.17 | *0.030* | 0.073 | 0.050 | *0.03000* | 0.036000 | | *0.030* | 0.030 | | *0.030* | 0.069000 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.001* | *0.001* | *0.000050* | 0.000094 | 0.000054 | *0.00005* | 0.000050 | | *0.000050* | 0.000060 | | *0.000050* | 0.000060 |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.005000* | | *0.0050* | *0.0050* | | *0.0050* | *0.005000* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 9 | 12.3 | 7.63 | 11.2 | 15.3 | 8.44 | | 5.10 | 4.05 | | 4.45 | 4.79 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | 0.02 | 0.000816 | 0.00326 | 0.00261 | 0.001040 | 0.001880 | | 0.000468 | 0.00117 | | 0.000882 | 0.001820 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.000010* | | *0.000050* | *0.000050* | | *0.000050* | *0.000010* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.005* | *0.005* | 0.000275 | 0.000170 | 0.000245 | 0.000319 | 0.000180 | | 0.000134 | 0.000109 | | 0.000120 | 0.000123 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.005* | *0.005* | 0.00090 | 0.00052 | 0.00056 | 0.000800 | 0.000680 | | *0.00050* | *0.00050* | | *0.00050* | 0.000510 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | | *0.30* | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.60 | 0.79 | *2.0* | *2.0* | *2.0* | 1.28 | 0.809 | | *2.0* | *2.0* | | *2.0* | 0.537 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.001000* | | *0.0010* | *0.0010* | | *0.0010* | *0.001000* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 1.14 | 0.750 | 0.904 | 1.140000 | 0.796000 | | 0.524 | 0.424 | | 0.438 | 0.646000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000010* | | *0.000010* | *0.000010* | | *0.000010* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.62 | 1.22 | *2.0* | *2.0* | 2.0 | 3.30 | 1.32 | | *2.0* | *2.0* | | *2.0* | 0.791 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.007 | 0.011 | 0.0127 | 0.00859 | 0.0144 | 0.017400 | 0.009280 | | 0.00863 | 0.00775 | | 0.00749 | 0.006930 |
| Thallium | mg/L | | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00365 | *0.00010* | *0.00010* | 0.000830 | 0.000310 | | 0.00077 | *0.00010* | | *0.00010* | 0.000190 |
| Titanium | mg/L | | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.01000* | *0.010000* | | *0.010* | *0.010* | | *0.010* | *0.010000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.00213 | 0.00105 | 0.00235 | 0.003210 | 0.001270 | | 0.000570 | 0.000469 | | 0.000575 | 0.000577 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.0010* | *0.0010* | 0.0035 | *0.00100* | *0.001000* | | *0.0010* | *0.0010* | | 0.0013 | *0.001000* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.01* | *0.01* | *0.0010* | 0.0017 | *0.0010* | 0.001500 | 0.001500 | | *0.0010* | *0.0010* | | *0.0010* | 0.001000 |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.009 | 0.008 | 0.0052 | 0.0269 | 0.0224 | 0.0034 | 0.005500 | | 0.0057 | 0.0146 | | 0.0164 | 0.007000 |
| Antimony | mg/L | | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | 0.00021 | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | 0.00025 | | *0.00010* | *0.000100* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.001* | *0.001* | *0.00010* | *0.00010* | 0.00028 | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00973 | 0.00611 | 0.00827 | 0.01270 | 0.007080 | | 0.00482 | 0.00391 | | 0.00413 | 0.004210 |
| Beryllium | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Bismuth | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | 0.010000 | | *0.010* | *0.010* | | *0.010* | *0.010000* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 0.000010 | | **0.000025** | *0.000017* | | *0.000017* | 0.000010 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 15 | 19.9 | 13.3 | 19.9 | 26.8 | 15.3 | | 8.87 | 7.44 | | 8.42 | 8.88 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | | *0.00050* | *0.000500* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | *0.001* | *0.001* | 0.00123 | 0.00080 | **0.00404** | 0.00131 | 0.001140 | | 0.00077 | 0.00061 | | 0.00188 | 0.000950 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | *0.03* | *0.030* | 0.036 | 0.041 | *0.030* | *0.030000* | | *0.030* | *0.030* | | *0.030* | *0.030000* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.001* | *0.001* | *0.000050* | *0.000050* | 0.000060 | *0.00005* | *0.000050* | | *0.000050* | *0.000050* | | 0.000070 | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005000* | | *0.0050* | *0.0050* | | *0.0050* | *0.005000* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 9 | 12.0 | 7.52 | 11.3 | 15.3 | 8.90 | | 5.14 | 4.03 | | 4.46 | 4.97 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.000592 | 0.00199 | 0.00237 | 0.00034 | 0.001220 | | 0.000478 | 0.000806 | | 0.00106 | 0.000636 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 0.000010 | | *0.000050* | *0.000050* | | *0.000050* | 0.000010 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.005* | *0.005* | 0.000281 | 0.000160 | 0.000234 | 0.000344 | 0.000194 | | 0.000140 | 0.000100 | | 0.000109 | 0.000106 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.005* | *0.005* | 0.00087 | *0.00050* | 0.00060 | 0.00076 | *0.000500* | | 0.00052 | *0.00050* | | *0.00050* | *0.000500* |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | | *0.30* | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.56 | 0.79 | *2.0* | *2.0* | *2.0* | 1.23 | 0.789 | | *2.0* | *2.0* | | *2.0* | 0.474 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* | | *0.0010* | *0.0010* | | *0.0010* | *0.001000* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 1.08 | 0.695 | 0.872 | 1.190 | 0.756000 | | 0.513 | 0.407 | | 0.422 | 0.538000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | 0.000010 | | *0.000010* | *0.000010* | | *0.000010* | 0.000010 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.64 | 1.13 | *2.0* | *2.0* | 2.2 | 3.26 | 1.33 | | *2.0* | *2.0* | | *2.0* | 0.706 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.007 | 0.011 | 0.0126 | 0.00803 | 0.0114 | 0.01680 | 0.009010 | | 0.00875 | 0.00785 | | 0.00746 | 0.006350 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | | *0.00010* | *0.000100* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00080 | *0.00010* | *0.00010* | 0.00177 | 0.000650 | | 0.00186 | *0.00010* | | *0.00010* | 0.000820 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010000* | | *0.010* | *0.010* | | *0.010* | *0.010000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.00210 | 0.00102 | 0.00237 | 0.003240 | 0.001260 | | 0.000587 | 0.000447 | | 0.000557 | 0.000554 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | 0.0024 | *0.001* | *0.001000* | | *0.0010* | *0.0010* | | 0.0011 | *0.001000* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | *0.01* | *0.01* | *0.0010* | 0.0013 | 0.0016 | 0.0040 | 0.001300 | | 0.0011 | 0.0015 | | 0.0029 | 0.001200 |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Mary Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Mary Lake | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2006 | 2007 | 2008 | 2011 | 2011 | BL0-04-S | BL0-04-S | BL0-04-S | BL0-04-S | BL0-04-S | BL0-4-S | BL0-05-S | BL0-05-S | BL0-05-S | BL0-05-S | BL0-05-S | BL0-05-S | BL0-5-S | BL0-05-S | BL0-0-5-B4 S | BL0-06-S | BL0-06-S | BL0-06-S |
| | | | | | | | 31-Jul-06 | 08-May-07 | 14-Aug-07 | 18-Sep-07 | 11-May-08 | 05-Aug-08 | 31-Jul-06 | 05-Sep-06 | 08-May-07 | 14-Aug-07 | 13-Sep-07 | 18-Sep-07 | 06-Aug-08 | 26-Jul-11 | 26-Jul-11 | 14-Aug-07 | 18-Sep-07 | 05-Aug-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | | 0.6 | 9.6 | 6.2 | | 13.7 | 8.47 | 6.76 | 0.8 | 9.4 | | 5.9 | 10.9 | 8.94 | 9.14 | 8.5 | 5.5 | 11.1 |
| Specific Conductance | mS/cm | | | | | | | 0.083 | 0.064 | 0.077 | | 0.105 | 0.050 | 0.067 | 0.084 | 0.071 | | 0.081 | 0.077 | 0.075 | 0.070 | 0.064 | 0.078 | 0.076 |
| Dissolved Oxygen | mg/L | | | | | 9.5 | | 19.53 | 10.42 | 12.68 | | 10.42 | 10.79 | 9.90 | 19.57 | 10.52 | | 12.73 | 11.02 | | | 10.78 | 12.75 | 11.19 |
| pH | - | | | | | 6.5-9.0 | | | | 7.67 | | 7.67 | 7.72 | 6.78 | | | | 8.11 | 7.56 | 7.66 | 7.63 | | | 7.54 |
| Average Depth (m) | (m) | | | | | | | | | | | | 1 | 1 | | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | | | 1.0 | 1.0 | 1.0 | | | | | 1.0 | 1.0 | | 1.0 | | | | 1.0 | 1.0 | |
| Total Depth - May Samples Only | m | | | | | | | 23.20 | | | | | | | 23.00 | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | | | | | 1.30 | | | | | | | 1.60 | | | | | | | | | |
| Airspace - May Samples Only | m | | | | | | | 0.00 | | | | | | | 0.00 | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | | | | | 0.50 | | | | | | | 0.40 | | | | | | | | | |
| Water Depth | m | | | | | | | 21.90 | 21.6 | 20.3 | | 20.3 | | | 21.40 | 18.4 | | 11.9 | 20.8 | 17 | | 9.4 | 8.8 | 8.7 |
| Turbidity | NTU | | | | | | | 0 | 1.42 | 1.32 | | 8.8 | | | 0 | 2.20 | | 1.34 | 5.5 | | | 1.68 | 1.54 | 8.4 |
| Secchi Disk Depth | m | | | | | | 1.34 | | 3.2 | 3.0 | | 2.0 | 1.43 | 1.43 | | 3.15 | | 3.4 | 2.5 | | | 3.6 | 3.1 | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | | 6.75 | 8.15 | 7.86 | 7.81 | 7.71 | 6.71 | 6.82 | 6.73 | 8.15 | | 7.87 | 7.63 | 6.81 | 6.75 | | | |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | | 96 | 72 | 87 | 103 | 93 | 54 | 72 | 96 | 80 | | 91 | 72 | 79.00 | 70.00 | | | |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | | 0.3 | 0.6 | 1.0 | 0.4 | 3.8 | 2.8 | 2.9 | 0.3 | 1.7 | | 0.8 | 2.0 | 2.40 | 1.40 | | | |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | | 44.4 | 34.6 | 40.4 | 49.5 | 45.7 | 25 | 34 | 43.7 | 38.0 | 41.9 | | 36.9 | 34.60 | 33.40 | | | |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | | | | 35 | 47 | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | 62 | 47 | 57 | 67 | 61 | | | 62 | 52 | | 59 | 47 | 51.00 | 46.00 | | | |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | *2* | 4 | *2* | *2* | *2* | | | *2* | *2* | | *2* | *2* | 20.00 | *2.00* | | | |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | | 48 | 33 | 38 | 46 | 39 | 27 | 34 | 46 | 35 | | 38 | 33 | 39.00 | 36.00 | | | |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | *0.05* | *0.05* | *0.25* | | *0.25* | *0.25* | *0.25* | *0.25* | | | |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | | 3 | 2 | 4 | 4 | 6 | 2 | 2 | 3 | 4 | | 4 | 3 | 2.00 | 2.00 | | | |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | | 1 | 2 | 3 | 2 | 3 | *1* | 3 | 1 | 3 | | 3 | *1* | 1.00 | 1.00 | | | |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | | *0.02* | 0.04 | *0.02* | 0.25 | 0.03 | 0.09 | 0.05 | *0.02* | 0.03 | | 0.05 | *0.02* | 0.03 | *0.02* | | | |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | | *0.002* | 0.002 | *0.002* | *0.005* | *0.005* | *0.005* | 0.009 | *0.002* | 0.002 | | *0.002* | *0.005* | **0.10** | *0.10* | | | |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.1* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | | | |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.1* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | | | |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | | *0.003* | 0.003 | 0.005 | *0.003* | 0.005 | 0.01 | 0.02 | *0.003* | *0.003* | | 0.003 | 0.006 | 0.009 | 0.003 | | | |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | 1.8 | 1.5 | 1.3 | 1.5 | 1.6 | | | 1.5 | 1.8 | | 1.5 | 1.4 | 1.60 | 1.60 | | | |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | 1.7 | 1.6 | 1.4 | 1.4 | 1.7 | | | 1.6 | 1.5 | | 1.5 | 1.4 | 1.40 | 1.50 | | | |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | *0.05* | 0.15 | *0.10* | 0.28 | 0.23 | | | *0.05* | 0.12 | | *0.10* | *0.10* | 0.14 | *0.10* | | | |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.00* | | | |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | | 0.0073 | 0.0276 | 0.0258 | 0.00540 | **0.105000** | **0.107** | 0.089 | 0.0076 | 0.0572 | 0.0325 | | 0.068100 | 0.0833 | 0.0493 | | | |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | | | *0.0001* | *0.0001* | *0.0001* | | *0.000100* | *0.0001* | *0.00* | | | |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0010* | *0.0010* | *0.0001* | *0.0001* | *0.0001* | | *0.000100* | *0.0001* | *0.00* | | | |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | | 0.00499 | 0.00393 | 0.00457 | 0.00582 | 0.005860 | *0.01* | *0.01* | 0.00496 | 0.00470 | 0.00485 | | 0.004350 | 0.00442 | 0.00395 | | | |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | | | *0.0005* | *0.0005* | *0.0005* | | *0.000500* | *0.0005* | *0.00* | | | |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | | | *0.0005* | *0.0005* | *0.0005* | | *0.000500* | *0.0005* | *0.00* | | | |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | | *0.010* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | | *0.010000* | *0.01* | *0.01* | | | |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | | *0.000017* | *0.000017* | *0.000017* | *0.000010* | *0.000010* | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | | *0.000010* | *0.00001* | *0.00* | | | |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | | 9.16 | 7.30 | 8.69 | 10.3 | 10.3 | 6 | 7 | 8.99 | 8.26 | 9.00 | | 7.47 | 7.12 | 6.85 | | | |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.001* | *0.001* | *0.0005* | *0.0005* | *0.0005* | | *0.000500* | *0.0005* | *0.00* | | | |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.000100* | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | | 0.00076 | 0.00065 | 0.00081 | 0.00100 | 0.000940 | *0.001* | *0.001* | 0.00071 | 0.00073 | 0.00066 | | 0.000730 | 0.001 | 0.00085 | | | |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | | 0.062 | *0.030* | 0.035 | *0.030000* | 0.138000 | 0.10 | 0.09 | *0.030* | 0.062 | 0.046 | | 0.077000 | 0.07 | 0.10 | | | |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | | *0.000050* | 0.000149 | *0.000050* | 0.00008 | 0.000130 | *0.001* | *0.001* | *0.000050* | 0.000088 | *0.000050* | | 0.000080 | 0.00008 | 0.00007 | | | |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | *0.0050* | *0.0050* | *0.0050* | *0.005000* | *0.005000* | | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | *0.005* | *0.01* | | | |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | | 5.33 | 3.98 | 4.51 | 5.66 | 4.84 | 3 | 4 | 5.21 | 4.28 | 4.72 | | 3.90 | 4.07 | 3.95 | | | |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | | 0.000397 | 0.00105 | 0.000950 | 0.00027 | 0.002520 | *0.01* | *0.01* | 0.000424 | 0.00146 | 0.00116 | | 0.001760 | 0.00215 | 0.00266 | | | |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | | *0.000050* | *0.000050* | *0.000050* | *0.000010* | *0.000010* | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | *0.00001* | *0.00* | | | |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | | 0.000143 | 0.000100 | 0.000135 | 0.00016 | 0.000168 | *0.005* | *0.005* | 0.000147 | 0.000137 | 0.000150 | | 0.000106 | 0.000149 | 0.000159 | | | |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | | 0.00053 | *0.00050* | *0.00050* | *0.000500* | 0.000510 | *0.005* | *0.005* | 0.00052 | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | 0.00057 | | | |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | *0.30* | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | | *2.0* | *2.0* | *2.0* | 0.663 | 0.629 | 0.40 | 0.46 | *2.0* | *2.0* | *2.0* | | 0.509 | 0.565 | 0.531 | | | |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001000* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | 0.500 | 0.413 | 0.446 | 0.40900 | 0.730000 | | | 0.492 | 0.523 | 0.467 | | 0.540000 | 0.54 | 0.49 | | | |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | | *0.000010* | *0.000010* | *0.000010* | *0.000010* | *0.000010* | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | *0.000001* | *0.00* | | | |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | | *2.0* | *2.0* | *2.0* | 1.00 | 0.919 | 0.41 | 0.55 | *2.0* | *2.0* | *2.0* | | 0.705 | 1.01 | 0.957 | | | |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | | 0.00924 | 0.00751 | 0.00921 | 0.01110 | 0.011600 | 0.007 | 0.009 | 0.00935 | 0.0105 | 0.01040 | | 0.006810 | 0.00623 | 0.00569 | | | |
| Thallium | mg/L | | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.000100* | | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | | 0.00045 | *0.00010* | *0.00010* | 0.00082 | 0.000620 | *0.01* | *0.01* | 0.00056 | *0.00010* | *0.00010* | | 0.000120 | *0.0001* | *0.00* | | | |
| Titanium | mg/L | | 0.010 | 0.01 | 0.01 | | | *0.010* | *0.010* | *0.010* | *0.010000* | *0.010000* | | | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | 0.000618 | 0.000451 | 0.000649 | 0.00079 | 0.000780 | | | 0.000612 | 0.000599 | 0.000747 | | 0.000493 | 0.000569 | 0.000516 | | | |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001000* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | | *0.0010* | 0.0027 | *0.0010* | 0.00300 | *0.001000* | *0.01* | *0.01* | *0.0010* | 0.0013 | *0.0010* | | *0.001000* | *0.003* | *0.00* | | | |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | | 0.0056 | 0.0137 | 0.0197 | 0.0038 | 0.007900 | 0.011 | 0.007 | 0.0052 | 0.0283 | 0.0188 | | 0.009300 | 0.0062 | 0.0047 | | | |
| Antimony | mg/L | | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | 0.00026 | *0.00010* | *0.0001* | *0.000100* | | | *0.00010* | 0.00024 | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | | 0.00495 | 0.00397 | 0.00448 | 0.00537 | 0.005210 | *0.01* | *0.01* | 0.00490 | 0.00459 | 0.00488 | | 0.004030 | 0.004 | 0.00357 | | | |
| Beryllium | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | |
| Bismuth | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | | *0.010* | *0.010* | *0.010* | *0.010* | 0.010000 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | | 0.010000 | *0.01* | *0.01* | | | |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 0.000010 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | | 0.000010 | *0.00001* | *0.00* | | | |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | | 9.08 | 7.30 | 8.78 | 10.4 | 9.97 | 5 | 7 | 8.96 | 8.26 | 8.98 | | 7.95 | 7.01 | 6.63 | | | |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | | 0.00078 | 0.00061 | 0.00089 | 0.00087 | 0.000800 | *0.001* | *0.001* | 0.00074 | 0.00063 | 0.00101 | | 0.000750 | *0.0005* | 0.00055 | | | |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | | *0.030* | *0.030* | *0.030* | *0.030* | *0.030000* | *0.03* | *0.03* | *0.030* | 0.033 | *0.030* | | *0.030000* | *0.03* | *0.03* | | | |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | | *0.000050* | 0.000109 | *0.000050* | *0.00005* | *0.000050* | *0.001* | *0.001* | *0.000050* | *0.000050* | *0.000050* | | *0.000050* | *0.00005* | *0.00* | | | |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005000* | | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | *0.005* | *0.01* | | | |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | | 5.27 | 3.97 | 4.48 | 5.70 | 5.06 | 3 | 4 | 5.18 | 4.22 | 4.73 | | 4.13 | 4.00 | 3.81 | | | |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | | 0.000373 | 0.000654 | 0.000910 | 0.00015 | 0.000450 | *0.01* | *0.01* | 0.000389 | 0.000928 | 0.000930 | | 0.000807 | 0.000705 | 0.00059 | | | |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 0.000010 | | | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | *0.00001* | *0.00* | | | |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | | 0.000145 | 0.000108 | 0.000139 | 0.000156 | 0.000202 | *0.005* | *0.005* | 0.000134 | 0.000145 | 0.000148 | | 0.000122 | 0.000148 | 0.000107 | | | |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | | 0.00058 | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.005* | *0.005* | 0.00051 | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | *0.30* | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | | *2.0* | *2.0* | *2.0* | 0.670 | 0.597 | 0.38 | 0.46 | *2.0* | *2.0* | *2.0* | | 0.484 | 0.531 | 0.494 | | | |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | 0.479 | 0.397 | 0.431 | 0.404 | 0.560000 | | | 0.504 | 0.453 | 0.458 | | 0.451000 | 0.42 | 0.39 | | | |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000010* | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | *0.000001* | *0.00* | | | |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | | *2.0* | *2.0* | *2.0* | 0.998 | 0.921 | 0.39 | 0.53 | *2.0* | *2.0* | *2.0* | | 0.735 | 0.988 | 0.916 | | | |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | | 0.00937 | 0.00783 | 0.00937 | 0.01120 | 0.011400 | 0.007 | 0.009 | 0.00926 | 0.0108 | 0.00987 | | 0.007110 | 0.00588 | 0.00534 | | | |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | | 0.00126 | *0.00010* | *0.00010* | 0.00 | 0.000800 | *0.01* | *0.01* | 0.00202 | *0.00010* | *0.00010* | | 0.000340 | *0.0001* | *0.00* | | | |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010000* | | | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | 0.000598 | 0.000452 | 0.000635 | 0.000763 | 0.000736 | | | 0.000608 | 0.000576 | 0.000719 | | 0.000451 | 0.000554 | 0.000502 | | | |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | | 0.0013 | 0.0014 | 0.0021 | 0.0078 | *0.001000* | *0.01* | *0.01* | *0.0010* | 0.0026 | 0.0021 | | 0.001700 | *0.003* | *0.00* | | | |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Mary Lake Bottom | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2006 | 2007 | 2008 | 2011 | 2011 | BL0-01-B | BL0-01-B | BL0-01-B | BL0-01-B | BL0-01-B | BL0-01-B | BL0-1-B | BL0-03-B | BL0-03-B | BL0-03-B | BL0-03-B | BL0-03-B | BL0-03-B | BL0-04-B | BL0-04-B | BL0-04-B | BL0-04-B | BL0-04-B | BL0-4-B |
| | | | | | | | 01-Aug-06 | 31-Aug-06 | 08-May-07 | 09-Aug-07 | 19-Sep-07 | 11-May-08 | 06-Aug-08 | 01-Aug-06 | 08-May-07 | 14-Aug-07 | 18-Sep-07 | 20-Sep-07 | 05-Aug-08 | 31-Jul-06 | 08-May-07 | 14-Aug-07 | 18-Sep-07 | 11-May-08 | 05-Aug-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | 9.12 | 5.93 | 1.5 | 9.2 | 2.3 | | 7.9 | | 1.7 | 8.1 | | 5.5 | 7.7 | | 1.9 | 7.5 | 6.3 | | 7.3 |
| Specific Conductance | mS/cm | | | | | | 0.082 | 0.138 | 0.183 | 0.112 | 0.178 | | 0.137 | | 0.074 | 0.061 | | 0.075 | 0.071 | | 0.073 | 0.061 | 0.077 | | 0.077 |
| Dissolved Oxygen | mg/L | | | | | 9.5 | 10.52 | 10.10 | 14.30 | 10.80 | 11.83 | | 11.31 | | 12.70 | **8.14** | | 11.08 | 10.87 | | 13.84 | 10.15 | 12.47 | | 10.95 |
| pH | - | | | | | 6.5-9.0 | 8.07 | 8.26 | | | 8.40 | | 7.28 | | | | | 8.01 | 6.83 | | | | 7.84 | | 6.76 |
| Average Depth (m) | (m) | | | | | | 8 | 13 | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | | | | 8.0 | 10.0 | 10.0 | | | | 15.7 | 18.5 | | 13.0 | | | 21.0 | 21.0 | 19.0 | | |
| Total Depth - May Samples Only | m | | | | | | | | 10.70 | | | | | | 18.50 | | | | | | 23.20 | | | | |
| Ice Thickness -May Samples Only | m | | | | | | | | 1.80 | | | | | | 1.70 | | | | | | 1.30 | | | | |
| Airspace - May Samples Only | m | | | | | | | | 0.20 | | | | | | 0.00 | | | | | | 0.00 | | | | |
| Snow Depth - May Samples Only | m | | | | | | | | 0.25 | | | | | | 0.40 | | | | | | 0.50 | | | | |
| Water Depth | m | | | | | | | | 8.70 | 10.5 | 11.2 | | 10.6 | | 16.80 | 19.2 | | 14.1 | 16.5 | | 21.90 | 21.6 | 20.3 | | 20.3 |
| Turbidity | NTU | | | | | | | | 0 | 4.90 | 1.92 | | 5.9 | | 0 | - | | 1.34 | 1.7 | | 0 | | | | 8.3 |
| Secchi Disk Depth | m | | | | | | 0.63 | 1.27 | | 2.2 | | | 4.0 | 1.89 | | 4.75 | | 3.3 | 3.5 | 1.34 | | 3.2 | 3.0 | | 2.0 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.04 | 7.45 | 7.38 | 8.24 | 8.14 | 8.12 | 7.91 | | 6.67 | 8.13 | 7.89 | | 7.56 | | 6.66 | 8.11 | 7.83 | 7.76 | 7.55 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 84 | 144 | 199 | 125 | 191 | 254 | 124 | | 85 | 69 | 84 | | 65 | | 86 | 69 | 88 | 100 | 68 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 8.9 | | 0.3 | 1.0 | 0.9 | 0.2 | 1.5 | | 0.2 | 2.0 | 0.6 | | 1.1 | | 2.3 | 0.9 | 0.7 | 0.8 | 2.8 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 43 | 75 | 99 | 63.4 | 95.9 | 137 | 65.9 | | 39.7 | 33.8 | 39.5 | | 31.9 | | 39.5 | 33.6 | 40.6 | 49.2 | 33.7 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 55 | 94 | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 129 | 81 | 124 | 165 | 81 | | 55 | 45 | 55 | | 42 | | 56 | 45 | 57 | 65 | 44 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | *2* | 2 | 2 | *2* | *2* | | *2* | 11 | *2* | | *2* | | 2 | *2* | *2* | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 44 | 73 | 98 | 62 | 90 | 118 | 63 | | 44 | 32 | 38 | | 30 | | 45 | 32 | 37 | 44 | 31 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.05* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | | *0.05* | *0.25* | *0.25* | | *0.25* | | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | *1* | 2 | 3 | 2 | 6 | 8 | 2 | | 2 | 2 | 3 | | 2 | | 2 | 2 | 4 | 4 | 3 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 3 | 3 | 3 | 5 | 5 | 1 | | 1 | 2 | 2 | | *1* | | 1 | 2 | 3 | 2 | *1* |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.03 | 0.03 | *0.02* | 0.14 | 0.06 | *0.02* | *0.02* | | *0.02* | 0.03 | *0.02* | | 0.07 | | 0.05 | 0.31 | 0.02 | 0.08 | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | 0.008 | *0.002* | *0.002* | 0.004 | *0.005* | *0.005* | | *0.002* | 0.003 | 0.002 | | *0.005* | | *0.002* | 0.002 | *0.002* | *0.005* | *0.005* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.02 | *0.01* | *0.003* | *0.003* | 0.004 | 0.005 | 0.006 | | *0.003* | 0.003 | *0.003* | | 0.005 | | 0.004 | 0.003 | *0.003* | 0.004 | 0.007 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.0 | 1.4 | 1.8 | 1.9 | 1.7 | | 1.6 | 2.2 | 1.5 | | 1.5 | | 1.6 | 1.5 | 1.6 | 1.2 | 1.2 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.0 | 1.4 | 1.8 | 1.9 | 1.7 | | 1.6 | 1.7 | 1.5 | | 1.4 | | 1.6 | 1.6 | 1.4 | 1.3 | 1.2 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | *0.05* | 0.32 | 0.14 | 0.27 | 0.34 | | *0.05* | 0.13 | *0.10* | | 0.16 | | 0.06 | 0.22 | *0.10* | 0.37 | 0.17 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | | *0.001* | *0.001* | *0.001* | | *0.001* | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | **0.191** | **0.119** | 0.0101 | 0.0542 | 0.0474 | 0.004500 | 0.049500 | | 0.0076 | 0.0755 | 0.0166 | | 0.042600 | | 0.0360 | 0.0439 | 0.0262 | 0.01770 | **0.105000** |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.000100* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.001* | *0.001* | *0.00010* | *0.00010* | 0.00020 | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.000100* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00948 | 0.00617 | 0.00862 | 0.012200 | 0.006210 | | 0.00441 | 0.00417 | 0.00417 | | 0.003710 | | 0.00482 | 0.00409 | 0.00454 | 0.00587 | 0.004480 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.000500* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | 0.000500 | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.000500* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.010000* | | *0.010* | *0.010* | *0.010* | | *0.010000* | | *0.010* | *0.010* | *0.010* | *0.010000* | *0.010000* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 0.000010 | | *0.000017* | *0.000017* | *0.000017* | | *0.000010* | | *0.000017* | *0.000017* | *0.000017* | **0.00004** | *0.000010* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 9 | 15 | 19.8 | 13.3 | 19.7 | 24.9 | 13.4 | | 8.09 | 6.98 | 8.31 | | 6.81 | | 8.23 | 7.02 | 8.77 | 10.4 | 7.37 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.000500* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.000100* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.001 | 0.001 | 0.00110 | 0.00085 | **0.00318** | 0.001250 | 0.000910 | | 0.00065 | 0.00082 | 0.00137 | | 0.001490 | | 0.00072 | 0.00068 | 0.00079 | 0.00116 | 0.001220 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.25 | 0.11 | *0.030* | 0.075 | 0.098 | *0.03000* | 0.061000 | | *0.030* | 0.112 | *0.030* | | 0.054000 | | 0.037 | 0.055 | 0.035 | *0.030000* | 0.131000 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.001* | *0.001* | *0.000050* | 0.000075 | 0.000085 | 0.000080 | 0.000070 | | *0.000050* | 0.000105 | *0.000050* | | 0.000060 | | 0.000064 | 0.000074 | *0.000050* | 0.00005 | 0.000130 |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.005000* | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | | *0.0050* | *0.0050* | *0.0050* | *0.005000* | *0.005000* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 5 | 9 | 12.0 | 7.56 | 11.4 | 15.0 | 7.35 | | 4.69 | 3.85 | 4.43 | | 3.56 | | 4.77 | 3.78 | 4.51 | 5.71 | 3.68 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.01 | *0.01* | 0.00102 | 0.00325 | 0.00726 | 0.001230 | 0.005760 | | 0.000362 | 0.00418 | 0.000893 | | 0.001680 | | 0.00223 | 0.00163 | 0.000919 | 0.00101 | 0.002550 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 0.000010 | | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | | *0.000050* | *0.000050* | *0.000050* | *0.000010* | *0.000010* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.005* | *0.005* | 0.000254 | 0.000150 | 0.000214 | 0.000331 | 0.000131 | | 0.000117 | 0.000091 | 0.000110 | | 0.000102 | | 0.000117 | 0.000097 | 0.000120 | 0.00015 | 0.000109 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.005* | *0.005* | 0.00081 | *0.00050* | 0.00062 | 0.000740 | 0.000510 | | *0.00050* | 0.00060 | *0.00050* | | 0.000500 | | 0.00058 | *0.00050* | *0.00050* | 0.00052 | 0.000500 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.55 | 0.77 | *2.0* | *2.0* | *2.0* | 1.22 | 0.653 | | *2.0* | *2.0* | *2.0* | | 0.449 | | *2.0* | *2.0* | *2.0* | 0.702 | 0.504 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001000* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 1.10 | 0.748 | 0.930 | 1.180000 | 0.822000 | | 0.482 | 0.553 | 0.434 | | 0.453000 | | 0.541 | 0.472 | 0.452 | 0.46800 | 0.647000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000010* | | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | | *0.000010* | *0.000010* | *0.000010* | *0.000010* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.44 | 1.26 | *2.0* | *2.0* | 3.9 | 3.19 | 0.957 | | *2.0* | *2.0* | *2.0* | | 0.624 | | *2.0* | *2.0* | *2.0* | 1.25 | 0.661 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.006 | 0.011 | 0.0121 | 0.00789 | 0.0109 | 0.016700 | 0.007680 | | 0.00821 | 0.00691 | 0.00733 | | 0.005310 | | 0.00869 | 0.00782 | 0.00910 | 0.01200 | 0.006600 |
| Thallium | mg/L | | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.000100* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00051 | *0.00010* | *0.00010* | 0.000750 | 0.000230 | | 0.00036 | *0.00010* | *0.00010* | | 0.000640 | | 0.00011 | *0.00010* | *0.00010* | 0.00182 | 0.000530 |
| Titanium | mg/L | | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.01000* | *0.010000* | | *0.010* | *0.010* | *0.010* | | *0.010000* | | *0.010* | *0.010* | *0.010* | *0.010000* | *0.010000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.00199 | 0.00102 | 0.00235 | 0.003170 | 0.000982 | | 0.000538 | 0.000437 | 0.000565 | | 0.000370 | | 0.000577 | 0.000438 | 0.000638 | 0.00082 | 0.000473 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.0010* | *0.0010* | 0.0020 | *0.00100* | *0.001000* | | *0.0010* | *0.0010* | 0.0010 | | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001000* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.01* | *0.01* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.001000* | | *0.0010* | 0.0011 | *0.0010* | | *0.001000* | | *0.0010* | 0.0015 | *0.0010* | 0.00240 | *0.001000* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.010 | 0.008 | 0.0058 | 0.0359 | 0.0245 | 0.0032 | 0.005400 | | 0.0064 | 0.0366 | 0.0124 | | 0.005700 | | 0.0394 | 0.0269 | 0.0183 | 0.0040 | 0.007200 |
| Antimony | mg/L | | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | 0.00020 | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | 0.00026 | *0.00010* | | *0.000100* | | *0.00010* | 0.00022 | *0.00010* | *0.0001* | *0.000100* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.001* | *0.001* | *0.00010* | *0.00010* | 0.00015 | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00962 | 0.00620 | 0.00871 | 0.01250 | 0.005910 | | 0.00444 | 0.00386 | 0.00434 | | 0.003380 | | 0.00495 | 0.00403 | 0.00456 | 0.00512 | 0.003790 |
| Beryllium | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* |
| Bismuth | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | *0.010000* | | *0.010* | *0.010* | *0.010* | | *0.010000* | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010000* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.0001* | *0.0001* | **0.000074** | *0.000017* | *0.000017* | *0.00001* | 0.000010 | | *0.000017* | **0.000022** | *0.000017* | | 0.000010 | | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 0.000010 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 9 | 15 | 19.7 | 13.0 | 19.7 | 29.7 | 13.5 | | 8.14 | 7.11 | 8.37 | | 6.63 | | 8.10 | 7.15 | 8.76 | 10.3 | 7.17 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.000500* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | *0.001* | *0.001* | 0.00114 | 0.00163 | 0.00270 | 0.00138 | 0.000950 | | 0.00068 | 0.00085 | 0.00139 | | 0.000700 | | 0.00076 | 0.00073 | 0.00084 | 0.00103 | 0.000850 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | *0.03* | *0.030* | 0.038 | 0.054 | *0.030* | 0.030000 | | *0.030* | 0.055 | *0.030* | | 0.030000 | | 0.049 | 0.033 | *0.030* | *0.030* | 0.030000 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.001* | *0.001* | *0.000050* | 0.000112 | 0.000059 | 0.00005 | *0.000050* | | *0.000050* | 0.000369 | 0.000062 | | *0.000050* | | 0.000064 | 0.000074 | *0.000050* | *0.00005* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005000* | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005000* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 5 | 9 | 12.1 | 7.50 | 11.4 | 15.3 | 7.83 | | 4.71 | 3.91 | 4.50 | | 3.72 | | 4.69 | 3.82 | 4.54 | 5.67 | 3.84 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.000783 | 0.00214 | 0.00389 | 0.00021 | 0.003540 | | 0.000325 | 0.00211 | 0.000815 | | 0.000248 | | 0.00281 | 0.000957 | 0.000761 | 0.00024 | 0.000299 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 0.000010 | | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.000010* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.005* | *0.005* | 0.000270 | 0.000149 | 0.000229 | 0.000346 | 0.000148 | | 0.000124 | 0.000098 | 0.000114 | | 0.000096 | | 0.000130 | 0.000106 | 0.000143 | 0.000151 | 0.000117 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.005* | *0.005* | 0.00089 | 0.00093 | 0.00081 | 0.00072 | *0.000500* | | *0.00050* | 0.00064 | *0.00050* | | *0.000500* | | 0.00058 | 0.00061 | *0.00050* | 0.00052 | *0.000500* |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.48 | 0.77 | *2.0* | *2.0* | *2.0* | 1.27 | 0.644 | | *2.0* | *2.0* | *2.0* | | 0.420 | | *2.0* | *2.0* | *2.0* | 0.689 | 0.464 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 1.08 | 0.688 | 0.869 | 1.190 | 0.784000 | | 0.469 | 0.450 | 0.416 | | 0.391000 | | 0.542 | 0.463 | 0.426 | 0.445 | 0.447000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000010* | | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.53 | 1.21 | *2.0* | *2.0* | 2.1 | 3.34 | 0.967 | | *2.0* | *2.0* | *2.0* | | 0.608 | | *2.0* | *2.0* | *2.0* | 1.30 | 0.663 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.006 | 0.010 | 0.0123 | 0.00822 | 0.0111 | 0.01720 | 0.007620 | | 0.00807 | 0.00691 | 0.00757 | | 0.005290 | | 0.00867 | 0.00765 | 0.00933 | 0.01170 | 0.006620 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000100* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00038 | *0.00010* | *0.00010* | 0.00223 | 0.000510 | | 0.00130 | *0.00010* | *0.00010* | | 0.001000 | | 0.00018 | *0.00010* | *0.00010* | 0.00 | 0.000810 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010000* | | *0.010* | *0.010* | *0.010* | | *0.010000* | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.00204 | 0.00106 | 0.00235 | 0.003290 | 0.000948 | | 0.000527 | 0.000403 | 0.000550 | | 0.000348 | | 0.000589 | 0.000416 | 0.000647 | 0.000774 | 0.000426 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | 0.0016 | *0.001* | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001000* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | *0.01* | *0.01* | *0.0010* | 0.0057 | 0.0016 | 0.0019 | 0.002200 | | 0.0013 | 0.0027 | 0.0020 | | *0.001000* | | 0.0012 | 0.0012 | 0.0015 | 0.0045 | *0.001000* |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Mary Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Mary Lake Bottom | | | | | | | | | | | | Stats | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | BLO-05-B | BL0-05-B | BL0-05-B | BL0-05-B | BL0-05-B | BL0-05-B | BL0-5-B | BL0-05-D | BL0-0-5-B4 D | BL0-06-B | BL0-06-B | BL0-06-B | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 31-Jul-06 | 05-Sep-06 | 08-May-07 | 14-Aug-07 | 13-Sep-07 | 18-Sep-07 | 06-Aug-08 | 26-Jul-11 | 26-Jul-11 | 14-Aug-07 | 18-Sep-07 | 05-Aug-08 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | 5.90 | 6.27 | 1.8 | 7.6 | | 6.1 | 7.4 | 5.54 | 5.67 | 8.4 | 5.5 | 7.7 | 50 | 6.80 | 3.44 | 50 | 100% |
| Specific Conductance | mS/cm | | | | | | 0.046 | 0.077 | 0.080 | 0.062 | | 0.080 | 0.077 | 0.069 | 0.069 | 0.064 | 0.078 | 0.076 | 50 | 0.089 | 0.035 | 50 | 100% |
| Dissolved Oxygen | mg/L | | | | | 9.5 | 10.55 | 9.82 | **7.75** | 10.26 | | 12.73 | 10.99 | | | **3.75** | 12.75 | 11.36 | 46 | 11.60 | 2.83 | 46 | 100% |
| pH | - | | | | | 6.5-9.0 | 7.52 | 6.71 | | | | 8.02 | 6.75 | 7.3 | 7.35 | | | 6.77 | 30 | 7.65 | 0.56 | 30 | 100% |
| Average Depth (m) | (m) | | | | | | 20 | 17 | | | | | | | | | | | 8 | 8 | 8 | 8 | 100% |
| Measured Depth (m) | (m) | | | | | | | | 20.0 | 17.5 | | 11.0 | | | | 8.5 | | | 27 | 7.7 | 7.8 | 27 | 100% |
| Total Depth - May Samples Only | m | | | | | | | | 23.00 | | | | | | | | | | 8 | 18.85 | 5.42 | 8 | 100% |
| Ice Thickness -May Samples Only | m | | | | | | | | 1.60 | | | | | | | | | | 8 | 1.60 | 0.20 | 8 | 100% |
| Airspace - May Samples Only | m | | | | | | | | 0.00 | | | | | | | | | | 8 | 0.05 | 0.09 | 8 | 100% |
| Snow Depth - May Samples Only | m | | | | | | | | 0.40 | | | | | | | | | | 8 | 0.39 | 0.10 | 8 | 100% |
| Water Depth | m | | | | | | | | 21.40 | 18.4 | | 11.9 | 20.8 | 17 | | 9.4 | 8.8 | 8.7 | 40 | 15.41 | 4.91 | 40 | 100% |
| Turbidity | NTU | | | | | | | | 0 | - | | 1.35 | 8.7 | | | 1.75 | 1.54 | 8.4 | 34 | 2.71 | 2.89 | 33 | 97% |
| Secchi Disk Depth | m | | | | | | 1.43 | 1.43 | | 3.15 | | 3.4 | 2.5 | | | 3.6 | 3.1 | | 38 | 2.62 | 1.08 | 36 | 95% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 6.66 | 6.81 | 6.72 | 8.15 | | 7.91 | 7.56 | 6.72 | 6.75 | | | | 48 | 7.51 | 0.57 | 48 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 50 | 84 | 91 | 71 | | 90 | 69 | 71 | 70 | | | | 48 | 103.92 | 48.74 | 48 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 2.3 | 3.5 | 0.5 | 1.1 | | 0.7 | 2.8 | 1.40 | 1.30 | | | | 46 | 1.55 | 1.63 | 46 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 25 | 37 | 42.1 | 33.8 | 41.5 | | 33.7 | 32.90 | 32.60 | | | | 48 | 51.06 | 25.98 | 48 | 100% |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 33 | 55 | | | | | | | | | | | 8 | 59.38 | 23.56 | 8 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 59 | 46 | | 59 | 45 | 46.00 | 46.00 | | | | 40 | 69.28 | 32.98 | 40 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | *2* | *2* | | *2* | *2* | *2* | *2* | | | | 40 | 2.78 | 3.15 | 38 | 95% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 25 | 39 | 46 | 32 | | 42 | 32 | 36.00 | 36.00 | | | | 48 | 49.79 | 23.66 | 48 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.05* | *0.05* | *0.25* | | *0.25* | *0.25* | *0.25* | *0.25* | | | | 48 | 0.18 | 0.10 | 48 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 2 | 3 | 3 | 2 | | 4 | 3 | 2.00 | 2.00 | | | | 48 | 3.02 | 1.55 | 35 | 73% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 3 | 1 | 2 | | 3 | 3 | 1.00 | 1.00 | | | | 48 | 2.19 | 1.21 | 32 | 67% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.04 | *0.02* | *0.02* | 0.21 | | 0.03 | *0.02* | 0.03 | 0.04 | | | | 48 | 0.06 | 0.08 | 48 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | 0.009 | *0.002* | 0.002 | | *0.002* | *0.005* | *0.100* | *0.100* | | | | 48 | 0.012 | 0.027 | 48 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | | | | 48 | 0.10 | 0.00 | 48 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | | | | 48 | 0.10 | 0.00 | 48 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | *0.01* | 0.02 | *0.003* | *0.003* | | *0.003* | 0.007 | 0.005 | 0.009 | | | | 48 | 0.006 | 0.005 | 48 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 1.5 | 1.5 | | 1.5 | 1.4 | 1.60 | 1.60 | | | | 40 | 1.65 | 0.30 | 40 | 100% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 1.5 | 1.6 | | 1.5 | 1.2 | 1.50 | 1.50 | | | | 40 | 1.57 | 0.21 | 40 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | *0.05* | 0.32 | | *0.10* | 0.14 | *0.10* | 0.11 | | | | 40 | 0.17 | 0.10 | 40 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.00* | | | | 48 | 0.001 | 0.000 | 48 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.094 | **0.109** | 0.0143 | 0.0378 | 0.0323 | | **0.104000** | 0.061 | 0.0673 | | | | 48 | 0.052958 | 0.043159 | 48 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 40 | 0.0001000 | 0.0000000 | 40 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 48 | 0.000256 | 0.000339 | 48 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00469 | 0.00390 | 0.00486 | | 0.004460 | 0.00406 | 0.00399 | | | | 48 | 0.006337 | 0.002652 | 48 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 40 | 0.000500 | 0.000000 | 40 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 40 | 0.000500 | 0.000000 | 40 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | | 48 | 0.010000 | 0.000000 | 48 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | | *0.000010* | *0.00001* | *0.00* | | | | 48 | 0.000034 | 0.000044 | 48 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 5 | 8 | 8.61 | 7.20 | 8.95 | | 7.19 | 6.69 | 6.63 | | | | 48 | 10.51 | 4.92 | 48 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 48 | 0.000583 | 0.000188 | 48 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 48 | 0.000117 | 0.000038 | 48 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | *0.001* | *0.001* | 0.00065 | 0.00067 | 0.00067 | | 0.001290 | 0.00063 | 0.00059 | | | | 48 | 0.001059 | 0.000633 | 48 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.09 | 0.11 | 0.030 | 0.052 | 0.037 | | 0.121000 | 0.06 | 0.06 | | | | 48 | 0.069292 | 0.047092 | 48 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.001* | *0.001* | *0.000050* | 0.000051 | 0.000086 | | 0.000120 | 0.00006 | 0.00005 | | | | 48 | 0.000225 | 0.000351 | 48 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | *0.005* | *0.01* | | | | 40 | 0.005000 | 0.000000 | 40 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 3 | 5 | 4.98 | 3.87 | 4.72 | | 3.70 | 3.94 | 3.89 | | | | 48 | 5.94 | 3.05 | 46 | 96% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00404 | 0.00149 | 0.00136 | | 0.003060 | 0.00261 | 0.00238 | | | | 48 | 0.003493 | 0.003990 | 48 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | *0.00001* | *0.00* | | | | 48 | 0.000045 | 0.000031 | 48 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.005* | *0.005* | 0.000123 | 0.000097 | 0.000138 | | 0.000118 | 0.000122 | 0.00012 | | | | 48 | 0.000959 | 0.001827 | 48 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.005* | *0.005* | 0.00052 | *0.00050* | *0.00050* | | 0.000510 | *0.0005* | *0.00* | | | | 48 | 0.001292 | 0.001678 | 48 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | | | | | 24 | 0.30 | 0.00 | 24 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.39 | 0.56 | *2.0* | *2.0* | *2.0* | | 0.503 | 0.532 | 0.528 | | | | 48 | 1.315 | 0.709 | 48 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | | 48 | 0.001000 | 0.000000 | 48 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.558 | 0.484 | 0.459 | | 0.605000 | 0.56 | 0.56 | | | | 40 | 0.620500 | 0.220314 | 40 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | *0.000001* | *0.00* | | | | 48 | 0.000024 | 0.000034 | 48 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.36 | 0.75 | *2.0* | *2.0* | *2.0* | | 0.664 | 0.954 | 0.938 | | | | 48 | 1.557 | 0.784 | 48 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.007 | 0.011 | 0.00870 | 0.00761 | 0.01040 | | 0.006820 | 0.00566 | 0.00563 | | | | 48 | 0.008997 | 0.002692 | 48 | 100% |
| Thallium | mg/L | | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | *0.0001* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 40 | 0.000100 | 0.000000 | 40 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00017 | *0.00010* | *0.00010* | | 0.000600 | *0.0001* | *0.00* | | | | 48 | 0.002001 | 0.003661 | 48 | 100% |
| Titanium | mg/L | | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | | 40 | 0.010000 | 0.000000 | 40 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.000542 | 0.000419 | 0.000746 | | 0.000480 | 0.000501 | 0.0005 | | | | 40 | 0.000915 | 0.000738 | 40 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | | 48 | 0.001079 | 0.000387 | 48 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.01* | *0.01* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.003* | *0.00* | | | | 48 | 0.002827 | 0.003307 | 48 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.009 | 0.012 | 0.0086 | 0.0541 | 0.0169 | | 0.009300 | 0.0042 | 0.0049 | | | | 48 | 0.013208 | 0.011130 | 48 | 100% |
| Antimony | mg/L | | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | 0.00023 | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 40 | 0.000127 | 0.000055 | 40 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 48 | 0.000255 | 0.000338 | 48 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00477 | 0.00386 | 0.00457 | | 0.003830 | 0.00359 | 0.00357 | | | | 48 | 0.006177 | 0.002719 | 48 | 100% |
| Beryllium | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 40 | 0.000500 | 0.000000 | 40 | 100% |
| Bismuth | mg/L | | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 40 | 0.000500 | 0.000000 | 40 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | | 48 | 0.010000 | 0.000000 | 48 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | | *0.000010* | *0.00001* | *0.00* | | | | 48 | 0.000030 | 0.000033 | 48 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 5 | 8 | 8.61 | 7.20 | 8.84 | | 7.13 | 6.60 | 6.61 | | | | 48 | 10.59 | 5.36 | 48 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 48 | 0.000583 | 0.000188 | 48 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 48 | 0.000117 | 0.000038 | 48 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | *0.001* | *0.001* | 0.00068 | 0.00060 | 0.00089 | | 0.000660 | *0.0005* | *0.00* | | | | 48 | 0.001007 | 0.000589 | 48 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | *0.03* | *0.030* | 0.062 | *0.030* | | *0.030000* | *0.03* | *0.03* | | | | 48 | 0.032729 | 0.007246 | 48 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.001* | *0.001* | *0.000050* | 0.000075 | *0.000050* | | *0.000050* | *0.00005* | *0.00* | | | | 48 | 0.000220 | 0.000356 | 48 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | | *0.005000* | *0.005* | *0.01* | | | | 40 | 0.005000 | 0.000000 | 40 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 3 | 4 | 4.99 | 3.85 | 4.73 | | 3.86 | 3.90 | 3.88 | | | | 48 | 5.96 | 3.08 | 46 | 96% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00310 | 0.00132 | 0.000800 | | 0.000408 | 0.00086 | 0.00078 | | | | 48 | 0.002558 | 0.003471 | 48 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | *0.000050* | *0.000050* | *0.000050* | | *0.000010* | *0.00001* | *0.00* | | | | 40 | 0.000034 | 0.000020 | 40 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.005* | *0.005* | 0.000124 | 0.000093 | 0.000167 | | 0.000115 | 0.000111 | 0.000114 | | | | 48 | 0.000962 | 0.001826 | 48 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.005* | *0.005* | *0.00050* | 0.00056 | *0.00050* | | *0.000500* | *0.0005* | *0.00* | | | | 48 | 0.001304 | 0.001674 | 48 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | *0.30* | *0.30* | *0.30* | | | | | | | | 24 | 0.3 | 0.0 | 24 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.36 | 0.52 | *2.0* | *2.0* | *2.0* | | 0.461 | 0.484 | 0.48 | | | | 48 | 1.302 | 0.724 | 48 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | | 48 | 0.001000 | 0.000000 | 48 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.543 | 0.484 | 0.429 | | 0.442000 | 0.44 | 0.43 | | | | 40 | 0.571200 | 0.228823 | 40 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | | *0.000010* | *0.000001* | *0.00* | | | | 48 | 0.000024 | 0.000034 | 48 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.39 | 0.63 | *2.0* | *2.0* | *2.0* | | 0.672 | 0.911 | 0.90 | | | | 48 | 1.520 | 0.722 | 48 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.007 | 0.011 | 0.00898 | 0.00743 | 0.00983 | | 0.006810 | 0.00542 | 0.00538 | | | | 48 | 0.008870 | 0.002603 | 48 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | | *0.000100* | *0.0001* | *0.00* | | | | 40 | 0.000100 | 0.000000 | 40 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00028 | *0.00010* | *0.00010* | | 0.000930 | *0.0001* | *0.00* | | | | 48 | 0.002159 | 0.003596 | 48 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | | *0.010000* | *0.01* | *0.01* | | | | 40 | 0.010000 | 0.000000 | 40 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.000551 | 0.000400 | 0.000681 | | 0.000438 | 0.000484 | 0.000484 | | | | 40 | 0.000903 | 0.000759 | 40 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | | *0.001000* | *0.001* | *0.00* | | | | 48 | 0.001044 | 0.000218 | 48 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | *0.01* | *0.01* | 0.0011 | 0.0031 | 0.0016 | | 0.001800 | *0.003* | *0.00* | | | | 48 | 0.003444 | 0.003227 | 48 | 100% |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Mary Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Camp Lake Surface | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | JL0-01-S | | JL0-01-S | JL0-01-S | JL0-01-S | JLO-01(SA) | JLO-01(S) | JL0-01-S | JL0-02-S | JL0-02-S | JLO-02(S) | JL0-02-S | JL0-09-S |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 02-Aug-06 | 07-Sep-06 | 06-May-07 | 05-Aug-07 | 17-Sep-07 | 11-May-08 | 30-Jul-08 | 26-Jul-11 | 06-May-07 | 05-Aug-07 | 17-Sep-07 | 30-Jul-08 | 26-Jul-11 | 06-May-07 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | 8.60 | 7.07 | 1.1 | 7.8 | 5.8 | | 7.8 | 6.33 | 0.9 | 7.6 | 5.9 | 7.8 | 6.14 | 0.9 |
| Specific Conductance | mS/cm | | | | | | 0.092 | 0.097 | 0.118 | 0.101 | 0.100 | | 0.121 | 0.128 | 0.112 | | 0.100 | 0.122 | 0.128 | 0.116 |
| Dissolved Oxygen | mg/L | | | | | 9.5 | 10.93 | 10.90 | 19.00 | 11.12 | 11.30 | | 12.02 | | 18.54 | 12.07 | 11.80 | 12.04 | | 18.95 |
| pH | - | | | | | 6.5-9.0 | 8.08 | 6.93 | | | 8.13 | | 7.98 | 7.73 | | | 8.23 | 7.87 | 7.77 | |
| Wetted Width | m | - | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | | | | | | 1 | 1 | | | | | | | | | | | | |
| Flow Rate | m3/s | - | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | | | | 1.0 | 1.0 | 1.0 | | | | 1.0 | 1.0 | 1.0 | | | 1.0 |
| Total Depth - May Samples Only | m | | | | | | | | 17.10 | | | | | | 13.00 | | | | | 17.40 |
| Ice Thickness -May Samples Only | m | | | | | | | | 1.80 | | | | | | 2.10 | | | | | 1.90 |
| Airspace - May Samples Only | m | | | | | | | | 0.15 | | | | | | 0.25 | | | | | 0.05 |
| Snow Depth - May Samples Only | m | | | | | | | | 0.25 | | | | | | 0.02 | | | | | 0.25 |
| Water Depth | m | | | | | | | | 15.15 | 16.8 | 18.9 | | 17.5 | | 10.65 | 11.5 | 13.4 | 12.6 | | 15.45 |
| Turbidity | NTU | | | | | | | | 0 | 0.98 | 0.49 | | 1.4 | | 0 | 1.53 | 0.49 | 0.9 | | 0 |
| Secchi Disk Depth | m | | | | | | 7.8 | 6.84 | | 5.35 | 5.6 | | 6.1 | | | 5.1 | 6.0 | 6.0 | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.07 | 7.11 | 6.86 | 8.24 | 8.05 | 7.94 | 7.89 | 7.23 | 6.86 | 8.07 | 8.04 | 7.91 | 6.84 | 6.86 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 93 | 103 | 130 | 106 | 112 | 134 | 107 | 129.00 | 121 | 108 | 112 | 109 | 124.00 | 122 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 1.3 | | 0.3 | 0.6 | 0.3 | 0.4 | 0.5 | 0.30 | 0.1 | 0.7 | 0.4 | 0.7 | 0.30 | 0.1 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 50 | 50 | 67.1 | 54.7 | 55.7 | 68.3 | 54.5 | 64.20 | 62.1 | 55.3 | 55.2 | 55.8 | 63.40 | 60.8 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 61 | 67 | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 85 | 69 | 73 | 87 | 70 | 84.00 | 79 | 70 | 73 | 71 | 81.00 | 79 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 50 | 53 | 69 | 53 | 56 | 66 | 55 | 68.00 | 65 | 54 | 56 | 55 | 67.00 | 63 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.05* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | *1* | *1* | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 1 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 2 | 1 | 1 | 3 | 3 | *1* | 1 | 1 | *1* | 3 | *1* | 1 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.04 | *0.02* | *0.02* | 0.06 | *0.02* | 0.02 | *0.02* | 0.03 | 0.02 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | 0.012 | *0.002* | *0.002* | *0.002* | *0.005* | *0.005* | *0.10* | *0.002* | *0.002* | 0.002 | *0.005* | *0.10* | *0.0020* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | *0.01* | *0.01* | *0.003* | 0.005 | 0.003 | 0.007 | 0.007 | *0.003* | *0.003* | *0.003* | 0.015 | 0.005 | 0.004 | *0.003* |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.0 | 2.1 | 1.8 | 1.9 | 1.7 | 2.20 | 2.1 | 2.2 | 1.8 | 1.8 | 2.10 | 2.0 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.0 | 2.1 | 1.8 | 1.7 | 1.6 | 2.00 | 2.1 | 2.1 | 1.9 | 1.6 | 2.00 | 2.0 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | 0.12 | 0.11 | 0.35 | 0.26 | *0.10* | 0.20 | 0.10 | *0.10* | *0.10* | 0.1 | 0.45 | *0.05* |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | *0.005* | 0.007 | 0.0029 | 0.0174 | 0.0060 | 0.00210 | 0.01770 | 0.0079 | 0.0015 | 0.0280 | 0.0066 | 0.00130 | 0.0087 | 0.0012 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00606 | 0.00489 | 0.00458 | 0.00631 | 0.00492 | 0.0058 | 0.00551 | 0.00503 | 0.00453 | 0.00495 | 0.00564 | 0.00554 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.000017* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 10 | 13.1 | 11.0 | 11.1 | 13.0 | 10.9 | 12.90 | 12.0 | 11.3 | 12.0 | 11.0 | 12.70 | 12.0 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | *0.001* | *0.001* | 0.00108 | 0.00097 | 0.00072 | 0.00185 | **0.00324** | 0.00094 | 0.00096 | 0.00093 | 0.00076 | 0.00104 | 0.0009 | 0.00108 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.03000* | 0.04400 | *0.03* | *0.030* | 0.037 | *0.030* | *0.03000* | *0.03* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.001* | *0.001* | 0.000362 | 0.000064 | *0.000050* | 0.00006 | *0.00005* | *0.00005* | *0.000050* | 0.000077 | *0.000050* | *0.00005* | *0.00005* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.00500* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.005* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 6 | 8.12 | 6.52 | 6.73 | 8.02 | 6.65 | 7.76 | 7.50 | 6.71 | 6.87 | 6.83 | 7.68 | 7.44 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00103 | 0.0020 | 0.00123 | 0.00091 | 0.00168 | 0.00205 | 0.000738 | 0.0025 | 0.00125 | 0.00038 | 0.00216 | 0.000814 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.005* | *0.005* | 0.000217 | 0.000145 | 0.000157 | 0.00022 | 0.000164 | 0.000242 | 0.000198 | 0.000143 | 0.000145 | 0.000178 | 0.000229 | 0.000196 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.005* | *0.005* | 0.00071 | 0.00071 | 0.00054 | 0.00081 | 0.00067 | 0.00067 | 0.00066 | 0.00073 | 0.00055 | 0.00060 | 0.00068 | 0.00068 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.59 | 0.67 | *2.0* | *2.0* | *2.0* | 0.965 | 0.726 | 0.935 | *2.0* | *2.0* | *2.0* | 0.716 | 0.896 | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.00100* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.510 | 0.486 | 0.462 | 0.54400 | 0.39800 | 0.46 | 0.489 | 0.523 | 0.571 | 0.38900 | 0.45 | 0.468 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.47 | 0.65 | *2.0* | *2.0* | *2.0* | 1.10 | 0.658 | 0.998 | *2.0* | *2.0* | *2.0* | 0.810 | 0.974 | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.006 | 0.007 | 0.00709 | 0.00586 | 0.00521 | 0.00763 | 0.00587 | 0.00853 | 0.00654 | 0.00584 | 0.00530 | 0.00591 | 0.00853 | 0.00652 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00258 | *0.00010* | *0.00010* | 0.00218 | 0.00021 | *0.0001* | 0.00157 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | 0.00202 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.000442 | 0.000358 | 0.000337 | 0.000480 | 0.000374 | 0.000554 | 0.000415 | 0.000368 | 0.000335 | 0.000383 | 0.000553 | 0.000400 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.01* | *0.01* | 0.0016 | 0.0038 | *0.0010* | *0.001000* | *0.0010* | *0.003* | *0.0010* | 0.0016 | *0.0010* | *0.0010* | *0.003* | *0.0010* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | *0.005* | *0.005* | 0.0022 | 0.0170 | 0.0046 | 0.0018 | 0.0012 | *0.003* | 0.0011 | 0.0104 | 0.0119 | 0.0133 | *0.003* | *0.0010* |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | 0.00022 | *0.00010* | *0.000* | *0.0001* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000* | *0.0001* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00630 | 0.00497 | 0.00474 | 0.00493 | 0.0049 | 0.00568 | 0.00559 | 0.00519 | 0.00475 | 0.00508 | 0.00558 | 0.00570 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.001* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | *0.0005* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.001* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | *0.0005* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | *0.010* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | *0.01* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | **0.000092** |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 10 | 13.3 | 11.1 | 11.3 | 13.6 | 10.9 | 12.70 | 12.2 | 11.2 | 11.1 | 11 | 12.50 | 12.0 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.001* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | *0.0005* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000* | *0.0001* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | *0.001* | *0.001* | 0.00108 | 0.00088 | 0.00089 | 0.00217 | 0.00102 | 0.0008 | 0.00097 | 0.00112 | 0.00092 | 0.00165 | 0.0008 | 0.00092 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | *0.030* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | *0.03* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.001* | *0.001* | 0.000304 | *0.000050* | *0.000050* | 0.00015 | *0.000* | *0.00005* | *0.000050* | *0.000050* | *0.000050* | *0.000* | *0.00005* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 6 | 8.23 | 6.57 | 6.69 | 8.34 | 6.64 | 7.55 | 7.67 | 6.62 | 6.67 | 6.86 | 7.44 | 7.48 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00116 | 0.00202 | 0.000940 | 0.00078 | 0.000369 | 0.000164 | 0.000642 | 0.00109 | 0.001470 | 0.00168 | 0.000133 | 0.000536 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.000* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.000* | *0.00001* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.005* | *0.005* | 0.000221 | 0.000154 | 0.000156 | 0.00026 | 0.000177 | 0.000212 | 0.000235 | 0.000281 | 0.000153 | 0.000178 | 0.00019 | 0.000205 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.005* | *0.005* | 0.00080 | 0.00065 | 0.00058 | 0.00069 | 0.0006 | 0.0006 | 0.00063 | 0.00070 | 0.00060 | 0.00068 | 0.00123 | 0.00071 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.58 | 0.69 | *2.0* | *2.0* | *2.0* | 0.798 | 0.728 | 0.883 | *2.0* | *2.0* | *2.0* | 0.74 | 0.852 | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.530 | 0.495 | 0.454 | 0.50000 | 0.374 | 0.43 | 0.487 | 0.484 | 0.469 | 0.432 | 0.43 | 0.470 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000* | *0.000001* | *0.000010* | *0.000010* | *0.000010* | *0.000* | *0.000001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.44 | 0.65 | *2.0* | *2.0* | *2.0* | 1.28 | 0.744 | 0.95 | *2.0* | *2.0* | *2.0* | 0.655 | 1.03 | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.006 | 0.006 | 0.00730 | 0.00597 | 0.00525 | 0.00693 | 0.00592 | 0.00837 | 0.00654 | 0.00611 | 0.00523 | 0.00596 | 0.00855 | 0.00664 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000* | *0.0001* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00510 | *0.00010* | *0.00010* | 0.00242 | *0.000* | *0.0001* | 0.00076 | *0.00010* | *0.00010* | 0.00011 | *0.0001* | 0.00104 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.010* | *0.010* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | *0.01* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.000450 | 0.000357 | 0.000339 | 0.000403 | 0.000394 | 0.000565 | 0.000406 | 0.000378 | 0.000345 | 0.000394 | 0.000591 | 0.000409 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | *0.01* | *0.01* | 0.0031 | *0.0010* | 0.0015 | 0.00500 | *0.001* | *0.003* | 0.0013 | 0.0028 | 0.0041 | *0.001* | *0.003* | 0.0011 |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Camp Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Method Detection Limit 2011 | Camp Lake JL0-09-S 05-Aug-07 | JL0-09-S 17-Sep-07 | JLO-09(S) 30-Jul-08 | JL0-01-D 02-Aug-06 | JL0-01-D 07-Sep-06 | JL0-01-D 06-May-07 | JL0-01-D 05-Aug-07 | JL0-01-D 17-Sep-07 | JLO-01(BA) 11-May-08 | JLO-01(B) 30-Jul-08 | JL0-01-D 26-Jul-11 | JL0-02-D 06-May-07 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | 8.5 | 5.8 | 7.8 | | 7.03 | 1.4 | 6.0 | | | 7.8 | 7.13 | 1.3 |
| Specific Conductance | mS/cm | | | | | 0.101 | 0.100 | 0.121 | | 0.097 | 0.114 | 0.101 | | | 0.121 | 0.101 | 0.121 |
| Dissolved Oxygen | mg/L | | | | | 10.71 | 11.75 | 11.93 | | 10.54 | 16.91 | **4.32** | | | 12.14 | | 14.56 |
| pH | - | | | | | | | 7.82 | | 6.96 | | | | | 7.35 | 7.79 | |
| Wetted Width | m | - | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | | | | | | | | | 16 | | | | | | | |
| Flow Rate | m3/s | - | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | 1.0 | 1.0 | | | | 14.0 | 16.0 | 18.0 | | | | 10.0 |
| Total Depth - May Samples Only | m | | | | | | | | | | 17.10 | | | | | | 13.00 |
| Ice Thickness -May Samples Only | m | | | | | | | | | | 1.80 | | | | | | 2.10 |
| Airspace - May Samples Only | m | | | | | | | | | | 0.15 | | | | | | 0.25 |
| Snow Depth - May Samples Only | m | | | | | | | | | | 0.25 | | | | | | 0.02 |
| Water Depth | m | | | | | 18.6 | 15.9 | 12.8 | | | 15.15 | 16.8 | 18.9 | | 17.5 | | 10.65 |
| Turbidity | NTU | | | | | 1.15 | 0.49 | 79.8 | | | 0 | | | | 0.9 | | 0 |
| Secchi Disk Depth | m | | | | | 5.1 | 5.9 | 5.3 | 7.8 | 6.84 | | 5.35 | 5.6 | | 6.1 | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 8.30 | 8.01 | 7.9 | | 7.04 | 6.84 | 8.30 | 8.02 | 7.95 | 7.9 | 7.22 | 6.83 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | 108 | 112 | 108 | | 103 | 119 | 106 | 112 | 132 | 109 | 129.00 | 122 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | 0.6 | 0.3 | 0.5 | | | 0.1 | 0.5 | 0.4 | 0.4 | 1 | 0.40 | 0.2 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | 54.7 | 55.6 | 54.7 | | 50 | 60.1 | 54.1 | 55.2 | 67.8 | 54.7 | 63.80 | 61.3 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | 67 | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | 70 | 73 | 70 | | | 77 | 69 | 73 | 86 | 71 | 84.00 | 79 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | *2* | *2* | *2* | | | *2* | *2* | *2* | *2* | *2.000* | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | 54 | 56 | 55 | | 52 | 62 | 53 | 55 | 66 | 55 | 67.00 | 65 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | *0.25* | *0.25* | *0.25* | | *0.05* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | *1* | 1 | 1 | 1 | 1 | 1 | 3 | 1 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | *1* | 2 | *1* | | 2 | 1 | *1* | 3 | 2 | *1* | 1 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | *0.02* | | 0.06 | *0.02* | *0.02* | *0.02* | 0.03 | *0.02* | *0.02* | 0.02 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | *0.002* | 0.002 | *0.005* | | 0.012 | *0.002* | *0.002* | 0.002 | 0.005 | *0.005* | *0.10* | *0.002* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | *0.003* | 0.007 | 0.008 | | *0.01* | *0.003* | *0.003* | 0.003 | 0.003 | 0.004 | 0.005 | *0.003* |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | 2.1 | 1.9 | 1.9 | | | 1.9 | 2.0 | 1.9 | 1.7 | 2 | 2.10 | 1.9 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | 2.0 | 1.7 | 1.8 | | | 1.9 | 2.0 | 1.8 | 1.6 | 1.8 | 1.90 | 1.9 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | *0.10* | *0.10* | 0.11 | | | *0.05* | *0.10* | *0.10* | 0.28 | *0.10* | 0.20 | 0.24 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.0082 | 0.0063 | 0.01450 | | 0.008 | 0.0016 | 0.0175 | 0.0061 | 0.00100 | 0.03790 | 0.0085 | *0.0010* |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.00018 | *0.00010* | *0.00010* | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00496 | 0.00443 | 0.00507 | | *0.01* | 0.00559 | 0.00490 | 0.00470 | 0.00614 | 0.00542 | 0.0056 | 0.00554 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.01000* | | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | *0.000017* | *0.000017* | *0.00001* | | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 0.000013 | *0.00001* | *0.000017* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | 11.0 | 11.2 | 10.9 | | 9 | 11.9 | 11.0 | 11.2 | 12.9 | 11.0 | 12.80 | 12.1 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.00109 | 0.00077 | 0.00101 | | *0.001* | 0.00092 | 0.00089 | 0.00075 | 0.00144 | **0.01310** | 0.00092 | 0.00098 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | *0.030* | *0.030* | *0.03000* | | *0.03* | *0.030* | *0.030* | *0.030* | *0.03000* | 0.05700 | *0.03* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.000083 | *0.000050* | *0.00005* | | *0.001* | *0.000050* | *0.000050* | *0.000050* | 0.00017 | 0.00022 | *0.00005* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | *0.0050* | *0.0050* | *0.00500* | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.00500* | *0.005* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | 6.55 | 6.74 | 6.73 | | 6 | 7.45 | 6.52 | 6.65 | 7.90 | 6.97 | 7.73 | 7.57 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.0012 | 0.00129 | 0.00174 | | *0.01* | 0.000939 | 0.0021 | 0.00130 | 0.00082 | 0.00269 | 0.00196 | 0.000772 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | *0.000050* | *0.000050* | *0.00001* | | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.000165 | 0.000162 | 0.000164 | | *0.005* | 0.000198 | 0.000164 | 0.000151 | 0.00018 | 0.00018 | 0.000238 | 0.000189 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.00069 | 0.00059 | 0.00072 | | *0.005* | 0.00069 | 0.00075 | 0.00056 | 0.00076 | 0.00094 | 0.00081 | 0.00066 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | *2.0* | *2.0* | 0.753 | | 0.68 | *2.0* | *2.0* | *2.0* | 0.874 | 0.768 | 0.887 | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.00100* | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.00100* | *0.001* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | 0.463 | 0.481 | 0.40300 | | | 0.491 | 0.483 | 0.454 | 0.51300 | 0.45600 | 0.46 | 0.459 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | *0.000010* | *0.000010* | *0.00001* | | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | *2.0* | *2.0* | 0.811 | | 0.67 | *2.0* | *2.0* | *2.0* | 0.816 | 0.750 | 0.965 | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.00646 | 0.00538 | 0.00609 | | 0.007 | 0.00649 | 0.00586 | 0.00534 | 0.00694 | 0.00621 | 0.00856 | 0.00650 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | | *0.01* | 0.00050 | *0.00010* | *0.00010* | 0.00241 | *0.00010* | *0.0001* | 0.00065 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.01000* | | | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.000342 | 0.000339 | 0.000383 | | | 0.000403 | 0.000350 | 0.000328 | 0.000461 | 0.000398 | 0.000559 | 0.000404 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.0010* | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.0010* | *0.001* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.0033 | 0.0023 | *0.0010* | | *0.01* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | 0.00280 | *0.003* | *0.0010* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.0070 | 0.0047 | 0.0018 | | *0.005* | 0.0011 | 0.0086 | 0.0053 | *0.001* | *0.00001* | *0.003* | *0.0010* |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.00019 | *0.00010* | *0.0001* | | | *0.00010* | 0.00026 | *0.00010* | *0.0001* | 10.8 | *0.0001* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.001* | *0.0001* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00489 | 0.00459 | 0.00491 | | *0.01* | 0.00544 | 0.00482 | 0.00465 | 0.00601 | *0.000* | 0.00559 | 0.00566 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.001* | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | 0.00109 | *0.0005* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.001* | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.030* | *0.0005* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.010* | | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | *0.000* | *0.01* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | *0.000017* | *0.000017* | *0.00001* | | *0.0001* | **0.000023** | *0.000017* | *0.000017* | *0.00001* | *0.005* | *0.00001* | *0.000017* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | 11.1 | 11.1 | 10.9 | | 10 | 11.9 | 11.0 | 11.2 | 13.5 | 6.74 | 12.60 | 12.1 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.001* | | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | 0.000367 | *0.0005* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.000* | *0.0001* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.00104 | 0.00078 | 0.00131 | | *0.001* | 0.00093 | 0.00099 | 0.00084 | 0.00227 | 0.000169 | 0.00081 | 0.00094 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | *0.030* | *0.030* | *0.030* | | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | 0.00061 | *0.03* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | *0.000050* | *0.000050* | *0.0001* | | *0.001* | *0.000050* | *0.000050* | *0.000050* | 0.00006 | | *0.00005* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | *0.0050* | *0.0050* | *0.005* | | | *0.0050* | *0.0050* | *0.0050* | *0.005* | 0.733 | *0.005* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | 6.55 | 6.77 | 6.68 | | 6 | 7.39 | 6.49 | 6.60 | 8.27 | *0.001* | 7.48 | 7.56 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00112 | 0.001110 | 0.000428 | | *0.01* | 0.000411 | 0.000987 | 0.001130 | 0.00065 | 0.374 | 0.000125 | 0.000552 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | *0.000050* | *0.000050* | *0.00001* | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.000* | *0.00001* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.000156 | 0.000149 | 0.000181 | | *0.005* | 0.000181 | 0.000158 | 0.000156 | 0.00022 | 1.05 | 0.000227 | 0.000207 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.00066 | 0.00057 | 0.00065 | | *0.005* | 0.00071 | 0.00067 | 0.00060 | 0.00072 | 0.00602 | 0.0006 | 0.00071 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | *0.30* | *0.30* | | | | *0.30* | *0.30* | *0.30* | | *0.000* | | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | *2.0* | *2.0* | 0.745 | | 0.67 | *2.0* | *2.0* | *2.0* | 0.948 | *0.000* | 0.86 | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.010* | *0.001* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | 0.458 | 0.452 | 0.376 | | | 0.487 | 0.457 | 0.458 | 0.48100 | 0.000387 | 0.43 | 0.477 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | *0.000010* | *0.000010* | *0.00001* | | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.001* | *0.000001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | *2.0* | *2.0* | 0.859 | | 0.61 | *2.0* | *2.0* | *2.0* | 0.889 | *0.019* | 0.935 | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.00618 | 0.00527 | 0.00622 | | 0.006 | 0.00629 | 0.00594 | 0.00548 | 0.00716 | 0.00602 | 0.00848 | 0.00671 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | | *0.01* | 0.00086 | *0.00010* | *0.00010* | 0.00409 | *0.00010* | *0.0001* | 0.00046 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.010* | | | *0.010* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.000336 | 0.000334 | 0.000391 | | | 0.000391 | 0.000343 | 0.000343 | 0.00047 | 0.00039 | 0.00058 | 0.000413 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.00100* | *0.001* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.0026 | *0.0010* | 0.0012 | | *0.01* | 0.0015 | 0.0038 | *0.0010* | 0.00300 | 0.01910 | *0.003* | 0.0012 |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Camp Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:04:08

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Camp Lake | | | | | | | | Stats | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | JL0-02-D | JL0-02-D | JLO-02(B) | JL0-02-D | JL0-09-D | JL0-09-D | JL0-09-D | JLO-09(B) | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 2011 | 05-Aug-07 | 17-Sep-07 | 30-Jul-08 | 26-Jul-11 | 06-May-07 | 05-Aug-07 | 17-Sep-07 | 30-Jul-08 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | 6.4 | 5.9 | 7.7 | 6.15 | 1.4 | 6.1 | 5.5 | 7.7 | 30 | 5.78 | 2.50 | 30 | 100% |
| Specific Conductance | mS/cm | | | | | | 0.100 | 0.122 | 0.128 | 0.113 | 0.100 | 0.100 | 0.121 | 28 | 0.111 | 0.012 | 28 | 100% |
| Dissolved Oxygen | mg/L | | | | | 12.60 | 11.40 | 12.1 | | 16.80 | 10.85 | 11.61 | 12.04 | 26 | 12.65 | 3.17 | 26 | 100% |
| pH | - | | | | | | 8.21 | 7.35 | 7.74 | | | | 7.33 | 16 | 7.70 | 0.41 | 16 | 100% |
| Wetted Width | m | - | | | | | | | | | | | | 0 | #DIV/0! | #DIV/0! | 0 | #DIV/0! |
| Average Depth (m) | (m) | | | | | | | | | | | | | 3 | 6 | 9 | 3 | 100% |
| Flow Rate | m3/s | - | | | | | | | | | | | | 0 | #DIV/0! | #DIV/0! | 0 | #DIV/0! |
| Measured Depth (m) | (m) | | | | | 10.5 | 12.0 | | | 14.0 | 17.5 | 14.0 | | 18 | 7.5 | 7.0 | 18 | 100% |
| Total Depth - May Samples Only | m | | | | | | | | | 17.40 | | | | 6 | 15.83 | 2.20 | 6 | 100% |
| Ice Thickness -May Samples Only | m | | | | | | | | | 1.90 | | | | 6 | 1.93 | 0.14 | 6 | 100% |
| Airspace - May Samples Only | m | | | | | | | | | 0.05 | | | | 6 | 0.15 | 0.09 | 6 | 100% |
| Snow Depth - May Samples Only | m | | | | | | | | | 0.25 | | | | 6 | 0.17 | 0.12 | 6 | 100% |
| Water Depth | m | | | | | 11.5 | 13.4 | 12.6 | | 15.45 | 18.6 | 15.9 | 12.8 | 24 | 14.94 | 2.69 | 24 | 100% |
| Turbidity | NTU | | | | | 0.93 | 0.49 | 0.9 | | 0 | | 0.49 | 0.7 | 21 | 4.36 | 17.29 | 21 | 100% |
| Secchi Disk Depth | m | | | | | 5.1 | 6.0 | 6.0 | | | 5.1 | 5.9 | 5.3 | 22 | 5.92 | 0.79 | 22 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 8.06 | 8.04 | 7.9 | 6.83 | 6.80 | 8.30 | 8.02 | 7.91 | 33 | 7.61 | 0.56 | 33 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | 107 | 112 | 109 | 123.00 | 117 | 106 | 112 | 111 | 33 | 114.15 | 9.70 | 33 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | 0.7 | 0.3 | 0.6 | 0.50 | 0.3 | 0.6 | 0.3 | 0.5 | 31 | 0.46 | 0.25 | 31 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | 54.1 | 56.2 | 55.4 | 63.50 | 59.8 | 53.6 | 56 | 56.1 | 33 | 57.69 | 5.03 | 33 | 100% |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | | | | | 3 | 65 | 3 | 3 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | 70 | 73 | 71 | 80.00 | 76 | 69 | 73 | 72 | 30 | 75.23 | 5.73 | 30 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 30 | 2.000 | 0.000 | 30 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | 54 | 56 | 55 | 67.00 | 61 | 53 | 56 | 54 | 33 | 58.36 | 5.79 | 33 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | *0.25* | *0.25* | *0.25* | 33 | 0.20 | 0.09 | 33 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | *1* | 1 | 2 | 33 | 1 | 1 | 29 | 88% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | *1* | 3 | *1* | 1 | 1 | *1* | 2 | *1* | 33 | 1 | 1 | 28 | 85% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | *0.02* | *0.02* | 0.02 | *0.02* | *0.02* | *0.03* | 33 | 0.02 | 0.01 | 33 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | *0.002* | *0.002* | *0.005* | *0.10* | *0.0020* | *0.002* | *0.002* | *0.005* | 33 | 0.0153 | 0.0320 | 33 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 33 | 0.10 | 0.00 | 33 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 33 | 0.10 | 0.00 | 33 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | *0.003* | 0.004 | 0.005 | 0.003 | 0.02 | *0.003* | 0.006 | 0.006 | 33 | 0.006 | 0.004 | 33 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | 2.1 | 1.8 | 2 | 2.00 | 1.8 | 2.0 | 1.9 | 1.8 | 30 | 1.95 | 0.14 | 30 | 100% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | 2.1 | 1.7 | 1.7 | 2.00 | 1.9 | 2.0 | 1.9 | 1.8 | 30 | 1.88 | 0.16 | 30 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | 0.10 | 0.24 | 0.25 | 0.24 | 0.22 | *0.10* | *0.10* | 0.16 | 30 | 0.16 | 0.09 | 30 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | **0.007** | 33 | 0.001 | 0.001 | 33 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.0206 | 0.0062 | 0.01460 | 0.0072 | 0.0015 | 0.0181 | 0.0068 | 0.01370 | 33 | 0.0095 | 0.0084 | 33 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | 30 | 0.00010 | 0.00001 | 30 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | 33 | 0.00018 | 0.00026 | 33 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00511 | 0.00468 | 0.00512 | 0.00559 | 0.00539 | 0.00488 | 0.00458 | 0.00499 | 33 | 0.00565 | 0.00148 | 33 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.01000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | 33 | 0.01000 | 0.00000 | 33 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | **0.000042** | *0.000017* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 33 | 0.000023 | 0.000025 | 33 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | 10.9 | 11.2 | 10.9 | 12.70 | 11.8 | 11.1 | 11.2 | 10.9 | 33 | 11.48 | 0.95 | 33 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | 33 | 0.00055 | 0.00015 | 33 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | 33 | 0.00011 | 0.00003 | 33 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.00145 | 0.00076 | **0.00433** | 0.00084 | 0.00087 | 0.00088 | 0.00079 | **0.01900** | 33 | 0.00207 | 0.00375 | 33 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.032 | *0.030* | *0.03000* | *0.03* | *0.030* | *0.030* | *0.030* | *0.03000* | 33 | 0.03152 | 0.00531 | 33 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.000429 | *0.000050* | 0.00011 | *0.00005* | *0.000050* | 0.000053 | *0.000050* | *0.00005* | 33 | 0.000171 | 0.000281 | 33 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | *0.0050* | *0.0050* | *0.00500* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.00500* | 30 | 0.00500 | 0.00000 | 30 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | 6.53 | 6.69 | 6.84 | 7.71 | 7.33 | 6.52 | 6.74 | 6.79 | 33 | 6.99 | 0.59 | 33 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.0028 | 0.00136 | 0.00170 | 0.00198 | 0.001000 | 0.0021 | 0.00133 | 0.00172 | 33 | 0.002289 | 0.002546 | 33 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | *0.000050* | *0.000050* | 0.000016 | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 33 | 0.000040 | 0.000027 | 33 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.000179 | 0.000157 | 0.000185 | 0.000243 | 0.000182 | 0.000161 | 0.000151 | 0.000178 | 33 | 0.000620 | 0.001407 | 33 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.00114 | 0.00060 | 0.00071 | 0.00066 | 0.00062 | 0.00069 | 0.00064 | 0.00071 | 33 | 0.00109 | 0.00126 | 33 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | *0.30* | *0.30* | | | *0.30* | *0.30* | *0.30* | | 18 | 0.30 | 0.00 | 18 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | *2.0* | *2.0* | 0.751 | 0.876 | *2.0* | *2.0* | *2.0* | 0.759 | 33 | 1.450 | 0.616 | 33 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | 33 | 0.00100 | 0.00000 | 33 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | 0.481 | 0.461 | 0.41100 | 0.45 | 0.485 | 0.488 | 0.464 | 0.41000 | 30 | 0.46877 | 0.04112 | 30 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | *0.000010* | *0.000010* | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | 33 | 0.000017 | 0.000027 | 33 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | *2.0* | *2.0* | 0.700 | 0.947 | *2.0* | *2.0* | *2.0* | 1.08 | 33 | 1.467 | 0.605 | 33 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.00612 | 0.00537 | 0.00606 | 0.0084 | 0.00621 | 0.00588 | 0.00542 | 0.00638 | 33 | 0.00644 | 0.00096 | 33 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | 0.00020 | *0.0001* | 0.00042 | *0.00010* | *0.00010* | 0.00024 | 33 | 0.00136 | 0.00287 | 33 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.01000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | 30 | 0.01000 | 0.00000 | 30 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.000361 | 0.000332 | 0.000395 | 0.000547 | 0.000383 | 0.000342 | 0.000340 | 0.000393 | 30 | 0.000402 | 0.000071 | 30 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | 33 | 0.00100 | 0.00000 | 33 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.0049 | *0.0010* | 0.00110 | *0.003* | *0.0010* | 0.0011 | *0.0010* | *0.0010* | 33 | 0.00247 | 0.00263 | 33 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.0079 | 0.0045 | 0.0019 | *0.003* | 0.0020 | 0.0098 | 0.0050 | 0.0012 | 33 | 0.00468 | 0.00407 | 33 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.00018 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 0.00020 | *0.00010* | *0.0001* | 30 | 0.36012 | 1.97178 | 30 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | 33 | 0.00019 | 0.00027 | 33 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00487 | 0.00462 | 0.00501 | 0.00548 | 0.00544 | 0.00482 | 0.00449 | 0.00475 | 33 | 0.00544 | 0.00176 | 33.00 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | 30 | 0.00052 | 0.00011 | 30.00 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | 30 | 0.00148 | 0.00539 | 30.00 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 33 | 0.010 | 0.002 | 33.00 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | 33 | 0.000176 | 0.000867 | 33.00 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | 10.9 | 11.4 | 11 | 12.60 | 11.8 | 10.8 | 11.3 | 10.9 | 33 | 11.4 | 1.3 | 33.00 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.001* | 33 | 0.00054 | 0.00015 | 33.00 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | 33 | 0.00011 | 0.00003 | 33.00 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.00107 | 0.00092 | 0.00106 | 0.00086 | 0.00096 | 0.00084 | 0.00093 | 0.00095 | 33 | 0.00103 | 0.00037 | 33.00 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | *0.030* | *0.030* | *0.0300* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | 33 | 0.02911 | 0.00512 | 33.00 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | *0.000050* | *0.000050* | *0.0001* | *0.00005* | *0.000050* | *0.000050* | *0.000050* | *0.0001* | 32 | 0.000150 | 0.000282 | 32.00 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | 30 | 0.0293 | 0.1329 | 30.00 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | 6.53 | 6.76 | 6.82 | 7.50 | 7.36 | 6.46 | 6.72 | 7.03 | 33 | 6.780 | 1.366 | 33.00 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | 0.00122 | 0.000990 | 0.000429 | 0.000282 | 0.000771 | 0.00131 | 0.001110 | 0.000374 | 33 | 0.012969 | 0.064868 | 33.00 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | *0.000050* | *0.000050* | *0.0000* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | 30 | 0.000034 | 0.000020 | 30.00 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.000141 | 0.000154 | 0.000166 | 0.00023 | 0.000221 | 0.000154 | 0.000166 | 0.000182 | 33 | 0.032439 | 0.182676 | 33.00 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.00071 | 0.00062 | 0.00065 | 0.00123 | 0.00068 | 0.00065 | 0.00059 | 0.0006 | 33 | 0.00125 | 0.00153 | 33.00 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | | *0.30* | *0.30* | | | *0.30* | *0.30* | *0.30* | | 19 | 0.28 | 0.07 | 19.00 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | *2.0* | *2.0* | 0.748 | 0.857 | *2.0* | *2.0* | *2.0* | 0.814 | 33 | 1.422 | 0.660 | 33.00 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | 33 | 0.0013 | 0.0016 | 33.00 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | 0.461 | 0.463 | 0.385 | 0.43 | 0.477 | 0.460 | 0.462 | 0.373 | 30 | 0.438080 | 0.090962 | 30.00 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | *0.000010* | *0.000010* | *0.0000* | *0.000001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | 33 | 0.000047 | 0.000173 | 33.00 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | *2.0* | *2.0* | 0.842 | 1.03 | *2.0* | *2.0* | *2.0* | 3.46 | 33 | 1.527 | 0.724 | 33.00 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.00590 | 0.00540 | 0.00616 | 0.00851 | 0.00636 | 0.00577 | 0.00544 | 0.00769 | 33 | 0.00642 | 0.00097 | 33.00 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000* | 30 | 0.00010 | 0.00000 | 30.00 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | *0.00010* | *0.00010* | 0.00018 | *0.0001* | 0.00031 | *0.00010* | *0.00010* | 0.00017 | 33 | 0.00144 | 0.00298 | 33.00 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 30 | 0.010 | 0.000 | 30.00 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.000331 | 0.000331 | 0.000397 | 0.000582 | 0.000386 | 0.000339 | 0.000345 | 0.000376 | 30 | 0.000404 | 0.000078 | 30.00 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | 33 | 0.00100 | 0.00000 | 33.00 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.0025 | *0.0010* | 0.0011 | *0.003* | 0.0014 | 0.0016 | *0.0010* | *0.001* | 33 | 0.00327 | 0.00382 | 33.00 | 100% |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.4_LakeStats_Updated.xls]Camp Lake

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Sheardown Lake NW Basin | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DL0-01-1-S | DL0-01-1-S | DL0-01-1-S | DL0-01-1-S | DL0-01-1-S | DL0-01-1(S) | DL0-01-1-S | DL0-01-1-S | DL0-01-1-S | DL0-01-S | DL0-01-2-S | DL0-01-2-S | DL0-01-2-S | DL0-01-2-S | DL0-01-3-S | DL0-01-4-S |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 01-Aug-06 | 06-Sep-06 | 06-May-07 | 05-Aug-07 | 17-Sep-07 | 11-May-08 | 31-Jul-08 | 02-Sep-08 | 25-Jul-11 | 06-Sep-11 | 05-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 06-May-07 | 05-Aug-07 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | - | - | | | 10.83 | 6.95 | 1.1 | 9.1 | 5.7 | | 8.5 | 6.5 | 9.4 | 8.63 | 9.0 | 5.6 | 8.3 | 6.5 | 1.1 | 9.1 |
| Specific Conductance | mS/cm | - | - | - | | | 0.092 | 0.097 | 0.115 | 0.098 | 0.097 | | 0.114 | 0.122 | 0.126 | 0.130 | 0.098 | 0.097 | 0.113 | 0.122 | 0.115 | 0.098 |
| Dissolved Oxygen | mg/L | - | - | - | | 9.5 | 10.62 | **9.15** | 18.64 | 11.5 | 11.90 | | 11.33 | 13.81 | | | 11.41 | 11.60 | 11.23 | 13.79 | 18.72 | 10.86 |
| pH | - | - | - | - | | 6.5-9.0 | 8.24 | 6.76 | | | 8.27 | | 7.94 | 7.95 | 7.87 | 7.95 | | 8.28 | 7.99 | 7.9 | | |
| Wetted Width | m | - | - | - | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | - | - | | | 1 | 1 | | | | | | | | | | | | | | |
| Flow Rate | m3/s | - | - | - | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | - | - | - | | | | | 1.0 | 1.0 | 1.0 | | | | | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Total Depth - May Samples Only | m | - | - | - | | | | | 21.80 | | | | | | | | | | | | 9.50 | |
| Ice Thickness -May Samples Only | m | - | - | - | | | | | 1.80 | | | | | | | | | | | | 2.10 | |
| Airspace - May Samples Only | m | - | - | - | | | | | 0.00 | | | | | | | | | | | | 0.15 | |
| Snow Depth - May Samples Only | m | - | - | - | | | | | 0.10 | | | | | | | | | | | | 0.02 | |
| Water Depth | m | - | - | - | | | | | 20.00 | 22.8 | 22.4 | | 21.5 | 20.6 | | | 13 | 19.9 | 17.2 | 14.7 | 7.25 | 6.6 |
| Turbidity | NTU | - | - | - | | | | | 0 | 0.21 | 0.35 | | 2.30 | 6.9 | | | 0.19 | 0.35 | 20.8 | 7.2 | 0 | 0.25 |
| Secchi Disk Depth | m | - | - | - | | | 4.07 | 4.2 | | 8.5 | 8.1 | | 6.4 | 5.25 | | | 9.6 | 7.4 | 6.7 | 5.5 | | 6.6 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.09 | 6.98 | 6.81 | 8.29 | 8.03 | 7.97 | 7.86 | 7.75 | 7.27 | 6.85 | 8.32 | 8.02 | 7.85 | 7.84 | 6.88 | 8.3 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 94 | 101 | 121 | 104 | 109 | 135 | 108 | 116 | 128.00 | 129 | 103 | 109 | 108 | 117 | 128 | 104 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.6 | 0.9 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.7 | 0.40 | 0.4 | 0.3 | 0.4 | 0.7 | 0.8 | 0.3 | 0.4 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 50 | 43 | 61.2 | 52.5 | 53.9 | 64.4 | | 61 | 64.00 | 63 | 52.9 | 53.8 | | 60.8 | 63.9 | 53.0 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 61 | 66 | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 79 | 68 | 71 | 88 | 70 | 75 | 83.00 | 84 | 67 | 71 | 70 | 76 | 83 | 68 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | 2 | 2 | 2 | 2 | 2 | 2 | 4.00 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 49 | 51 | 62 | 51 | 53 | 66 | 52 | 55 | 63.00 | 64 | 50 | 53 | 53 | 56 | 67 | 51 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | 0.05 | 0.05 | 0.05 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.05 | 0.25 |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 3.00 | 3 | 1 | 2 | 2 | 3 | 2 | 1 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 4.00 | 4 | 1 | 3 | 1 | 1 | 2 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.02 | 0.02 | 0.02 | 0.02 | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | 0.005 | 0.008 | 0.0020 | 0.002 | 0.002 | 0.005 | 0.005 | 0.005 | 0.10 | 0.005 | 0.002 | 0.002 | 0.005 | 0.005 | 0.0020 | 0.002 |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.02 | 0.01 | 0.003 | 0.003 | 0.003 | 0.004 | 0.010 | 0.003 | 0.005 | 0.003 | 0.003 | 0.003 | 0.008 | 0.007 | 0.003 | 0.003 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 1.9 | 2.1 | 1.8 | 1.8 | 1.9 | 1.8 | 1.80 | 1.8 | 2.0 | 1.7 | 1.8 | 1.8 | 2.0 | 2.0 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 1.8 | 2.1 | 1.7 | 1.7 | 2.0 | 1.6 | 1.70 | 1.8 | 2.0 | 1.9 | 1.9 | 1.6 | 2.0 | 1.9 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | 0.05 | 0.13 | 0.14 | 0.22 | 0.16 | 0.12 | 0.20 | 0.10 | 0.10 | 0.11 | 0.13 | 0.12 | 0.07 | 0.14 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.020 | 0.026 | 0.0018 | 0.0032 | 0.0043 | 0.00440 | 0.013000 | 0.0112 | 0.0044 | 0.0106 | 0.0038 | 0.0039 | 0.003600 | 0.0121 | 0.0019 | 0.0143 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | 0.00010 | 0.00010 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.00010 | 0.00010 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | 0.001 | 0.001 | 0.00010 | 0.00010 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.00010 | 0.00010 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.01 | 0.01 | 0.00567 | 0.00454 | 0.00455 | 0.00612 | 0.004760 | 0.00511 | 0.00512 | 0.00503 | 0.00449 | 0.00462 | 0.004650 | 0.00532 | 0.00602 | 0.00442 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | 0.00050 | 0.00050 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.00050 | 0.00050 |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | 0.00050 | 0.00050 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.00050 | 0.00050 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | 0.01 | 0.01 | 0.010 | 0.010 | 0.010 | 0.01000 | 0.010000 | 0.01 | 0.01 | 0.01 | 0.010 | 0.010 | 0.010000 | 0.01 | 0.010 | 0.010 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | 0.0001 | 0.0001 | 0.000017 | 0.000017 | 0.000017 | 0.00001 | 0.000010 | 0.00001 | 0.00001 | 0.00001 | 0.000017 | 0.000017 | 0.000010 | 0.00001 | 0.000017 | 0.000017 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 10 | 12.0 | 10.6 | 10.8 | 12.9 | 10.4 | 12 | 12.80 | 12.1 | 10.5 | 10.8 | 11.8 | 12 | 12.7 | 10.9 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | 0.001 | 0.001 | 0.00050 | 0.00050 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.000500 | 0.0005 | 0.00050 | 0.00050 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | 0.0002 | 0.0002 | 0.00010 | 0.00010 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.00010 | 0.00010 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.001 | 0.001 | 0.00132 | 0.00086 | 0.00077 | 0.00119 | **0.002400** | 0.00088 | 0.001 | 0.00084 | 0.00088 | 0.00079 | 0.000950 | 0.00119 | 0.00106 | 0.00082 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.03 | 0.03 | 0.030 | 0.030 | 0.030 | 0.03000 | 0.030000 | 0.03 | 0.03 | 0.03 | 0.030 | 0.030 | 0.030000 | 0.03 | 0.030 | 0.030 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | 0.001 | 0.001 | 0.000078 | 0.00050 | 0.00050 | 0.00005 | 0.000050 | 0.00005 | 0.00005 | 0.00005 | 0.00050 | 0.00050 | 0.00005 | 0.00005 | 0.000107 | 0.00050 |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | 0.0050 | 0.0050 | 0.0050 | 0.00500 | 0.005000 | 0.005 | 0.005 | 0.005 | 0.0050 | 0.0050 | 0.005000 | 0.005 | 0.0050 | 0.0050 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 6 | 7.44 | 6.26 | 6.43 | 7.93 | 6.52 | 7.24 | 7.77 | 7.96 | 6.26 | 6.42 | 7.05 | 7.25 | 7.85 | 6.40 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.01 | 0.01 | 0.000572 | 0.00132 | 0.00144 | 0.00118 | 0.001550 | 0.00153 | 0.00136 | 0.00125 | 0.00132 | 0.00138 | 0.000818 | 0.00153 | 0.000379 | 0.00183 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | 0.0001 | 0.0001 | 0.000050 | 0.000050 | 0.000050 | 0.00001 | 0.000010 | 0.00001 | 0.00001 | 0.00001 | 0.000050 | 0.000050 | 0.000010 | 0.00001 | 0.000050 | 0.000050 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.005 | 0.005 | 0.000635 | 0.000530 | 0.000521 | 0.00069 | 0.000526 | 0.000632 | 0.000704 | 0.000696 | 0.000547 | 0.000510 | 0.000560 | 0.000624 | 0.000713 | 0.000512 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | 0.005 | 0.005 | 0.00080 | 0.00061 | 0.00061 | 0.00086 | 0.000630 | 0.00069 | 0.00079 | 0.00064 | 0.00064 | 0.00060 | 0.000540 | 0.00097 | 0.00084 | 0.00063 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | 0.30 | 0.30 | 0.30 | | | | | | 0.30 | 0.30 | | | 0.30 | 0.30 |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.67 | 0.68 | 2.0 | 2.0 | 2.0 | 0.943 | 0.710 | 0.765 | 0.87 | 0.89 | 2.0 | 2.0 | 0.727 | 0.793 | 2.0 | 2.0 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.00100 | 0.001000 | 0.001 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.001000 | 0.001 | 0.0010 | 0.0010 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.717 | 0.607 | 0.613 | 0.77600 | 0.600000 | 0.64 | 0.64 | 0.63 | 0.596 | 0.608 | 0.611000 | 0.646 | 0.746 | 0.617 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | 0.0001 | 0.0001 | 0.000010 | 0.000010 | 0.000010 | 0.00001 | 0.000010 | 0.00001 | 0.000001 | 0.000001 | 0.000010 | 0.000010 | 0.000010 | 0.00001 | 0.000010 | 0.000010 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.48 | 0.51 | 2.0 | 2.0 | 2.0 | 0.786 | 0.594 | 0.678 | 0.953 | 1.05 | 2.0 | 2.0 | 0.611 | 0.701 | 2.0 | 2.0 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.007 | 0.008 | 0.00844 | 0.00714 | 0.00660 | 0.00915 | 0.006930 | 0.0076 | 0.00824 | 0.00807 | 0.00714 | 0.00655 | 0.006960 | 0.00787 | 0.00905 | 0.00694 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | 0.00010 | 0.00010 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.00010 | 0.00010 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | 0.01 | 0.01 | 0.00405 | 0.00010 | 0.00010 | 0.00107 | 0.000160 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.000100 | 0.0001 | 0.00293 | 0.00010 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | 0.010 | 0.010 | 0.010 | 0.01000 | 0.010000 | 0.01 | 0.01 | 0.01 | 0.010 | 0.010 | 0.010000 | 0.01 | 0.010 | 0.010 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.000684 | 0.000554 | 0.000562 | 0.000740 | 0.000600 | 0.000749 | 0.000927 | 0.00091 | 0.000551 | 0.000565 | 0.000357 | 0.000771 | 0.000717 | 0.000542 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.00100 | 0.001000 | 0.001 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.001000 | 0.001 | 0.0010 | 0.0010 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | 0.01 | 0.01 | 0.0010 | 0.0010 | 0.0014 | 0.00520 | 0.001000 | 0.001 | 0.003 | 0.0045 | 0.0010 | 0.0010 | 0.001000 | 0.001 | 0.0010 | 0.0010 |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.005 | 0.005 | 0.0012 | 0.0021 | 0.0027 | 0.00250 | 0.0019 | 0.0014 | 0.003 | 0.0038 | 0.0020 | 0.0032 | 0.0011 | 0.001 | 0.0013 | 0.0092 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | 0.00010 | 0.00018 | 0.00010 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.00021 | 0.00010 | 0.0001 | 0.0001 | 0.00010 | 0.00017 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.001 | 0.001 | 0.00010 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.00010 | 0.00010 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.01 | 0.01 | 0.00575 | 0.00446 | 0.00451 | 0.00615 | 0.00467 | 0.00508 | 0.00511 | 0.005 | 0.00442 | 0.00452 | 0.00454 | 0.00499 | 0.00594 | 0.00452 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | 0.00050 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.00050 | 0.00050 |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | 0.00050 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.00050 | 0.00050 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | 0.01 | 0.01 | 0.010 | 0.010 | 0.010 | 0.010 | 0.0100 | 0.01 | 0.01 | 0.01 | 0.010 | 0.010 | 0.0100 | 0.01 | 0.010 | 0.010 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | 0.0001 | 0.0001 | 0.000017 | 0.000017 | 0.000017 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.000017 | 0.000017 | 0.00001 | 0.00001 | 0.000017 | 0.000017 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10 | 9 | 12.1 | 10.7 | 10.9 | 12.7 | 10.4 | 12.2 | 12.20 | 12.5 | 10.8 | 10.9 | 10.4 | 12.2 | 12.6 | 10.8 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | 0.001 | 0.001 | 0.00050 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.00050 | 0.00050 | 0.0005 | 0.0005 | 0.00050 | 0.00050 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | 0.0002 | 0.0002 | 0.00010 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.00010 | 0.00010 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.001 | 0.001 | 0.00099 | 0.00091 | 0.00088 | 0.001200 | 0.00101 | 0.00092 | 0.0007 | 0.0007 | 0.00098 | 0.00079 | 0.00105 | 0.00086 | 0.00101 | 0.00086 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | 0.03 | 0.03 | 0.030 | 0.030 | 0.030 | 0.030 | 0.0300 | 0.03 | 0.03 | 0.03 | 0.030 | 0.030 | 0.0300 | 0.03 | 0.030 | 0.030 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | 0.001 | 0.001 | 0.000078 | 0.00050 | 0.00050 | 0.00005 | 0.0001 | 0.00005 | 0.00005 | 0.00005 | 0.000642 | 0.00050 | 0.0001 | 0.00005 | 0.00050 | 0.000092 |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | 0.0050 | 0.0050 | 0.0050 | 0.0050 | 0.0050 | 0.005 | 0.005 | 0.005 | 0.0050 | 0.0050 | 0.0050 | 0.005 | 0.0050 | 0.0050 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6 | 5 | 7.50 | 6.25 | 6.49 | 7.91 | 6.57 | 7.4 | 7.51 | 7.86 | 6.33 | 6.46 | 6.57 | 7.35 | 7.85 | 6.31 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.01 | 0.01 | 0.000250 | 0.000851 | 0.00105 | 0.000788 | 0.000126 | 0.000336 | 0.000131 | 0.00005 | 0.000819 | 0.00115 | 0.000095 | 0.000118 | 0.000268 | 0.00105 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | 0.000050 | 0.000050 | 0.000050 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.000050 | 0.000050 | 0.00001 | 0.00001 | 0.000050 | 0.000050 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.005 | 0.005 | 0.000665 | 0.000532 | 0.000542 | 0.000693 | 0.000544 | 0.000659 | 0.000675 | 0.000674 | 0.000526 | 0.000522 | 0.000521 | 0.000632 | 0.000696 | 0.000552 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | 0.005 | 0.005 | 0.00082 | 0.00059 | 0.00055 | 0.000810 | 0.00065 | 0.00061 | 0.00057 | 0.0006 | 0.00092 | 0.00062 | 0.00062 | 0.0006 | 0.00082 | 0.00062 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | 0.30 | 0.30 | 0.30 | | | | | | 0.30 | 0.30 | | | 0.30 | 0.30 |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.64 | 0.70 | 2.0 | 2.0 | 2.0 | 0.917 | 0.708 | 0.763 | 0.869 | 0.887 | 2.0 | 2.0 | 0.684 | 0.755 | 2.0 | 2.0 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.0010 | 0.0010 | 0.001 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.001 | 0.0010 | 0.0010 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.731 | 0.599 | 0.609 | 0.778000 | 0.57 | 0.641 | 0.63 | 0.62 | 0.614 | 0.603 | 0.576 | 0.637 | 0.740 | 0.612 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | 0.0001 | 0.0001 | 0.000010 | 0.000010 | 0.000010 | 0.00001 | 0.00001 | 0.00001 | 0.000001 | 0.000001 | 0.000010 | 0.000010 | 0.0000 | 0.00001 | 0.000010 | 0.000010 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.50 | 0.52 | 2.0 | 2.0 | 2.0 | 0.772 | 0.677 | 0.662 | 0.93 | 1.07 | 2.0 | 2.0 | 0.694 | 0.66 | 2.0 | 2.0 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.008 | 0.008 | 0.00842 | 0.00708 | 0.00662 | 0.0 | 0.00703 | 0.00778 | 0.00787 | 0.00783 | 0.00749 | 0.00656 | 0.00675 | 0.00761 | 0.00891 | 0.00809 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | 0.00010 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.00010 | 0.00010 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | 0.01 | 0.01 | 0.00133 | 0.00010 | 0.00010 | 0.001860 | 0.0001 | 0.00013 | 0.0001 | 0.0001 | 0.00010 | 0.00010 | 0.0001 | 0.0001 | 0.00103 | 0.00010 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | 0.010 | 0.010 | 0.010 | 0.010 | 0.0100 | 0.01 | 0.01 | 0.01 | 0.010 | 0.010 | 0.0100 | 0.01 | 0.010 | 0.010 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.000685 | 0.000546 | 0.000568 | 0.000726 | 0.000596 | 0.000754 | 0.000874 | 0.000899 | 0.000531 | 0.000571 | 0.000578 | 0.000749 | 0.000727 | 0.000548 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.0010 | 0.0010 | 0.001 | 0.001 | 0.001 | 0.0010 | 0.0010 | 0.0010 | 0.001 | 0.0010 | 0.0010 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | 0.01 | 0.01 | 0.0010 | 0.0014 | 0.0010 | 0.002600 | 0.0013 | 0.0011 | 0.003 | 0.003 | 0.0030 | 0.0010 | 0.0010 | 0.001 | 0.0010 | 0.0032 |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.7_LakeStats_Updated.xls]SL-NW-S

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Sheardown Lake NW Basin (Surface) | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DL0-01-4-S | DL0-01-4-S | DLO-01-4-S | DL0-01-5-S | DL0-01-5-S | DL0-01-5-S | DL0-01-5-S | DL0-01-5-S | DL0-01-5-S | DL0-01-5-S | DL0-01-7-S | DL0-01-7-S | DL0-01-7-S | DLO-01-7-S | DL0-01-7-S | DL0-01-7-S | D-LAKE-01 S | D-LAKE-02 S | D-LAKE-03 S | D-LAKE-05 S | DL0-01-1-D | DL0-01-1-D | DL0-01-1-D |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 06-May-07 | 07-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 24-Jul-11 | 02-Sep-11 | 07-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 25-Jul-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | 06-May-07 | 01-Aug-06 | 06-Sep-06 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | - | - | | | 5.6 | 8.4 | 6.5 | 1.3 | 8.9 | 5.7 | 8.5 | 6.5 | 9.28 | 9.28 | 9.1 | 5.4 | 12.2 | 6.4 | 10.30 | 8.68 | 8.77 | 8.77 | 8.76 | 8.77 | 1.7 | 7.77 | 6.94 |
| Specific Conductance | mS/cm | - | - | - | | | 0.097 | 0.114 | 0.123 | 0.113 | 0.094 | 0.097 | 0.114 | 0.122 | 0.126 | 0.129 | 0.094 | 0.097 | 0.118 | 0.122 | 0.126 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.110 | 0.090 | 0.097 |
| Dissolved Oxygen | mg/L | - | - | - | | 9.5 | 11.70 | 11.56 | 13.56 | 18.14 | 11.55 | 11.90 | 11.25 | 13.83 | | | 11.00 | 11.53 | 10.93 | 13.52 | | | | | | | 14.46 | 10.74 | **8.94** |
| pH | - | - | - | - | | 6.5-9.0 | 8.26 | 7.99 | 7.93 | | | 8.33 | 7.44 | 7.2 | 7.83 | 7.95 | | 8.20 | 7.96 | 7.94 | 7.87 | 7.89 | 7.97 | 8.00 | 8.01 | 8.00 | | 8.15 | 7.07 |
| Wetted Width | m | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | 19 | 7 |
| Flow Rate | m3/s | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | - | - | - | | | 1.0 | | | 1.0 | 1.0 | 1.0 | | | | | 1.0 | 1.0 | | | | | | | | | 18.0 | | |
| Total Depth - May Samples Only | m | - | - | - | | | | | | 24.90 | | | | | | | | | | | | | | | | | 21.80 | | |
| Ice Thickness -May Samples Only | m | - | - | - | | | | | | 1.80 | | | | | | | | | | | | | | | | | 1.80 | | |
| Airspace - May Samples Only | m | - | - | - | | | | | | 0.05 | | | | | | | | | | | | | | | | | 0.00 | | |
| Snow Depth - May Samples Only | m | - | - | - | | | | | | 0.25 | | | | | | | | | | | | | | | | | 0.10 | | |
| Water Depth | m | - | - | - | | | 7.0 | 6.4 | 6.6 | 23.05 | 22.5 | 25.4 | 23.8 | 21.2 | | | 10.8 | 10.6 | 12.0 | 11.6 | | | | | | | 20.00 | | |
| Turbidity | NTU | - | - | - | | | 0.35 | 1.7 | 7.3 | 0 | 0.14 | 0.35 | 2.0 | 7.95 | | | 0.13 | 0.29 | 3.1 | 7.5 | | | | | | | 0 | | |
| Secchi Disk Depth | m | - | - | - | | | 7.0 | 6.0 | 5 | | 8.25 | 8.8 | 5.9 | 5 | | | 8.25 | 7.4 | 6.0 | 5 | | | | | | | | 4.07 | 4.2 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 8.02 | 7.90 | 7.9 | 6.82 | 8.19 | 8.02 | 7.86 | 7.85 | 7.15 | 6.96 | 8.14 | 8.02 | 7.89 | 7.87 | 7.29 | 6.95 | 6.95 | 7.01 | 6.94 | 6.95 | 6.79 | 7.09 | 7.09 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 109 | 108 | 120 | 120 | 103 | 109 | 109 | 117 | 125.00 | 130.00 | 104 | 109 | 108 | 118 | 129.00 | 130.00 | 130.00 | 130.00 | 130.00 | 130.00 | 119 | 93 | 105 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.7 | 0.8 | 0.2 | 0.2 | 0.3 | 0.5 | 0.7 | 0.30 | 0.50 | 0.3 | 0.3 | 0.5 | 0.7 | 0.40 | 0.20 | 0.30 | 0.40 | 0.20 | 0.40 | 0.2 | 0.7 | 1.0 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 53.6 | 53.4 | 62.2 | 60 | 53.1 | 53.6 | | 61 | 63.50 | 64.10 | 53.1 | 53.8 | | 61.2 | 61.80 | 64.80 | 64.20 | 60.30 | 65.20 | 64.30 | 59.5 | 50 | 50 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 61 | 68 |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 71 | 70 | 78 | 78 | 67 | 71 | 71 | 76 | 81.00 | 84.00 | 68 | 71 | 70 | 77 | 84.00 | 84.00 | 84.00 | 84.00 | 84.00 | 84.00 | 77 | | |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2.00* | *2.00* | 25.00 | *2.00* | *2* | | |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 53 | 53 | 57 | 64 | 50 | 53 | 54 | 55 | 62.00 | 64.00 | 51 | 53 | 53 | 56 | 63.00 | 64.00 | 64.00 | 65.00 | 65.00 | 65.00 | 61 | 47 | 52 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.25* | *0.25* | *0.25* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | *0.05* | *0.05* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 4.00 | 3.00 | 1 | 2 | 2 | 3 | 3 | 4 | 3.00 | 4.00 | 4.00 | 3.00 | 2 | 1 | 1 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 3 | 1 | 1 | 2 | 3 | 3 | 1 | 1 | 3.00 | 4.00 | 3 | 3 | 1 | 1 | 4 | 4 | 4.00 | 4.00 | 4.00 | 4.00 | 2 | *1* | 2 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.02 | *0.02* | *0.02* | 0.02 | 0.06 | 0.02 | *0.02* | *0.02* | *0.02* | 0.06 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | 0.05 | *0.02* | 0.02 | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.002* | *0.005* | *0.005* | *0.0020* | *0.002* | *0.002* | *0.005* | *0.005* | *0.10* | *0.005* | *0.002* | *0.002* | *0.005* | *0.005* | *0.10* | *0.005* | *0.01* | *0.01* | *0.01* | *0.01* | *0.0020* | *0.005* | 0.009 |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 0.18 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 0.18 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.004 | 0.003 | 0.003 | *0.003* | *0.003* | 0.003 | 0.004 | 0.004 | 0.006 | 0.004 | *0.003* | 0.007 | 0.003 | 0.005 | 0.005 | *0.003* | *0.00* | 0.003 | *0.00* | *0.00* | *0.003* | *0.01* | *0.01* |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.8 | 1.9 | 1.8 | 1.80 | 1.70 | 1.7 | 1.7 | 1.9 | 1.8 | 1.90 | 2.00 | 2.00 | 1.80 | 2.40 | 1.70 | 1.8 | | |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | 1.6 | 1.8 | 1.7 | 2.0 | 1.7 | 1.6 | 1.9 | 1.6 | 1.70 | 1.70 | 1.8 | 1.7 | 2.0 | 1.7 | 1.70 | 1.80 | 1.80 | 1.80 | 2.00 | 1.60 | 1.8 | | |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | 0.27 | 0.23 | 0.35 | 0.07 | 0.20 | *0.10* | 0.19 | *0.10* | *0.10* | 0.14 | 0.18 | *0.10* | 0.14 | 0.34 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.05* | | |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.0037 | 0.015800 | 0.0112 | 0.0012 | 0.0029 | 0.0059 | 0.013900 | 0.0102 | 0.0045 | 0.0089 | 0.0035 | 0.0037 | 0.015200 | 0.0125 | 0.0051 | 0.0116 | 0.0159 | 0.0136 | 0.0141 | 0.0139 | 0.0019 | 0.021 | 0.034 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | | | |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | *0.001* | *0.001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00444 | 0.004660 | 0.00537 | 0.00570 | 0.00460 | 0.00436 | 0.004730 | 0.00515 | 0.00523 | 0.00525 | 0.00466 | 0.00439 | 0.004720 | 0.00529 | 0.00501 | 0.00511 | 0.00506 | 0.00487 | 0.00511 | 0.00511 | 0.00549 | *0.01* | *0.01* |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | | |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | | |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.010* | *0.010000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | *0.01* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.000017* | *0.000010* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.000010* | *0.00001* | *0.00001* | *0.000010* | *0.000017* | *0.000017* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000017* | *0.0001* | *0.0001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.7 | 10.4 | 12.2 | 12.0 | 10.8 | 10.7 | 10.5 | 12 | 12.60 | 12.70 | 10.8 | 10.8 | 10.6 | 12 | 12.30 | 13.00 | 12.90 | 12.10 | 13.10 | 12.90 | 11.7 | 9 | 9 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.00050* | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | *0.001* | *0.001* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | *0.0002* | *0.0002* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.00077 | 0.001200 | 0.00107 | 0.00114 | 0.00088 | 0.00076 | 0.001010 | 0.00092 | 0.00093 | 0.00078 | 0.00086 | 0.00073 | 0.001620 | 0.00092 | 0.0008 | 0.00074 | 0.00079 | 0.00075 | 0.00076 | 0.0008 | 0.00107 | *0.001* | *0.001* |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | *0.030* | *0.030000* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030000* | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | 0.037000 | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.030* | *0.03* | 0.04 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.000050* | *0.000050* | *0.00005* | 0.000051 | *0.000050* | *0.000050* | *0.000050* | *0.00005* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.000050* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000050* | *0.001* | *0.001* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.005000* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.01* | *0.01* | *0.01* | *0.01* | *0.0050* | | |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.49 | 6.47 | 7.35 | 7.46 | 6.38 | 6.47 | 6.53 | 7.25 | 7.78 | 7.85 | 6.33 | 6.51 | 6.56 | 7.31 | 7.54 | 7.85 | 7.76 | 7.29 | 7.89 | 7.78 | 7.21 | 6 | 6 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00132 | 0.001480 | 0.00142 | 0.000521 | 0.00134 | 0.00147 | 0.001480 | 0.0015 | 0.00134 | 0.00113 | 0.00137 | 0.00129 | 0.001520 | 0.00149 | 0.00138 | 0.00119 | 0.00132 | 0.00108 | 0.00119 | 0.0012 | 0.000844 | *0.01* | *0.01* |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.000050* | *0.000010* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000050* | *0.0001* | *0.0001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.000540 | 0.000535 | 0.000668 | 0.000653 | 0.000555 | 0.000504 | 0.000527 | 0.000594 | 0.000733 | 0.000766 | 0.000530 | 0.000506 | 0.000536 | 0.000619 | 0.000674 | 0.000702 | 0.000694 | 0.000672 | 0.000702 | 0.000701 | 0.000618 | *0.005* | *0.005* |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | 0.00055 | 0.000650 | 0.0007 | 0.00080 | 0.00064 | 0.00059 | 0.000640 | 0.00065 | 0.00065 | 0.00063 | 0.00062 | 0.00057 | 0.000640 | 0.00069 | 0.00063 | 0.00064 | 0.00064 | 0.00059 | 0.00065 | 0.00064 | 0.00080 | *0.005* | *0.005* |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | *0.30* | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | | | | | | | | | *0.30* | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | 0.687 | 0.806 | *2.0* | *2.0* | *2.0* | 0.689 | 0.767 | 0.876 | 0.906 | *2.0* | *2.0* | 0.703 | 0.785 | 0.859 | 0.877 | 0.887 | 0.821 | 0.878 | 0.879 | *2.0* | 0.66 | 0.71 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.0010* | *0.001000* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.0010* | *0.001* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.613 | 0.593000 | 0.657 | 0.720 | 0.619 | 0.610 | 0.614000 | 0.638 | 0.64 | 0.63 | 0.611 | 0.622 | 0.607000 | 0.657 | 0.62 | 0.63 | 0.63 | 0.59 | 0.64 | 0.63 | 0.775 | | |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.000010* | *0.000010* | *0.00001* | *0.000010* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000010* | *0.0001* | *0.0001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | *2.0* | 0.595 | 0.693 | *2.0* | *2.0* | *2.0* | 0.585 | 0.677 | 0.001 | 1.07 | *2.0* | *2.0* | 0.584 | 0.68 | 0.936 | 1.10 | 1.16 | 1.03 | 1.14 | 1.12 | *2.0* | 0.47 | 0.52 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00635 | 0.006880 | 0.00795 | 0.00833 | 0.00728 | 0.00643 | 0.006900 | 0.00749 | 0.00811 | 0.00842 | 0.00703 | 0.00644 | 0.006890 | 0.00777 | 0.00796 | 0.00828 | 0.00822 | 0.00776 | 0.00843 | 0.00825 | 0.00821 | 0.007 | 0.009 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.01* | *0.00* | *0.00010* | | |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.000100* | *0.0001* | 0.00154 | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.000140 | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | 0.00065 | *0.01* | *0.01* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | | |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000530 | 0.000567 | 0.000817 | 0.000678 | 0.000570 | 0.000540 | 0.000575 | 0.000754 | 0.000908 | 0.000913 | 0.000558 | 0.000549 | 0.000580 | 0.000783 | 0.000891 | 0.000911 | 0.000909 | 0.000852 | 0.000916 | 0.000908 | 0.000645 | | |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.0010* | *0.001000* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.001* | *0.001* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.0010* | *0.001000* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.003* | *0.003* | 0.0013 | *0.0010* | *0.001000* | *0.001* | *0.003* | *0.003* | *0.00* | *0.00* | *0.00* | *0.00* | *0.0010* | *0.01* | *0.01* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.0028 | 0.0014 | *0.001* | 0.0014 | 0.0051 | 0.0045 | 0.0018 | 0.0011 | *0.003* | *0.003* | 0.0022 | 0.0033 | 0.0036 | 0.0052 | *0.003* | 0.0042 | 0.0049 | 0.008 | *0.00* | 0.0043 | 0.0013 | *0.005* | *0.005* |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 0.00019 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 0.00024 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | | | |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | *0.001* | *0.001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00455 | 0.00476 | 0.00515 | 0.00568 | 0.00454 | 0.00456 | 0.00467 | 0.0051 | 0.01 | 0.00513 | 0.00454 | 0.00451 | 0.00468 | 0.00514 | 0.00526 | 0.00513 | 0.00503 | 0.005 | 0.00653 | 0.00512 | 0.00542 | *0.01* | *0.01* |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | | | |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | | | |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.010* | *0.0100* | *0.01* | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | *0.01* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.000017* | *0.00001* | *0.00001* | 0.000102 | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000017* | *0.0001* | *0.0001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.8 | 10.5 | 12.6 | 11.9 | 10.8 | 10.8 | 10.5 | 12.2 | 12.20 | 12.60 | 10.8 | 10.9 | 10.5 | 12.3 | 12.30 | 13.10 | 12.90 | 12.90 | 12.90 | 13.00 | 11.8 | 10 | 10 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00050* | *0.001* | *0.001* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00010* | *0.0002* | *0.0002* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.00088 | 0.00103 | 0.00097 | 0.00097 | 0.00079 | 0.00091 | 0.00088 | 0.00096 | 0.00072 | 0.00071 | 0.00086 | 0.00094 | 0.00097 | 0.00096 | 0.00072 | 0.0007 | 0.00071 | 0.0007 | 0.00062 | 0.0007 | 0.00092 | *0.001* | *0.001* |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.030* | *0.0300* | *0.03* | *0.030* | *0.030* | *0.030* | *0.0300* | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.0300* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.030* | *0.03* | *0.03* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.000050* | *0.0001* | *0.00005* | 0.000123 | *0.000050* | *0.000050* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000050* | *0.001* | *0.001* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.0050* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.01* | *0.01* | *0.01* | *0.01* | *0.0050* | | |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.47 | 6.59 | 7.49 | 7.37 | 6.33 | 6.46 | 6.52 | 7.38 | 7.51 | 7.61 | 6.37 | 6.46 | 6.62 | 7.38 | 7.49 | 7.91 | 7.82 | 7.78 | 7.74 | 7.85 | 7.28 | 6 | 6 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00108 | 0.000128 | 0.000146 | 0.000437 | 0.00104 | 0.00117 | 0.000131 | 0.000113 | 0.00027 | 0.000077 | 0.00102 | 0.00104 | 0.000192 | 0.000116 | 0.000221 | *0.00005* | *0.00* | *0.00* | *0.00* | *0.00* | 0.000473 | *0.01* | *0.01* |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.000050* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00* | *0.00* | *0.00* | *0.00* | *0.000050* | | | |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.000497 | 0.000524 | 0.00064 | 0.000642 | 0.000515 | 0.000518 | 0.000538 | 0.000622 | 0.00066 | 0.000728 | 0.000515 | 0.000510 | 0.000451 | 0.000639 | 0.000663 | 0.000652 | 0.000654 | 0.000659 | 0.000734 | 0.000656 | 0.000641 | *0.005* | *0.005* |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | 0.00059 | 0.00062 | 0.00066 | 0.00080 | 0.00062 | 0.00058 | 0.00062 | 0.00066 | 0.00063 | 0.00057 | 0.00058 | 0.00059 | 0.0006 | 0.00066 | 0.0006 | 0.00061 | 0.00066 | 0.0006 | 0.00064 | 0.0006 | 0.00071 | *0.005* | *0.005* |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | *0.30* | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | | | | | | | | | *0.30* | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | 0.72 | 0.794 | *2.0* | *2.0* | *2.0* | 0.693 | 0.782 | 0.000861 | 0.869 | *2.0* | *2.0* | 0.683 | 0.776 | 0.86 | 0.883 | 0.888 | 0.886 | 1.17 | 0.885 | *2.0* | 0.69 | 0.68 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.0010* | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.001* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.606 | 0.574 |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Sheardown Lake NW Basin | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DL0-01-1-D | DL0-01-1-D | DL0-01-1(B) | DL0-01-1-B | DL0-01-1-B | DL0-01-1-D | DL0-01-1-D | DL0-01-2-D | DL0-01-2-D | DL0-01-2-B | DL0-01-2-B | DL0-01-3-D | DL0-01-4-S | DL0-01-4-D | DL0-01-4-B | DL0-01-4-B |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 05-Aug-07 | 17-Sep-07 | 11-May-08 | 31-Jul-08 | 02-Sep-08 | 25-Jul-11 | 06-Sep-11 | 05-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 06-May-07 | 05-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | - | - | | | 7.2 | 5.7 | | 8.3 | 6.4 | 6.67 | 8.59 | 7.8 | 5.6 | 8.4 | 6.4 | 1.2 | 9.1 | 5.7 | 11.6 | 6.4 |
| Specific Conductance | mS/cm | - | - | - | | | 0.098 | 0.097 | | 0.114 | 0.122 | 0.126 | 0.130 | 0.098 | 0.097 | 0.113 | 0.122 | 0.115 | 0.098 | 0.097 | 0.117 | 0.122 |
| Dissolved Oxygen | mg/L | - | - | - | | 9.5 | 12.00 | 11.40 | | 11.38 | 13.64 | | | 12.11 | **8.50** | 11.25 | 13.7 | 18.18 | 10.88 | 11.40 | 10.95 | 13.56 |
| pH | - | - | - | - | | 6.5-9.0 | | 8.19 | | 7.33 | 7.35 | 7.74 | 7.97 | | 8.21 | 7.3 | 7.35 | | | 8.24 | 7.34 | 7.36 |
| Wetted Width | m | - | - | - | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | - | - | | | | | | | | | | | | | | | | | | |
| Flow Rate | m3/s | - | - | - | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | - | - | - | | | 22.0 | 19.0 | | | | | | 12.5 | 18.0 | | | 6.0 | 6.0 | 6.0 | | |
| Total Depth - May Samples Only | m | - | - | - | | | | | | | | | | | | | | 9.50 | | | | |
| Ice Thickness -May Samples Only | m | - | - | - | | | | | | | | | | | | | | 2.10 | | | | |
| Airspace - May Samples Only | m | - | - | - | | | | | | | | | | | | | | 0.15 | | | | |
| Snow Depth - May Samples Only | m | - | - | - | | | | | | | | | | | | | | 0.02 | | | | |
| Water Depth | m | - | - | - | | | 22.8 | 22.4 | | 21.5 | 20.6 | | | 13 | 19.9 | 17.2 | 14.7 | 7.25 | 6.6 | 7.0 | 6.0 | 6.6 |
| Turbidity | NTU | - | - | - | | | | | | 2.0 | 6.8 | | | 0.23 | | 2.50 | 7.2 | 0 | 0.19 | 0.35 | 3.2 | 7.5 |
| Secchi Disk Depth | m | - | - | - | | | 8.5 | 8.1 | | 6.4 | 5.25 | | | 9.6 | 7.4 | 6.7 | 5.5 | | *6.6* | 7.0 | 5.8 | 5 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 8.36 | 8.02 | 7.93 | 7.81 | 7.83 | 7.32 | 6.89 | 8.30 | 8.02 | 7.85 | 7.85 | 6.82 | 8.34 | 8.02 | 7.93 | 7.87 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 105 | 109 | 133 | 107 | 118 | 129.00 | 129 | 103 | 109 | 106 | 118 | 121 | 103 | 109 | 108 | 118 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.5 | 0.4 | 0.6 | 18.6 | 0.8 | 0.50 | 0.3 | 1.4 | 0.3 | 0.6 | 0.8 | 0.2 | 0.3 | 0.3 | 0.6 | 0.7 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 52.2 | 53.5 | 64.0 | | 61.1 | 63.80 | 63.8 | 52.6 | 53.5 | | 60.7 | 61 | 53.8 | 53.4 | | 61.7 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 68 | 71 | 87 | 70 | 77 | 84.00 | 84 | 67 | 71 | 69 | 77 | 79 | 67 | 71 | 70 | 77 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | *2* | *2* | *2* | 44 | *2* | 5.00 | *2* | 3 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 52 | 53 | 65 | 52 | 56 | 64.00 | 64 | 50 | 53 | 52 | 56 | 63 | 50 | 53 | 53 | 56 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 1 | 2 | 2 | 2 | 2 | 3.00 | 4 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 3 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 1 | 3 | 3 | 1 | 1 | 4.00 | 4 | 1 | 3 | 1 | 1 | 2 | 1 | 3 | 1 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | *0.02* | *0.02* | 0.12 | *0.02* | *0.02* | 0.06 | 0.03 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | | *0.02* | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.002* | *0.002* | *0.005* | *0.005* | *0.005* | *0.10* | *0.005* | *0.002* | *0.002* | *0.005* | *0.005* | *0.0020* | *0.002* | | *0.005* | *0.005* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | *0.003* | *0.003* | 0.007 | 0.09 | 0.003 | 0.005 | *0.003* | *0.003* | *0.003* | 0.006 | 0.003 | *0.003* | *0.003* | | 0.005 | 0.003 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | 2.0 | 1.8 | 1.6 | 1.8 | 1.8 | 1.80 | 1.9 | 2.0 | 1.7 | 1.7 | 1.8 | 2.0 | 2.2 | 1.8 | 1.8 | 1.9 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | 2.3 | 1.8 | 1.6 | 1.8 | 1.6 | 1.60 | 1.7 | 2.0 | 1.6 | 1.7 | 1.6 | 1.9 | 2.0 | 1.6 | 2.0 | 1.6 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | 0.27 | 0.11 | 0.35 | 0.16 | 0.1 | *0.10* | *0.10* | 0.18 | *0.10* | 0.17 | 0.1 | 0.05 | *0.10* | 0.11 | 0.15 | 0.33 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | |
| Aluminum | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.0055 | 0.0080 | 0.00710 | 0.013300 | 0.0113 | 0.0148 | 0.0262 | 0.0051 | 0.0081 | 0.016000 | 0.0114 | 0.0010 | 0.0039 | 0.0035 | 0.015300 | 0.0114 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00451 | 0.00446 | 0.00612 | 0.004720 | 0.00521 | 0.00528 | 0.00522 | 0.00443 | 0.00448 | 0.004670 | 0.0052 | 0.00559 | 0.00434 | 0.00453 | 0.004660 | 0.00539 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.010* | *0.010* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.7 | 10.8 | 12.6 | 10.5 | 12 | 12.70 | 12.3 | 10.8 | 10.8 | 10.3 | 12 | 11.9 | 10.9 | 10.9 | 10.6 | 12.1 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.00085 | 0.00078 | 0.00121 | **0.002150** | 0.00126 | 0.0008 | 0.00083 | 0.00084 | 0.00084 | 0.001420 | 0.00092 | 0.00101 | 0.00088 | 0.00080 | 0.001620 | 0.00089 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | *0.030* | *0.030* | *0.03000* | *0.03* | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.03* | *0.03* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.000050* | *0.000050* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.000050* | *0.00005* | *0.00005* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.0050* | *0.00500* | *0.005* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.27 | 6.49 | 7.77 | 6.55 | 7.26 | 7.79 | 8.02 | 6.29 | 6.51 | 6.39 | 7.26 | 7.33 | 6.35 | 6.53 | 6.56 | 7.38 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00160 | 0.00182 | 0.00092 | 0.001510 | 0.0016 | 0.0016 | 0.00233 | 0.00159 | 0.00185 | 0.001480 | 0.00151 | 0.000434 | 0.00138 | 0.00133 | 0.001470 | 0.00148 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.000511 | 0.000489 | 0.00069 | 0.000537 | 0.000628 | 0.000701 | 0.000744 | 0.000527 | 0.000545 | 0.000541 | 0.0006 | 0.000631 | 0.000549 | 0.000538 | 0.000509 | 0.000652 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | 0.00063 | 0.00061 | 0.00081 | 0.000660 | 0.0007 | 0.00064 | 0.00077 | 0.00060 | 0.00066 | 0.000650 | 0.0007 | 0.00079 | 0.00063 | 0.00062 | 0.000610 | 0.00069 |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | *0.30* | *0.30* | | | | | | *0.30* | *0.30* | | | *0.30* | *0.30* | *0.30* | 0.000000 | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | *2.0* | 0.941 | 0.706 | 0.778 | 0.883 | 0.885 | *2.0* | *2.0* | 0.690 | 0.771 | *2.0* | *2.0* | *2.0* | 0.673 | 0.804 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.622 | 0.625 | 0.80400 | 0.602000 | 0.65 | 0.66 | 0.68 | 0.612 | 0.618 | 0.589000 | 0.659 | 0.702 | 0.613 | 0.616 | 0.633000 | 0.651 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | *2.0* | *2.0* | 0.790 | 0.611 | 0.689 | 0.96 | 1.06 | *2.0* | *2.0* | 0.589 | 0.673 | *2.0* | *2.0* | *2.0* | 0.553 | 0.699 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00697 | 0.00664 | 0.00921 | 0.007040 | 0.00767 | 0.00811 | 0.00846 | 0.00689 | 0.00649 | 0.006710 | 0.00772 | 0.00826 | 0.00691 | 0.00667 | 0.006730 | 0.00795 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | 0.00138 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.000120 | *0.0001* | 0.00049 | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000550 | 0.000569 | 0.000743 | 0.000590 | 0.000759 | 0.00091 | 0.000914 | 0.000545 | 0.000549 | 0.000585 | 0.000764 | 0.000668 | 0.000546 | 0.000539 | 0.000564 | 0.000826 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.0010* | 0.0011 | 0.00180 | *0.001* | *0.001* | *0.003* | *0.003* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | *0.0010* | 0.0084 | 0.00330 | 0.0012 | 0.0025 | *0.003* | 0.0035 | 0.0038 | 0.0070 | 0.0014 | 0.0012 | 0.0011 | 0.0047 | 0.0027 | 0.0016 | 0.0011 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | 0.00020 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 0.00023 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 0.00021 | *0.00010* | *0.0001* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00463 | 0.00449 | 0.00639 | 0.00458 | 0.00502 | 0.00511 | 0.00494 | 0.00451 | 0.00430 | 0.00474 | 0.00512 | 0.00573 | 0.00452 | 0.00436 | 0.00479 | 0.00518 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.000017* | *0.000017* | *0.00001* | *0.0000* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.6 | 10.7 | 12.7 | 10.5 | 12.2 | 12.30 | 12.5 | 10.7 | 10.8 | 10.3 | 12.1 | 12.1 | 11.1 | 10.7 | 10.4 | 12.4 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.00094 | 0.00099 | 0.001200 | 0.00102 | 0.00094 | 0.00071 | 0.00073 | 0.00084 | 0.00090 | 0.00097 | 0.00094 | 0.00099 | 0.00094 | 0.00094 | 0.00089 | 0.00091 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.030* | *0.030* | *0.030* | *0.0300* | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.03* | *0.03* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | 0.000067 | *0.000050* | *0.00005* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.0001* | *0.00005* | *0.000050* | *0.000050* | *0.000050* | *0.0001* | *0.00005* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.24 | 6.50 | 7.85 | 6.66 | 7.42 | 7.54 | 7.84 | 6.28 | 6.44 | 6.53 | 7.39 | 7.47 | 6.32 | 6.49 | 6.52 | 7.48 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00122 | 0.00137 | 0.000144 | 0.00008 | 0.000141 | 0.00007 | *0.00005* | 0.00105 | 0.00144 | 0.000099 | 0.000111 | 0.000229 | 0.00118 | 0.00103 | 0.000153 | 0.000129 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.000527 | 0.000519 | 0.000699 | 0.000539 | 0.00063 | 0.000665 | 0.000697 | 0.000507 | 0.00301 | 0.000538 | 0.000647 | 0.000690 | 0.000528 | 0.000516 | 0.000534 | 0.000681 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | 0.00064 | 0.00080 | 0.000820 | 0.00063 | 0.00063 | 0.00061 | 0.00059 | 0.00064 | 0.00062 | 0.00061 | 0.00062 | 0.00078 | 0.00063 | 0.00062 | 0.00066 | 0.00067 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | *0.30* | *0.30* | | | | | | *0.30* | *0.30* | | | *0.30* | *0.30* | *0.30* | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | *2.0* | 0.937 | 0.695 | 0.755 | 0.864 | 0.881 | *2.0* | *2.0* | 0.716 | 0.769 | *2.0* | *2.0* | *2.0* | 0.711 | 0.792 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.618 | 0.605 | 0.802000 | 0.591 | 0.626 | 0.64 | 0.62 | 0.609 | 0.613 | 0.569 | 0.632 | 0.729 | 0.617 | 0.604 | 0.571 | 0.639 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | *2.0* | *2.0* | 0.785 | 0.704 | 0.655 | 0.93 | 1.08 | *2.0* | *2.0* | 0.711 | 0.677 | *2.0* | *2.0* | *2.0* | 0.664 | 0.687 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00745 | 0.00640 | 0.009060 | 0.00685 | 0.00769 | 0.00783 | 0.00788 | 0.00715 | 0.00645 | 0.0071 | 0.0077 | 0.00858 | 0.00707 | 0.00662 | 0.00699 | 0.00792 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | 0.002440 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | 0.00087 | *0.00010* | *0.00010* | *0.0001* | *0.0001* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | 0.000552 | 0.000561 | 0.000718 | 0.000567 | 0.000751 | 0.000864 | 0.000888 | 0.000545 | 0.000552 | 0.000588 | 0.000783 | 0.000693 | 0.000553 | 0.000539 | 0.000576 | 0.000778 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | 0.0029 | 0.0027 | 0.001500 | *0.0010* | 0.0012 | *0.003* | *0.003* | 0.0015 | *0.0010* | *0.001* | 0.0019 | 0.0010 | 0.0020 | *0.0010* | *0.001* | 0.0019 |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Sheardown Lake NW Basin (Bottom) | | | | | | | | | | | | | | | | | Stats | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DL0-01-5-D | DL0-01-5-D | DL0-01-5-D | DL0-01-5-B | DLO-01-5-B | DL0-01-5-D | DL0-01-5-D | DL0-01-7-D | DL0-01-7-D | DL0-01-7-B | DL0-01-7-B | DLO-01-7-B | DL0-01-7-D | DL0-01-7-D | D-LAKE-01 D | D-LAKE-02 D | D-LAKE-03 D | D-LAKE-05 D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 06-May-07 | 07-Aug-07 | 17-Sep-07 | 31-Jul-08 | 02-Sep-08 | 24-Jul-11 | 02-Sep-11 | 07-Aug-07 | 17-Sep-07 | 31-Jul-08 | 07-Aug-08 | 02-Sep-08 | 25-Jul-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | 05-Sep-11 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | - | - | | | 2.1 | 7.2 | 5.8 | 7.8 | 6.5 | 6.67 | 9.17 | 8.2 | 5.4 | 8.4 | 8.6 | 6.4 | 7.47 | 8.64 | 8.770 | 8.780 | 8.770 | 8.750 | 71 | 7.30 | 2.33 | 71 | 100% |
| Specific Conductance | mS/cm | - | - | - | | | 0.118 | 0.093 | 0.097 | 0.113 | 0.122 | 0.125 | 0.130 | 0.093 | 0.097 | 0.113 | 0.115 | 0.122 | 0.125 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 71 | 0.113 | 0.014 | 71 | 100% |
| Dissolved Oxygen | mg/L | - | - | - | | 9.5 | **2.74** | 11.78 | 11.40 | 11.49 | 13.67 | | | 11.25 | 11.40 | 11.23 | 11.30 | 13.52 | | | | | | | 51 | 12.11 | 2.57 | 51 | 100% |
| pH | - | - | - | - | | 6.5-9.0 | | | 8.20 | 7.30 | 7.36 | 7.76 | 7.94 | | 8.21 | 7.29 | 7.26 | 7.35 | 7.83 | 7.94 | 8.020 | 8.020 | 8.020 | 8.010 | 55 | 7.82 | 0.37 | 55 | 100% |
| Wetted Width | m | - | - | - | | | | | | | | | | | | | | | | | | | | | 0 | | | 0 | |
| Average Depth (m) | (m) | - | - | - | | | | | | | | | | | | | | | | | | | | | 4 | 7 | 8 | 4 | 100% |
| Flow Rate | m3/s | - | - | - | | | | | | | | | | | | | | | | | | | | | 0 | | | 0 | |
| Measured Depth (m) | (m) | - | - | - | | | 21.0 | 21.5 | 21.0 | | | | | 10.0 | 10.0 | | | | | | | | | | 26 | 7.8 | 8.3 | 26 | 100% |
| Total Depth - May Samples Only | m | - | - | - | | | 24.90 | | | | | | | | | | | | | | | | | | 6 | 18.73 | 7.29 | 6 | 100% |
| Ice Thickness -May Samples Only | m | - | - | - | | | 1.80 | | | | | | | | | | | | | | | | | | 6 | 1.90 | 0.15 | 6 | 100% |
| Airspace - May Samples Only | m | - | - | - | | | 0.05 | | | | | | | | | | | | | | | | | | 6 | 0.07 | 0.07 | 6 | 100% |
| Snow Depth - May Samples Only | m | - | - | - | | | 0.25 | | | | | | | | | | | | | | | | | | 6 | 0.12 | 0.10 | 6 | 100% |
| Water Depth | m | - | - | - | | | 23.05 | 22.5 | 25.4 | 23.8 | 21.2 | | | 10.8 | 10.6 | 11.9 | 12.0 | 11.6 | | | | | | | 47 | 15.86 | 6.53 | 47 | 100% |
| Turbidity | NTU | - | - | - | | | 303> | | | 1.5 | 7.3 | | | 0.15 | 0.29 | 1.2 | 3.5 | 7.5 | | | | | | | 41 | 2.95 | 4.10 | 41 | 100% |
| Secchi Disk Depth | m | - | - | - | | | | 8.25 | 8.8 | 5.9 | 5 | | | 8.25 | 7.4 | 3.3 | 6.0 | 5 | | | | | | | 45 | 6.51 | 1.60 | 45 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 6.73 | 8.15 | 8.05 | 7.81 | 7.86 | 7.11 | 6.91 | 8.19 | 8.01 | 7.85 | 7.91 | 7.87 | 7.34 | 6.94 | 6.980 | 6.970 | 6.960 | 6.970 | 73 | 7.583 | 0.522 | 73 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 115 | 103 | 110 | 105 | 118 | 125.00 | 130.00 | 110 | 109 | 103 | 107 | 118 | 129.00 | 130.00 | 130.000 | 130.000 | 129.000 | 130.000 | 73 | 115.822 | 10.914 | 73 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.2 | 0.2 | 0.6 | 0.5 | 2.8 | 0.30 | 0.20 | 0.3 | 0.3 | 1.5 | 0.6 | 0.7 | 0.40 | 0.40 | 0.400 | 0.200 | 0.300 | 0.500 | 73 | 0.759 | 2.149 | 73 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 57.2 | 52.2 | 53.8 | | 61.6 | 62.90 | 64.10 | 52.5 | 53.9 | 50.6 | | 61.3 | 62.90 | 60.70 | 64.100 | 62.400 | 66.700 | 65.000 | 64 | 58.392 | 5.426 | 64 | 100% |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | | | | | | | | | | | | | | | | | | | 4 | 64 | 4 | 4 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 75 | 67 | 72 | 68 | 77 | 81.00 | 84.00 | 72 | 71 | 67 | 70 | 77 | 84.00 | 84.00 | 84.000 | 84.000 | 84.000 | 84.000 | 69 | 75.957 | 6.558 | 69 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | *2* | *2* | *2* | *2* | 4 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2.000* | *2.000* | *2.000* | *2.000* | 69 | 3.058 | 5.731 | 68 | 99% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 60 | 50 | 54 | 52 | 56 | 62.00 | 64.00 | 53 | 53 | 50 | 52 | 55 | 63.00 | 64.00 | 64.000 | 66.000 | 65.000 | 64.000 | 73 | 56.973 | 5.776 | 73 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.250* | *0.250* | *0.250* | *0.250* | 73 | 0.223 | 0.069 | 73 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 2 | 1 | 2 | 2 | 2 | 3.00 | 3.00 | 1 | 2 | 2 | 2 | 2 | 3.00 | 3.00 | 4.000 | 3.000 | 3.000 | 3.000 | 73 | 2.219 | 0.854 | 55 | 75% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 2 | 3 | 3 | 1 | 1 | 3.00 | 4.00 | 3 | 3 | 1 | 1 | 1 | 4.00 | 4.00 | 4.000 | 4.000 | 4.000 | 4.000 | 73 | 2.342 | 1.238 | 55 | 75% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | *0.02* | 0.03 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | 0.02 | 0.02 | 0.03 | *0.02* | *0.02* | 0.08 | *0.02* | 0.030 | *0.020* | *0.020* | *0.020* | 72 | 0.026 | 0.016 | 72 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.0020* | *0.002* | 0.002 | *0.005* | *0.005* | *0.10* | *0.005* | *0.002* | *0.002* | *0.005* | *0.005* | *0.005* | *0.10* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 72 | 0.012 | 0.027 | 72 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.100* | *0.100* | *0.100* | *0.100* | 72 | 0.101 | 0.009 | 72 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.100* | *0.100* | *0.100* | *0.100* | 72 | 0.101 | 0.009 | 72 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | *0.003* | *0.003* | 0.003 | 0.005 | 0.045 | 0.004 | *0.003* | 0.003 | 0.007 | 0.005 | 0.006 | 0.005 | 0.003 | 0.004 | 0.006 | *0.003* | 0.003 | 0.004 | 72 | 0.006 | 0.011 | 72 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | 1.7 | 1.5 | 1.9 | 1.8 | 2 | 1.70 | 1.80 | 1.6 | 1.8 | 1.8 | 2.0 | 1.8 | 1.90 | 1.80 | 1.700 | 1.700 | 1.800 | 1.700 | 69 | 1.835 | 0.146 | 69 | 100% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.70 | 1.90 | 1.7 | 1.9 | 1.4 | 2.0 | 1.7 | 1.70 | 1.70 | 1.600 | 1.700 | 1.700 | 1.600 | 69 | 1.770 | 0.160 | 69 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | *0.05* | 0.13 | *0.10* | 0.16 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 0.17 | 0.33 | *0.10* | *0.10* | *0.100* | *0.100* | *0.100* | *0.100* | 69 | 0.139 | 0.073 | 69 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 73 | 0.001 | 0.000 | 73 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.0017 | 0.0032 | 0.0113 | 0.016400 | **0.39** | 0.01 | 0.0203 | 0.0036 | 0.0038 | 0.05470 | | 0.0134 | 0.0135 | 0.0116 | 0.015 | 0.012 | 0.013 | 0.015 | 72 | 0.016081 | 0.045472 | 72 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 68 | 0.000100 | 0.000000 | 68 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | 0.0001 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000150 | 0.000208 | 72 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00547 | 0.00453 | 0.00456 | 0.004710 | 0.00788 | 0.00528 | 0.00524 | 0.00441 | 0.00445 | 0.00505 | | 0.00516 | 0.00504 | 0.00494 | 0.005 | 0.005 | 0.005 | 0.005 | 72 | 0.005286 | 0.001273 | 72 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 68 | 0.000500 | 0.000000 | 68 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 68 | 0.000500 | 0.000000 | 68 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* | 0.01 | *0.01* | *0.010* | *0.010* | *0.01* | | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 72 | 0.010000 | 0.000000 | 72 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 72 | 0.000018 | 0.000020 | 72 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 11.3 | 10.6 | 10.8 | 10.5 | 11.5 | 12.40 | 12.80 | 10.7 | 10.8 | 10.5 | | 12 | 12.50 | 12.20 | 12.900 | 12.500 | 13.400 | 13.000 | 72 | 11.519 | 1.028 | 72 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.00050* | *0.00050* | *0.00050* | *0.0005* | 0.00128 | *0.0005* | *0.0005* | *0.00050* | 0.00152 | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 72 | 0.000553 | 0.000186 | 72 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | 0.00034 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000109 | 0.000036 | 72 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.00087 | 0.00086 | 0.00083 | 0.001530 | 0.00091 | 0.00081 | 0.00077 | 0.00083 | 0.00088 | 0.00066 | | 0.00086 | 0.00084 | 0.0008 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.000970 | 0.000303 | 72 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | *0.030* | *0.030* | *0.030* | *0.03* | **0.598** | *0.03* | *0.03* | *0.030* | 0.116 | 0.07900 | | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | 72 | 0.040000 | 0.067695 | 72 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.000050* | *0.000050* | *0.000050* | *0.00005* | 0.00059 | *0.00005* | *0.00005* | *0.000050* | *0.000050* | 0.00008 | | *0.00005* | *0.00005* | *0.00005* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000112 | 0.000226 | 72 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.005* | | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 68 | 0.005000 | 0.000000 | 68 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 7.04 | 6.22 | 6.49 | 6.57 | 7.23 | 7.74 | 7.81 | 6.35 | 6.48 | 6.40 | | 7.23 | 7.70 | 7.34 | 7.750 | 7.560 | 8.060 | 7.890 | 72 | 7.020 | 0.643 | 72 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00106 | 0.00135 | 0.00233 | 0.001520 | 0.0403 | 0.00157 | 0.00144 | 0.00134 | 0.00276 | 0.00227 | | 0.00151 | 0.00142 | 0.00114 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.002406 | 0.004960 | 72 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 72 | 0.000029 | 0.000026 | 72 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.000616 | 0.000529 | 0.000512 | 0.000508 | 0.000518 | 0.000705 | 0.000748 | 0.000502 | 0.000716 | 0.00034 | | 0.000639 | 0.000688 | 0.000666 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.000852 | 0.001017 | 72 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | 0.00078 | 0.00060 | 0.00064 | 0.000660 | 0.0021 | 0.00059 | 0.00063 | 0.00062 | 0.00148 | 0.00061 | | 0.0007 | 0.00065 | 0.00059 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.000936 | 0.001014 | 72 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | *0.30* | *0.30* | *0.30* | 0.00 | | | | *0.30* | *0.30* | 0.00000 | | | | | | | | | 29 | 0.268966 | 0.092980 | 29 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | *2.0* | *2.0* | 0.706 | 0.969 | 0.862 | 0.927 | *2.0* | *2.0* | 0.684 | | 0.772 | 0.867 | 0.84 | 0.890 | 0.837 | 0.908 | 0.872 | 72 | 1.238 | 0.582 | 72 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 72 | 0.001000 | 0.000000 | 72 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.865 | 0.625 | 0.627 | 0.624 | 1.43 | 0.66 | 0.64 | 0.607 | 0.614 | 0.79400 | | 0.648 | 0.62 | 0.59 | 0.640 | 0.600 | 0.650 | 0.650 | 68 | 0.656074 | 0.109834 | 68 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 72 | 0.000013 | 0.000022 | 72 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | *2.0* | *2.0* | *2.0* | 0.591 | 0.716 | 0.963 | 1.26 | *2.0* | *2.0* | 0.595 | | 0.684 | 0.944 | 1.02 | 1.100 | 1.050 | 1.120 | 1.060 | 72 | 1.228 | 0.619 | 72 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00791 | 0.00703 | 0.00661 | 0.006930 | 0.00801 | 0.0081 | 0.00837 | 0.00697 | 0.00655 | 0.00730 | | 0.00753 | 0.00799 | 0.00784 | 0.008 | 0.008 | 0.009 | 0.008 | 72 | 0.007581 | 0.000751 | 72 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 68 | 0.000246 | 0.001201 | 68 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | 0.00021 | *0.00010* | *0.00010* | *0.0001* | 0.00011 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000812 | 0.002327 | 72 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010* | *0.010* | *0.01* | 0.026 | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 68 | 0.010235 | 0.001940 | 68 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000598 | 0.000547 | 0.000558 | 0.000586 | 0.000981 | 0.000886 | 0.000924 | 0.000542 | 0.000558 | 0.00044 | | 0.000757 | 0.000893 | 0.000875 | 0.001 | 0.001 | 0.001 | 0.001 | 68 | 0.000706 | 0.000162 | 68 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.0010* | *0.0010* | *0.0010* | *0.001* | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 72 | 0.001000 | 0.000000 | 72 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.0010* | *0.0010* | 0.0015 | *0.001* | 0.0023 | *0.003* | *0.003* | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | 72 | 0.002182 | 0.002163 | 72 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.0013 | 0.0029 | 0.0117 | 0.0024 | 0.0014 | *0.003* | 0.009 | 0.0040 | 0.0031 | 0.0012 | | *0.001* | *0.003* | 0.0033 | 0.005 | 0.005 | 0.004 | *0.003* | 72 | 0.00325 | 0.00213 | 72 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | 0.00023 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 0.00020 | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 68 | 0.00012 | 0.00004 | 68 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.00015 | 0.00021 | 72 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00558 | 0.00460 | 0.00439 | 0.00471 | 0.00507 | 0.00512 | 0.00506 | 0.00451 | 0.00432 | 0.00468 | | 0.00511 | 0.00512 | 0.00513 | 0.005 | 0.005 | 0.006 | 0.006 | 72 | 0.00527 | 0.00126 | 72 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 68 | 0.00050 | 0.00000 | 68 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 68 | 0.00050 | 0.00000 | 68 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.010* | *0.010* | *0.010* | *0.01* | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01* | | *0.01* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 72 | 0.0100 | 0.0000 | 72 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.000017* | *0.000017* | *0.000017* | 0.000011 | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 72 | 0.000019 | 0.000023 | 72 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 11.3 | 10.5 | 10.8 | 10.5 | 12.5 | 12.40 | 12.50 | 10.7 | 10.8 | 10.1 | | 12.3 | 12.20 | 12.90 | 12.900 | 13.000 | 12.600 | 13.600 | 72 | 11.561 | 1.044 | 72 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.001* | *0.001* | *0.001* | 72 | 0.00053 | 0.00012 | 72 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.00011 | 0.00002 | 72 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.00092 | 0.00090 | 0.00092 | 0.00128 | 0.00085 | 0.00072 | 0.00071 | 0.00085 | 0.00083 | 0.00101 | | 0.00095 | 0.0007 | 0.00071 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.00088 | 0.00014 | 72 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.030* | *0.030* | *0.030* | *0.03* | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.03* | | *0.03* | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.030* | 72 | 0.0300 | 0.0000 | 72 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | 0.000057 | 0.000065 | *0.000050* | 0.00006 | *0.00005* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.0001* | | *0.00005* | *0.00005* | *0.00005* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000114 | 0.000228 | 72 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.005* | | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 68 | 0.0050 | 0.0000 | 68 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 7.04 | 6.27 | 6.53 | 6.54 | 7.41 | 7.48 | 7.64 | 6.27 | 6.54 | 6.16 | | 7.42 | 7.52 | 7.75 | 7.860 | 7.880 | 7.700 | 8.200 | 72 | 7.013 | 0.680 | 72 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.000670 | 0.00109 | 0.00237 | 0.000239 | 0.000106 | *0.00005* | *0.00005* | 0.00113 | 0.00117 | 0.000091 | | 0.000102 | *0.00005* | *0.00005* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 72 | 0.000984 | 0.002257 | 72 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 68 | 0.000025 | 0.000020 | 68 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.000648 | 0.000537 | 0.000507 | 0.000533 | 0.000638 | 0.000684 | 0.000725 | 0.000539 | 0.000515 | 0.00054 | | 0.000661 | 0.000678 | 0.000659 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.000884 | 0.001047 | 72 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | 0.00075 | 0.00061 | 0.00063 | 0.00068 | 0.00068 | 0.00064 | 0.00057 | 0.00068 | 0.00056 | 0.00062 | | 0.00064 | 0.0006 | 0.00063 | 0.001 | 0.001 | 0.001 | 0.001 | 72 | 0.00089 | 0.00101 | 72 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | | | | | | | | | | 26 | 0.30 | 0.00 | 26 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | *2.0* | *2.0* | *2.0* | 0.704 | 0.779 | 0.865 | 0.89 | *2.0* | *2.0* | 0.702 | | 0.771 | 0.88 | 0.888 | 0.895 | 0.886 | 1.050 | 1.110 | 72 | 1.232 | 0.596 | 72 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.001* | | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 72 | 0.0010 | 0.0000 | 72 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.860 | 0.620 | 0.624 | 0.571 | 0.636 | 0.64 | 0.61 | 0.604 | 0.612 | 0.558 | | 0.627 | 0.63 | 0.61 | 0.610 | 0.620 | 0.640 | 0.650 | 68 | 0.631191 | 0.057165 | 68 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 72 | 0.000013 | 0.000022 | 72 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | *2.0* | *2.0* | *2.0* | 0.69 | 0.686 | 0.967 | 1.22 | *2.0* | *2.0* | 0.73 | | 0.669 | 0.939 | 1.09 | 1.120 | 1.120 | 1.260 | 1.310 | 72 | 1.264 | 0.588 | 72 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Sheardown Lake SE Basin (Surface) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-1-S | DL0-02-3-S | DL0-02-3b-S | DL0-02-3(S) | DL0-02-3-S | DL0-02-3-S | DL0-02-4-S | DL0-02-4-S |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 01-Aug-06 | 06-Sep-06 | 08-May-07 | 07-Aug-07 | 13-Sep-07 | 31-Jul-08 | 02-Sep-08 | 25-Jul-11 | 07-Aug-07 | 13-Sep-07 | 11-May-08 | 31-Jul-08 | 02-Sep-08 | 07-Aug-07 | 13-Sep-07 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | | | 11.58 | 5.78 | 1.1 | 10.1 | 5.4 | 14.4 | 5.7 | 11.50 | 10.4 | 5.8 | | 13.9 | 5.5 | 10.7 | 5.9 |
| Specific Conductance | mS/cm | - | | - | | | 0.086 | 0.096 | 0.142 | 0.084 | 0.093 | 0.112 | 0.127 | 0.115 | 0.084 | 0.093 | | 0.111 | 0.127 | 0.084 | 0.093 |
| Dissolved Oxygen | mg/L | - | | - | | 9.5 | 10.18 | **9.44** | 18.74 | 10.84 | 12.72 | 10.05 | 13.62 | | 10.79 | 12.81 | | 10.26 | 13.65 | 10.86 | 12.28 |
| pH | - | - | | - | | 6.5-9.0 | 8.32 | 7.21 | | | 8.31 | 7.85 | 7.86 | 7.89 | | 8.25 | | 7.84 | 7.85 | | 7.92 |
| Wetted Width | m | - | | - | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | 1 | 1 | | | | | | | | | | | | | |
| Flow Rate | m3/s | - | | - | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | 1.0 | 1.0 | 1.0 | | | | 1.0 | 0.3 | | | | 1.0 | 1.0 |
| Total Depth - May Samples Only | m | | | - | | | | | 13.30 | | | | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | - | | | | | 1.90 | | | | | | | | | | | | |
| Airspace - May Samples Only | m | | | - | | | | | 0.10 | | | | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | - | | | | | 0.10 | | | | | | | | | | | | |
| Water Depth | m | | | - | | | | | 11.30 | 12 | 12.4 | 12.7 | 11.5 | | 13.7 | 1.8 | | 14.5 | 15 | 7.5 | 7.2 |
| Turbidity | NTU | | | - | | | | | 0 | 2.16 | 0.90 | 6.1 | 10.9 | | 1.65 | 0.80 | | 5.9 | 12.5 | 1.50 | 0.80 |
| Secchi Disk Depth | m | | | - | | | 2.0 | 1.08 | | 4.2 | 4.44 | 3.0 | 2.5 | | 4.0 | 1.80 | | 2.8 | 2.3 | 4.0 | 4.35 |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.05 | 7.01 | 7.06 | 8.20 | 7.87 | 7.87 | 7.87 | 7.45 | 8.14 | 7.82 | 7.97 | 7.86 | 7.88 | 8.08 | 7.90 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 89 | 101 | 155 | 97 | 105 | 103 | 122 | 123.00 | 93 | 105 | 146 | 102 | 123 | 92 | 105 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 1.7 | 3.2 | 0.5 | 0.6 | 0.6 | 1.6 | 1.7 | 0.50 | 0.7 | 0.6 | 0.3 | 1.8 | 2.2 | 0.5 | 0.5 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 43 | 22 | 74.1 | 46.8 | 51.4 | | 61.8 | 57.30 | 46.6 | 50.9 | 70.0 | | 62.5 | 46.3 | 51 |
| Total dissolved Solids (TDS) | mg/L | | | | 1 | | 58 | 66 | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | | | 101 | 63 | 68 | 67 | 79 | 80.00 | 61 | 68 | 95 | 66 | 80 | 60 | 68 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | | | *2* | 3 | *2* | *2* | 2 | *2* | *2* | *2* | *2* | 2 | 3 | 2 | 2 |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 44 | 50 | 77 | 46 | 49 | 50 | 55 | 61.00 | 44 | 49 | 70 | 49 | 55 | 44 | 49 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.05* | *0.05* | *0.05* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 2 | 2 | 3 | 2 | 2 | 3 | 4 | 3 | 2 | 2 | 4 | 2 | 5 | 2 | 3 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 3 | 2 | 3 | 1 | 1 | 3 | 4 | 3 | 1 | 3 | 1 | 3 | 3 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.03 | *0.02* | 0.04 | 0.04 | *0.02* | *0.02* | *0.02* | 0.03 | 0.04 | *0.02* | 0.10 | *0.02* | *0.02* | *0.02* | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | 0.009 | *0.002* | *0.002* | *0.002* | *0.005* | *0.005* | *0.10* | *0.002* | *0.002* | *0.005* | *0.005* | *0.005* | *0.002* | *0.002* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.01 | *0.01* | *0.003* | *0.003* | *0.003* | 0.004 | 0.005 | 0.003 | *0.003* | *0.003* | 0.004 | 0.007 | 0.004 | 0.003 | *0.003* |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.1 | 1.4 | 1.7 | 1.9 | 1.6 | 1.80 | 1.4 | 1.7 | 1.7 | 1.8 | 1.6 | 1.6 | 1.7 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | | | 2.0 | 1.6 | 1.5 | 1.8 | 1.5 | 1.60 | 1.5 | 1.7 | 1.7 | 1.7 | 1.5 | 1.4 | 1.7 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | | | *0.05* | 0.31 | 0.35 | 0.14 | 0.46 | *0.10* | 0.16 | *0.10* | 0.26 | 0.19 | 0.24 | *0.10* | *0.10* |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.062 | **0.116** | 0.0056 | 0.0361 | 0.0168 | **0.160** | 0.0639 | 0.0123 | 0.0301 | 0.0186 | 0.00350 | 0.05410 | 0.005 | 0.0271 | 0.0188 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00736 | 0.00432 | 0.00444 | 0.00589 | 0.00633 | 0.00461 | 0.00425 | 0.00455 | 0.00673 | 0.00493 | 0.006 | 0.00417 | 0.00457 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | *0.01* | *0.01* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 9 | 10 | 15.0 | 9.76 | 10.6 | 9.65 | 12.9 | 11.50 | 9.73 | 10.5 | 14.4 | 9.85 | 12.8 | 9.77 | 10.6 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | 0.00067 | *0.0005* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | *0.0008* | *0.00050* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | 0.00010 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | *0.001* | *0.001* | 0.00100 | 0.00075 | 0.00065 | 0.00142 | 0.001 | 0.00063 | 0.00068 | 0.00076 | **0.00205** | 0.00102 | 0.00076 | 0.00073 | 0.00066 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.06 | 0.11 | 0.052 | 0.056 | *0.030* | 0.22100 | 0.075 | *0.03* | 0.047 | *0.030* | *0.03000* | 0.06600 | 0.033 | 0.044 | 0.030 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.001* | *0.001* | 0.000286 | 0.000078 | *0.000050* | 0.00020 | 0.0001 | *0.00005* | *0.000050* | *0.000050* | 0.00017 | *0.00005* | *0.00005* | 0.000079 | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.00500* | *0.00500* | *0.005* | *0.0050* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 5 | 6 | 8.91 | 5.53 | 6.02 | 5.72 | 7.27 | 6.94 | 5.50 | 6.05 | 8.44 | 5.71 | 7.25 | 5.51 | 5.99 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00427 | 0.00553 | 0.00258 | 0.00437 | 0.0034 | 0.00498 | 0.00476 | 0.00284 | 0.00201 | 0.00062 | 0.000328 | 0.00495 | 0.00286 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.005* | *0.005* | 0.000487 | 0.000314 | 0.000340 | 0.00030 | 0.000755 | 0.000418 | 0.000334 | 0.000350 | 0.00051 | 0.00036 | 0.000466 | 0.000330 | 0.000330 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.005* | *0.005* | 0.00100 | 0.00051 | *0.00050* | 0.00078 | 0.00082 | *0.0005* | *0.00050* | 0.00051 | 0.00072 | *0.00050* | 0.00054 | 0.00069 | *0.00050* |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.003 | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | | | | *0.30* | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.61 | 0.70 | *2.0* | *2.0* | *2.0* | 0.668 | 0.784 | 0.761 | *2.0* | *2.0* | 1.03 | 0.651 | 0.752 | *2.0* | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.00100* | *0.00100* | *0.001* | *0.0010* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.954 | 0.554 | 0.538 | 0.98400 | 0.829 | 0.49 | 0.533 | 0.540 | 0.68900 | 0.82600 | 0.859 | 0.537 | 0.533 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.000010* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.48 | 0.58 | *2.0* | *2.0* | *2.0* | 0.692 | 0.874 | 0.913 | *2.0* | *2.0* | 0.984 | 0.699 | 0.89 | *2.0* | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.009 | 0.010 | 0.0126 | 0.00782 | 0.00804 | 0.00843 | 0.0117 | 0.00786 | 0.00780 | 0.00805 | 0.01300 | 0.00829 | 0.0128 | 0.00770 | 0.00802 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00258 | *0.00010* | *0.00010* | 0.00038 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.00258 | *0.00010* | *0.0001* | *0.00010* | *0.00010* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | 0.01500 | *0.01* | *0.01* | *0.010* | *0.010* | *0.01000* | *0.01000* | *0.01* | *0.010* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | | | 0.000760 | 0.000469 | 0.000506 | 0.000605 | 0.0009 | 0.000722 | 0.000455 | 0.000516 | 0.000746 | 0.000363 | 0.00067 | 0.000439 | 0.000515 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.00100* | *0.001000* | *0.001* | *0.0010* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.01* | *0.01* | *0.0010* | 0.0012 | *0.0010* | *0.001000* | *0.001* | *0.003* | *0.0010* | *0.0010* | 0.01310 | *0.001000* | *0.001* | 0.0012 | *0.0010* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | *0.005* | *0.005* | 0.0028 | 0.0239 | 0.0101 | 0.0055 | 0.003 | *0.003* | 0.0182 | 0.0107 | 0.00290 | 0.0077 | 0.0045 | 0.0190 | 0.0113 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | 0.00014 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | 0.00031 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | 0.00026 | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00723 | 0.00432 | 0.00448 | 0.00464 | 0.00558 | 0.00464 | 0.00423 | 0.00444 | 0.00685 | 0.00467 | 0.0057 | 0.00414 | 0.00448 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.0001* | *0.0001* | 0.000148 | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* | *0.00001* | *0.00001* | *0.000017* | *0.000017* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 9 | 4 | 15.0 | 9.70 | 10.5 | 9.61 | 12.8 | 11.30 | 9.68 | 10.5 | 14.2 | 9.41 | 13 | 9.58 | 10.5 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | *0.001* | *0.001* | 0.00090 | 0.00071 | 0.00082 | 0.00082 | 0.00084 | 0.00057 | 0.00071 | 0.00087 | 0.001350 | 0.00113 | 0.00077 | 0.00063 | 0.00081 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | *0.03* | *0.030* | 0.033 | *0.030* | *0.0300* | *0.03* | *0.03* | *0.030* | *0.030* | *0.030* | *0.0300* | *0.03* | *0.030* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.001* | *0.001* | *0.000050* | 0.000074 | *0.000050* | *0.0001* | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.00005* | *0.0001* | *0.00005* | *0.000050* | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | | | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.0050* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 5 | 3 | 8.91 | 5.49 | 6.09 | 5.63 | 7.27 | 6.79 | 5.44 | 5.97 | 8.39 | 5.49 | 7.28 | 5.43 | 6.01 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | *0.01* | *0.01* | 0.00239 | 0.00383 | 0.00192 | 0.0003 | 0.000321 | 0.000332 | 0.00329 | 0.00204 | 0.000891 | 0.000255 | 0.000244 | 0.00363 | 0.00217 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.00001* | *0.000050* | *0.000050* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.005* | *0.005* | 0.000504 | 0.000320 | 0.000340 | 0.000329 | 0.000464 | 0.000427 | 0.000345 | 0.000350 | 0.000488 | 0.000339 | 0.000412 | 0.000305 | 0.000347 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.005* | *0.005* | 0.00082 | 0.00065 | *0.00050* | *0.0005* | 0.00063 | *0.0005* | *0.00050* | *0.00050* | 0.000750 | *0.0005* | 0.0005 | *0.00050* | 0.00052 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | | *0.30* | *0.30* | *0.30* | | | | *0.30* | *0.30* | | | | *0.30* | *0.30* |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.61 | 0.68 | *2.0* | *2.0* | *2.0* | 0.583 | 0.723 | 0.745 | *2.0* | *2.0* | 1.00 | 0.617 | 0.707 | *2.0* | *2.0* |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | | | 0.940 | 0.515 | 0.514 | 0.555 | 0.685 | 0.47 | 0.501 | 0.510 | 0.647000 | 0.546 | 0.704 | 0.491 | 0.505 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.000010* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.48 | 0.58 | *2.0* | *2.0* | *2.0* | 0.73 | 0.796 | 0.889 | *2.0* | *2.0* | 0.975 | 0.785 | 0.843 | *2.0* | *2.0* |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.008 | 0.010 | 0.0126 | 0.00800 | 0.00802 | 0.00816 | 0.0113 | 0.00772 | 0.00797 | 0.00805 | 0.012900 | 0.00819 | 0.0123 | 0.00778 | 0.00807 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.01* | *0.01* | 0.00090 | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.002000 | *0.0001* | *0.0001* | *0.00010* | *0.00010* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | | | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | | | 0.000784 | 0.000473 | 0.000506 | 0.000531 | 0.000853 | 0.000696 | 0.000441 | 0.000520 | 0.000739 | 0.00052 | 0.000361 | 0.000441 | 0.000524 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | *0.01* | *0.01* | 0.0011 | 0.0013 | 0.0014 | *0.0010* | 0.0011 | *0.003* | 0.0014 | 0.0013 | 0.009900 | *0.0010* | *0.001* | 0.0019 | 0.0023 |

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Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Sheardown Lake SE Basin | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DL0-02-4-S | DLO-02-04a | DLO-02-04-S | DL0-02-6-S | DL0-02-1-D | DL0-02-1-D | DL0-02-1-D | DL0-02-1-D | DL0-02-1-D | DL0-02-1-B | DL0-02-1-B | DL0-02-1-B | DL0-02-1-D | DL0-02-3-D | DL0-02-3b-D | DL0-02-3(B) |
| | | | | | 31-Jul-08 | 07-Aug-08 | 02-Sep-08 | 08-May-07 | 01-Aug-06 | 06-Sep-06 | 08-May-07 | 07-Aug-07 | 13-Sep-07 | 31-Jul-08 | 07-Aug-08 | 02-Sep-08 | 25-Jul-11 | 07-Aug-07 | 13-Sep-07 | 11-May-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 9.1 | 14.1 | 5.5 | 1.3 | 8.48 | 5.77 | 2.2 | 9.8 | 5.5 | 8.9 | 8.5 | 5.7 | 9.26 | 9.2 | 5.8 | |
| Specific Conductance | mS/cm | - | | - | 0.101 | 0.111 | 0.127 | 0.141 | 0.086 | 0.096 | 0.158 | 0.088 | 0.093 | 0.105 | 0.112 | 0.127 | 0.115 | 0.083 | 0.093 | |
| Dissolved Oxygen | mg/L | - | | - | 10.99 | 10.41 | 14.52 | 17.95 | 9.73 | **9.13** | **0.12** | 10.62 | 12.52 | 10.95 | 9.78 | 13.64 | | **9.40** | 12.51 | |
| pH | - | - | | - | 6.76 | 7.99 | 7.88 | | 8.12 | **6.41** | | | 8.27 | 7.18 | 7.00 | 7.34 | 7.76 | | 8.24 | |
| Wetted Width | m | - | | - | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | 9.8 | 10 | | | | | | | | | | |
| Flow Rate | m3/s | - | | - | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | 1.0 | | | 10.0 | 11.5 | 11.4 | | | | | 13.0 | 0.8 | |
| Total Depth - May Samples Only | m | | | - | | | | 6.50 | | | 13.30 | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | - | | | | 1.80 | | | 1.90 | | | | | | | | | |
| Airspace - May Samples Only | m | | | - | | | | 0.10 | | | 0.10 | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | - | | | | 0.10 | | | 0.10 | | | | | | | | | |
| Water Depth | m | | | - | 8.4 | 8.6 | 9 | 4.60 | | | 11.30 | 12 | 12.4 | 12.8 | 12.7 | 11.5 | | 13.7 | 1.8 | |
| Turbidity | NTU | | | - | 11.4 | 6.3 | 11.8 | 0 | | | 0 | 2.20 | 0.80 | 14.5 | 12.0 | 11.2 | | 2.00 | 0.80 | |
| Secchi Disk Depth | m | | | - | 1.0 | 3.0 | 2.25 | | 2.0 | 1.08 | | 4.2 | 4.44 | 1.1 | 3.0 | 2.5 | | 4.0 | 1.80 | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | 7.78 | 7.85 | 7.9 | 7.05 | 7.02 | 6.96 | 6.97 | 8.23 | 7.90 | 7.8 | 7.76 | 7.89 | 7.19 | 8.10 | 7.80 | 7.94 |
| Conductivity | µS/cm | 5 | 5 | 5 | 95 | 102 | 124 | 157 | 89 | 100 | 157 | 101 | 105 | 100 | 102 | 123 | 117.00 | 92 | 105 | 141 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 3.5 | 1.6 | 2.2 | 0.4 | 1.7 | 3.1 | 0.8 | 0.7 | 0.5 | 4.3 | 2.5 | 2.5 | 2.20 | 0.6 | 0.5 | 0.4 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 46 | | 63.1 | 76.7 | 43 | 16 | 76.1 | 48.9 | 51.5 | 47.3 | | 61.9 | 57.20 | 45.9 | 51.2 | 68.6 |
| Total dissolved Solids (TDS) | mg/L | | | | | | | | 58 | 65 | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 62 | 66 | 81 | 102 | | | 102 | 66 | 68 | 65 | 66 | 80 | 76.00 | 60 | 68 | 92 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | *2* | 3 | *2* | | | *2* | 2 | *2* | 4 | 5 | *2* | *2* | 2 | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 44 | 49 | 55 | 77 | 44 | 49 | 77 | 48 | 50 | 46 | 49 | 56 | 59.00 | 44 | 49 | 68 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.2500* | *0.25* | *0.25* | *0.05* | *0.05* | *0.05* | *0.05* | *0.25* | *0.25* | *0.2500* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 3 | 2 | 5 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 4 | 3.00 | 2 | 2 | 3 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | 1 | 3 | 2 | *1* | 3 | 2 | 3 | 1 | 1 | 1 | 3 | 4 | 3 | 1 | 3 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | *0.0200* | *0.02* | *0.02* | *0.02* | 0.04 | *0.02* | *0.02* | *0.02* | 0.03 | *0.0200* | *0.02* | *0.02* | *0.02* | 0.05 | 0.03 | 0.02 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.0050* | *0.005* | *0.005* | *0.002* | 0.005 | 0.009 | *0.002* | 0.003 | 0.002 | *0.0050* | *0.005* | *0.005* | *0.10* | 0.002 | 0.002 | 0.005 |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.1* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.1* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.007 | 0.008 | *0.003* | *0.003* | 0.01 | *0.01* | *0.003* | 0.003 | *0.003* | 0.011 | 0.016 | 0.003 | 0.006 | 0.004 | *0.003* | 0.005 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 1.9 | 1.6 | 1.6 | 2.1 | | | 1.8 | 1.4 | 1.6 | 1.3 | 1.7 | 1.7 | 1.70 | 1.2 | 1.6 | 1.7 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 1.5 | 1.6 | 1.5 | 2.0 | | | 1.9 | 1.5 | 1.6 | 1.5 | 1.7 | 1.6 | 1.60 | 1.4 | 1.5 | 1.6 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | *0.10* | *0.1* | 0.43 | 0.06 | | | 0.13 | *0.10* | *0.10* | *0.10* | 0.12 | 0.27 | *0.10* | 0.17 | 0.10 | 0.20 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | **0.185000** | | 0.0874 | 0.0056 | 0.062 | **0.125** | 0.0085 | 0.0390 | 0.0188 | **0.17400** | | 0.0618 | 0.0195 | 0.0309 | 0.0221 | 0.00230 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.000100* | | *0.0001* | *0.00010* | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.000100* | | *0.0001* | *0.00010* | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.00010* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.005930 | | 0.00626 | 0.00728 | *0.01* | *0.01* | 0.00595 | 0.00446 | 0.00434 | 0.00608 | | 0.00619 | 0.0049 | 0.00425 | 0.00441 | 0.00632 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.000500* | | *0.0005* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.000500* | | *0.0005* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.00050* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | | *0.01* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.01000* | | *0.01* | *0.01* | *0.010* | *0.010* | *0.01000* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.000010* | | *0.00001* | *0.000017* | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 9.02 | | 12.2 | 15.4 | 9 | 11 | 15.3 | 10.1 | 10.7 | 9.80 | | 12.7 | 11.50 | 9.51 | 10.6 | 14.0 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.000510 | | *0.0005* | *0.00050* | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.00050* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.000100 | | *0.0001* | *0.00010* | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | 0.00011 | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | **0.002460** | | 0.00131 | 0.00100 | *0.001* | *0.001* | 0.00087 | 0.00076 | 0.00068 | **0.00325** | | 0.00093 | 0.00067 | 0.00070 | 0.00066 | 0.00100 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.203000 | | 0.092 | 0.054 | 0.07 | 0.12 | 0.093 | 0.064 | *0.030* | 0.24300 | | 0.073 | *0.03* | 0.057 | *0.030* | 0.03800 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.000230 | | 0.00011 | *0.000050* | *0.001* | *0.001* | *0.000050* | 0.000062 | *0.000050* | 0.00025 | | 0.00008 | *0.00005* | 0.000053 | *0.000050* | 0.00007 |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | | *0.005* | *0.0050* | | | *0.0050* | *0.0050* | *0.0050* | *0.00500* | | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.00500* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 5.46 | | 6.96 | 9.24 | 5 | 6 | 9.13 | 5.76 | 6.03 | 5.75 | | 7.31 | 6.90 | 5.40 | 5.93 | 8.15 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.005180 | | 0.00442 | 0.00488 | *0.01* | *0.01* | 0.0199 | 0.00648 | 0.00276 | 0.00508 | | 0.0033 | 0.00747 | 0.00662 | 0.00276 | 0.00289 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.000010* | | *0.00001* | *0.000050* | *0.0001* | *0.0001* | *0.000050* | *0.000050* | *0.000050* | *0.00001* | | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000324 | | 0.000437 | 0.000529 | *0.005* | *0.005* | 0.000406 | 0.000332 | 0.000349 | 0.00027 | | 0.000461 | 0.000425 | 0.000320 | 0.000351 | 0.000484 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.000850 | | 0.00079 | 0.00095 | *0.005* | *0.005* | 0.00090 | 0.00056 | *0.00050* | 0.00076 | | 0.00076 | 0.00051 | 0.00050 | *0.00050* | 0.00071 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | *0.30* | | | *0.30* | *0.30* | *0.30* | 0.00000 | | | | *0.30* | *0.30* | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.718 | | 0.773 | *2.0* | 0.63 | 0.68 | *2.0* | *2.0* | *2.0* | 0.668 | | 0.775 | 0.774 | *2.0* | *2.0* | 0.959 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | | *0.001* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.00100* | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.00100* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.873000 | | 0.844 | 0.949 | | | 1.61 | 0.563 | 0.543 | 0.92600 | | 0.833 | 0.52 | 0.565 | 0.539 | 0.64900 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.000010* | | *0.00001* | *0.000010* | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.727 | | 0.894 | *2.0* | 0.47 | 0.56 | *2.0* | *2.0* | *2.0* | 0.664 | | 0.843 | 0.916 | *2.0* | *2.0* | 0.932 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.008560 | | 0.0125 | 0.0127 | 0.008 | 0.010 | 0.0123 | 0.00799 | 0.00810 | 0.00865 | | 0.0116 | 0.00791 | 0.00774 | 0.00791 | 0.01240 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | | *0.0001* | *0.00010* | | | *0.00010* | *0.00010* | *0.00010* | *0.00010* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.00010* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.000340 | | *0.0001* | 0.00103 | *0.01* | *0.01* | 0.00173 | *0.00010* | *0.00010* | 0.00012 | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.00111 |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.013000 | | *0.01* | *0.010* | | | *0.010* | *0.010* | *0.010* | 0.01500 | | *0.01* | *0.01* | *0.010* | *0.010* | *0.01000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000604 | | 0.000873 | 0.000794 | | | 0.000623 | 0.000473 | 0.000517 | 0.000633 | | 0.000882 | 0.000721 | 0.000436 | 0.000515 | 0.000715 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | | *0.001* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001000* | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.00100* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.001500 | | 0.0018 | *0.0010* | *0.01* | *0.01* | *0.0010* | 0.0015 | *0.0010* | 0.001200 | | *0.001* | *0.003* | *0.0010* | *0.0010* | *0.00100* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0073 | | 0.0039 | 0.0026 | *0.005* | 0.005 | 0.0044 | 0.0235 | 0.0124 | 0.0069 | | 0.0034 | *0.003* | 0.0191 | 0.0131 | 0.0010 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | | *0.0001* | *0.00010* | | | *0.00010* | 0.00024 | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | 0.00032 | *0.00010* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | | *0.0001* | *0.00010* | *0.001* | *0.001* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00458 | | 0.00572 | 0.00723 | *0.01* | *0.01* | 0.00586 | 0.00450 | 0.00444 | 0.00484 | | 0.00555 | 0.00463 | 0.00426 | 0.00443 | 0.00641 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | | *0.0005* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | | *0.0005* | *0.00050* | | | *0.00050* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.0100* | | *0.01* | *0.010* | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* | *0.0100* | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | | *0.00001* | *0.000017* | *0.0001* | *0.0001* | *0.000017* | *0.000017* | *0.000017* | *0.00001* | | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 9.33 | | 13.3 | 15.4 | 9 | 3 | 15.4 | 10.1 | 10.6 | 9.69 | | 12.7 | 11.30 | 9.48 | 10.5 | 14.0 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005* | | *0.0005* | *0.00050* | *0.001* | *0.001* | *0.00050* | *0.00050* | *0.00050* | *0.0005* | | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001* | | *0.0001* | *0.00010* | *0.0002* | *0.0002* | *0.00010* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00095 | | 0.00082 | 0.00093 | *0.001* | *0.001* | 0.00078 | 0.00074 | 0.00088 | 0.00088 | | 0.00077 | 0.00055 | 0.00074 | 0.00080 | 0.001030 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.0300* | | *0.03* | *0.030* | *0.03* | *0.03* | 0.065 | 0.039 | *0.030* | *0.0300* | | *0.03* | *0.03* | 0.034 | *0.030* | *0.030* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.0001* | | *0.00005* | *0.000050* | *0.001* | *0.001* | *0.000050* | *0.000050* | *0.000050* | *0.0001* | | *0.00005* | *0.00005* | *0.000050* | *0.000050* | *0.00005* |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.0050* | | *0.005* | *0.0050* | | | *0.0050* | *0.0050* | *0.0050* | *0.0050* | | *0.005* | *0.005* | *0.0050* | *0.0050* | *0.0050* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 5.52 | | 7.27 | 9.27 | 5 | 2 | 9.16 | 5.74 | 6.07 | 5.6 | | 7.32 | 6.78 | 5.40 | 6.04 | 8.16 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000222 | | 0.000275 | 0.00293 | *0.01* | *0.01* | 0.0144 | 0.00482 | 0.00208 | 0.000383 | | 0.000327 | 0.000073 | 0.00449 | 0.00204 | 0.000307 |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | | *0.00001* | *0.000050* | | | *0.000050* | *0.000050* | *0.000050* | *0.00001* | | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000331 | | 0.000411 | 0.000506 | *0.005* | *0.005* | 0.000379 | 0.000350 | 0.000351 | 0.000337 | | 0.000469 | 0.000421 | 0.000331 | 0.000337 | 0.000497 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005* | | 0.00057 | 0.00084 | *0.005* | *0.005* | 0.00083 | *0.00050* | *0.00050* | *0.0005* | | 0.00056 | *0.0005* | *0.00050* | *0.00050* | 0.000600 |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | | *0.30* | | | *0.30* | *0.30* | *0.30* | | | | | *0.30* | *0.30* | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.575 | | 0.709 | *2.0* | 0.63 | 0.71 | *2.0* | *2.0* | *2.0* | 0.618 | | 0.715 | 0.75 | *2.0* | *2.0* | 0.927 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | | *0.001* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.551 | | 0.703 | 0.933 | | | 1.55 | 0.540 | 0.519 | 0.571 | | 0.69 | 0.48 | 0.532 | 0.511 | 0.621000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | | *0.00001* | *0.000010* | *0.0001* | *0.0001* | *0.000010* | *0.000010* | *0.000010* | *0.00001* | | *0.00001* | *0.000001* | *0.000010* | *0.000010* | *0.00001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.664 | | 0.844 | *2.0* | 0.45 | 0.60 | *2.0* | *2.0* | *2.0* | 0.802 | | 0.79 | 0.889 | *2.0* | *2.0* | 0.908 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00777 | | 0.0122 | 0.0127 | 0.008 | 0.010 | 0.0121 | 0.00804 | 0.00794 | 0.00867 | | 0.0112 | 0.00779 | 0.00772 | 0.00789 | 0.012000 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.0001* | | *0.0001* | *0.00010* | | | *0.00010* | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.0001* | | *0.0001* | 0.00101 | *0.01* | *0.01* | 0.00117 | *0.00010* | *0.00010* | *0.0001* | | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.002110 |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.0100* | | *0.01* | *0.010* | | | *0.010* | *0.010* | *0.010* | *0.0100* | | *0.01* | *0.01* | *0.010* | *0.010* | *0.010* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000521 | | 0.000839 | 0.000788 | | | 0.000624 | 0.000475 | 0.000511 | 0.000581 | | 0.00084 | 0.000677 | 0.000432 | 0.000507 | 0.000712 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | | *0.001* | *0.0010* | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | | *0.001* | *0.001* | *0.0010* | *0.0010* | *0.0010* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.0010* | | *0.001* | 0.0010 | *0.01* | *0.01* | 0.0012 | *0.0010* | 0.0019 | *0.0010* | | 0.001 | *0.003* | 0.0014 | 0.0014 | *0.0010* |

I:\1\02\00181\30\A\Report\Report 5, Rev A - Aquatic Program Summary Report\Tables\[Table 3.7_LakeStats_Updated.xls]SL-SE

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Sheardown Lake SE Basin | | | | | | | Stats | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DL0-02-3-B | DLO-02-3-B | DL0-02-4-D | DL0-02-4-D | DL0-02-4-B | DLO-02-4-B | DL0-02-6-D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 31-Jul-08 | 02-Sep-08 | 07-Aug-07 | 13-Sep-07 | 30-Jul-08 | 02-Sep-08 | 08-May-07 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 8.5 | 5.5 | 10.1 | 6.0 | 9.6 | 5.5 | 1.6 | 36 | 7.60 | 3.42 | 36 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.106 | 0.126 | 0.084 | 0.093 | 0.106 | 0.127 | 0.143 | 36 | 0.107 | 0.020 | 36 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 10.23 | 13.69 | **5.40** | 12.28 | 10.72 | 13.68 | 15.96 | 34 | 11.48 | 3.26 | 34 | 100% |
| pH | - | - | | - | 7.03 | 7.31 | | 8.17 | 7.17 | 7.29 | | 26 | 7.66 | 0.53 | 26 | 100% |
| Wetted Width | m | - | | - | | | | | | | | 0 | | | 0 | |
| Average Depth (m) | (m) | - | | - | | | | | | | | 4 | 5.5 | 5.1 | 4 | 100% |
| Flow Rate | m3/s | - | | - | | | | | | | | 0 | | | 0 | |
| Measured Depth (m) | (m) | | | - | | | 7.0 | 6.2 | | | 4.0 | 16 | 4.5 | 4.7 | 16 | 100% |
| Total Depth - May Samples Only | m | | | - | | | | | | | 6.50 | 4 | 9.90 | 3.93 | 4 | 100% |
| Ice Thickness -May Samples Only | m | | | - | | | | | | | 1.80 | 4 | 1.85 | 0.06 | 4 | 100% |
| Airspace - May Samples Only | m | | | - | | | | | | | 0.10 | 4 | 0.10 | 0.00 | 4 | 100% |
| Snow Depth - May Samples Only | m | | | - | | | | | | | 0.10 | 4 | 0.10 | 0.00 | 4 | 100% |
| Water Depth | m | | | - | 14.5 | 15 | 7.5 | 7.2 | 8.6 | 9 | 4.60 | 30 | 10.16 | 3.70 | 30 | 100% |
| Turbidity | NTU | | | - | 13.7 | 12.6 | 2.80 | 0.90 | 10.6 | 11.9 | 0 | 30 | 5.62 | 5.31 | 30 | 100% |
| Secchi Disk Depth | m | | | - | 2.8 | 2.3 | 4.0 | 4.35 | 3.0 | 2.25 | | 30 | 2.85 | 1.12 | 26 | 87% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | 7.78 | 7.86 | 8.11 | 7.90 | 7.79 | 7.86 | 7.04 | 38 | 7.70 | 0.40 | 38 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 97 | 121 | 95 | 105 | 96 | 122 | 156 | 38 | 112.18 | 20.37 | 38 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 3.0 | 2.4 | 1.1 | 0.5 | 2.9 | 2.2 | 0.4 | 38 | 1.50 | 1.09 | 37 | 97% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | | 60.8 | 46.7 | 51 | | 61.2 | 75.8 | 32 | 54.14 | 13.83 | 32 | 100% |
| Total dissolved Solids (TDS) | mg/L | | | | | | | | | | | 4 | 62 | 4 | 4 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 63 | 79 | 62 | 68 | 62 | 79 | 101 | 34 | 74.24 | 13.33 | 34 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 5 | 2 | 2 | *2* | *2* | 2 | *2* | 34 | 2 | 1 | 31 | 91% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 46 | 54 | 43 | 49 | 45 | 54 | 78 | 38 | 53.29 | 10.37 | 38 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.05* | 38 | 0.21 | 0.08 | 38 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 3 | 5 | 2 | 2 | 3 | 5 | 1 | 38 | 3 | 1 | 25 | 66% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 3 | 1 | 38 | 2 | 1 | 22 | 58% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | 38 | 0.0261 | 0.0146 | 38 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.002* | *0.002* | *0.005* | *0.005* | *0.002* | 38 | 0.0090 | 0.0218 | 38 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 38 | 0.10 | 0.00 | 38 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 38 | 0.10 | 0.00 | 38 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.013 | 0.005 | 0.003 | *0.003* | 0.010 | 0.009 | *0.003* | 38 | 0.006 | 0.003 | 38 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 1.5 | 1.8 | 1.3 | 1.6 | 1.6 | 1.6 | 2.1 | 34 | 1.66 | 0.21 | 34 | 100% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 1.7 | 1.4 | 1.5 | 1.5 | 1.6 | 1.5 | 2.0 | 34 | 1.61 | 0.17 | 34 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.16 | 0.18 | 0.12 | *0.10* | 0.16 | 0.46 | 0.10 | 34 | 0.17 | 0.11 | 34 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 38 | 0.0010 | 0.0000 | 38 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | **0.164000** | 0.0714 | 0.0645 | 0.0204 | **0.171000** | 0.0825 | 0.0064 | 36 | 0.057000 | 0.055802 | 36 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.00010* | 32 | 0.000100 | 0.000000 | 32 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.00010* | 36 | 0.000200 | 0.000287 | 36 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.005840 | 0.00619 | 0.00483 | 0.00437 | 0.005920 | 0.0064 | 0.00731 | 36 | 0.005983 | 0.001733 | 36 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.00050* | 32 | 0.00050 | 0.00000 | 32 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | *0.0005* | *0.00050* | 32 | 0.00050 | 0.00000 | 32 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010* | *0.010* | *0.010000* | *0.01* | *0.010* | 36 | 0.010000 | 0.000000 | 36 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.000010* | *0.00001* | *0.000017* | *0.000017* | *0.000010* | *0.00001* | *0.000017* | 36 | 0.000023 | 0.000028 | 36 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.009290 | 12.7 | 9.81 | 10.4 | 9.11 | 12.2 | 15.4 | 36 | 11.014425 | 2.735666 | 36 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.00050* | *0.00050* | *0.000500* | 0.00079 | *0.00050* | 36 | 0.000577 | 0.000168 | 36 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.000100 | *0.0001* | *0.00010* | *0.00010* | 0.000110 | *0.0001* | *0.00010* | 36 | 0.000112 | 0.000032 | 36 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.001380 | 0.00092 | 0.00080 | 0.00073 | **0.002420** | 0.00134 | 0.00106 | 36 | 0.001085 | 0.000584 | 36 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.224000 | 0.091 | 0.126 | 0.030 | 0.208000 | 0.091 | 0.116 | 36 | 0.083250 | 0.062618 | 36 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.000200 | 0.0001 | 0.000114 | *0.000050* | 0.000270 | 0.00011 | *0.000050* | 36 | 0.000202 | 0.000295 | 36 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | *0.005* | *0.0050* | *0.0050* | *0.005000* | *0.005* | *0.0050* | 32 | 0.005000 | 0.000000 | 32 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.005550 | 7.14 | 5.47 | 6.02 | 5.41 | 6.95 | 9.23 | 36 | 6.363488 | 1.646996 | 36 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.004760 | 0.00414 | 0.0189 | 0.00288 | 0.005160 | 0.00443 | 0.00627 | 36 | 0.005605 | 0.004164 | 36 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.000010* | *0.00001* | *0.000050* | *0.000050* | *0.000010* | *0.00001* | *0.000050* | 36 | 0.000038 | 0.000029 | 36 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000288 | 0.000397 | 0.000306 | 0.000346 | 0.000295 | 0.000421 | 0.000509 | 36 | 0.000904 | 0.001472 | 36 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.000790 | 0.00073 | 0.00064 | 0.00053 | 0.000840 | 0.0008 | 0.00086 | 36 | 0.001154 | 0.001387 | 36 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | 0.000000 | | *0.30* | *0.30* | | | *0.30* | 18 | 0.266667 | 0.097014 | 18 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.000683 | 0.73 | *2.0* | *2.0* | 0.694 | 0.779 | *2.0* | 36 | 1.281575 | 0.667277 | 36 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.0010* | 36 | 0.001000 | 0.000000 | 36 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.979000 | 0.865 | 0.584 | 0.534 | 0.829000 | 0.835 | 0.956 | 32 | 0.745688 | 0.235172 | 32 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.000010* | *0.000010* | 0.000011 | *0.000010* | 36 | 0.000020 | 0.000029 | 36 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.000672 | 0.849 | *2.0* | *2.0* | 0.730 | 0.89 | *2.0* | 36 | 1.294102 | 0.662682 | 36 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.008280 | 0.0121 | 0.00835 | 0.00803 | 0.008630 | 0.0127 | 0.0127 | 36 | 0.009674 | 0.002050 | 36 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.000100* | *0.0001* | *0.00010* | 32 | 0.000100 | 0.000000 | 32 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.000220 | *0.0001* | *0.00010* | *0.00010* | 0.000420 | *0.0001* | 0.00052 | 36 | 0.001476 | 0.003122 | 36 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.015000 | *0.01* | *0.010* | *0.010* | 0.013000 | *0.01* | *0.010* | 32 | 0.010656 | 0.001599 | 32 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000596 | 0.000889 | 0.000518 | 0.000522 | 0.000615 | 0.000874 | 0.000774 | 32 | 0.000633 | 0.000155 | 32 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.0010* | *0.0010* | *0.001000* | *0.001* | *0.0010* | 36 | 0.001000 | 0.000000 | 36 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.001000* | *0.001* | 0.0014 | *0.0010* | 0.001800 | 0.0012 | *0.0010* | 36 | 0.002553 | 0.003354 | 36 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0078 | 0.0042 | 0.0317 | 0.0104 | 0.0086 | 0.0054 | 0.0028 | 36 | 0.0087 | 0.0072 | 36 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | 0.00025 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 32 | 0.00013 | 0.00007 | 32 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 36 | 0.00020 | 0.00029 | 36 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00465 | 0.00567 | 0.00447 | 0.00435 | 0.00467 | 0.00568 | 0.00733 | 36 | 0.00569 | 0.00180 | 36 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | 32 | 0.00050 | 0.00000 | 32 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | 32 | 0.00050 | 0.00000 | 32 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.0100* | *0.01* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | 36 | 0.0100 | 0.0000 | 36 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.000017* | *0.000017* | *0.0000* | *0.00001* | *0.000017* | 36 | 0.000027 | 0.000035 | 36 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 9.5 | 12.6 | 9.67 | 10.5 | 9.52 | 12.7 | 15.3 | 36 | 10.90 | 2.72 | 35 | 97% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | 36 | 0.00056 | 0.00016 | 36 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 36 | 0.00011 | 0.00003 | 36 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00088 | 0.00085 | 0.00070 | 0.00079 | 0.00107 | 0.00095 | 0.00092 | 36 | 0.00086 | 0.00016 | 36 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.0300* | *0.03* | 0.056 | *0.030* | *0.0300* | *0.03* | 0.041 | 36 | 0.0324 | 0.0074 | 36 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.0001* | *0.00005* | 0.000063 | *0.000050* | *0.0001* | *0.00005* | *0.000050* | 36 | 0.000157 | 0.000302 | 36 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.0050* | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.005* | *0.0050* | 32 | 0.0050 | 0.0000 | 32 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 5.56 | 7.1 | 5.47 | 6.01 | 5.59 | 7.17 | 9.14 | 36 | 6.32 | 1.57 | 35 | 97% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000287 | 0.000279 | 0.00842 | 0.00190 | 0.000302 | 0.00028 | 0.00423 | 36 | 0.003046 | 0.003723 | 36 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | *0.00001* | *0.000050* | *0.000050* | *0.00001* | *0.00001* | *0.000050* | 32 | 0.000030 | 0.000020 | 32 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00033 | 0.000405 | 0.000329 | 0.000342 | 0.000328 | 0.000402 | 0.000496 | 36 | 0.000898 | 0.001472 | 36 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005* | 0.00051 | 0.00052 | *0.00050* | *0.0005* | 0.00059 | 0.00082 | 36 | 0.001061 | 0.001416 | 36 | 100% |
| Phosphorus | mg/L | | 0.30 | 0.003 | | | *0.30* | *0.30* | | | *0.30* | 16 | 0.30 | 0.00 | 16 | 100% |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.601 | 0.69 | *2.0* | *2.0* | 0.598 | 0.705 | *2.0* | 36 | 1.275 | 0.663 | 36 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | 36 | 0.0010 | 0.0000 | 36 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.558 | 0.679 | 0.524 | 0.508 | 0.562 | 0.686 | 0.950 | 32 | 0.632844 | 0.212745 | 32 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | *0.000010* | *0.000010* | *0.0000* | *0.00001* | *0.000010* | 36 | 0.000020 | 0.000029 | 36 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.794 | 0.826 | *2.0* | *2.0* | 0.881 | 0.839 | *2.0* | 36 | 1.316 | 0.630 | 36 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00805 | 0.012 | 0.00827 | 0.00781 | 0.00813 | 0.0122 | 0.0126 | 36 | 0.009504 | 0.001998 | 36 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 32 | 0.00010 | 0.00000 | 32 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.00010* | *0.00010* | 0.00023 | *0.0001* | 0.00090 | 36 | 0.001412 | 0.003121 | 36 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.0100* | *0.01* | *0.010* | *0.010* | *0.0100* | *0.01* | *0.010* | 32 | 0.0100 | 0.0000 | 32 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000543 | 0.000843 | 0.000484 | 0.000505 | 0.000541 | 0.000852 | 0.000766 | 32 | 0.000607 | 0.000150 | 32 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.0010* | 36 | 0.0010 | 0.0000 | 36 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.0010* | *0.001* | 0.0017 | *0.0010* | *0.0010* | 0.0011 | 0.0010 | 36 | 0.0025 | 0.0031 | 36 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Method Detection Limit 2011 | Receiving Water Quality Guidelines 2011 | Sheardown Lake Nearshore SDL1 25-Jun-08 | SDL01-WQ 31-Jul-08 | SDL01-WQ 14-Sep-08 | SDL2 25-Jun-08 | SDL02-WQ 31-Jul-08 | SDL02-WQ 14-Sep-08 | SDL3 25-Jun-08 | SDL03-WQ 31-Jul-08 | SDL03-WQ 14-Sep-08 | DD-Hab 4-Stn 1-S 24-Jul-11 | DD-Hab 4-Stn 1-D 24-Jul-11 | DD-Hab 4-Stn 2 S 25-Jul-11 | DD-Hab 4-Stn 2 D 25-Jul-11 | DD-Hab 4-Stn 3 S 25-Jul-11 | DD-Hab 4-Stn 3 D 25-Jul-11 | DD-Hab 9-Stn 1-S 24-Jul-11 | DD-Hab 9-Stn 1-D 24-Jul-11 | DD-Hab 9-Stn 2-S 24-Jul-11 | DD-Hab 9-Stn 2-D 24-Jul-11 | DD-Hab 9-Stn 3-S 24-Jul-11 | DD-Hab 9-Stn 3-D 24-Jul-11 | SDL4 25-Jun-08 | SDL04-WQ 31-Jul-08 | SDL04-WQ 14-Sep-08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | | | 3.3 | | 4.7 | 5.7 | | 3.9 | 3.0 | | 4.2 | 9.57 | 8.03 | 8.61 | 10.61 | 8.44 | 10.61 | 8.65 | 7.30 | 8.60 | 7.33 | 8.79 | 7.24 | 2.0 | | 4.4 |
| Specific Conductance | mS/cm | - | | - | | | 0.102 | | 0.130 | 0.111 | | 0.151 | 0.094 | | 0.146 | 0.126 | 0.125 | 0.126 | 0.132 | 0.126 | 0.129 | 0.126 | 0.125 | 0.126 | 0.125 | 0.126 | 0.125 | 0.064 | | 0.135 |
| Dissolved Oxygen | mg/L | - | | - | | 9.5 | 14.30 | | 12.56 | 13.25 | | 12.87 | 14.35 | | 13.10 | | | | | | | | | | | | | 13.40 | | 12.77 |
| pH | - | - | | - | | 6.5-9.0 | 7.58 | | 7.97 | 7.55 | | 8.05 | 7.55 | | 7.79 | 7.86 | 7.86 | 7.88 | 7.89 | 7.88 | 7.92 | 7.84 | 7.81 | 7.83 | 7.84 | 7.87 | 7.86 | 7.67 | | 7.82 |
| Wetted Width | m | - | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flow Rate | m3/s | - | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Depth - May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Airspace - May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water Depth | m | | | - | | | 1.2 | | 1.2 | 1.2 | | 1.2 | 1.2 | | 1.2 | | | | | | | | | | | | | 1.2 | | 1.2 |
| Turbidity | NTU | | | - | | | | | 3.9 | | | | | | 4.8 | | | | | | | | | | | | | | | 3.8 |
| Secchi Disk Depth | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 7.89 | 7.79 | 7.54 | 7.89 | 8.01 | 7.77 | 7.86 | 7.85 | 7.76 | 7.17 | 7.17 | 7.31 | 7.27 | 7.29 | 7.31 | 7.24 | 7.20 | 7.17 | 7.22 | 7.18 | 7.15 | 7.61 | 7.85 | 7.63 |
| Conductivity | µS/cm | 5 | 5 | 5 | 5 | | 109 | 108 | 120 | 116 | 184 | 158 | 95 | 110 | 146 | 125.00 | 126.00 | 128.00 | 128.00 | 129.00 | 129.00 | 128.00 | 126.00 | 126.00 | 126.00 | 126.00 | 125.00 | 51 | 114 | 123 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.6 | 0.5 | 1 | 1.3 | 0.5 | 2.1 | 0.6 | 0.6 | 0.9 | 0.30 | 0.40 | 0.30 | 0.40 | 0.30 | 0.40 | 0.30 | 0.30 | 0.40 | 0.50 | 0.30 | 0.40 | 0.6 | 0.6 | 0.8 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 53.6 | | 62.8 | 56.9 | | 72.7 | 47.8 | | 77.5 | 61.40 | 64.60 | 63.30 | 62.40 | 64.20 | 62.40 | 63.40 | 57.40 | 63.60 | 63.70 | 64.30 | 63.60 | 26.6 | | 66.9 |
| | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 71 | 70 | 78 | 75 | 120 | 103 | 62 | 72 | 95 | 81.00 | 82.00 | 83.00 | 83.00 | 84.00 | 84.00 | 83.00 | 82.00 | 82.00 | 82.00 | 82.00 | 81.00 | 33 | 74 | 80 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | *2* | *2* | *2* | 3 | *2* | 3 | *2* | *2* | *2* | *2* | *2* | 3.00 | 23.00 | 42.00 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 53 | 53 | 58 | 49 | 83 | 70 | 46 | 54 | 66 | 63.00 | 62.00 | 64.00 | 62.00 | 63.00 | 62.00 | 63.00 | 62.00 | 62.00 | 64.00 | 62.00 | 61.00 | 28 | 56 | 58 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 1 | 2 | 3 | 5 | 7 | 6 | 1 | 2 | 5 | 4 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 4 | 4 | 3 | 4 | 3 | 3 | *1.00* | 5 | 2 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | *1* | 1 | 1 | *1.000* | 5 | 5 | *1* | 1 | 4 | 3 | 3.00 | 4.00 | 4.00 | 4.00 | 4.00 | 3 | 2 | 3 | 3 | 3 | 3 | *1.000* | 3 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.06 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | 0.03 | 0.03 | *0.02* | 0.04 | *0.02* | *0.02* | 0.02 | *0.02* | 0.02 | *0.02* | *0.02* |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | *0.005* | *0.005* | 0.007 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.005* | *0.005* | *0.005* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *<0.10* | *0.10* | *0.10* | *0.10* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.007 | 0.005 | 0.005 | 0.006 | 0.005 | 0.007 | 0.004 | 0.004 | 0.003 | 0.004 | 0.003 | 0.006 | 0.005 | 0.006 | 0.004 | *0.003* | *0.003* | *0.003* | 0.004 | 0.004 | 0.005 | 0.004 | 0.006 | 0.003 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | 1.8 | 1.9 | 1.9 | 3.0 | 2.8 | 2.1 | 1.7 | 1.9 | 2 | 1.80 | 1.90 | 1.60 | 1.90 | 1.90 | 2.00 | 2.00 | 1.90 | 1.80 | 1.90 | 1.80 | 1.80 | 1.1 | 2.1 | 1.9 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | 1.7 | 1.9 | 1.8 | 2.8 | 2.7 | 1.9 | 1.6 | 1.8 | 2 | 1.70 | 1.90 | 1.50 | 1.80 | 1.60 | 1.70 | 2.00 | 1.90 | 1.70 | 1.80 | 1.80 | 1.70 | 1.0 | 2.0 | 1.8 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | 0.21 | 0.16 | *0.10* | 0.24 | 0.19 | 0.18 | 0.17 | 0.17 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 0.21 | 0.20 | *0.10* |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.01420 | 0.0213 | 0.0175 | 0.06210 | 0.0158 | 0.0225 | 0.01320 | 0.0195 | 0.0167 | 0.0065 | 0.0060 | 0.0059 | 0.006 | 0.0046 | 0.0045 | 0.0058 | 0.0073 | **0.199** | 0.0268 | 0.0058 | 0.0057 | 0.01180 | 0.0132 | 0.0107 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00421 | 0.00519 | 0.00519 | 0.00587 | 0.00514 | 0.00632 | 0.00386 | 0.00504 | 0.00656 | 0.00494 | 0.00535 | 0.00516 | 0.00507 | 0.00543 | 0.00511 | 0.00514 | 0.00528 | 0.00523 | 0.00530 | 0.00528 | 0.00519 | 0.00218 | 0.00463 | 0.00527 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01* | 0.011 | *0.01* | *0.01* | *0.01* | 0.016 | 0.011 | *0.01* | 0.011 | *0.01* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | 0.000024 | *0.00001* | *0.00001* | 0.000022 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 0.000011 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.7 | 10.8 | 12.6 | 10.8 | 11.1 | 13.7 | 9.48 | 10.9 | 15.1 | 12.10 | 12.80 | 12.60 | 12.40 | 12.80 | 12.40 | 12.50 | 11.40 | 12.50 | 12.60 | 12.70 | 12.50 | 5.30 | 10.7 | 12.5 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 0.00064 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.00085 | 0.00098 | *0.002* | **0.00251** | 0.001 | *0.002* | 0.00091 | 0.00095 | *.002* | 0.00084 | 0.00084 | 0.00099 | 0.00082 | 0.00086 | 0.0009 | 0.00086 | 0.00115 | 0.00091 | 0.00089 | 0.00111 | 0.00084 | 0.00046 | 0.00094 | 0.00099 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.03700 | 0.031 | *.03* | 0.08100 | *.03* | *.033* | *.03* | *.03* | 0.033 | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | 0.05 | *.03* | *.03* | *.03000* | *.03* | *.03* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.00005* | *0.00005* | 0.00006 | 0.00011 | 0.00006 | 0.00006 | 0.00008 | 0.00008 | 0.0001 | *0.00005* | *0.00005* | 0.00007 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 0.00006 | *0.00005* | 0.00013 | 0.00006 | *0.00005* | *0.00005* | *0.00005* | *0.00005* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *.005* | *.005* | *.005* | *.00500* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.00500* | *.005* | *.005* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.52 | 6.69 | 8.21 | 7.24 | 7.07 | 8.77 | 5.80 | 6.89 | 10.3 | 7.57 | 7.91 | 7.72 | 7.62 | 7.82 | 7.63 | 7.80 | 7.03 | 7.85 | 7.82 | 7.90 | 7.85 | 3.18 | 6.68 | 7.73 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00133 | 0.0017 | 0.00171 | 0.00203 | 0.0015 | 0.00183 | 0.00129 | 0.00176 | 0.0019 | 0.0014 | 0.0015 | 0.00142 | 0.0013 | 0.00137 | 0.0013 | 0.0014 | 0.00227 | 0.00151 | 0.00182 | 0.00156 | 0.00154 | 0.000932 | 0.00138 | 0.00143 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | N/A - IS | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.000473 | 0.00061 | 0.000678 | 0.00901 | 0.000634 | 0.00938 | 0.000465 | 0.000617 | 0.00101 | 0.000684 | 0.000750 | 0.000716 | 0.000691 | 0.000677 | 0.000696 | 0.000721 | 0.000675 | 0.000721 | 0.000769 | 0.000754 | 0.000764 | 0.000264 | 0.00054 | 0.00067 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | 0.00058 | 0.00065 | 0.00081 | 0.00143 | 0.00065 | 0.00091 | 0.00059 | 0.00066 | 0.00098 | 0.00063 | 0.00066 | 0.00069 | 0.00067 | 0.00069 | 0.00069 | 0.00062 | 0.00070 | 0.00068 | 0.00075 | 0.00067 | 0.00065 | *0.00050* | 0.00071 | 0.00072 |
| Phosphorus | | | | | 0.003 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.663 | 0.787 | 1.08 | 1.13 | 0.794 | 0.956 | 0.621 | 0.774 | 1.33 | | | | | | | | | | | | | 0.345 | 0.731 | 0.821 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.00100* | *0.001* | *0.001* | | | | | | | | | | | | | *0.00100* | *0.001* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.63700 | 0.656 | 0.63 | 0.92600 | 0.663 | 0.816 | 0.56200 | 0.647 | 0.849 | | | | | | | | | | | | | 0.30800 | 0.604 | 0.648 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | | | | | | | | | | | | | *0.00001* | *0.00001* | *0.00001* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 0.556 | 0.605 | 9.62 | 0.506 | 0.629 | 1.07 | 0.572 | 0.623 | 11.2 | | | | | | | | | | | | | 0.277 | 0.69 | 0.796 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00673 | 0.00739 | 0.0146 | 0.00687 | 0.00739 | 0.00859 | 0.00619 | 0.00752 | 0.0164 | | | | | | | | | | | | | 0.00348 | 0.00708 | 0.0081 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | | | | | | | | | | | | | *0.00010* | *0.0001* | *0.0001* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | | | | | | | | | | | | | *0.00010* | *0.0001* | *0.0001* |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | | | | | | | | | | | | | *0.01000* | *0.01* | *0.01* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000511 | 0.000712 | 0.000797 | 0.000871 | 0.000752 | 0.00142 | 0.000491 | 0.000692 | 0.00154 | | | | | | | | | | | | | 0.000268 | 0.000607 | 0.000817 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001000* | *0.001* | *0.001* | | | | | | | | | | | | | *0.001000* | *0.001* | *0.001* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | 0.001000 | *0.001* | 0.0015 | 0.003600 | *0.001* | 0.0027 | 0.002200 | *0.0011* | 0.0025 | | | | | | | | | | | | | *0.001000* | *0.001* | *0.001* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.00180 | 0.0015 | 0.0017 | 0.00740 | 0.0013 | 0.0037 | 0.00520 | 0.0012 | 0.0037 | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | 0.0038 | *0.003* | *0.003* | *0.003* | *0.003* | 0.00230 | 0.0012 | 0.0022 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00419 | 0.00503 | 0.00538 | 0.00541 | 0.00496 | 0.00648 | 0.00377 | 0.00504 | 0.00669 | 0.00506 | 0.00504 | 0.00517 | 0.00517 | 0.00515 | 0.0051 | 0.00511 | 0.00625 | 0.00502 | 0.00499 | 0.00510 | 0.00503 | 0.00220 | 0.00454 | 0.00517 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.01* | *0.01* | *0.01000* | *0.0100* | *0.01* | *0.01000* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01000* | *0.0100* | *0.01* |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | 0.000021 | *0.00001* | *0.00001* | 0.000021 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 10.7 | 11.0 | 12.6 | 10.9 | 11.2 | 14.4 | 9.49 | 11.2 | 14.6 | 12.30 | 12.30 | 12.30 | 12.40 | 12.30 | 12.20 | 12.50 | 12.10 | 12.30 | 12.40 | 12.40 | 12.40 | 5.28 | 10.7 | 13 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.000500* | *0.00050* | *0.0005* | *0.000500* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.000100* | *0.00010* | *0.0001* | *0.000100* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.000890 | 0.001060 | 0.0012 | 0.000960 | 0.000930 | 0.00136 | 0.00109 | 0.001280 | 0.00139 | 0.00072 | 0.00072 | 0.00075 | 0.00074 | 0.00084 | 0.00071 | 0.00074 | 0.00108 | 0.00074 | 0.00072 | 0.00072 | 0.00072 | 0.00049 | 0.001100 | 0.00099 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.030000* | *0.030000* | *.03* | *0.030000* | *0.030000* | *.03* | *0.03000* | *0.030000* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* | *.03* |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.000050* | *0.000050* | *0.00005* | 0.000060 | *0.000050* | *0.00005* | 0.00020 | *0.000090* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 0.00007 | *0.000050* | *0.00005* |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.005000* | *0.005000* | *.005* | *0.005000* | *0.005000* | *.005* | *0.00500* | *0.005000* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *.005* | *0.00500* | *0.005000* | *.005* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 6.52 | 6.73 | 7.62 | 7.20 | 6.96 | 8.95 | 5.84 | 6.79 | 9.99 | 7.46 | 7.56 | 7.54 | 7.57 | 7.55 | 7.45 | 7.52 | 7.25 | 7.51 | 7.49 | 7.57 | 7.56 | 3.25 | 6.54 | 8.38 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.000340 | 0.000216 | 0.000209 | 0.000612 | 0.000283 | 0.000403 | 0.00050 | 0.000447 | 0.000496 | 0.000203 | 0.000124 | 0.000251 | 0.000142 | 0.000205 | 0.000113 | 0.000163 | 0.000572 | 0.000123 | *0.00005* | 0.000145 | 0.000067 | 0.00055 | 0.000214 | 0.00028 |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.000010* | *0.000010* | *0.00001* | *0.000010* | 0.000013 | *0.00001* | *0.00001* | 0.000015 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 0.000015 | *0.00001* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.000490 | 0.000648 | 0.000652 | 0.000928 | 0.000611 | 0.001 | 0.00046 | 0.000623 | 0.000998 | 0.000675 | 0.000687 | 0.000682 | 0.00068 | 0.000681 | 0.000665 | 0.000691 | 0.000673 | 0.000677 | 0.000688 | 0.000668 | 0.000639 | 0.00025 | 0.000555 | 0.000673 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | 0.000520 | 0.000600 | 0.00068 | 0.001390 | 0.000560 | 0.0008 | 0.00144 | 0.000800 | 0.00083 | 0.00055 | 0.00061 | 0.00058 | 0.00056 | 0.0006 | 0.00061 | 0.00058 | 0.00070 | 0.00060 | 0.00059 | 0.00065 | 0.00058 | *0.00050* | 0.000590 | 0.00066 |
| Phosphorus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.661 | 0.754 | 0.791 | 1.06 | 0.753 | 0.888 | 0.609 | 0.752 | 1.03 | 0.851 | 0.87 | 0.876 | 0.866 | 0.873 | 0.874 | 0.881 | 0.837 | 0.868 | 0.856 | 0.863 | 0.842 | 0.352 | 0.718 | 0.873 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001000* | *0.001000* | *0.001* | *0.001000* | *0.001000* | *0.001* | *0.00100* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.00100* | *0.001000* | *0.001* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.598000 | 0.593000 | 0.611 | 0.801000 | 0.622000 | 0.773 | 0.53400 | 0.603000 | 0.791 | 0.62 | 0.62 | 0.63 | 0.63 | 0.63 | 0.62 | 0.64 | 0.61 | 0.62 | 0.62 | 0.62 | 0.62 | 0.29400 | 0.570000 | 0.648 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.000010* | *0.000010* | *0.00001* | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | *0.000001*

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Sheardown Lake Nearshore SDL5 25-Jun-08 | SDL05-WQ 31-Jul-08 | SDL05-WQ 14-Sep-08 | SDL6 25-Jun-08 | SDL06-WQ 31-Jul-08 | SDL06-WQ 14-Sep-08 | Stats Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 2 | | 4.3 | | | 4.5 | 23 | 6.34 | 2.71 | 22 | 96% |
| Specific Conductance | mS/cm | - | | - | 0.08 | | 0.135 | 0.095 | | 0.130 | 24 | 0.120 | 0.020 | 24 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 13.85 | | 12.74 | 14.3 | | 11.68 | 12 | 13.26 | 0.82 | 12 | 100% |
| pH | - | - | | - | 7.48 | | 7.5 | 7.59 | | 7.39 | 24 | 7.76 | 0.18 | 24 | 100% |
| Wetted Width | m | - | | - | | | | | | | 0 | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | |
| Flow Rate | m3/s | - | | - | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | |
| Total Depth - May Samples Only | m | | | - | | | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | - | | | | | | | | | | | |
| Airspace - May Samples Only | m | | | - | | | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | - | | | | | | | | | | | |
| Water Depth | m | | | - | 1.2 | | 1.2 | 1.2 | | 1.2 | 12 | 1.2 | 0.0 | 12 | 100% |
| Turbidity | NTU | | | - | | | 3.7 | | | 2.9 | 5 | 3.8 | 0.7 | 5 | 100% |
| Secchi Disk Depth | m | | | - | | | | | | | | | | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | 7.88 | 7.84 | 7.68 | 7.89 | 7.86 | 7.67 | 30 | 7.57 | 0.30 | 30 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 78 | 109 | 123 | 97 | 114 | 121 | 30 | 119.93 | 22.80 | 30 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.6 | 0.5 | 0.9 | 0.5 | 0.4 | 0.8 | 30 | 0.60 | 0.37 | 30 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 38.3 | | 71 | 49.4 | | 63 | 24 | 60.03 | 10.82 | 24 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 51 | 71 | 80 | 63 | 74 | 79 | 30 | 78.00 | 14.86 | 30 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | 30 | 4.13 | 8.11 | 27 | 90% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 38 | 54 | 58 | 48 | 57 | 57 | 30 | 57.87 | 9.82 | 30 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 30 | 0.25 | 0.00 | 30 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | 3 | 30 | 3.07 | 1.51 | 19 | 63% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | *1* | 1 | 1 | *1.000* | 1 | 1 | 30 | 2.333 | 1.398 | 22 | 73% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.04 | *0.02* | *0.02* | *0.020* | *0.02* | *0.02* | 30 | 0.023 | 0.009 | 30 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 30 | 0.043 | 0.047 | 30 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 30 | 0.10 | 0.00 | 30 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 29 | 0.10 | 0.00 | 29 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | *0.003* | 0.005 | 0.004 | 0.003 | 0.005 | 0.004 | 30 | 0.004 | 0.001 | 30 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 1.50 | 1.9 | 1.9 | 1.80 | 2.0 | 1.9 | 30 | 1.92 | 0.33 | 29 | 97% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 1.50 | 2.0 | 1.8 | 1.80 | 2.1 | 1.8 | 30 | 1.84 | 0.32 | 30 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | *0.1* | 0.10 | *0.10* | 0.20 | 0.23 | *0.10* | 30 | 0.14 | 0.05 | 30 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 30 | 0.001 | 0.000 | 30 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.00920 | 0.0128 | 0.0108 | 0.01120 | 0.0158 | 0.0092 | 30 | 0.01971 | 0.03556 | 30 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | 0.00012 | *0.0001* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00303 | 0.00472 | 0.00528 | 0.00386 | 0.00528 | 0.00537 | 30 | 0.00498 | 0.00086 | 30 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | 30 | 0.01030 | 0.00112 | 30 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 30 | 0.00001 | 0.00000 | 30 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 7.37 | 10.8 | 12.4 | 9.51 | 10.8 | 12.6 | 30 | 11.55 | 1.87 | 30 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 30 | 0.00050 | 0.00003 | 30 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00067 | 0.0009 | 0.00098 | 0.00083 | 0.00101 | 0.00105 | 30 | 0.00108 | 0.00048 | 30 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03000* | *0.03* | *0.03* | *0.03000* | *0.03* | *0.03* | 30 | 0.03283 | 0.00988 | 30 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 30 | 0.00006 | 0.00002 | 30 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.005* | *0.005* | *0.00500* | *0.005* | *0.005* | 30 | 0.00500 | 0.00000 | 30 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 4.54 | 6.74 | 7.81 | 5.89 | 6.76 | 8.37 | 30 | 7.26 | 1.28 | 30 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00101 | 0.00141 | 0.00144 | 0.00123 | 0.00173 | 0.00141 | 30 | 0.00151 | 0.00028 | 30 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 29 | 0.00001 | 0.00000 | 29 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00034 | 0.000543 | 0.000646 | 0.00045 | 0.000533 | 0.000689 | 30 | 0.000654 | 0.000159 | 30 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | 0.0007 | 0.00068 | *0.00060* | 0.00076 | 0.00074 | 30 | 0.00071 | 0.00017 | 30 | 100% |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.470 | 0.727 | 0.823 | 0.604 | 0.737 | 0.858 | 18 | 0.792 | 0.232 | 18 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001* | *0.00100* | *0.001* | *0.001* | 18 | 0.00100 | 0.00000 | 18 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.42900 | 0.608 | 0.685 | 0.55300 | 0.631 | 0.673 | 18 | 0.64028 | 0.13962 | 18 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 18 | 0.00001 | 0.00000 | 18 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.421 | 0.627 | 0.77 | 0.569 | 0.713 | 1.68 | 18 | 1.774 | 3.167 | 18 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00488 | 0.00717 | 0.008 | 0.00627 | 0.00737 | 0.00863 | 18 | 0.00793 | 0.00303 | 18 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 18 | 0.00010 | 0.00000 | 18 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 18 | 0.00010 | 0.00000 | 18 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.01* | *0.01* | *0.01000* | *0.01* | *0.01* | 18 | 0.01000 | 0.00000 | 18 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000378 | 0.000503 | 0.000825 | 0.000490 | 0.000607 | 0.000836 | 18 | 0.000734 | 0.000319 | 18 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001* | *0.00100* | *0.001* | *0.001* | 18 | 0.001000 | 0.000000 | 18 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.00100 | 0.0012 | *0.001* | 0.00120 | *0.001* | *0.001* | 18 | 0.001444 | 0.000772 | 18 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | *0.00100* | 0.0012 | 0.0019 | 0.00120 | 0.001200 | 0.0027 | 30 | 0.00264 | 0.00135 | 30 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | 30 | 0.00010 | 0.00000 | 30 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00298 | 0.00463 | 0.00517 | 0.00384 | 0.004590 | 0.00514 | 30 | 0.00492 | 0.00089 | 30 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 30 | 0.00050 | 0.00000 | 30 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.0100* | *0.01* | *0.01000* | *0.0100* | *0.01* | 30 | 0.01000 | 0.00000 | 30 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 30 | 0.000011 | 0.000003 | 30 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 7.73 | 10.9 | 13.2 | 10.0 | 11.1 | 12.4 | 30 | 11.61 | 1.81 | 30 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.00050* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | 30 | 0.000500 | 0.000000 | 30 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.00010* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | 30 | 0.000100 | 0.000000 | 30 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00062 | 0.000960 | 0.001 | 0.00078 | 0.000940 | 0.00106 | 30 | 0.000880 | 0.000271 | 30 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03* | *0.03* | *0.03* | *0.03000* | *0.03000* | *0.03* | 30 | 0.030000 | 0.000000 | 30 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.000050* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 30 | 0.000057 | 0.000028 | 30 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.005000* | *0.005* | *0.00500* | *0.00500* | *0.005* | 30 | 0.005000 | 0.000000 | 30 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 4.60 | 6.55 | 9.23 | 5.94 | 6.63 | 7.79 | 30 | 7.18 | 1.26 | 30 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000453 | 0.000227 | 0.000258 | 0.00031 | 0.000206 | 0.00024 | 30 | 0.000280 | 0.000156 | 30 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | 0.000015 | *0.00001* | *0.00001* | 0.000014 | *0.00001* | 30 | 0.000011 | 0.000002 | 30 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00038 | 0.000555 | 0.000633 | 0.000481 | 0.000542 | 0.000659 | 30 | 0.000641 | 0.000154 | 30 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | 0.000590 | 0.00078 | *0.00050* | 0.000530 | 0.00069 | 30 | 0.000666 | 0.000220 | 30 | 100% |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.471 | 0.714 | 0.889 | 0.609 | 0.693 | 0.812 | 30 | 0.793 | 0.147 | 30 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001000* | *0.001* | *0.00100* | *0.00100* | *0.001* | 30 | 0.001000 | 0.000000 | 30 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.42000 | 0.567000 | 0.657 | 0.54600 | 0.573000 | 0.647 | 30 | 0.610933 | 0.093749 | 30 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000016 | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 30 | 0.000007 | 0.000005 | 30 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.388 | 0.644 | 3.07 | 0.496 | 0.641 | 0.888 | 30 | 1.050 | 0.803 | 30 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00479 | 0.007030 | 0.00934 | 0.00613 | 0.006870 | 0.00804 | 30 | 0.007563 | 0.001351 | 30 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | 30 | 0.000100 | 0.000000 | 30 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.00010* | *0.000100* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | 30 | 0.000100 | 0.000000 | 30 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.010000* | *0.01* | *0.01000* | *0.01000* | *0.01* | 30 | 0.010000 | 0.000000 | 30 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000378 | 0.000599 | 0.000827 | 0.000488 | 0.000584 | 0.000797 | 30 | 0.000788 | 0.000244 | 30 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001000* | *0.001* | *0.00100* | *0.00100* | *0.001* | 30 | 0.001000 | 0.000000 | 30 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.00140 | *0.001000* | *0.001* | *0.00100* | *0.00100* | 0.002 | 30 | 0.002247 | 0.001368 | 30 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Method Detection Limit | Receiving Water Quality Guidelines | Steensby Area Lakes | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lake ST3 | | | | | | | | | | | | | Lake ST6 | | | | | | | | |
| | | | | | | | NSC Lake 1-S Surface | NSC Lake 1-s Surface | NSC Lake 1-B Bottom | NSC Lake 1-b Bottom | ST3-S | ST3-S | ST3-D | ST3-D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects | NSC Lake 2-S Surface | NSC Lake 2-s Surface | NSC Lake 2-B Bottom | NSC Lake 2-b Bottom | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 2011 | 2011 | 29-Jul-08 | 02-Sep-08 | 29-Jul-08 | 02-Sep-08 | 29-Jul-11 | 27-Aug-11 | 29-Jul-11 | 27-Aug-11 | | | | | | 29-Jul-08 | 01-Sep-08 | 29-Jul-08 | 01-Sep-08 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | | | 10.32 | 6.68 | 10.32 | 6.61 | 12.82 | 10.03 | 12.77 | 10.02 | 8 | 9.95 | 2.34 | 8 | 100% | 10.34 | 6.93 | 10.32 | 6.94 | 4 | 8.63 | 1.96 | 4 | 100% |
| Specific Conductance | mS/cm | - | | - | | | 0.23 | 0.25 | 0.23 | 0.25 | 0.318 | 0.301 | 0.318 | 0.301 | 8 | 0.27 | 0.04 | 8 | 100% | 0.11 | 0.16 | 0.11 | 0.16 | 4 | 0.14 | 0.03 | 4 | 100% |
| Dissolved Oxygen | mg/L | - | | - | | 9.5 | 11.72 | 12.35 | 11.7 | 12.41 | | | | | 4 | 12.05 | 0.39 | 4 | 100% | 11.96 | 13.85 | 11.9 | 13.84 | 4 | 12.89 | 1.11 | 4 | 100% |
| pH | - | - | | - | | 6.5-9.0 | 7.94 | 7.06 | 8.03 | 7.45 | 8.30 | 8.11 | 8.31 | 8.11 | 8 | 7.91 | 0.44 | 8 | 100% | 7.22 | 6.67 | 7.41 | 6.78 | 4 | 7.02 | 0.35 | 4 | 100% |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| e Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| Water Depth | m | | | - | | | 5.2 | 5 | 5.2 | 5 | | | | | 4 | 5.1 | 0.1 | 4 | 100% | 3.7 | 3 | 3.7 | 3 | 4 | 3.4 | 0.4 | 2 | 50% |
| Turbidity | NTU | | | - | | | 1 | 4 | 1 | 4 | | | | | 4 | 3 | 2 | 4 | 100% | 2 | 15 | 1 | 13 | 4 | 8 | 7 | 4 | 100% |
| Secchi Disk Depth | m | | | - | | | 4.5 | 3.5 | 4.5 | 3.5 | | | | | 4 | 4.0 | 0.8 | 4 | 100% | 3.7 | 1.35 | 3.7 | 1.35 | 4 | 2.53 | 1.38 | 4 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | | - | | 1 | | 6.5-9.0 | 7.99 | 7.93 | 7.99 | 7.92 | 7.4 | 7.31 | 7.32 | 7.27 | 8 | 7.64 | 0.34 | 8 | 100% | 7.71 | 7.64 | 7.72 | 7.6 | 4 | 7.67 | 0.08 | 4 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | | | 213 | 228 | 213 | 228 | 285 | 294 | 285 | 293 | 8 | 255 | 37 | 8 | 100% | 99 | 135 | 99 | 136 | 4 | 117 | 21 | 4 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.8 | 1.2 | 0.7 | 1.1 | 0.5 | 0.9 | 0.5 | 0.5 | 8 | 0.8 | 0.3 | 8 | 100% | 1.5 | 4.7 | 1.2 | 4.6 | 4 | 3.0 | 1.9 | 4 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 76.1 | 84.7 | 76.3 | 84 | 97.1 | 97.1 | 95.3 | 98.9 | 8 | 88.7 | 9.6 | 8 | 100% | 35.1 | 45.6 | 35.1 | 45.7 | 4 | 40.4 | 6.1 | 4 | 100% |
| | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 138 | 148 | 138 | 148 | 185 | 191 | 185 | 190 | 8 | 165 | 24 | 8 | 100% | 64 | 88 | 84 | 88 | 4 | 76 | 14 | 4 | 100% |
| al Suspended Solids (T | mg/L | | 2 | 2 | 2 | | *2.00* | *2* | *2.00* | *2* | 2 | *2* | 2 | *2* | 8 | 2.00 | 0.00 | 8 | 100% | *2.00* | 3 | *2.00* | 3 | 4 | 2.50 | 0.58 | 2 | 50% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | 69 | 70 | 71 | 70 | 80 | 81 | 80 | 81 | 8 | 75 | 6 | 8 | 100% | 33 | 39 | 33 | 39 | 4 | 36 | 3 | 4 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 8 | 0.25 | 0.00 | 8 | 100% | *0.25* | *0.25* | *0.25* | *0.25* | 4 | 0.25 | 0.00 | 4 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 22 | 24 | 22 | 24 | 39 | 42 | 39 | 42 | 8 | 32 | 9 | 8 | 100% | 8 | 13 | 8 | 13 | 4 | 11 | 3 | 4 | 100% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 4 | 6 | 4 | 6 | 6 | 6 | 6 | 6 | 8 | 6 | 1 | 8 | 100% | 4 | 8 | 5 | 8 | 4 | 6 | 2 | 4 | 100% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | 0.06 | 0.05 | 0.04 | 0.03 | 0.03 | 0.03 | 0.05 | *0.02* | 8 | 0.04 | 0.01 | 8 | 100% | 0.05 | *0.02* | 0.04 | 0.03 | 4 | 0.04 | 0.01 | 4 | 100% |
| Nitrite ($NO_2$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.01* | *0.005* | *0.01* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005 | 0.000 | 8 | 100% | *0.01* | *0.005* | *0.01* | *0.005* | 4 | 0.005 | 0.000 | 4 | 100% |
| Nitrate ($NO_3$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.10* | *0.1* | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% | *0.10* | *0.1* | *0.10* | *0.1* | 4 | 0.10 | 0.00 | 4 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.10* | *0.1* | *0.10* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% | *0.10* | *0.1* | *0.10* | *0.1* | 4 | 0.10 | 0.00 | 4 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.004 | 0.007 | 0.007 | 0.006 | 0.006 | 0.01 | 0.005 | 0.006 | 8 | 0.006 | 0.002 | 8 | 100% | 0.008 | 0.012 | 0.006 | 0.012 | 4 | 0.010 | 0.003 | 4 | 100% |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TO | mg/L | | 0.5 | 0.5 | 0.5 | | 5.0 | 5.1 | 4.9 | 5 | 5.3 | 4.9 | 5 | 4 | 8 | 4.9 | 0.4 | 8 | 100% | 3.5 | 3.1 | 3.5 | 3.3 | 4 | 3.4 | 0.2 | 4 | 100% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 0.5 | | 4.4 | 4.7 | 4.4 | 4.6 | 4.9 | 2.5 | 4.6 | 1.4 | 8 | 3.9 | 1.3 | 8 | 100% | 3.0 | 2.7 | 2.7 | 3 | 4 | 2.9 | 0.2 | 2 | 50% |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.1 | | 0.37 | 0.25 | 0.30 | 0.21 | 0.31 | 0.28 | 0.2 | 0.22 | 8 | 0.27 | 0.06 | 8 | 100% | 0.24 | 0.2 | 0.33 | 0.28 | 4 | 0.26 | 0.06 | 4 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.001* | *0.001* | *0.002* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001 | 0.000 | 8 | 100% | *0.001* | *0.001* | *0.001* | *0.001* | 4 | 0.001 | 0.000 | 4 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminum | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | 0.0076 | 0.0259 | 0.0064 | 0.0247 | 0.0051 | 0.0053 | 0.0052 | 0.0041 | 8 | 0.0105 | 0.0092 | 8 | 100% | 0.0392 | **0.137** | 0.0438 | **0.206** | 4 | 0.1065 | 0.0802 | 4 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | 0.00015 | 0.00022 | 0.00016 | 0.00022 | 0.00024 | 0.00015 | 0.00023 | 0.00018 | 8 | 0.00019 | 0.00004 | 8 | 100% | *0.00010* | 0.00013 | 0.00023 | 0.00012 | 4 | 0.00015 | 0.00006 | 4 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00502 | 0.00511 | 0.00493 | 0.00515 | 0.00585 | 0.00563 | 0.00578 | 0.00567 | 8 | 0.00539 | 0.00037 | 8 | 100% | 0.00271 | 0.00496 | 0.00279 | 0.00552 | 4 | 0.00400 | 0.00146 | 4 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.0005* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | 0.012 | 0.011 | 0.012 | 0.012 | 0.021 | 0.02 | 0.018 | 0.019 | 8 | 0.016 | 0.004 | 8 | 100% | *0.01* | *0.01* | 0.01 | 0.011 | 4 | 0.01 | 0.00 | 4 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | 0.00001 | *0.00001* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 23.3 | 25.7 | 23.4 | 25.8 | 29.7 | 29.5 | 29.1 | 30 | 8 | 27.1 | 2.8 | 8 | 100% | 10.5 | 14.5 | 10 | 13.8 | 4 | 12.2 | 2.3 | 4 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | 0.00012 | 4 | 0.00011 | 0.00001 | 4 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.0004 | 0.00052 | 0.0004 | 0.00056 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.00049 | 0.00008 | 8 | 100% | 0.00082 | 0.00133 | *0.00090* | 0.00163 | 4 | 0.00117 | 0.00038 | 4 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.095 | 0.094 | 0.093 | 0.095 | 0.08 | 0.1 | 0.07 | 0.1 | 8 | 0.091 | 0.010 | 8 | 100% | 0.101 | 0.229 | 0.104 | 0.241 | 4 | 0.169 | 0.077 | 4 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 8 | 0.00005 | 0.00000 | 8 | 100% | *0.00005* | 0.00016 | 0.00015 | *0.0002* | 4 | 0.00014 | 0.00006 | 4 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.00500* | *0.005* | *0.005* | *0.005* | 0.005 | 0.005 | 0.005 | 0.005 | 8 | 0.00500 | 0.00000 | 8 | 100% | *0.00500* | *0.005* | *0.00500* | *0.005* | 4 | 0.00500 | 0.00000 | 4 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 4.3 | 4.56 | 4.33 | 4.59 | 5.54 | 5.68 | 5.47 | 5.8 | 8 | 5.03 | 0.64 | 8 | 100% | 2.13 | 2.89 | 2.05 | 2.85 | 4 | 2.48 | 0.45 | 4 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00418 | 0.00289 | 0.00405 | 0.003 | 0.00438 | 0.0056 | 0.00431 | 0.00546 | 8 | 0.00423 | 0.00098 | 8 | 100% | 0.00197 | 0.00373 | 0.00235 | 0.0046 | 4 | 0.00316 | 0.00122 | 4 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | *0.00001* | *0.00002* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | 0.000269 | 0.000301 | 0.000201 | 0.000331 | 0.000222 | 0.000279 | 0.00023 | 0.000253 | 8 | 0.000253 | 0.000047 | 8 | 100% | 0.000382 | 0.000982 | 0.000421 | 0.00104 | 4 | 0.000706 | 0.000353 | 4 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Phosphorus | | | | | 0.003 | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 1.06 | 1.11 | 1.08 | 1.11 | 1.41 | 1.41 | 1.39 | 1.4 | 8 | 1.25 | 0.17 | 8 | 100% | 0.588 | 0.828 | 0.636 | 0.937 | 4 | 0.747 | 0.164 | 4 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% | *0.00100* | *0.001* | *0.00100* | *0.001* | 4 | 0.00100 | 0.00000 | 4 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.803 | 1.02 | 0.792 | 1.02 | 0.83 | 1.12 | 0.81 | 1.14 | 8 | 0.942 | 0.149 | 8 | 100% | 0.318 | 1.01 | 0.283 | 0.919 | 4 | 0.633 | 0.385 | 4 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | *0.00001* | *0.00002* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 11.8 | 12.2 | 11.8 | 12.3 | 17.4 | 19.3 | 17.6 | 18.7 | 8 | 15.1 | 3.4 | 8 | 100% | 5 | 7.74 | 5.59 | 8.93 | 4 | 6.82 | 1.84 | 4 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.0659 | 0.0638 | 0.0646 | 0.0621 | 0.0788 | 0.0871 | 0.0772 | 0.0861 | 8 | 0.0732 | 0.0103 | 8 | 100% | 0.0264 | 0.0334 | 0.0276 | 0.0347 | 4 | 0.0305 | 0.0041 | 4 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.01000* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.01000 | 0.00000 | 8 | 100% | *0.01000* | 0.015 | *0.01000* | 0.015 | 4 | 0.01250 | 0.00289 | 4 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000233 | 0.000424 | 0.000228 | 0.000433 | 0.000301 | 0.000301 | 0.000301 | 0.000289 | 8 | 0.000314 | 0.000077 | 8 | 100% | 0.000267 | 0.000539 | 0.00028 | 0.000578 | 4 | 0.000416 | 0.000165 | 4 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% | *0.00100* | *0.001* | *0.00100* | *0.001* | 4 | 0.00100 | 0.00000 | 4 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.00200 | 0.00107 | 8 | 100% | *0.00100* | *0.001* | *0.00200* | *0.002* | 4 | 0.00150 | 0.00058 | 4 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminum | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.00320 | 0.0039 | 0.00300 | 0.0033 | *0.0030* | *0.0030* | *0.0030* | *0.0030* | 8 | 0.00318 | 0.00032 | 8 | 100% | 0.01390 | 0.0149 | 0.01290 | 0.0158 | 4 | 0.01438 | 0.00125 | 4 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.00015 | 0.00021 | 0.00017 | 0.0002 | 0.00018 | 0.00018 | 0.00017 | 0.00018 | 8 | 0.00018 | 0.00002 | 8 | 100% | 0.00010 | 0.00011 | *0.00010* | 0.0001 | 4 | 0.00010 | 0.00001 | 4 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00496 | 0.00504 | 0.00492 | 0.00495 | 0.00488 | 0.00556 | 0.00493 | 0.00557 | 8 | 0.00510 | 0.00029 | 8 | 100% | 0.00259 | 0.00332 | 0.00255 | 0.00331 | 4 | 0.00294 | 0.00043 | 4 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | 0.01200 | 0.012 | 0.01300 | 0.012 | 0.015 | 0.017 | 0.013 | 0.018 | 8 | 0.01400 | 0.00239 | 8 | 100% | *0.01000* | *0.01* | *0.01000* | *0.01* | 4 | 0.01 | 0.00 | 4 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 23.4 | 26.2 | 23.4 | 26 | 29.3 | 30.2 | 29.5 | 30.5 | 8 | 27.31 | 2.95 | 8 | 100% | 10.6 | 13.9 | 10.6 | 13.9 | 4 | 12.25 | 1.91 | 4 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.00045 | 0.00048 | 0.00038 | 0.00049 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00048 | 0.00004 | 8 | 100% | 0.00074 | 0.0009 | 0.00076 | 0.00105 | 4 | 0.00088 | 0.00014 | 4 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | 0.04400 | 0.047 | 0.04400 | 0.047 | *0.03* | 0.05 | 0.03 | 0.06 | 8 | 0.04400 | 0.01001 | 8 | 100% | 0.04700 | 0.036 | 0.04600 | 0.037 | 4 | 0.04150 | 0.00580 | 4 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00005 | 0.00000 | 8 | 100% | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 4 | 0.00005 | 0.00000 | 4 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.00500* | *0.005* | *0.00500* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.00500 | 0.00000 | 8 | 100% | *0.00500* | *0.005* | *0.00500* | *0.005* | 4 | 0.00500 | 0.00000 | 4 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 4.30 | 4.67 | 4.36 | 4.62 | 5.58 | 5.91 | 5.63 | 5.88 | 8 | 5.12 | 0.69 | 8 | 100% | 2.13 | 2.65 | 2.13 | 2.67 | 4 | 2.40 | 0.31 | 4 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00138 | 0.0015 | 0.00138 | 0.00152 | 0.000562 | 0.000787 | 0.00056 | 0.00129 | 8 | 0.001122 | 0.000415 | 8 | 100% | 0.00045 | 0.000941 | 0.00034 | 0.000968 | 4 | 0.00067 | 0.00033 | 4 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | *0.00001* | *0.00002* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | 0.000231 | 0.000314 | 0.000212 | 0.000339 | 0.000185 | 0.000253 | 0.00019 | 0.000253 | 8 | 0.000247 | 0.000056 | 8 | 100% | 0.000336 | 0.000985 | 0.000417 | 0.000969 | 4 | 0.000692 | 0.000330 | 4 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% | *0.00050* | *0.0005* | *0.00050* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 1.09 | 1.12 | 1.11 | 1.1 | 1.25 | 1.44 | 1.25 | 1.45 | 8 | 1.23 | 0.15 | 8 | 100% | 0.610 | 0.769 | 0.603 | 0.78 | 4 | 0.691 | 0.097 | 4 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% | *0.00100* | *0.001* | *0.00100* | *0.001* | 4 | 0.00100 | 0.00000 | 4 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.77400 | 0.979 | 0.78300 | 0.992 | 0.81 | 1.12 | 0.81 | 1.12 | 8 | 0.92350 | 0.14777 | 8 | 100% | 0.23100 | 0.487 | 0.23200 | 0.493 | 4 | 0.36075 | 0.14927 | 4 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.00001 | 0.00000 | 8 | 100% | *0.00001* | *0.00001* | *0.00001* | *0.00002* | 4 | 0.00001 | 0.00000 | 4 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 12.0 | 12.6 | 12.2 | 12.7 | 16.7 | 20.5 | 17.1 | 20.7 | 8 | 15.6 | 3.7 | 8 | 100% | 5.44 | 7.86 | 5.30 | 7.89 | 4 | 6.62 | 1.45 | 4 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.06730 | 0.0597 | 0.06620 | 0.0619 | 0.0728 | 0.0899 | 0.0716 | 0.0902 | 8 | 0.07245 | 0.01171 | 8 | 100% | 0.02750 | 0.0334 | 0.02690 | 0.0335 | 4 | 0.03033 | 0.00362 | 4 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.00010* | *0.0001* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% | *0.00010* | *0.0001* | *0.00010* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.01000* | *0.01* | *0.01000* | *0.01* | *0.010* | *0.010* | *0.010* | *0.010* | 8 | 0.01000 | 0.00000 | 8 | 100% | *0.01000* | *0.01* | *0.01000* | *0.01* | 4 | 0.01000 | 0.00000 | 4 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | 0.000235 | 0.00044 | 0.000248 | 0.000437 | 0.000254 | 0.000294 | 0.000248 | 0.000293 | 8 | 0.000306 | 0.000084 | 8 | 100% | 0.000275 | 0.000522 | 0.00028 | 0.00053 | 4 | 0.000402 | 0.000144 | 4 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% | *0.00100* | *0.001* | *0.00100* | *0.001* | 4 | 0.00100 | 0.00000 | 4 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | 0.00180 | 0.0012 | 0.00110 | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.00214 | 0.00095 | 8 | 100% | 0.00170 | *0.001* | 0.00140 | *0.

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Steensby Area Lakes – Lake ST24: NSC Lake 3-R Surface 04-Aug-08 | NSC Lake 3-s Surface 02-Sep-08 | NSC Lake3-B Bottom 04-Aug-08 | NSC Lake 3-b Bottom 02-Sep-08 | ST24-S 29-Jul-11 | ST24-S 27-Aug-11 | ST24-D 29-Jul-11 | ST24-D 27-Aug-11 | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 15.08 | 7.25 | 12.34 | 7.12 | 12.31 | 9.26 | 12.3 | 9.24 | 8 | 10.61 | 2.83 | 8 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.24 | 0.25 | 0.25 | 0.25 | 0.438 | 0.446 | 0.438 | 0.446 | 8 | 0.34 | 0.10 | 8 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 10.73 | 12.39 | 11.9 | 12.48 | | | | | 4 | 11.88 | 0.80 | 4 | 100% |
| pH | - | - | | - | 8.19 | 6.85 | 8.2 | 7.01 | 8.44 | 8.23 | 8.45 | 8.25 | 8 | 7.95 | 0.64 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | |
| l Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Water Depth | m | | | - | 4.2 | 4 | 4.2 | 4 | | | | | 4 | 4.1 | 0.1 | 4 | 100% |
| Turbidity | NTU | | | - | 1 | 3 | 2 | 3 | | | | | 4 | 2 | 1 | 2 | 50% |
| Secchi Disk Depth | m | | | - | 3.5 | 2.35 | 3.5 | 2.35 | | | | | 4 | 2.93 | 0.68 | 4 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | |
| pH | - | | | 1 | 7.75 | 7.67 | 7.80 | 7.65 | 7 | 7.02 | 7.04 | 7.04 | 8 | 7.37 | 0.37 | 8 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 216 | 229 | 215 | 229 | 390 | 434 | 391 | 435 | 8 | 317 | 103 | 8 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.6 | 2.3 | 0.8 | 2.3 | 0.6 | 1 | 0.7 | 1 | 8 | 1.2 | 0.7 | 8 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 57.0 | 63 | 56.4 | 62.5 | 96.4 | 103 | 93 | 102 | 8 | 79.2 | 21.1 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| TDS (CONDUCTIVITY - CALC) | mg/L | 5 | 5 | 5 | 140 | 149 | 140 | 149 | 254 | 282 | 254 | 283 | 8 | 206 | 67 | 8 | 100% |
| d Suspended Solids (TS | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 8 | 2 | 0 | 8 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 46 | 43 | 44 | 43 | 59 | 65 | 60 | 65 | 8 | 53 | 10 | 8 | 100% |
| Bromide (Br) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 8 | 0.25 | 0.00 | 8 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 35 | 38 | 34 | 38 | 79 | 92 | 78 | 93 | 8 | 61 | 27 | 8 | 100% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 5 | 8 | 5 | 8 | 10 | 10 | 9 | 10 | 8 | 8 | 2 | 8 | 100% |
| Ammonia ($NH_3$+$NH_4$) | mg/L | 0.02 | 0.02 | 0.02 | *0.02* | 0.03 | *0.02* | 0.02 | *0.02* | 0.06 | *0.02* | 0.03 | 8 | 0.03 | 0.01 | 8 | 100% |
| Nitrite ($NO_2^-$) | mg/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005 | 0.000 | 8 | 100% |
| Nitrate ($NO_3^-$) | mg/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| $NO_2$+$NO_3$ | mg/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.009 | 0.008 | 0.008 | 0.009 | 0.009 | 0.009 | 0.011 | 0.008 | 8 | 0.009 | 0.001 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TOC | mg/L | | 0.5 | 0.5 | 5.1 | 5 | 5.3 | 4.9 | 5.6 | 3.6 | 5.6 | 6 | 8 | 5.1 | 0.7 | 8 | 100% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 4.8 | 4.5 | 4.7 | 4.4 | 4.8 | 1.3 | 4.9 | 2.4 | 8 | 4.0 | 1.4 | 8 | 100% |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.40 | 0.24 | 0.24 | 0.22 | 0.17 | 0.29 | 0.11 | 0.27 | 8 | 0.24 | 0.09 | 8 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001 | 0.000 | 8 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | | 0.0685 | 0.013200 | 0.0672 | 0.013 | 0.016 | 0.0129 | 0.014 | 7 | 0.029257 | 0.026388 | 7 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 0.000100 | 0.000000 | 7 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | | 0.00021 | *0.000100* | 0.00021 | *0.0006* | 0.00018 | *0.0006* | 0.00018 | 7 | 0.000297 | 0.000210 | 7 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | | 0.00563 | 0.004230 | 0.00553 | 0.00757 | 0.00853 | 0.00756 | 0.00848 | 7 | 0.006790 | 0.001662 | 7 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.000500 | 0.000000 | 7 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.000500 | 0.000000 | 7 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | | 0.016 | 0.021000 | 0.016 | 0.039 | 0.039 | 0.036 | 0.039 | 7 | 0.029429 | 0.011178 | 7 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 7 | 0.000010 | 0.000000 | 7 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | | 16.4 | 15.0 | 16.4 | 24.3 | 25.7 | 23.5 | 25.3 | 7 | 20.9 | 4.8 | 7 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.000500 | 0.000000 | 7 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 0.000100 | 0.000000 | 7 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | | 0.00087 | 0.000690 | 0.00083 | 0.00068 | 0.0005 | 0.00051 | 0.00055 | 7 | 0.000661 | 0.000150 | 7 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | | 0.154 | 0.10 | 0.15 | 0.08 | 0.11 | 0.08 | 0.11 | 7 | 0.11 | 0.03 | 7 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | | 0.0001 | *0.000050* | 0.00009 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 7 | 0.000063 | 0.000022 | 7 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | | *0.005* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 7 | 0.005000 | 0.000000 | 7 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | | 5.39 | 4.79 | 5.39 | 8.66 | 9.4 | 8.33 | 9.3 | 7 | 7.32 | 2.04 | 7 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | | 0.00438 | 0.004990 | 0.00426 | 0.00524 | 0.00727 | 0.00525 | 0.0072 | 7 | 0.005513 | 0.001239 | 7 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 7 | 0.000010 | 0.000000 | 7 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | | 0.000257 | 0.000228 | 0.000258 | 0.00023 | 0.000279 | 0.000236 | 0.00029 | 7 | 0.000254 | 0.000024 | 7 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.000500 | 0.000000 | 7 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | | 1.02 | 1.00 | 0.997 | 1.75 | 1.99 | 1.69 | 2 | 7 | 1.492 | 0.469 | 7 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | | *0.001* | *0.001000* | *0.001* | *0.002* | *0.001* | *0.002* | *0.001* | 7 | 0.001286 | 0.000488 | 7 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | | 0.949 | 0.419000 | 0.93 | 0.32 | 0.36 | 0.31 | 0.37 | 7 | 0.522571 | 0.287082 | 7 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | | *0.00001* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 7 | 0.000005 | 0.000000 | 7 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | | 17.9 | 18.0 | 17.6 | 35.2 | 42.6 | 33.7 | 42.9 | 7 | 29.7 | 11.6 | 7 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | | 0.0397 | 0.037400 | 0.0391 | 0.0655 | 0.0753 | 0.0644 | 0.0745 | 7 | 0.056557 | 0.017179 | 7 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 0.000100 | 0.000000 | 7 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 0.000100 | 0.000000 | 7 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | | *0.01* | *0.010* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 7 | 0.010 | 0.000 | 7 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | | 0.000234 | 0.000186 | 0.000227 | 0.000241 | 0.000235 | 0.000231 | 0.000235 | 7 | 0.000227 | 0.000019 | 7 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 7 | 0.001000 | 0.000000 | 7 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | | 0.0012 | *0.001000* | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 7 | 0.002171 | 0.001036 | 7 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminum | mg/L | 0.005 | 0.0010 | 0.001 | 0.00770 | 0.0092 | 0.006900 | 0.0089 | 0.0049 | 0.0058 | 0.0056 | 0.0059 | 8 | 0.006883 | 0.001595 | 8 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00013 | 0.00022 | 0.000160 | 0.00021 | *0.0006* | 0.00017 | *0.0006* | 0.00017 | 8 | 0.000283 | 0.000198 | 8 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00413 | 0.00508 | 0.004050 | 0.00501 | 0.0065 | 0.00801 | 0.00637 | 0.00811 | 8 | 0.005908 | 0.001601 | 8 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.02000 | 0.017 | 0.020000 | 0.017 | 0.027 | 0.038 | 0.027 | 0.04 | 8 | 0.025750 | 0.009067 | 8 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 14.7 | 16.4 | 14.5 | 16.2 | 23.9 | 25 | 24 | 25.2 | 8 | 20.0 | 4.9 | 8 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00070 | 0.00083 | 0.000570 | 0.00071 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000601 | 0.000129 | 8 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.04400 | 0.055 | 0.046000 | 0.053 | 0.05 | 0.06 | 0.05 | 0.06 | 8 | 0.052250 | 0.005922 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00008 | *0.00005* | 0.000080 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 8 | 0.000053 | 0.000005 | 8 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.005* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005000 | 0.000000 | 8 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 4.96 | 5.36 | 4.91 | 5.33 | 8.35 | 9.15 | 8.32 | 9.21 | 8 | 6.95 | 1.97 | 8 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000708 | 0.00209 | 0.001110 | 0.0021 | 0.00142 | 0.00386 | 0.00139 | 0.0038 | 8 | 0.002060 | 0.001187 | 8 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000206 | 0.000261 | 0.000231 | 0.000264 | 0.000231 | 0.000258 | 0.000226 | 0.00027 | 8 | 0.000243 | 0.000023 | 8 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.992 | 1.01 | 0.972 | 1 | 1.54 | 1.9 | 1.53 | 1.92 | 8 | 1.358 | 0.415 | 8 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.39600 | 0.744 | 0.410000 | 0.721 | 0.28 | 0.32 | 0.28 | 0.32 | 8 | 0.433875 | 0.190455 | 8 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.000006 | 0.000005 | 8 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 17.5 | 18.2 | 16.9 | 18.1 | 35 | 44 | 34.7 | 44.8 | 8 | 28.7 | 12.3 | 8 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.03610 | 0.0401 | 0.034600 | 0.0405 | 0.0576 | 0.0753 | 0.0566 | 0.0761 | 8 | 0.052113 | 0.016927 | 8 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.01* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.010000 | 0.000000 | 8 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000182 | 0.000237 | 0.000188 | 0.000232 | 0.0002 | 0.000226 | 0.000199 | 0.000224 | 8 | 0.000211 | 0.000021 | 8 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001000* | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.002000 | 0.001069 | 8 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Steensby Area Lakes – Lake ST28 | | | | | | | | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NSL Lake4-S Surface 04-Aug-08 | NSC Lake4-S Surface 08-Sep-08 | NSL Lake4-B Bottom 04-Aug-08 | NSC Lake4-B Bottom 08-Sep-08 | ST28-S 29-Jul-11 | ST28-S 27-Aug-11 | ST28-D 29-Jul-11 | ST28-D 27-Aug-11 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 16.27 | 4.53 | 11.01 | 4.53 | 12.83 | 9.60 | 12.73 | 9.60 | 8 | 10.14 | 4.07 | 8 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.09 | 0.11 | 0.09 | 0.11 | 0.162 | 0.165 | 0.162 | 0.165 | 8 | 0.13 | 0.03 | 8 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 10.17 | 9.69 | 10.91 | 9.82 | | | | | 4 | 10.15 | 0.55 | 4 | 100% |
| pH | - | - | | - | 6.54 | **6.13** | 6.56 | **6.15** | 7.50 | 7.73 | 7.51 | 7.73 | 8 | 6.98 | 0.70 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| Water Depth | m | | | - | 4.8 | 2.5 | 4.8 | 2.5 | | | | | 4 | 3.7 | 1.3 | 4 | 100% |
| Turbidity | NTU | | | - | 1 | 4 | 4 | 4 | | | | | 4 | 3 | 2 | 4 | 100% |
| Secchi Disk Depth | m | | | - | 4 | 2.5 | 4 | 2.5 | | | | | 4 | 3.3 | 0.9 | 4 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | |
| pH | | - | | 1 | 7.09 | 6.62 | 7.10 | 6.7 | **6.45** | **6.43** | 6.53 | **6.41** | 8 | 6.67 | 0.28 | 8 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 74 | 91 | 73 | 92 | 144 | 162 | 150 | 161 | 8 | 118 | 39 | 8 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.6 | 1.7 | 0.6 | 1.7 | 0.6 | 1 | 0.7 | 1.1 | 8 | 1.0 | 0.5 | 8 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 17.2 | 19.8 | 16.7 | 19.7 | 30.7 | 35 | 30.7 | 34.8 | 8 | 25.6 | 8.0 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 48 | 59 | 48 | 60 | 94 | 105 | 98 | 105 | 8 | 77 | 26 | 8 | 100% |
| d Suspended Solids (T | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 8 | 2 | 0 | 8 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 13 | 15 | 15 | 15 | 22 | 26 | 26 | 25 | 8 | 20 | 6 | 8 | 100% |
| Bromide (Br) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 8 | 0.25 | 0.00 | 8 | 100% |
| Chloride (Cl) | mg/L | 1 | 1 | 1 | 12 | 15 | 12 | 15 | 28 | 32 | 27 | 33 | 8 | 22 | 9 | 8 | 100% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 3 | 5 | 3 | 5 | 6 | 5 | 6 | 5 | 8 | 5 | 1 | 6 | 75% |
| Ammonia ($NH_3$+$NH_4$) | mg/L | 0.02 | 0.02 | 0.02 | *0.02* | 0.06 | 0.04 | 0.05 | 0.03 | 0.04 | 0.03 | 0.02 | 8 | 0.04 | 0.01 | 8 | 100% |
| Nitrite ($NO_2^-$) | mg/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005 | 0.000 | 8 | 100% |
| Nitrate ($NO_3^-$) | mg/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| $NO_2$+$NO_3$ | mg/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.008 | 0.008 | 0.009 | 0.01 | 0.005 | 0.009 | 0.012 | 0.011 | 8 | 0.009 | 0.002 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TOC | mg/L | | 0.5 | 0.5 | 3.7 | 3.8 | 3.6 | 3.8 | 4.2 | 4.5 | 4.4 | 4.6 | 8 | 4.1 | 0.4 | 8 | 100% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 2.8 | 3.3 | 2.9 | 3.2 | 3.6 | 3 | 3.6 | 2.7 | 8 | 3.1 | 0.3 | 7 | 88% |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | *0.1* | 0.41 | 0.22 | 0.25 | 0.19 | 0.17 | 0.24 | 0.22 | 8 | 0.23 | 0.09 | 8 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001 | 0.000 | 8 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0205 | **0.0534** | 0.0172 | **0.0588** | 0.0129 | 0.0152 | 0.0132 | 0.0167 | 8 | 0.0260 | 0.0188 | 8 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 0.00014 | 0.0001 | 0.00014 | 0.00011 | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.0021 | 0.00346 | 0.0022 | 0.00349 | 0.00406 | 0.00471 | 0.00416 | 0.00474 | 8 | 0.00362 | 0.00101 | 8 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.0100* | 0.011 | *0.0100* | 0.011 | 0.017 | 0.019 | 0.02 | 0.019 | 8 | 0.0146 | 0.0045 | 8 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.0000* | *0.00001* | *0.0000* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 4.35 | 4.95 | 4.38 | 4.8 | 7.58 | 8.63 | 7.55 | 8.6 | 8 | 6.36 | 1.91 | 8 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00069 | 0.00088 | 0.0007 | 0.00103 | 0.00058 | 0.00063 | 0.00056 | 0.00065 | 8 | 0.00072 | 0.00016 | 8 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.1090 | 0.133 | 0.1070 | 0.141 | 0.14 | 0.26 | 0.14 | 0.25 | 8 | 0.1600 | 0.0602 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.0001* | 0.00008 | *0.0001* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 8 | 0.00008 | 0.00002 | 8 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.0050* | *0.005* | *0.0050* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.0050 | 0.0000 | 8 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 1.48 | 1.78 | 1.48 | 1.75 | 2.86 | 3.27 | 2.87 | 3.24 | 8 | 2.34 | 0.79 | 8 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00252 | 0.00508 | 0.0031 | 0.00505 | 0.00526 | 0.00627 | 0.00545 | 0.00606 | 8 | 0.00485 | 0.00134 | 8 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.0000* | *0.00001* | *0.0000* | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000094 | 0.0001 | 0.000094 | 0.000138 | 0.000085 | 0.000111 | 0.00011 | 0.00011 | 8 | 0.000105 | 0.000016 | 8 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.537 | 0.667 | 0.522 | 0.64 | 0.916 | 1.02 | 0.916 | 1.02 | 8 | 0.780 | 0.211 | 8 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | *0.001* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.0010 | 0.0000 | 8 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.0980 | 0.279 | 0.0960 | 0.268 | 0.1 | 0.14 | 0.09 | 0.14 | 8 | 0.151 | 0.078 | 8 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.0000* | *0.00001* | *0.0000* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 6.39 | 8.51 | 6.22 | 8.15 | 14.1 | 16.7 | 13.6 | 16.5 | 8 | 11.27 | 4.42 | 8 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0108 | 0.0127 | 0.0107 | 0.0129 | 0.0199 | 0.0225 | 0.0206 | 0.0228 | 8 | 0.0166 | 0.0053 | 8 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.0100* | *0.01* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.0100 | 0.0000 | 8 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000048 | 0.000063 | 0.000044 | 0.000065 | 0.000047 | 0.000046 | 0.00005 | 0.000045 | 8 | 0.000051 | 0.000008 | 8 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | 0.0012 | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.002025 | 0.001044 | 8 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0121 | 0.0187 | 0.0110 | 0.0177 | 0.0058 | 0.0239 | 0.0054 | 0.0125 | 8 | 0.0134 | 0.0064 | 8 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0002* | *0.0001* | *0.0001* | *0.0002* | 0.00012 | 0.00013 | 0.00012 | 8 | 0.00011 | 0.00001 | 8 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00219 | 0.00313 | 0.00219 | 0.00298 | 0.00353 | 0.00439 | 0.00342 | 0.00435 | 8 | 0.00327 | 0.00084 | 8 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.0005 | 0.0000 | 8 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | 0.011 | *0.010000* | 0.011 | 0.014 | 0.016 | 0.014 | 0.017 | 8 | 0.012875 | 0.002748 | 8 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 4.43 | 4.98 | 4.31 | 4.94 | 7.74 | 8.34 | 7.7 | 8.27 | 8 | 6.34 | 1.82 | 8 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.000670 | 0.00089 | 0.000680 | 0.00081 | *0.0005* | 0.00055 | *0.0005* | 0.00055 | 8 | 0.000644 | 0.000148 | 8 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.065000 | 0.063 | 0.062000 | 0.061 | 0.08 | 0.23 | 0.08 | 0.23 | 8 | 0.108875 | 0.075146 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.000050* | *0.00005* | *0.000050* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 8 | 0.000050 | 0.000000 | 8 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | *0.005* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005000 | 0.000000 | 8 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 1.48 | 1.79 | 1.44 | 1.78 | 2.86 | 3.18 | 2.84 | 3.13 | 8 | 2.31 | 0.76 | 8 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.001440 | 0.00178 | 0.001810 | 0.00176 | 0.00243 | 0.00544 | 0.00237 | 0.00535 | 8 | 0.002798 | 0.001636 | 8 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000083 | 0.000117 | 0.000085 | 0.000115 | 0.000078 | 0.000104 | 0.000085 | 0.000098 | 8 | 0.000096 | 0.000015 | 8 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.530 | 0.657 | 0.525 | 0.652 | 0.793 | 0.953 | 0.825 | 0.951 | 8 | 0.736 | 0.171 | 8 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.065000 | 0.198 | 0.052000 | 0.199 | 0.08 | 0.13 | 0.08 | 0.12 | 8 | 0.115500 | 0.057461 | 8 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.000006 | 0.000005 | 8 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 6.40 | 8.56 | 6.33 | 8.62 | 13.2 | 16.7 | 13.4 | 16.8 | 8 | 11.25 | 4.32 | 8 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.010700 | 0.0129 | 0.010700 | 0.0127 | 0.018 | 0.0211 | 0.0182 | 0.0208 | 8 | 0.015838 | 0.004367 | 8 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0002* | *0.000100* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.010000 | 0.000000 | 8 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000045 | 0.000061 | 0.000042 | 0.000056 | 0.00004 | 0.000043 | 0.000036 | 0.000043 | 8 | 0.000046 | 0.000008 | 8 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.002000 | 0.0011 | *0.001000* | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.002138 | 0.000975 | 8 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 13:41:57

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Steensby Area Lakes | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lake ST92 | | | | | | | | | |
| | | | | | NSC Lake 5-S Surface | NSC Lake5-s Surface | ST92-S | ST92-S | ST92-D | ST92-D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2006 | 2007 | 2008 | 30-Jul-08 | 03-Sep-08 | 28-Jul-11 | 27-Aug-11 | 28-Jul-11 | 27-Aug-11 | | | | | |
| **In Situ Parameters** | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 14.92 | 7.66 | 12.58 | 11.55 | 12.27 | 11.53 | 6 | 11.75 | 2.36 | 6 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.09 | 0.08 | 0.104 | 0.103 | 0.104 | 0.103 | 6 | 0.10 | 0.01 | 6 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 11.52 | 11.39 | | | | | 2 | 11.46 | 0.09 | 2 | 100% |
| pH | - | - | | - | | **6.06** | 7.06 | 7.31 | 7.15 | 7.26 | 5 | 6.97 | 0.52 | 5 | 100% |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | |
| Water Depth | m | | | - | 0.5 | 0.8 | | | | | 2 | 0.7 | 0.2 | | 65% |
| Turbidity | NTU | | | - | 5 | | | | | | 1 | 5 | | | 0% |
| Secchi Disk Depth | m | | | - | | | | | | | | | | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | |
| pH | | - | | 1 | 7.16 | 6.91 | **6.28** | **6.24** | **6.28** | **6.23** | 6 | 6.52 | 0.41 | 6 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 72 | 66 | 92 | 102 | 92 | 101 | 6 | 88 | 15 | 6 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.9 | 2.4 | 0.4 | 0.7 | 0.8 | 0.4 | 6 | 0.9 | 0.8 | 6 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 12.5 | 14.4 | 17.5 | 18.7 | 17.2 | 18.4 | 6 | 16.5 | 2.5 | 6 | 100% |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 40 | 43 | 60 | 66 | 60 | 66 | 6 | 56 | 11 | 6 | 100% |
| al Suspended Solids (T | mg/L | | 2 | 2 | *2* | 2 | *2* | *2* | *2* | *2* | 6 | 2 | 0 | 6 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 12 | 9 | 10 | 12 | 10 | 12 | 6 | 11 | 1 | 6 | 100% |
| Bismide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 6 | 0.25 | 0.00 | 6 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 13 | 12 | 19 | 20 | 19 | 20 | 6 | 17 | 4 | 6 | 100% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 3 | 4 | 5 | 5 | 5 | 5 | 6 | 5 | 1 | 5 | 83% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.03 | *0.02* | *0.02* | *0.02* | 0.03 | 0.02 | 6 | 0.02 | 0.01 | 6 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 6 | 0.005 | 0.000 | 6 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 6 | 0.10 | 0.00 | 6 | 100% |
| $NO_3$+$NO_2$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 6 | 0.10 | 0.00 | 6 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.006 | 0.007 | *0.003* | *0.003* | *0.003* | *0.003* | 6 | 0.004 | 0.002 | 6 | 100% |
| tal Organic Carbon (TO | mg/L | | 0.5 | 0.5 | 2.4 | 2.4 | 2.4 | 1.5 | 2.3 | 2 | 6 | 2.2 | 0.4 | 6 | 100% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 2.3 | 2.3 | 2.2 | 1.3 | 2.2 | 1.1 | 6 | 1.9 | 0.5 | 6 | 100% |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.25 | *0.2* | *0.10* | *0.10* | *0.10* | *0.10* | 6 | 0.13 | 0.06 | 6 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 6 | 0.001 | 0.000 | 6 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | **0.041200** | **0.121** | 0.0219 | 0.0119 | 0.0247 | 0.0136 | 6 | 0.039050 | 0.041486 | 6 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.000100 | 0.000000 | 6 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | 0.0001 | *0.0002* | *0.00011* | *0.0001* | 6 | 0.000102 | 0.000004 | 6 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.002600 | 0.00366 | 0.00294 | 0.00274 | 0.00295 | 0.00259 | 6 | 0.002913 | 0.000398 | 6 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.000500 | 0.000000 | 6 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.000500 | 0.000000 | 6 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | *0.01* | 0.014 | 0.013 | 0.015 | 0.013 | 6 | 0.012500 | 0.002074 | 6 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 6 | 0.000010 | 0.000000 | 6 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 2.64 | 3.11 | 3.49 | 3.73 | 3.44 | 3.66 | 6 | 3.35 | 0.41 | 6 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.000500 | 0.000000 | 6 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.000100 | 0.000000 | 6 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.001010 | 0.00135 | 0.001 | 0.00075 | 0.00089 | 0.00069 | 6 | 0.000948 | 0.000235 | 6 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.091000 | 0.164 | 0.03 | *0.03* | 0.04 | *0.03* | 6 | 0.064167 | 0.054356 | 6 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.000050* | 0.00012 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 6 | 0.000062 | 0.000029 | 6 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 6 | 0.005000 | 0.000000 | 6 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 1.50 | 1.66 | 2.12 | 2.27 | 2.09 | 2.25 | 6 | 1.98 | 0.32 | 6 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.002660 | 0.00272 | 0.00289 | 0.00192 | 0.00314 | 0.00191 | 6 | 0.002540 | 0.000512 | 6 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 6 | 0.000010 | 0.000000 | 6 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000081 | 0.000186 | 0.000064 | 0.000091 | 0.000083 | 0.000067 | 6 | 0.000092 | 0.000048 | 6 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.000500 | 0.000000 | 6 | 100% |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.443 | 0.512 | 0.657 | 0.649 | 0.658 | 0.637 | 6 | 0.593 | 0.092 | 6 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 6 | 0.001000 | 0.000000 | 6 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.339000 | 0.629 | 0.22 | 0.16 | 0.23 | 0.16 | 6 | 0.289667 | 0.178674 | 6 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 6 | 0.000004 | 0.000005 | 6 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 5.95 | 6.4 | 9.7 | 10.9 | 9.55 | 10.5 | 6 | 8.83 | 2.12 | 6 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.008990 | 0.01 | 0.0129 | 0.0131 | 0.0127 | 0.0124 | 6 | 0.011682 | 0.001739 | 6 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | 6 | 0.000100 | 0.000000 | 6 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.000100 | 0.000000 | 6 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.010000* | 0.01 | *0.01* | *0.01* | *0.01* | *0.01* | 6 | 0.010000 | 0.000000 | 6 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000070 | 0.000089 | 0.00006 | 0.000055 | 0.000062 | 0.00005 | 6 | 0.000064 | 0.000014 | 6 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 6 | 0.001000 | 0.000000 | 6 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.001000* | 0.0022 | *0.003* | *0.003* | *0.003* | *0.003* | 6 | 0.002533 | 0.000816 | 6 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.01070 | 0.0203 | 0.0058 | 0.0071 | 0.0056 | 0.0063 | 6 | 0.00930 | 0.00571 | 6 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.0001 | 0.0000 | 6 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0002* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | 6 | 0.0001 | 0.0000 | 6 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00223 | 0.00243 | 0.00245 | 0.0026 | 0.00242 | 0.00262 | 6 | 0.00246 | 0.00014 | 6 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.00050 | 0.00000 | 6 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.00050 | 0.00000 | 6 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.01* | 0.011 | 0.011 | 0.01 | 0.012 | 6 | 0.01067 | 0.00082 | 6 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 6 | 0.00001 | 0.00000 | 6 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 2.62 | 3.1 | 3.47 | 3.62 | 3.47 | 3.63 | 6 | 3.32 | 0.39 | 6 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.000500 | 0.000000 | 6 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.000100 | 0.000000 | 6 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00093 | 0.00116 | 0.00076 | 0.0008 | 0.00074 | 0.00062 | 6 | 0.000802 | 0.000212 | 6 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03000* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | 6 | 0.030000 | 0.000000 | 6 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 6 | 0.000050 | 0.000000 | 6 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 6 | 0.005000 | 0.000000 | 6 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 1.45 | 1.63 | 2.09 | 2.23 | 2.09 | 2.23 | 6 | 1.95 | 0.33 | 6 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00159 | 0.00131 | 0.00141 | 0.00112 | 0.00135 | 0.00118 | 6 | 0.00133 | 0.00017 | 6 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 6 | 0.00001 | 0.00000 | 6 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00008 | 0.00027 | 0.000096 | 0.000071 | 0.00008 | 0.000077 | 6 | 0.00011 | 0.00008 | 6 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 6 | 0.0005 | 0.0000 | 6 | 100% |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.420 | 0.458 | 0.575 | 0.617 | 0.577 | 0.627 | 6 | 0.546 | 0.086 | 6 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 6 | 0.0010 | 0.0000 | 6 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.26100 | 0.392 | 0.18 | 0.15 | 0.18 | 0.15 | 6 | 0.21883 | 0.09408 | 6 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00005* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 6 | 0.000011 | 0.000020 | 6 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 5.78 | 6.28 | 9.47 | 11.2 | 9.78 | 11.3 | 6 | 8.97 | 2.40 | 6 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00892 | 0.0099 | 0.0112 | 0.0121 | 0.0108 | 0.0122 | 6 | 0.01085 | 0.00128 | 6 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | 6 | 0.00010 | 0.00000 | 6 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 6 | 0.00010 | 0.00000 | 6 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 6 | 0.01000 | 0.00000 | 6 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000058 | 0.000078 | 0.000051 | 0.00005 | 0.000048 | 0.000049 | 6 | 0.000056 | 0.000012 | 6 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 6 | 0.00100 | 0.00000 | 6 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.00100* | 0.002 | *0.003* | *0.003* | *0.003* | *0.003* | 6 | 0.00250 | 0.00084 | 6 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Steensby Area Lakes: 3 Km Lake: 3 KM Lake-S 29-Jul-11 | 3 KM Lake-S 27-Aug-11 | 3 KM Lake-D 29-Jul-11 | 3 KM Lake-D 27-Aug-11 | NSL Lake7-S Surface 04-Aug-08 | NSC Lake7-s Surface 08-Sep-08 | NSL Lake7-B Bottom 04-Aug-08 | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects | Lake ST81: NSL Lake8-S Surface 04-Aug-08 | NSC Lake8-s Surface 03-Sep-08 | Number of Samples | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 11.24 | 11 | | 11 | 14.25 | 6.11 | 5.41 | 6 | 9.84 | 3.40 | 6 | 100% | 17.94 | 8.97 | 2 | 13.46 |
| Specific Conductance | mS/cm | - | | - | 0.113 | 0.107 | | 0.107 | 0.09 | 0.13 | 0.09 | 6 | 0.11 | 0.02 | 6 | 100% | 0.04 | 0.05 | 2 | 0.05 |
| Dissolved Oxygen | mg/L | - | | - | | | | | 10.79 | 10.13 | 11.9 | 3 | 10.9 | 0.9 | 3 | 100% | **9.07** | 11.75 | 2 | 10.41 |
| pH | - | - | | - | 7.24 | 7.12 | | 7.13 | **6.38** | **5.77** | **6.17** | 6 | 6.64 | 0.61 | 6 | 100% | 6.68 | 6.58 | 2 | 6.63 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | |
| Thickness -May Samples | m | | | - | | | | | | | | | | | | | | | | |
| face - May Samples Only | m | | | - | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | |
| Water Depth | m | | | - | | | | | 26.4 | 1 | 26.4 | 3 | 17.9 | 14.7 | 3 | 100% | 0.3 | 0.3 | 2 | 0.3 |
| Turbidity | NTU | | | - | | | | | 1 | 10 | 3 | 3 | 5 | 5 | 2 | 67% | 1 | 7 | 2 | 4 |
| Secchi Disk Depth | m | | | - | | | | | 5.4 | | 5.4 | 2 | 5.4 | 0.0 | 2 | 100% | | | 0 | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | |
| pH | | - | | 1 | **6.34** | **6.27** | **6.33** | **6.28** | 7.18 | 6.74 | 7.11 | 7 | 6.61 | 0.40 | 7 | 100% | 6.91 | 6.87 | 2 | 6.89 |
| Conductivity | µS/cm | 5 | 5 | 5 | 102 | 105 | 102 | 108 | 78 | 85 | 75 | 7 | 94 | 14 | 7 | 100% | 29 | 45 | 2 | 37 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.5 | 0.3 | 0.4 | 0.3 | 0.6 | 2.8 | 0.4 | 7 | 0.8 | 0.9 | 7 | 100% | 1.2 | 6.1 | 2 | 3.7 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 20.3 | 20.6 | 20.7 | 20.7 | 16.5 | 16.5 | 15.8 | 7 | 18.7 | 2.3 | 7 | 100% | 9.6 | 12.8 | 2 | 11.2 |
| | | | | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 66 | 68 | 66 | 70 | 51 | 55 | 49 | 7 | 61 | 9 | 7 | 100% | 19 | 29 | 2 | 24 |
| al Suspended Solids (T | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | 2 | *2* | 7 | 2 | 0 | 7 | 100% | *2* | *2* | 2 | 2 |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 14 | 14 | 13 | 15 | 10 | 14 | 11 | 7 | 13 | 2 | 7 | 100% | 12 | 9 | 2 | 11 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0* | *0* | *0* | *0* | *0.25* | *0.25* | *0.25* | 7 | 0.25 | 0.00 | 7 | 100% | *0.25* | *0.25* | 2 | 0.25 |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 20 | 21 | 21 | 21 | 15 | 16 | 14 | 7 | 18 | 3 | 7 | 100% | 2 | 6 | 2 | 4 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 3 | 4 | 3 | 5 | 4 | 4 | 4 | 7 | 4 | 1 | 5 | 71% | 1 | 4 | 2 | 3 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.03 | *0* | 0.02 | *0* | *0.02* | *0.02* | 0.04 | 7 | 0.02 | 0.01 | 7 | 100% | *0.02* | *0.02* | 2 | 0.02 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0* | *0* | *0* | *0* | *0.005* | *0.005* | *0.005* | 7 | 0.005 | 0.000 | 7 | 100% | *0.005* | *0.005* | 2 | 0.005 |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0* | *0* | *0* | *0* | 0.18 | *0.1* | *0.1* | 7 | 0.11 | 0.03 | 7 | 100% | *0.1* | *0.1* | 2 | 0.1 |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0* | *0* | *0* | *0* | 0.18 | *0.1* | *0.1* | 7 | 0.11 | 0.03 | 7 | 100% | *0.1* | *0.1* | 2 | 0.1 |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.007 | *0* | 0.006 | *0* | 0.004 | 0.011 | 0.003 | 7 | 0.005 | 0.003 | 7 | 100% | 0.006 | 0.010 | 2 | 0.008 |
| | | | | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TOC | mg/L | | 0.5 | 0.5 | 2.3 | 2.6 | 2.3 | 2 | 2.2 | 2.5 | 2.2 | 7 | 2.3 | 0.2 | 7 | 100% | 5.0 | 2.7 | 2 | 3.9 |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 2.1 | 1.1 | 2.3 | 1.4 | 2.2 | 2.3 | 2.1 | 7 | 1.9 | 0.5 | 7 | 100% | 3.8 | 2.3 | 2 | 3.1 |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.12 | 0.24 | *0* | *0* | 0.12 | 0.17 | 0.23 | 7 | 0.15 | 0.06 | 7 | 100% | 0.20 | *0.10* | 2 | 0.15 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0* | *0* | *0* | *0* | *0.001* | *0.001* | *0.001* | 7 | 0.001 | 0.000 | 7 | 100% | *0.001* | *0.001* | 2 | 0.001 |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0163 | 0.0109 | **0.0174** | 0.0153 | **0.017500** | **0.101** | **0.014300** | 7 | 0.027529 | 0.032476 | 7 | 100% | 0.0504 | **0.244** | 2 | 0.1472 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.000100* | *0.0001* | *0.000100* | 7 | 0.000100 | 0.000000 | 7 | 100% | *0.0001* | *0.0001* | 2 | 0.0001 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0* | *0* | 0.00011 | *0* | *0.000100* | *0.0001* | *0.000100* | 7 | 0.000101 | 0.000004 | 7 | 100% | *0.0001* | *0.0001* | 2 | 0.0001 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00294 | 0.00277 | 0.00354 | 0.00278 | 0.002300 | 0.00327 | 0.002310 | 7 | 0.002844 | 0.000459 | 7 | 100% | 0.0018 | 0.00434 | 2 | 0.00307 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.000500* | *0.0005* | *0.000500* | 7 | 0.000500 | 0.000000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.000500* | *0.0005* | *0.000500* | 7 | 0.000500 | 0.000000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.011 | 0.012 | 0.013 | 0.013 | *0.010000* | *0.01* | *0.010000* | 7 | 0.011286 | 0.001380 | 7 | 100% | *0.01* | *0.01* | 2 | 0.01 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0* | *0* | *0* | *0* | *0.000010* | *0.00001* | *0.000010* | 7 | 0.000010 | 0.000000 | 7 | 100% | *0.0000* | *0.00001* | 2 | 0.00001 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 4.19 | 4.26 | 4.26 | 4.29 | 3.49 | 3.46 | 3.34 | 7 | 3.90 | 0.44 | 7 | 100% | 2.07 | 2.73 | 2 | 2.40 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.000500* | *0.0005* | *0.000500* | 7 | 0.000500 | 0.000000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.000100* | *0.0002* | *0.000100* | 7 | 0.000100 | 0.000000 | 7 | 100% | *0.0001* | 0.00014 | 2 | 0.00012 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00107 | 0.0008 | 0.00132 | 0.00118 | 0.000860 | 0.00111 | 0.000920 | 7 | 0.001037 | 0.000188 | 7 | 100% | 0.00115 | 0.0014 | 2 | 0.00128 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0* | *0* | *0* | 0.03 | *0.030000* | 0.109 | *0.030000* | 7 | 0.041286 | 0.029859 | 7 | 100% | **0.6270** | **0.449** | 2 | 0.5380 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0* | *0* | *0* | *0* | *0.000050* | 0.00011 | *0.000050* | 7 | 0.000059 | 0.000023 | 7 | 100% | 0.0001 | 0.00021 | 2 | 0.0001 |
| Lithium | mg/L | | 0.0050 | 0.005 | *0* | *0* | *0* | *0* | *0.005000* | *0.005* | *0.005000* | 7 | 0.005000 | 0.000000 | 7 | 100% | *0.0050* | *0.005* | 2 | 0.0050 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 2.39 | 2.41 | 2.43 | 2.43 | 1.88 | 1.94 | 1.80 | 7 | 2.18 | 0.29 | 7 | 100% | 1.09 | 1.56 | 2 | 1.33 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00286 | 0.00159 | 0.00271 | 0.0018 | 0.001170 | 0.00243 | 0.001240 | 7 | 0.001971 | 0.000695 | 7 | 100% | 0.0019 | 0.00344 | 2 | 0.00267 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0* | *0* | *0* | *0* | *0.000010* | *0.00001* | *0.000010* | 7 | 0.000010 | 0.000000 | 7 | 100% | 0.00001 | *0.00001* | 2 | 0.00001 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000111 | 0.000108 | 0.000114 | 0.000113 | 0.000099 | 0.000097 | 0.000071 | 7 | 0.000102 | 0.000015 | 7 | 100% | 0.000153 | 0.000262 | 2 | 0.000208 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0* | *0* | *0* | 0.00076 | *0.000500* | 0.00053 | *0.000500* | 7 | 0.000541 | 0.000097 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Phosphorus | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.683 | 0.671 | 0.701 | 0.667 | 0.626 | 0.613 | 0.539 | 7 | 0.643 | 0.055 | 7 | 100% | 0.341 | 0.625 | 2 | 0.483 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0* | *0* | *0* | *0* | *0.002000* | *0.001* | *0.001000* | 7 | 0.001000 | 0.000000 | 7 | 100% | *0.0010* | *0.001* | 2 | 0.0010 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.2 | 0.15 | 0.2 | 0.17 | 0.221000 | 0.388 | 0.271000 | 7 | 0.228286 | 0.079454 | 7 | 100% | 0.6690 | 1.2300 | 2 | 0.9495 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0* | *0* | *0* | *0* | *0.000010* | *0.00001* | *0.000010* | 7 | 0.000005 | 0.000005 | 7 | 100% | *0.0000* | *0.00001* | 2 | 0.00001 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 9.99 | 10.4 | 10.1 | 10.5 | 7.84 | 8.32 | 7.39 | 7 | 9.22 | 1.32 | 7 | 100% | 1.39 | 2.76 | 2 | 2.08 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.013 | 0.0129 | 0.0133 | 0.013 | 0.009910 | 0.0105 | 0.009650 | 7 | 0.011751 | 0.001644 | 7 | 100% | 0.0058 | 0.00773 | 2 | 0.00677 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Titanium | mg/L | - | 0.010 | 0.01 | *0* | *0* | *0* | *0* | *0.01* | *0.01* | *0.01* | 7 | 0.01 | 0.00 | 7 | 100% | *0.0100* | 0.014 | 2 | 0.0120 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000072 | 0.00006 | 0.000076 | 0.000063 | 0.000063 | 0.000093 | 0.000057 | 7 | 0.000069 | 0.000012 | 7 | 100% | 0.000669 | 0.000762 | 2 | 0.000716 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0* | *0* | *0* | *0* | *0.001* | *0.001* | *0.001* | 7 | 0.001 | 0.000 | 7 | 100% | *0.001* | *0.001* | 2 | 0.001 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0* | *0* | *0* | *0* | 0.0018 | 0.0017 | *0.0010* | 7 | 0.0024 | 0.0008 | 7 | 100% | *0.0010* | 0.0014 | 2 | 0.0012 |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0042 | 0.0048 | 0.004 | 0.0045 | 0.008800 | 0.0142 | 0.007000 | 7 | 0.006786 | 0.003712 | 7 | 100% | 0.0222 | 0.0321 | 2 | 0.0272 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00244 | 0.00251 | 0.00243 | 0.00261 | 0.002320 | 0.0025 | 0.002270 | 7 | 0.002454 | 0.000131 | 7 | 100% | 0.00165 | 0.00229 | 2 | 0.00197 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.0005 | 0.0000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.0005 | 0.0000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0* | *0* | *0* | *0* | *0.01* | *0.01* | *0.01* | 7 | 0.01 | 0.00 | 7 | 100% | *0.01* | *0.01* | 2 | 0.01 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0* | *0* | *0* | *0* | *0.00001* | *0.00001* | *0.00001* | 7 | 0.00001 | 0.00000 | 7 | 100% | *0.00001* | *0.00001* | 2 | 0.00001 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 4.26 | 4.22 | 4.25 | 4.26 | 3.48 | 3.48 | 3.33 | 7 | 3.90 | 0.44 | 7 | 100% | 2.07 | 2.70 | 2 | 2.39 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.0005 | 0.0000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0009 | 0.00069 | 0.00083 | 0.00069 | 0.000810 | 0.00098 | 0.000960 | 7 | 0.000837 | 0.000118 | 7 | 100% | 0.001060 | 0.00098 | 2 | 0.001030 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0* | *0* | *0* | *0* | *0.03* | *0.03* | *0.03* | 7 | 0.03 | 0.00 | 7 | 100% | 0.404 | 0.161 | 2 | 0.283 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0* | *0* | *0* | *0* | *0.00005* | *0.00005* | *0.00005* | 7 | 0.00005 | 0.00000 | 7 | 100% | *0.000050* | 0.00006 | 2 | 0.000055 |
| Lithium | mg/L | | 0.0050 | 0.005 | *0* | *0* | *0* | *0* | *0.005* | *0.005* | *0.005* | 7 | 0.005 | 0.000 | 7 | 100% | *0.005* | *0.005* | 2 | 0.005 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 2.37 | 2.41 | 2.36 | 2.42 | 1.89 | 1.89 | 1.81 | 7 | 2.16 | 0.28 | 7 | 100% | 1.08 | 1.46 | 2 | 1.27 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000891 | 0.000981 | 0.000866 | 0.000906 | 0.000688 | 0.000991 | 0.000681 | 7 | 0.000858 | 0.000127 | 7 | 100% | 0.0016 | 0.0014 | 2 | 0.0015 |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0* | *0* | *0* | *0* | *0.000010* | *0.00001* | *0.00001* | 7 | 0.000010 | 0.000000 | 7 | 100% | 0.000011 | *0.00001* | 2 | 0.000011 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000095 | 0.000108 | 0.000093 | 0.000103 | 0.000064 | 0.000115 | 0.000067 | 7 | 0.000092 | 0.000020 | 7 | 100% | 0.000161 | 0.000341 | 2 | 0.000251 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0* | *0* | *0* | *0* | *0.0005* | *0.0005* | *0.0005* | 7 | 0.0005 | 0.0000 | 7 | 100% | *0.0005* | *0.0005* | 2 | 0.0005 |
| Phosphorus | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.612 | 0.648 | 0.604 | 0.647 | 0.535 | 0.578 | 0.536 | 7 | 0.594 | 0.047 | 7 | 100% | 0.338 | 0.531 | 2 | 0.435 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0* | *0* | *0* | *0* | *0.001* | *0.001* | *0.001* | 7 | 0.001 | 0.000 | 7 | 100% | *0.001* | *0.001* | 2 | 0.001 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.17 | 0.14 | 0.17 | 0.14 | 0.173000 | 0.215 | 0.262000 | 7 | 0.181429 | 0.043558 | 7 | 100% | 0.614 | 0.735 | 2 | 0.675 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0* | *0* | *0* | *0* | *0.000010* | *0.00001* | *0.000010* | 7 | 0.000005 | 0.000005 | 7 | 100% | *0.00001* | *0.00001* | 2 | 0.00001 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 9.91 | 11.1 | 9.84 | 11.2 | 7.67 | 8.33 | 7.28 | 7 | 9.33 | 1.59 | 7 | 100% | 1.41 | 2.79 | 2 | 2.10 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0117 | 0.0123 | 0.0116 | 0.0124 | 0.009980 | 0.0107 | 0.009680 | 7 | 0.011194 | 0.001088 | 7 | 100% | 0.00578 | 0.00725 | 2 | 0.00652 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0* | *0* | *0* | *0* | *0.0001* | *0.0002* | *0.0001* | 7 | 0.0001 | 0.0000 | 7 | 100% | *0.0001* | *0.0002* | 2 | 0.0001 |
| Titanium | mg/L | - | 0.010 | 0.01 | *0* | *0* | *0* | *0* | *0.01* | *0.01* | *0.01* | 7 | 0.01 | 0.00 | 7 | 100% | *0.01* | *0.01* | 2 | 0.01 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000055 | 0.000056 | 0.000055 | 0.000056 | 0.000058 | 0.000079 | 0.000054 | 7 | 0.000059 | 0.000009 | 7 | 100% | 0.000559 | 0.000606 | 2 | 0.000583 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0* | *0* | *0* | *0* | *0.001* | *0.001* | *0.001* | 7 | 0.001 | 0.000 | 7 | 100% | *0.001* | *0.001* | 2 | 0.001 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0* | 0.0031 | *0* | *0* | 0.0016 | 0.0011 | 0.0014 | 7 | 0.0023 | 0.0009 | 7 | 100% | 0.0014 | 0.0010 | 2 | 0.0012 |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Steensby Area Lakes – Lake ST29: NSC Lake 9-S Surface 30-Jul-08 | NSC Lake 9-s Surface 01-Sep-08 | NSC Lake 9-B Bottom 30-Jul-08 | NSC Lake 9-a Bottom 01-Sep-08 | ST29-S 29-Jul-11 | ST29-S 27-Aug-11 | ST29-D 29-Jul-11 | ST29-D 27-Aug-11 | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 15.04 | 6.16 | 9.82 | 6.16 | 12.37 | 10.73 | 12.29 | 10.64 | 8 | 10.40 | 3.06 | 8 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.04 | 0.04 | 0.03 | 0.04 | 0.055 | 0.055 | 0.055 | 0.054 | 8 | 0.05 | 0.01 | 8 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 10.42 | 12.22 | 11.71 | 12.61 | | | | | 4 | 11.74 | 0.95 | 4 | 100% |
| pH | - | - | | - | 6.58 | **5.99** | 6.65 | **6.29** | 7.28 | 7.55 | 7.28 | 7.38 | 8 | 6.88 | 0.57 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | |
| e Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | |
| Water Depth | m | | | - | 7.7 | 5.5 | 8 | 5.5 | | | | | 4 | 6.7 | 1.4 | 4 | 100% |
| Turbidity | NTU | | | - | 2 | 4 | | 4 | | | | | 3 | 3 | 1 | 3 | 100% |
| Secchi Disk Depth | m | | | - | 6.2 | 3.8 | 4.2 | 3.8 | | | | | 4 | 4.5 | 1.1 | 4 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | 7.01 | 6.93 | 7.03 | 6.95 | **6.3** | **6.27** | **6.3** | **6.29** | 8 | 6.64 | 0.37 | 8 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 29 | 29 | 28 | 29 | 50 | 55 | 50 | 54 | 8 | 41 | 13 | 8 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.4 | 1.5 | 0.7 | 2 | 0.3 | 0.7 | 0.3 | 0.4 | 8 | 0.8 | 0.6 | 8 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | | 9 | 8.3 | 9 | 13.8 | 14.6 | 13.5 | 14.7 | 7 | 11.8 | 2.9 | 7 | 100% |
| | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 19 | 19 | 18 | 19 | 32 | 36 | 32 | 35 | 8 | 26 | 8 | 8 | 100% |
| al Suspended Solids (T | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 8 | 2 | 0 | 8 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | 12 | 7 | 8 | 13 | 14 | 13 | 14 | 8 | 11 | 4 | 8 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 8 | 0.25 | 0.00 | 8 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 7 | 7 | 7 | 7 | 8 | 5 | 2 | 4 | 50% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | *1* | 1 | 1 | 1 | 2 | 4 | 2 | 4 | 8 | 2 | 1 | 8 | 100% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | 0.02 | *0.02* | *0.02* | 0.02 | *0.02* | *0.02* | 8 | 0.02 | 0.00 | 8 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.005 | 0.000 | 8 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.10 | 0.00 | 8 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.004 | 0.003 | 0.003 | 0.007 | *0.003* | *0.003* | 0.007 | *0.003* | 8 | 0.004 | 0.002 | 8 | 100% |
| | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TOC | mg/L | | 0.5 | 0.5 | 2.3 | 2.4 | 2.3 | 2.4 | 2.3 | 2.5 | 2.4 | 2.4 | 8 | 2.4 | 0.1 | 8 | 100% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 2.2 | 2.2 | 2.1 | 2.3 | 2.1 | 1.4 | 2.2 | 1.5 | 8 | 2.0 | 0.3 | 8 | 100% |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.26 | 0.24 | *0.1* | 0.46 | *0.10* | *0.10* | *0.10* | *0.10* | 8 | 0.18 | 0.13 | 8 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001 | 0.000 | 8 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.024600 | **0.0543** | 0.022900 | **0.074** | 0.0173 | 0.025 | 0.0293 | 0.0253 | 8 | 0.034 | 0.020 | 8 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.001860 | 0.0022 | 0.001880 | 0.00249 | 0.00272 | 0.00267 | 0.00277 | 0.00281 | 8 | 0.002423 | 0.000398 | 8 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010000* | *0.01* | 0.01 | 0.011 | 0.012 | 0.01 | 8 | 0.010375 | 0.000744 | 8 | 100% |
| Cadmium | mg/L | 0.00001 | 0.000017 | 0.000017 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 1.97 | 2.19 | 1.96 | 2.18 | 3.33 | 3.54 | 3.23 | 3.55 | 8 | 2.75 | 0.72 | 8 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.000100* | *0.0002* | *0.000100* | *0.0001* | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.000890 | 0.00099 | 0.000820 | 0.00131 | 0.00098 | 0.00112 | 0.00082 | 0.00074 | 8 | 0.000959 | 0.000188 | 8 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.049000 | 0.1 | 0.049000 | 0.106 | 0.04 | 0.06 | 0.08 | 0.06 | 8 | 0.068000 | 0.024629 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.000050* | 0.00009 | *0.000050* | *0.0005* | 0.00005 | 0.00005 | 0.00006 | 0.00005 | 8 | 0.000113 | 0.000157 | 8 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | *0.005* | *0.005000* | *0.005* | 0.005 | 0.005 | 0.005 | 0.005 | 8 | 0.005000 | 0.000000 | 8 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.82 | 0.93 | 0.84 | 0.94 | 1.34 | 1.4 | 1.32 | 1.42 | 8 | 1.13 | 0.27 | 8 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000718 | 0.00124 | 0.000739 | 0.00149 | 0.00125 | 0.000903 | 0.00139 | 0.000893 | 8 | 0.001078 | 0.000301 | 8 | 100% |
| Mercury | mg/L | 0.00001 | 0.000050 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 8 | 0.000010 | 0.000000 | 8 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000087 | 0.000081 | 0.000071 | 0.000128 | 0.000136 | 0.000128 | 0.000111 | 0.000136 | 8 | 0.000107 | 0.000030 | 8 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.000500 | 0.000000 | 8 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.347 | 0.366 | 0.345 | 0.411 | 0.539 | 0.56 | 0.541 | 0.569 | 8 | 0.460 | 0.101 | 8 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.300000 | 0.507 | 0.305000 | 0.498 | 0.29 | 0.35 | 0.31 | 0.36 | 8 | 0.365000 | 0.088300 | 8 | 100% |
| Silver | mg/L | 0.00001 | 0.000010 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.000006 | 0.000005 | 8 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 1.70 | 1.75 | 1.70 | 2.03 | 3.57 | 4.08 | 3.53 | 4.16 | 8 | 2.82 | 1.12 | 8 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.005740 | 0.00605 | 0.005890 | 0.00658 | 0.00987 | 0.00991 | 0.00979 | 0.00997 | 8 | 0.007975 | 0.002056 | 8 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0002* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.000100* | *0.0002* | *0.000100* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | *0.0002* | 8 | 0.000100 | 0.000000 | 8 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.010000 | 0.000000 | 8 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000077 | 0.000116 | 0.000076 | 0.000127 | 0.000086 | 0.000082 | 0.000096 | 0.00008 | 8 | 0.000093 | 0.000019 | 8 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.001000 | 0.000000 | 8 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.002* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.002125 | 0.000991 | 8 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.01240 | 0.017 | 0.01200 | 0.0174 | 0.0077 | 0.0088 | 0.0076 | 0.0086 | 8 | 0.01144 | 0.00399 | 8 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0002* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0002* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.0001 | 0.0000 | 8 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00179 | 0.00185 | 0.00180 | 0.00188 | 0.00223 | 0.00248 | 0.00226 | 0.00249 | 8 | 0.00210 | 0.00030 | 8 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.01000 | 0.00000 | 8 | 100% |
| Cadmium | mg/L | 0.00001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 2.00 | 2.16 | 1.96 | 2.15 | 3.34 | 3.53 | 3.36 | 3.51 | 8 | 2.75 | 0.74 | 8 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 8 | 0.00050 | 0.00000 | 8 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.0002* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00073 | 0.00083 | 0.00083 | 0.00082 | 0.00068 | 0.00465 | 0.00067 | 0.0006 | 8 | 0.00123 | 0.00139 | 8 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03000* | *0.03* | *0.03000* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | 8 | 0.03000 | 0.00000 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 0.00011 | *0.00005* | *0.00005* | 8 | 0.00006 | 0.00002 | 8 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.005* | *0.00500* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 8 | 0.00500 | 0.00000 | 8 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.83 | 0.88 | 0.81 | 0.89 | 1.34 | 1.4 | 1.35 | 1.39 | 8 | 1.11 | 0.28 | 8 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00043 | 0.000535 | 0.00042 | 0.000542 | 0.000537 | 0.000392 | 0.000554 | 0.000356 | 8 | 0.000471 | 0.000079 | 8 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00007 | 0.000094 | 0.00006 | 0.000083 | 0.000115 | 0.000124 | 0.000111 | 0.000124 | 8 | 0.000097 | 0.000026 | 8 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.00050* | *0.0005* | *0.0005* | 0.00098 | *0.0005* | *0.0005* | 8 | 0.00056 | 0.00017 | 8 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.338 | 0.356 | 0.338 | 0.359 | 0.474 | 0.532 | 0.475 | 0.531 | 8 | 0.425 | 0.086 | 8 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.27900 | 0.383 | 0.26800 | 0.389 | 0.29 | 0.32 | 0.28 | 0.33 | 8 | 0.31738 | 0.04730 | 8 | 100% |
| Silver | mg/L | 0.00001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 8 | 0.00001 | 0.00000 | 8 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 1.69 | 1.78 | 1.63 | 1.79 | 3.21 | 4.2 | 3.43 | 4.27 | 8 | 2.75 | 1.15 | 8 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00584 | 0.0061 | 0.00579 | 0.0061 | 0.00906 | 0.00918 | 0.00872 | 0.0093 | 8 | 0.00751 | 0.00167 | 8 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0002* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 8 | 0.00010 | 0.00000 | 8 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.00010* | *0.0002* | *0.00010* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | *0.0002* | 8 | 0.00010 | 0.00000 | 8 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.01* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 8 | 0.01000 | 0.00000 | 8 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000068 | 0.000104 | 0.000068 | 0.0001 | 0.000072 | 0.000074 | 0.000066 | 0.000072 | 8 | 0.000078 | 0.000015 | 8 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.001* | *0.00100* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 8 | 0.00100 | 0.00000 | 8 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.00100* | *0.001* | 0.00140 | *0.001* | *0.003* | *0.003* | *0.003* | *0.003* | 8 | 0.00205 | 0.00102 | 8 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Steensby Area Lakes – Lake ST32 NSC Lake 10-S Surface 31-Jul-08 | NSC Lake 10-r Surface 01-Sep-08 | NSC Lake 10-A Bottom 31-Jul-08 | NSC Lake 10-b Bottom 01-Sep-08 | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **In Situ Parameters** | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 14.97 | 6.15 | 9.76 | 6.1 | 4 | 9.25 | 4.18 | 4 | 100% |
| Specific Conductance | mS/cm | - | | - | 0.03 | 0.03 | 0.02 | 0.03 | 4 | 0.03 | 0.01 | 4 | 100% |
| Dissolved Oxygen | mg/L | - | | - | 9.81 | 12.55 | 11.05 | 12.74 | 4 | 11.54 | 1.38 | 4 | 100% |
| pH | - | - | | - | **5.99** | 7.95 | **5.96** | 7.35 | 4 | 6.81 | 1.00 | 4 | 100% |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Average Depth (in) | (m) | - | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| Measured Depth (in) | (m) | | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | |
| | | | | | | | | | | | | | |
| Water Depth | m | | | - | 9.3 | 6.5 | 9.3 | 6.5 | 4 | 7.9 | 1.6 | 4 | 100% |
| | | | | | | | | | | | | | |
| Turbidity | NTU | | | - | 2 | 5 | 4 | 5 | 4 | 4 | 1 | 4 | 100% |
| | | | | | | | | | | | | | |
| Secchi Disk Depth | m | | | - | 4.8 | 3.4 | 4.8 | 3.4 | 4 | 4.1 | 0.8 | 4 | 100% |
| **General Parameters and Nutrients** | | | | | | | | | | | | | |
| pH | - | - | | 1 | 6.72 | 6.74 | 6.64 | 6.69 | 4 | 6.70 | 0.04 | 4 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | 17 | 21 | 18 | 20 | 4 | 19 | 2 | 4 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.5 | 1.7 | 0.6 | 1.9 | 4 | 1.2 | 0.7 | 4 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | | 6.2 | | 6.2 | 2 | 6.2 | 0.0 | 2 | 100% |
| | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 11 | 14 | 12 | 13 | 4 | 13 | 1 | 4 | 100% |
| al Suspended Solids (T | mg/L | | 2 | 2 | *2* | *2* | 3 | *2* | 4 | 2 | 1 | 3 | 75% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | *5* | 10 | *5* | *5* | 4 | 6 | 3 | 4 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | 4 | 0.25 | 0.00 | 4 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 4 | 2 | 1 | 4 | 100% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | *1* | 1 | *1* | 1 | 4 | 1 | 0 | 4 | 100% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | *0.02* | *0.02* | 4 | 0.02 | 0.00 | 4 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | 4 | 0.005 | 0.000 | 4 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | 4 | 0.1 | 0.0 | 4 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | *0.1* | *0.1* | 4 | 0.1 | 0.0 | 4 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.004 | 0.006 | 0.003 | 0.006 | 4 | 0.005 | 0.002 | 4 | 100% |
| | | | | | | | | | | | | | |
| al Organic Carbon (TOC | mg/L | | 0.5 | 0.5 | 2.7 | 3 | 2.7 | 3 | 4 | 2.9 | 0.2 | 2 | 50% |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 2.5 | 2.8 | 2.6 | 2.7 | 4 | 2.7 | 0.1 | 4 | 100% |
| al Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | 0.28 | 0.21 | 0.15 | 0.12 | 4 | 0.19 | 0.07 | 4 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | **0.02** | *0.001* | *0.001* | 4 | 0.006 | 0.010 | 4 | 100% |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | **0.018000** | 0.0578 | **0.017900** | 0.056 | 4 | 0.037425 | 0.022500 | 4 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000200* | *0.0001* | 4 | 0.000100 | 0.000000 | 4 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000200* | *0.0001* | 4 | 0.000100 | 0.000000 | 4 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.001480 | 0.00223 | 0.001490 | 0.00222 | 4 | 0.001855 | 0.000427 | 4 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 4 | 0.000500 | 0.000000 | 4 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 4 | 0.000500 | 0.000000 | 4 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010000* | *0.01* | 4 | 0.010000 | 0.000000 | 4 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | 4 | 0.000010 | 0.000000 | 4 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 1.02 | 1.31 | 1.02 | 1.39 | 4 | 1.19 | 0.19 | 4 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 4 | 0.000500 | 0.000000 | 4 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.000200* | *0.0001* | *0.000200* | *0.0001* | 4 | 0.000100 | 0.000000 | 4 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.000890 | 0.00099 | 0.000810 | 0.00107 | 4 | 0.000890 | 0.000172 | 4 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.071000 | 0.139 | 0.071000 | 0.126 | 4 | 0.101750 | 0.035901 | 4 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.000050* | 0.00006 | *0.000050* | *0.00005* | 4 | 0.000053 | 0.000005 | 4 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005000* | *0.005* | *0.005000* | *0.005* | 4 | 0.005000 | 0.000000 | 4 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.56 | 0.73 | 0.56 | 0.76 | 4 | 0.65 | 0.11 | 4 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.001780 | 0.00237 | 0.001810 | 0.00233 | 4 | 0.002073 | 0.000321 | 4 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | 4 | 0.000010 | 0.000000 | 4 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | *0.000050* | *0.00005* | *0.000050* | *0.00005* | 4 | 0.000050 | 0.000000 | 4 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.000500* | *0.0005* | *0.000500* | *0.0005* | 4 | 0.000500 | 0.000000 | 4 | 100% |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.241 | 0.298 | 0.241 | 0.284 | 4 | 0.266 | 0.029 | 4 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | 4 | 0.001000 | 0.000000 | 4 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.232000 | 0.572 | 0.219000 | 0.536 | 4 | 0.389750 | 0.190302 | 4 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.000010* | *0.00001* | *0.000010* | *0.00001* | 4 | 0.000010 | 0.000000 | 4 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 1.02 | 1.19 | 0.987 | 1.16 | 4 | 1.089 | 0.101 | 4 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.003830 | 0.00488 | 0.003850 | 0.00477 | 4 | 0.004333 | 0.000571 | 4 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | 4 | 0.000100 | 0.000000 | 4 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.000100* | *0.0001* | *0.000100* | *0.0001* | 4 | 0.000100 | 0.000000 | 4 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.010000* | *0.01* | *0.010000* | *0.01* | 4 | 0.010000 | 0.000000 | 4 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000039 | 0.00008 | 0.000041 | 0.00008 | 4 | 0.000060 | 0.000023 | 4 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | 4 | 0.001000 | 0.000000 | 4 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.001000* | *0.001* | *0.001000* | *0.001* | 4 | 0.001000 | 0.000000 | 4 | 100% |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.01180 | 0.0196 | 0.0136 | 0.0201 | 4 | 0.01553 | 0.00502 | 4 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | 4 | 0.00010 | 0.00000 | 4 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00151 | 0.00187 | 0.00148 | 0.0018 | 4 | 0.00167 | 0.00020 | 4 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.0005* | *0.0005* | *0.0005* | 4 | 0.00050 | 0.00000 | 4 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.01* | *0.0100* | *0.01* | 4 | 0.01000 | 0.00000 | 4 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.0000100* | *0.00001* | *0.0000100* | *0.00001* | 4 | 0.0000100 | 0.0000000 | 4 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 1.02 | 1.32 | 1.02 | 1.32 | 4 | 1.17 | 0.17 | 4 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005000* | *0.0005* | *0.0005000* | *0.0005* | 4 | 0.0005000 | 0.0000000 | 4 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001000* | *0.0001* | *0.0001000* | *0.0001* | 4 | 0.0001000 | 0.0000000 | 4 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0006300 | 0.00089 | 0.0008100 | 0.00099 | 4 | 0.0008300 | 0.0001523 | 4 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.0300000* | 0.046 | *0.0300000* | 0.045 | 4 | 0.0377500 | 0.0089582 | 4 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.0000500* | *0.00005* | *0.0000500* | *0.00005* | 4 | 0.0000500 | 0.0000000 | 4 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.0050000* | *0.005* | *0.0050000* | *0.005* | 4 | 0.0050000 | 0.0000000 | 4 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.55 | 0.69 | 0.56 | 0.69 | 4 | 0.62 | 0.08 | 4 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.0011000 | 0.00141 | 0.0010900 | 0.00143 | 4 | 0.0012575 | 0.0001879 | 4 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.0000100* | *0.00001* | *0.0000100* | *0.00001* | 4 | 0.0000100 | 0.0000000 | 4 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | *0.0000500* | 0.000057 | *0.0000500* | 0.000057 | 4 | 0.0000535 | 0.0000040 | 4 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005000* | *0.0005* | *0.0005000* | *0.0005* | 4 | 0.0005000 | 0.0000000 | 4 | 100% |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.237 | 0.275 | 0.233 | 0.279 | 4 | 0.256 | 0.024 | 4 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010000* | *0.001* | *0.0010000* | *0.001* | 4 | 0.0010000 | 0.0000000 | 4 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.2020000 | 0.427 | 0.2110000 | 0.428 | 4 | 0.3170000 | 0.1276480 | 4 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.0000100* | *0.00001* | *0.0000100* | *0.00001* | 4 | 0.0000100 | 0.0000000 | 4 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 1.02 | 1.23 | 1.03 | 1.22 | 4 | 1.13 | 0.12 | 4 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0036500 | 0.00479 | 0.0038100 | 0.00484 | 4 | 0.0043225 | 0.0005693 | 4 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.0001000* | *0.0001* | *0.0001000* | *0.0001* | 4 | 0.0001000 | 0.0000000 | 4 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.0001000* | *0.0001* | *0.0001000* | *0.0001* | 4 | 0.0001000 | 0.0000000 | 4 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.0100000* | *0.01* | *0.0100000* | *0.01* | 4 | 0.0100000 | 0.0000000 | 4 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.0000390 | 0.00007 | 0.0000380 | 0.000071 | 4 | 0.0000545 | 0.0000185 | 4 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010000* | *0.001* | *0.0010000* | *0.001* | 4 | 0.0010000 | 0.0000000 | 4 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.0014000 | *0.001* | 0.0010000 | *0.001* | 4 | 0.0011000 | 0.0002000 | 4 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 16:38:30

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Steensby Area Lakes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lake ST347 | | | | | | | | | | | | | | | | | | 10 km Lake | | | | | | | | Lake ST88 | | Lake ST195 | |
| | | | | | ST347-S | ST347-S | ST347-D | ST347-D | ST347-2-S | ST347-2-S | ST347-2-D | ST347-2-D | ST347-3-S | ST347-3-S | ST347-3-D | ST347-3-D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects | NSL Lake10-S Surface | NSL Lake10-B Bottom | NSC Lake26-s Shore | 10 KM Lake-S | 10 KM Lake-S | 10 KM Lake-D | 10 KM Lake-D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects | NSC Lake6-s Surface | NSC Lake6-S Surface |
| | | 2006 | 2007 | 2008 | 28-Jul-11 | 30-Aug-11 | 28-Jul-11 | 30-Aug-11 | 28-Jul-11 | 30-Aug-11 | 28-Jul-11 | 30-Aug-11 | 27-Jul-11 | 29-Aug-11 | 27-Jul-11 | 29-Aug-11 | | | | | | 06-Aug-08 | 06-Aug-08 | 08-Sep-08 | 28-Jul-11 | 28-Aug-11 | 28-Jul-11 | 28-Aug-11 | | | | | | 03-Sep-08 | 30-Jul-08 |
| **In Situ Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | - | | - | 9.5 | 10.23 | 6.72 | 8.67 | 9.99 | 9.85 | 8.83 | 9.74 | 8.75 | 9.87 | 8.25 | 9.81 | 12 | 9.18 | 1.00 | 12 | 100% | | 9.76 | | 7.35 | 9.55 | 5.74 | 6.72 | 5 | 7.82 | 1.77 | 5 | 100% | 8.68 | 16.35 |
| Specific Conductance | mS/cm | - | | - | 0.037 | 0.033 | 0.037 | 0.035 | 0.039 | 0.034 | 0.038 | 0.034 | 0.026 | 0.029 | 0.026 | 0.028 | 12 | 0 | 0 | 12 | 100% | | 0.02 | | 0.021 | 0.02 | 0.021 | 0.019 | 5 | 0.02 | 0.00 | 5 | 100% | 0.05 | 0.06 |
| Dissolved Oxygen | mg/L | - | | - | | | | | | | | | | | | | | | | | | | 11.05 | | | | | | 1 | 11.05 | | 1 | 100% | 12.06 | 11.1 |
| pH | - | - | | - | 6.71 | 6.82 | 6.52 | 6.63 | 6.64 | 6.64 | 6.67 | 6.66 | 6.55 | 6.6 | 6.51 | 6.62 | 12 | 6.63 | 0.08 | 12 | 100% | | **5.96** | | **6.48** | 6.56 | **6.30** | **6.30** | 5 | 6.32 | 0.23 | 5 | 100% | **5.96** | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Depth (m) | (m) | - | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Depth (m) | (m) | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| hickness -May Samples | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ace - May Samples Only | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Depth - May Samples O | m | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water Depth | m | | | - | | | | | | | | | | | | | | | | | | | 9.3 | | | | | | 1 | 4.5 | 5.2 | -3 | -300% | 0.5 | 0.8 |
| Turbidity | NTU | | | - | | | | | | | | | | | | | | | | | | | 4 | | | | | | 1 | 3 | 3 | -5 | -500% | 5 | 6 |
| Secchi Disk Depth | m | | | - | | | | | | | | | | | | | | | | | | | 4.8 | | | | | | 1 | 3.0 | 1.6 | 1 | 100% | | |
| **General Parameters and Nutrients** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | **6.13** | **6.03** | **6.07** | **6.07** | **6.06** | **6.06** | **6.04** | **6.15** | **5.94** | **6** | **5.95** | **6.02** | 12 | 6.04 | 0.06 | 12 | 100% | 6.70 | 6.56 | 6.78 | **5.99** | **5.97** | **6.02** | **5.96** | 7 | 5.77 | 2.46 | 7 | 100% | 6.84 | 6.89 |
| Conductivity | µS/cm | 5 | 5 | 5 | 35 | 34 | 33 | 34 | 35 | 34 | 34 | 38 | 23 | 30 | 23 | 28 | 12 | 32 | 5 | 12 | 100% | 17 | 16 | 43 | 19 | 20 | 19 | 20 | 7 | 68 | 90 | 7 | 100% | 36 | 39 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 | 0.9 | 0.5 | 1.4 | 0.4 | 0.4 | 0.4 | 0.3 | 12 | 0.6 | 0.3 | 12 | 100% | 0.4 | 0.4 | 2.9 | 0.4 | 0.8 | 0.3 | 1 | 7 | 2.0 | 2.5 | 6 | 86% | 1.6 | 0.5 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 6.7 | 6.4 | 6.8 | 6.6 | 6.8 | 6.5 | 6.7 | 6.6 | 4.9 | 5.5 | 4.7 | 5.4 | 12 | 6.1 | 0.8 | 12 | 100% | 3.5 | 3.5 | 6.3 | 4 | 3.9 | 4.1 | 4 | 7 | 17.2 | 22.1 | 7 | 100% | 9.8 | 7.2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 23 | 22 | 21 | 22 | 23 | 22 | 22 | 25 | 15 | 20 | 15 | 18 | 12 | 21 | 3 | 12 | 100% | 11 | 10 | 28 | 12 | 13 | 12 | 13 | 7 | 44 | 59 | 7 | 100% | 23 | 24 |
| al Suspended Solids (T | mg/L | | 2 | 2 | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 2 | *2* | *2* | *2* | 12 | 2 | 0 | 12 | 100% | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 7 | 3 | 2 | 3 | 43% | *2* | *2* |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | *5* | *5* | *5* | *5* | *5* | *5* | *5* | 6 | *5* | *5* | *5* | *5* | 12 | 5 | 0 | 12 | 100% | 6 | *5* | 9 | *5* | *5* | *5* | *5* | 7 | 13 | 15 | 7 | 100% | 12 | 9 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 12 | 0.25 | 0.00 | 12 | 100% | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 7 | 1.33 | 2.63 | 7 | 100% | *0.25* | *0.25* |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 6 | 4 | 5 | 4 | 5 | 12 | 6 | 1 | 12 | 100% | 2 | 2 | 8 | 2 | 3 | 3 | 3 | 7 | 12.98 | 17.70 | 0 | 0% | 4 | 7 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | *1* | 1 | *1* | 1 | *1* | 1 | *1* | 12 | 1 | 0 | 12 | 100% | 1 | *1* | 5 | 1 | *1* | 1 | *1* | 7 | 3.61 | 2.89 | 2 | 29% | 1 | 2 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | *0.02* | *0.02* | *0.02* | *0.02* | *0.02* | 0.02 | 0.05 | 0.03 | *0.02* | 0.05 | 12 | 0.03 | 0.01 | 12 | 100% | *0.02* | *0.02* | *0.02* | *0.02* | 0.04 | 0.03 | 0.03 | 7 | 1.18 | 2.69 | 7 | 100% | *0.02* | 0.03 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0* | *0* | *0* | *0* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 12 | 0.005 | 0.000 | 12 | 100% | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 7 | 1.162 | 2.701 | 7 | 100% | *0.005* | *0.005* |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 12 | 0.10 | 0.00 | 12 | 100% | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 7 | 1.23 | 2.67 | 7 | 100% | *0.1* | *0.1* |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 12 | 0.10 | 0.00 | 12 | 100% | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 7 | 1.23 | 2.67 | 7 | 100% | *0.1* | *0.1* |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.004 | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | 0.003 | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | 12 | 0.003 | 0.000 | 12 | 100% | *0.003* | *0.003* | 0.003 | *0.003* | *0.003* | *0.003* | *0.003* | 7 | 1.163 | 2.701 | 7 | 100% | 0.004 | 0.003 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tal Organic Carbon (TO | mg/L | | 0.5 | 0.5 | 1.4 | 1.1 | 1.4 | 1.4 | 1.7 | 1.2 | 1.4 | 1.3 | 1.2 | 1.3 | 1.2 | 1.2 | 12 | 1.3 | 0.2 | 12 | 100% | 1.3 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.1 | 7 | 3.0 | 2.4 | 5 | 71% | 2.3 | 1.7 |
| Dissolved Organic Carbo | mg/L | | 0.5 | 0.5 | 1.2 | 1 | 1.3 | 1.3 | 1.6 | 1.2 | 1.3 | 1.3 | 1.1 | 1.3 | 1.1 | 1.1 | 12 | 1.2 | 0.2 | 12 | 100% | 1.1 | 1.0 | 1.1 | 1.1 | 1.2 | 1 | 1.1 | 7 | 2.7 | 2.3 | 5 | 71% | 1.9 | 1.6 |
| tal Kjeldahl Nitrogen (TK | mg/L | | 0.05 | 0.1 | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* | 12 | 0.10 | 0.00 | 12 | 100% | *0.1* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 7 | 1.28 | 2.65 | 7 | 100% | *0.1* | *0.1* |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 12 | 0.001 | 0.000 | 12 | 100% | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 7 | 1.160 | 2.702 | 7 | 100% | *0.001* | *0.001* |
| **Total Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0195 | 0.0107 | 0.0169 | 0.01 | 0.0178 | 0.0104 | 0.0191 | 0.0119 | 0.0147 | 0.0112 | 0.016 | 0.0113 | 12 | 0.0141 | 0.0036 | 12 | 100% | 0.013200 | **0.012800** | 0.0898 | **0.0164** | 0.0162 | **0.0158** | **0.0128** | 7 | 1.179207 | 2.656274 | 7 | 100% | **0.0663** | **0.012900** |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 1.151012 | 2.668276 | 7 | 100% | *0.0001* | *0.000100* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 1.151033 | 2.668267 | 7 | 100% | *0.0001* | *0.000100* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00184 | 0.0016 | 0.00183 | 0.00122 | 0.00173 | 0.00135 | 0.00181 | 0.00159 | 0.00163 | 0.00153 | 0.00163 | 0.00154 | 12 | 0.00161 | 0.00019 | 12 | 100% | 0.00128 | 0.001320 | 0.00228 | 0.00162 | 0.00145 | 0.00166 | 0.00143 | 7 | 1.153071 | 2.667380 | 7 | 100% | 0.00267 | 0.001450 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.151288 | 2.668156 | 7 | 100% | *0.0005* | *0.000500* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.151288 | 2.668156 | 7 | 100% | *0.0005* | *0.000500* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0* | *0* | *0* | *0* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 12 | 0.01 | 0.00 | 12 | 100% | *0.010000* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 7 | 1.160187 | 2.684290 | 7 | 100% | *0.01* | *0.010000* |
| Cadmium | mg/L | 0.00001 | 0.000017 | 0.000017 | *0* | *0* | *0* | *0* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 12 | 0.00001 | 0.00000 | 12 | 100% | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 7 | 1.150950 | 2.668303 | 7 | 100% | *0.00001* | *0.000010* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 1.36 | 1.29 | 1.39 | 1.34 | 1.39 | 1.32 | 1.38 | 1.35 | 0.995 | 1.13 | 0.973 | 1.1 | 12 | 1.25 | 0.16 | 12 | 100% | 0.728 | 0.722 | 1.21 | 0.822 | 0.804 | 0.843 | 0.812 | 7 | 4.932 | 5.648 | 7 | 100% | 2.12 | 1.28 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.1513 | 2.6682 | 7 | 100% | *0.0005* | *0.000500* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | 7 | 1.151013 | 2.668275 | 7 | 100% | *0.0001* | *0.000100* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00053 | *0.0005* | 0.00057 | *0.0005* | 0.00061 | *0.0005* | 0.00055 | *0.0005* | 0.0006 | *0.0005* | 0.0005 | *0.0005* | 12 | 0.00053 | 0.00004 | 12 | 100% | 0.000440 | 0.000460 | 0.0008 | 0.00059 | 0.00093 | 0.00051 | 0.00089 | 7 | 1.151525 | 2.668053 | 7 | 100% | 0.00098 | 0.000660 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | 0.1 | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | 12 | 0.04 | 0.02 | 12 | 100% | *0.030000* | *0.030000* | 0.098 | *0.03* | *0.03* | *0.03* | *0.03* | 7 | 1.223310 | 2.638516 | 7 | 100% | 0.097 | 0.030000 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 12 | 0.00005 | 0.00000 | 12 | 100% | *0.000050* | *0.000050* | 0.00009 | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 7 | 1.150996 | 2.668283 | 7 | 100% | 0.00006 | *0.000050* |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 12 | 0.005 | 0.000 | 12 | 100% | *0.005000* | *0.005000* | *0.005* | *0.005* | *0.005* | *0.005* | *0.005* | 7 | 1.154387 | 2.666807 | 7 | 100% | *0.005* | *0.005000* |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.8 | 0.77 | 0.81 | 0.79 | 0.81 | 0.78 | 0.8 | 0.79 | 0.58 | 0.65 | 0.56 | 0.64 | 12 | 0.73 | 0.10 | 12 | 100% | 0.40 | 0.40 | 0.87 | 0.48 | 0.47 | 0.49 | 0.47 | 7 | 2.62 | 2.75 | 7 | 100% | 1.12 | 0.96 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00108 | 0.00057 | 0.00113 | 0.000553 | 0.00112 | 0.000542 | 0.00116 | 0.000622 | 0.000835 | 0.000562 | 0.000815 | 0.000589 | 12 | 0.000798 | 0.000258 | 12 | 100% | 0.000701 | 0.000692 | 0.00202 | 0.00129 | 0.000977 | 0.00135 | 0.000879 | 7 | 1.152711 | 2.667537 | 7 | 100% | 0.00199 | 0.000825 |
| Mercury | mg/L | 0.00001 | 0.000050 | 0.000001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 12 | 0.00001 | 0.00000 | 12 | 100% | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 7 | 1.150950 | 2.668303 | 7 | 100% | *0.00001* | *0.000010* |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.000082 | 0.000067 | 0.00007 | 0.000057 | 0.000063 | 0.000064 | 0.00006 | 0.000094 | 0.000072 | 0.00006 | 0.000067 | 0.000071 | 12 | 0.000069 | 0.000010 | 12 | 100% | *0.000050* | 0.000051 | 0.000087 | 0.00007 | 0.000067 | 0.000091 | 0.000064 | 7 | 1.151050 | 2.668259 | 7 | 100% | 0.000109 | 0.000051 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.151292 | 2.668154 | 7 | 100% | *0.0005* | *0.000500* |
| Phosphorus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.392 | 0.32 | 0.393 | 0.237 | 0.381 | 0.274 | 0.39 | 0.324 | 0.317 | 0.301 | 0.322 | 0.297 | 12 | 0.329 | 0.051 | 12 | 100% | 0.216 | 0.216 | 0.395 | 0.297 | 0.248 | 0.307 | 0.249 | 7 | 1.582 | 2.510 | 7 | 100% | 0.402 | 0.344 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 12 | 0.001 | 0.000 | 12 | 100% | *0.001000* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 7 | 1.151658 | 2.667995 | 7 | 100% | *0.001* | *0.001000* |
| Silicon | mg/L | | 0.050 | 0.05 | 0.23 | 0.2 | 0.22 | 0.2 | 0.21 | 0.19 | 0.23 | 0.19 | 0.25 | 0.2 | 0.25 | 0.2 | 12 | 0.21 | 0.02 | 12 | 100% | 0.262000 | 0.275000 | 0.436 | 0.27 | 0.26 | 0.28 | 0.26 | 7 | 1.400561 | 2.569183 | 7 | 100% | 0.374 | 0.148000 |
| Silver | mg/L | 0.00001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 12 | 0.000001 | 0.000000 | 12 | 100% | *0.000010* | *0.000010* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 7 | 1.150947 | 2.668304 | 7 | 100% | *0.00001* | *0.000010* |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 3.17 | 3.07 | 3.24 | 2.4 | 3.46 | 2.73 | 3.28 | 3.16 | 2.16 | 2.71 | 2.18 | 2.64 | 12 | 2.85 | 0.44 | 12 | 100% | 1.40 | 1.41 | 5.06 | 1.64 | 1.72 | 1.63 | 1.7 | 7 | 6.96 | 8.05 | 7 | 100% | 2.53 | 3.38 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00587 | 0.00551 | 0.00607 | 0.00477 | 0.00593 | 0.00514 | 0.00594 | 0.00554 | 0.00461 | 0.0049 | 0.00478 | 0.00484 | 12 | 0.00533 | 0.00054 | 12 | 100% | 0.003180 | 0.003230 | 0.00646 | 0.00405 | 0.0037 | 0.00413 | 0.00373 | 7 | 1.16178 | 2.66363 | 7 | 100% | 0.00696 | 0.005100 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 1.1510 | 2.6683 | 7 | 100% | *0.0001* | *0.000100* |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0002* | *0.0001* | *0.0001* | 7 | 1.151012 | 2.668276 | 7 | 100% | *0.0001* | *0.000100* |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 12 | 0.01 | 0.00 | 12 | 100% | *0.010000* | *0.010000* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 7 | 1.158032 | 2.665222 | 7 | 100% | *0.01* | *0.010000* |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00004 | 0.000033 | 0.000039 | 0.000028 | 0.00004 | 0.000032 | 0.000038 | 0.000034 | 0.000035 | 0.000028 | 0.000036 | 0.00003 | 12 | 0.000034 | 0.000004 | 12 | 100% | 0.000035 | 0.000031 | 0.000091 | 0.000035 | 0.000028 | 0.000033 | 0.00003 | 7 | 1.151032 | 2.668267 | 7 | 100% | 0.000104 | 0.000027 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 12 | 0.001 | 0.000 | 12 | 100% | *0.001000* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 7 | 1.151632 | 2.668006 | 7 | 100% | *0.001* | *0.001000* |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | *0.003* | 12 | 0.003 | 0.000 | 12 | 100% | *0.001000* | *0.001000* | 0.0033 | *0.003* | *0.003* | *0.003* | *0.003* | 7 | 1.152528 | 2.667616 | 7 | 100% | 0.0018 | *0.001000* |
| **Dissolved Metals and Non-Metals** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.0034 | 0.0034 | 0.0031 | 0.0034 | 0.0037 | 0.0034 | 0.0034 | *0.003* | 0.0032 | 0.0033 | 0.0032 | *0.003* | 12 | 0.0033 | 0.0002 | 12 | 100% | 0.006800 | 0.004900 | 0.0097 | 0.0033 | 0.003 | *0* | 0.0044 | 7 | 1.165705 | 2.699775 | 7 | 100% | 0.0101 | 0.00840 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0001* | *0.0002* | *0.0001* | 7 | 1.158949 | 2.702692 | 7 | 100% | *0.0001* | *0.0001* |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0001* | *0.0016* | *0.0001* | 7 | 1.158980 | 2.702678 | 7 | 100% | *0.0001* | *0.0002* |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00153 | 0.00166 | 0.00153 | 0.00161 | 0.00153 | 0.00159 | 0.00154 | 0.00158 | 0.0014 | 0.00152 | 0.00133 | 0.00151 | 12 | 0.00153 | 0.00009 | 12 | 100% | 0.001350 | 0.001300 | 0.00133 | 0.00128 | 0.00131 | 0.0266 | 0.00141 | 7 | 1.160961 | 2.701822 | 7 | 100% | 0.0021 | 0.00143 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.0005* | 7 | 1.159229 | 2.702571 | 7 | 100% | *0.0005* | *0.00050* |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.001* | *0.0005* | 7 | 1.159229 | 2.702571 | 7 | 100% | *0.0005* | *0.00050* |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | *0.01* | 12 | 0.01 | 0.00 | 12 | 100% | *0.010000* | *0.010000* | *0.01* | *0.01* | *0.01* | 0.054 | *0.01* | 7 | 1.167934 | 2.698814 | 7 | 100% | *0.01* | *0.01000* |
| Cadmium | mg/L | 0.00001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 12 | 0.00001 | 0.00000 | 12 | 100% | *0.000010* | *0.000010* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 7 | 1.158885 | 2.702719 | 7 | 100% | *0.00001* | *0.00001* |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 1.33 | 1.34 | 1.37 | 1.33 | 1.4 | 1.32 | 1.35 | 1.34 | 1.02 | 1.13 | 0.946 | 1.1 | 12 | 1.248 | 0.155 | 12 | 100% | 0.734 | 0.741 | 1.19 | 0.801 | 0.823 | 96.5 | 0.811 | 7 | 5.908 | 10.483 | 7 | 100% | 2.1 | 1.29 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.0005 | 0.0000 | 12 | 100% | *0.000500* | *0.000500* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.159224 | 2.702573 | 7 | 100% | *0.0005* | *0.00050* |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 12 | 0.0001 | 0.0000 | 12 | 100% | *0.000100* | *0.000100* | *0.0002* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 7 | 1.158948 | 2.702692 | 7 | 100% | *0.0001* | *0.00010* |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | *0.0005* | *0.0005* | 0.00055 | *0.0005* | *0.0005* | *0.0005* | 0.00051 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 12 | 0.00051 | 0.00001 | 12 | 100% | 0.000400 | 0.000380 | 0.00074 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 7 | 1.159418 | 2.702489 | 7 | 100% | 0.00087 | 0.00070 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | *0.03* | 12 | 0.03 | 0.00 | 12 | 100% | *0.030000* | *0.030000* | *0.03* | *0.03* | *0.03* | *

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/22/11 17:15:32

| Parameters | Units | Method Detection Limit | Receiving Water Quality Guidelines | Km 32 Lake | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Km 32 Lake S | KM 32 Lake D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2011 | 2011 | 20-Jul-11 | 20-Jul-11 | | | | | |
| **In Situ Parameter** | | | | | | | | | | |
| Field Temperature | °C | | | 11.210 | 4.980 | 2 | 8.095 | 4.405 | 2 | 100% |
| Field Conductivity | µS/cm | | | 0.145 | 0.188 | 2 | 0.167 | 0.030 | 2 | 100% |
| Dissolved Oxygen | mg/L | | | 94.300 | 86.700 | 2 | 90.500 | 5.374 | 2 | 100% |
| Field pH | | | | 8.110 | 8.010 | 2 | 8.060 | 0.071 | 2 | 100% |
| **Laboratory Results** | | | | | | | | | | |
| Alkalinity as CaCO3 | mg/L | 5 | | 77.000 | 92.000 | 2 | 84.500 | 10.607 | 2 | 100% |
| Bromide | mg/L | 0.25 | | *0.250* | *0.250* | 2 | 0.250 | 0.000 | 2 | 100% |
| Chloride | mg/L | 1 | 120 | *1.000* | 1.000 | 2 | 1.000 | 0.000 | 2 | 100% |
| Conductivity | uS/cm | 5 | | 144.000 | 184.000 | 2 | 164.000 | 28.284 | 2 | 100% |
| N-NH3 (Ammonia) | mg/L | 0.02 | 0.021-231 | *0.020* | 0.020 | 2 | 0.020 | 0.000 | 2 | 100% |
| N-NO2 (Nitrite) | mg/L | 0.100 | 0.06 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| N-NO3 (Nitrate) | mg/L | 0.1 | 13 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| NO2 + NO3 as N | mg/L | 0.1 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Phenols | mg/L | 0.001 | 0.004 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Total Phosphorus | mg/L | 0.003 | | 0.005 | 0.007 | 2 | 0.006 | 0.001 | 2 | 100% |
| Sulphate | mg/L | 1 | | 3.000 | 8.000 | 2 | 5.500 | 3.536 | 1 | 50% |
| Total Kjeldahl Nitrogen | mg/L | 0.1 | | 0.120 | 0.240 | 2 | 0.180 | 0.085 | 2 | 100% |
| Total Organic Carbon | mg/L | 0.5 | | 0.900 | 1.200 | 2 | 1.050 | 0.212 | 2 | 100% |
| Dissolved Organic Carbon | mg/L | 0.5 | | 0.900 | 1.200 | 2 | 1.050 | 0.212 | 2 | 100% |
| Total Suspended Solids | mg/L | 2 | | *2.000* | *2.000* | 2 | 2.000 | 0.000 | 2 | 100% |
| Total Dissolved Solids (COND - CALC) | mg/L | 1.00 | | 94.000 | 120.000 | 2 | 107.000 | 18.385 | 2 | 100% |
| Hardness as CaCO3 (Total) | mg/L | 0.5 | | 77.000 | 101.000 | 2 | 89.000 | 16.971 | 2 | 100% |
| Turbidity | NTU | 0.1 | | 0.200 | 0.300 | 2 | 0.250 | 0.071 | 2 | 100% |
| Aluminum (Total) | mg/L | 0.003 | 0.005-0.1 | 0.007 | 0.014 | 2 | 0.011 | 0.004 | 2 | 100% |
| Antimony (Total) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Arsenic (Total) | mg/L | 0.0001 | 0.005 | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Barium (Total) | mg/L | 0.00005 | | 0.001 | 0.002 | 2 | 0.002 | 0.000 | 2 | 100% |
| Beryllium (Total) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Bismuth (Total) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Boron (Total) | mg/L | 0.01 | 1.5 | 0.013 | 0.011 | 2 | 0.012 | 0.001 | 2 | 100% |
| Cadmium (Total) | mg/L | 0.00001 | 0.000029 | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Calcium (Total) | mg/L | 0.05 | | 22.600 | 29.400 | 2 | 26.000 | 4.808 | 2 | 100% |
| Chromium (Total) | mg/L | 0.0005 | 0.0047 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Cobalt (Total) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Copper (Total) | mg/L | 0.0005 | 0.002 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Iron (Total) | mg/L | 0.03 | 0.3 | *0.030* | *0.030* | 2 | 0.030 | 0.000 | 2 | 100% |
| Lead (Total) | mg/L | 0.00005 | 0.001 | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Lithium (Total) | mg/L | 0.005 | | *0.005* | *0.005* | 2 | 0.005 | 0.000 | 2 | 100% |
| Magnesium (Total) | mg/L | 0.1 | | 4.950 | 6.570 | 2 | 5.760 | 1.146 | 2 | 100% |
| Manganese (Total) | mg/L | 0.00005 | | 0.000 | 0.002 | 2 | 0.001 | 0.001 | 2 | 100% |
| Mercury (Total) | mg/L | 0.00001 | 0.000026 | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Molybdenum (Total) | mg/L | 0.00005 | 0.073 | 0.0001 | 0.0005 | 2 | 0.0003 | 0.0002 | 2 | 100% |
| Nickel (Total) | mg/L | 0.0005 | 0.083 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Phosphorus | | 0.003 | | | | | | | | |
| Potassium (Total) | mg/L | 0.05 | | 0.196 | 0.251 | 2 | 0.224 | 0.039 | 2 | 100% |
| Selenium (Total) | mg/L | 0.001 | 0.001 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Silicon (Total) | mg/L | 0.05 | | 0.330 | 0.690 | 2 | 0.510 | 0.255 | 2 | 100% |
| Silver (Total) | mg/L | 0.000001 | 0.0001 | *0.000001* | *0.000001* | 2 | 0.000001 | 0.000000 | 2 | 100% |
| Sodium (Total) | mg/L | 0.0012 | | 0.278 | 0.518 | 2 | 0.398 | 0.170 | 2 | 100% |
| Strontium (Total) | mg/L | 0.0001 | | 0.020 | 0.023 | 2 | 0.021 | 0.002 | 2 | 100% |
| Thallium (Total) | mg/L | 0.0001 | 0.0008 | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Tin (Total) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Titanium (Total) | mg/L | 0.01 | | *0.010* | 0.010 | 2 | 0.010 | 0.000 | 2 | 100% |
| Uranium (Total) | mg/L | 0.00001 | 0.015 | 0.0001 | 0.0002 | 2 | 0.0001 | 0.0001 | 2 | 100% |
| Vanadium (Total) | mg/L | 0.001 | 0.006 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Zinc (Total) | mg/L | 0.003 | 0.03 | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |
| **Dissolved Metals** | | | | | | | | | | |
| pH | | | 6.5-9.0 | 7.410 | 7.520 | 2 | 7.465 | 0.078 | 2 | 100% |
| Chlorophyll-a | mg/m3 | 0.2 | | *0.200* | 0.500 | 2 | 0.350 | 0.212 | 2 | 100% |
| Pheophytin-a | mg/m3 | 0.2 | | 0.800 | 0.900 | 2 | 0.850 | 0.071 | 2 | 100% |
| Hardness as CaCO3 (Dissolved) | mg/L | 0.5 | | 73.000 | 99.000 | 2 | 86.000 | 18.385 | 2 | 100% |
| Calcium (Dissolved) | mg/L | 0.05 | | 21.600 | 28.900 | 2 | 25.250 | 5.162 | 2 | 100% |
| Magnesium (Dissolved) | mg/L | 0.1 | | 4.730 | 6.440 | 2 | 5.585 | 1.209 | 2 | 100% |
| Potassium (Dissolved) | mg/L | 0.05 | | 0.181 | 0.224 | 2 | 0.203 | 0.030 | 2 | 100% |
| Sodium (Dissolved) | mg/L | 0.0012 | | 0.255 | 0.478 | 2 | 0.367 | 0.158 | 2 | 100% |
| Aluminum (Dissolved) | mg/L | 0.003 | | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |
| Antimony (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Arsenic (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Barium (Dissolved) | mg/L | 0.00005 | | 0.001 | 0.002 | 2 | 0.001 | 0.000 | 2 | 100% |
| Beryllium (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Bismuth (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Boron (Dissolved) | mg/L | 0.01 | | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Cadmium (Dissolved) | mg/L | 0.00001 | | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Chromium (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Cobalt (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Copper (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Iron (Dissolved) | mg/L | 0.03 | | *0.030* | *0.030* | 2 | 0.030 | 0.000 | 2 | 100% |
| Lead (Dissolved) | mg/L | 0.00005 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Lithium (Dissolved) | mg/L | 0.005 | | *0.005* | *0.005* | 2 | 0.005 | 0.000 | 2 | 100% |
| Manganese (Dissolved) | mg/L | 0.00005 | | 0.0002 | 0.0002 | 2 | 0.0002 | 0.0000 | 2 | 100% |
| Mercury (Dissolved) | mg/L | 0.00001 | | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Molybdenum (Dissolved) | mg/L | 0.00005 | | 0.0001 | 0.0001 | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Nickel (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Phosphorus | | | | | | | | | | |
| Selenium (Dissolved) | mg/L | 0.001 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Silicon (Dissolved) | mg/L | 0.05 | | 0.320 | 0.660 | 2 | 0.490 | 0.240 | 2 | 100% |
| Silver (Dissolved) | mg/L | 0.000001 | | *0.000001* | *0.000001* | 2 | 0.000001 | 0.000000 | 2 | 100% |
| Strontium (Dissolved) | mg/L | 0.0001 | | 0.018 | 0.021 | 2 | 0.019 | 0.002 | 2 | 100% |
| Thallium (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Tin (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Titanium (Dissolved) | mg/L | 0.01 | | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Uranium (Dissolved) | mg/L | 0.00001 | | 0.0001 | 0.0002 | 2 | 0.0001 | 0.0001 | 2 | 100% |
| Vanadium (Dissolved) | mg/L | 0.001 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Zinc (Dissolved) | mg/L | 0.003 | | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/22/11 17:15:32

| Parameters | Units | Method Detection Limit | Receiving Water Quality Guidelines | Katiktok Lake | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Katiktok Lake S | Katiktok Lake D | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
| | | 2011 | 2011 | 22-Jul-11 | 22-Jul-11 | | | | | |
| **In Situ Parameter** | | | | | | | | | | |
| Field Temperature | $^{0}C$ | | | 10.310 | 8.670 | 2 | 9.490 | 1.160 | 2 | 100% |
| Field Conductivity | µS/cm | | | 0.161 | 0.162 | 2 | 0.162 | 0.001 | 2 | 100% |
| Dissolved Oxygen | mg/L | | | 99.300 | 96.700 | 2 | 98.000 | 1.838 | 2 | 100% |
| Field pH | | | | 8.030 | 7.510 | 2 | 7.770 | 0.368 | 2 | 100% |
| **Laboratory Results** | | | | | | | | | | |
| Alkalinity as CaCO3 | mg/L | 5 | | 85.000 | 84.000 | 2 | 84.500 | 0.707 | 2 | 100% |
| Bromide | mg/L | 0.25 | | *0.250* | *0.250* | 2 | 0.250 | 0.000 | 2 | 100% |
| Chloride | mg/L | 1 | 120 | *1.000* | 1.000 | 2 | 1.000 | 0.000 | 2 | 100% |
| Conductivity | uS/cm | 5 | | 163.000 | 161.000 | 2 | 162.000 | 1.414 | 2 | 100% |
| N-NH3 (Ammonia) | mg/L | 0.02 | 0.021-231 | *0.020* | *0.020* | 2 | 0.020 | 0.000 | 2 | 100% |
| N-NO2 (Nitrite) | mg/L | 0.100 | 0.06 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| N-NO3 (Nitrate) | mg/L | 0.1 | 13 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| NO2 + NO3 as N | mg/L | 0.1 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Phenols | mg/L | 0.001 | 0.004 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Total Phosphorus | mg/L | 0.003 | | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |
| Sulphate | mg/L | 1 | | 6.000 | 4.000 | 2 | 5.000 | 1.414 | 2 | 100% |
| Total Kjeldahl Nitrogen | mg/L | 0.1 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Total Organic Carbon | mg/L | 0.5 | | 1.100 | 1.100 | 2 | 1.100 | 0.000 | 2 | 100% |
| Dissolved Organic Carbon | mg/L | 0.5 | | 1.000 | 1.000 | 2 | 1.000 | 0.000 | 2 | 100% |
| Total Suspended Solids | mg/L | 2 | | *2.000* | *2.000* | 2 | 2.000 | 0.000 | 2 | 100% |
| Total Dissolved Solids (COND - CALC) | mg/L | 1.00 | | 106.000 | 105.000 | 2 | 105.500 | 0.707 | 2 | 100% |
| Hardness as CaCO3 (Total) | mg/L | 0.5 | | 83.900 | 82.700 | 2 | 83.300 | 0.849 | 2 | 100% |
| Turbidity | NTU | 0.1 | | 0.400 | 0.300 | 2 | 0.350 | 0.071 | 2 | 100% |
| Aluminum (Total) | mg/L | 0.003 | 0.005-0.1 | **6.400** | **5.100** | 2 | 5.750 | 0.919 | 2 | 100% |
| Antimony (Total) | mg/L | 0.0001 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Arsenic (Total) | mg/L | 0.0001 | 0.005 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Barium (Total) | mg/L | 0.00005 | | 1.430 | 1.410 | 2 | 1.420 | 0.014 | 2 | 100% |
| Beryllium (Total) | mg/L | 0.0005 | | *0.500* | *0.500* | 2 | 0.500 | 0.000 | 2 | 100% |
| Bismuth (Total) | mg/L | 0.0005 | | *0.500* | *0.500* | 2 | 0.500 | 0.000 | 2 | 100% |
| Boron (Total) | mg/L | 0.01 | 1.5 | **11** | **10** | 2 | 10.500 | 0.707 | 2 | 100% |
| Cadmium (Total) | mg/L | 0.00001 | 0.000029 | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Calcium (Total) | mg/L | 0.05 | | 24.800 | 24.400 | 2 | 24.600 | 0.283 | 2 | 100% |
| Chromium (Total) | mg/L | 0.0005 | 0.0047 | *0.500* | *0.500* | 2 | 0.500 | 0.000 | 2 | 100% |
| Cobalt (Total) | mg/L | 0.0001 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Copper (Total) | mg/L | 0.0005 | 0.002 | *0.500* | *0.500* | 2 | 0.500 | 0.000 | 2 | 100% |
| Iron (Total) | mg/L | 0.03 | 0.3 | *30.000* | *30.000* | 2 | 30.000 | 0.000 | 2 | 100% |
| Lead (Total) | mg/L | 0.00005 | 0.001 | *0.050* | *0.050* | 2 | 0.050 | 0.000 | 2 | 100% |
| Lithium (Total) | mg/L | 0.005 | | *5.000* | *5.000* | 2 | 5.000 | 0.000 | 2 | 100% |
| Magnesium (Total) | mg/L | 0.1 | | 5.330 | 5.270 | 2 | 5.300 | 0.042 | 2 | 100% |
| Manganese (Total) | mg/L | 0.00005 | | 1.260 | 1.390 | 2 | 1.325 | 0.092 | 2 | 100% |
| Mercury (Total) | mg/L | 0.00001 | 0.000026 | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Molybdenum (Total) | mg/L | 0.00005 | 0.073 | **0.083** | **0.091** | 2 | 0.087 | 0.006 | 2 | 100% |
| Nickel (Total) | mg/L | 0.0005 | 0.083 | *0.500* | *0.500* | 2 | 0.500 | 0.000 | 2 | 100% |
| Phosphorus | | 0.003 | | | | | | | | |
| Potassium (Total) | mg/L | 0.05 | | 0.202 | 0.204 | 2 | 0.203 | 0.001 | 2 | 100% |
| Selenium (Total) | mg/L | 0.001 | 0.001 | *1.000* | *1.000* | 2 | 1.000 | 0.000 | 2 | 100% |
| Silicon (Total) | mg/L | 0.05 | | 380.000 | 370.000 | 2 | 375.000 | 7.071 | 2 | 100% |
| Silver (Total) | mg/L | 0.000001 | 0.0001 | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Sodium (Total) | mg/L | 0.0012 | | 0.337 | 0.334 | 2 | 0.336 | 0.002 | 2 | 100% |
| Strontium (Total) | mg/L | 0.0001 | | 18.100 | 18.000 | 2 | 18.050 | 0.071 | 2 | 100% |
| Thallium (Total) | mg/L | 0.0001 | 0.0008 | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Tin (Total) | mg/L | 0.0001 | | *0.100* | *0.100* | 2 | 0.100 | 0.000 | 2 | 100% |
| Titanium (Total) | mg/L | 0.01 | | *10.000* | *10.000* | 2 | 10.000 | 0.000 | 2 | 100% |
| Uranium (Total) | mg/L | 0.00001 | 0.015 | **0.119** | **0.114** | 2 | 0.117 | 0.004 | 2 | 100% |
| Vanadium (Total) | mg/L | 0.001 | 0.006 | *1.000* | *1.000* | 2 | 1.000 | 0.000 | 2 | 100% |
| Zinc (Total) | mg/L | 0.003 | 0.03 | *3.000* | *3.000* | 2 | 3.000 | 0.000 | 0 | 0% |
| **Dissolved Metals** | | | | | | | | | | |
| pH | | | 6.5-9.0 | 7.620 | 7.610 | 2 | 7.615 | 0.007 | 2 | 100% |
| Chlorophyll-a | mg/m3 | 0.2 | | 0.700 | 1.400 | 2 | 1.050 | 0.495 | 2 | 100% |
| Pheophytin-a | mg/m3 | 0.2 | | *0.200* | *0.200* | 2 | 0.200 | 0.000 | 2 | 100% |
| Hardness as CaCO3 (Dissolved) | mg/L | 0.5 | | 83.800 | 82.800 | 2 | 83.300 | 0.707 | 2 | 100% |
| Calcium (Dissolved) | mg/L | 0.05 | | 24.700 | 24.500 | 2 | 24.600 | 0.141 | 2 | 100% |
| Magnesium (Dissolved) | mg/L | 0.1 | | 5.360 | 5.250 | 2 | 5.305 | 0.078 | 2 | 100% |
| Potassium (Dissolved) | mg/L | 0.05 | | 0.202 | 0.200 | 2 | 0.201 | 0.001 | 2 | 100% |
| Sodium (Dissolved) | mg/L | 0.0012 | | 0.335 | 0.331 | 2 | 0.333 | 0.003 | 2 | 100% |
| Aluminum (Dissolved) | mg/L | 0.003 | | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |
| Antimony (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Arsenic (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Barium (Dissolved) | mg/L | 0.00005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Beryllium (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Bismuth (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Boron (Dissolved) | mg/L | 0.01 | | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Cadmium (Dissolved) | mg/L | 0.00001 | | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Chromium (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Cobalt (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Copper (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Iron (Dissolved) | mg/L | 0.03 | | *0.030* | *0.030* | 2 | 0.030 | 0.000 | 2 | 100% |
| Lead (Dissolved) | mg/L | 0.00005 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Lithium (Dissolved) | mg/L | 0.005 | | *0.005* | *0.005* | 2 | 0.005 | 0.000 | 2 | 100% |
| Manganese (Dissolved) | mg/L | 0.00005 | | 0.0003 | 0.0003 | 2 | 0.0003 | 0.0001 | 2 | 100% |
| Mercury (Dissolved) | mg/L | 0.00001 | | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00000 | 2 | 100% |
| Molybdenum (Dissolved) | mg/L | 0.00005 | | 0.0001 | 0.0001 | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Nickel (Dissolved) | mg/L | 0.0005 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Phosphorus | | | | | | | | | | |
| Selenium (Dissolved) | mg/L | 0.001 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Silicon (Dissolved) | mg/L | 0.05 | | 0.370 | 0.360 | 2 | 0.365 | 0.007 | 2 | 100% |
| Silver (Dissolved) | mg/L | 0.000001 | | *0.000001* | *0.000001* | 2 | 0.000001 | 0.000000 | 2 | 100% |
| Strontium (Dissolved) | mg/L | 0.0001 | | 0.017 | 0.017 | 2 | 0.017 | 0.000 | 2 | 100% |
| Thallium (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Tin (Dissolved) | mg/L | 0.0001 | | *0.0001* | *0.0001* | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Titanium (Dissolved) | mg/L | 0.01 | | *0.010* | *0.010* | 2 | 0.010 | 0.000 | 2 | 100% |
| Uranium (Dissolved) | mg/L | 0.00001 | | 0.0001 | 0.0001 | 2 | 0.0001 | 0.0000 | 2 | 100% |
| Vanadium (Dissolved) | mg/L | 0.001 | | *0.001* | *0.001* | 2 | 0.001 | 0.000 | 2 | 100% |
| Zinc (Dissolved) | mg/L | 0.003 | | *0.003* | *0.003* | 2 | 0.003 | 0.000 | 2 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit 2006 | Method Detection Limit 2007 | Method Detection Limit 2008 | Method Detection Limit 2011 | Receiving Water Quality Guidelines 2011 | Mid-Rail Camp Lake NIVEK 09-Sep-08 | NIVEK 23-Jul-11 | NIVEK 27-Aug-11 | NS-Nivek-S Surface 08-Aug-08 | NS-Nivek-B Bottom 08-Aug-08 | MRC2-S 23-Jul-11 | MRC2-S 28-Aug-11 | MRC2-D 23-Jul-11 | MRC2-D 28-Aug-11 | Number of Samples | Mean | Standard Deviation | Number of Detects | Percentage of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| In Situ Parameters | | | | | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | | | 3.64 | 13.83 | 8.67 | 14.5 | 11.2 | 13.01 | 8.12 | 12.76 | 8.07 | 9 | 10.42 | 3.55 | 9 | 100% |
| Specific Conductance | mS/cm | | | | | | 0.14 | 0.057 | 0.060 | 0.057 | 0.058 | 0.16 | 0.21 | 0.16 | 0.21 | 9 | 0.124 | 0.066 | 9 | 100% |
| Dissolved Oxygen | mg/L | | | | | 9.5 | 11.71 | | | 10.17 | 10.81 | | | | | 3 | 10.90 | 0.77 | 3 | 100% |
| pH | - | | | | | 6.5-9.0 | **5.57** | 7.13 | 6.89 | 8.08 | 6.69 | 6.78 | 6.6 | 6.67 | 6.6 | 9 | 6.78 | 0.65 | 9 | 100% |
| Wetted Width | m | - | | - | | | | | | | | | | | | 0 | | | | |
| Average Depth (m) | (m) | | | | | | | | | | | | | | | 0 | | | | |
| Flow Rate | m3/s | - | | - | | | | | | | | | | | | 0 | | | | |
| Measured Depth (m) | (m) | | | | | | | | | | | | | | | 0 | | | | |
| Total Depth - May Samples Only | m | | | | | | | | | | | | | | | 0 | | | | |
| Ice Thickness -May Samples Only | m | | | | | | | | | | | | | | | 0 | | | | |
| Airspace - May Samples Only | m | | | | | | | | | | | | | | | 0 | | | | |
| Snow Depth - May Samples Only | m | | | | | | | | | | | | | | | 0 | | | | |
| Water Depth | m | | | | | | | | | 12 | 12 | | | | | 2 | 12.0 | 0.0 | 2 | 100% |
| Turbidity | NTU | | | | | | 9 | | | 6.2 | 2.8 | | | | | 3 | 6.0 | 3.1 | 3 | 100% |
| Secchi Disk Depth | m | | | | | | | | | 7 | 7 | | | | | 2 | 7.0 | 0.0 | 2 | 100% |
| General Parameters and Nutrients | | | | | | | | | | | | | | | | | | | | |
| pH | - | - | | 1 | | 6.5-9.0 | 6.78 | **6.23** | **6.16** | 7.04 | 7.04 | **6.14** | **6.03** | **6.18** | **6.04** | 9 | 6.40 | 0.42 | 9 | 100% |
| Conductivity | µS/cm | 5 | 5 | 5 | | | 52 | 58 | 239 | 52 | 53 | 16 | 21 | 18 | 21 | 9 | 59 | 70 | 9 | 100% |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.1 | | 0.6 | 0.4 | 0.3 | 0.3 | 0.5 | 0.6 | 0.5 | 0.7 | 0.7 | 9 | 0.5 | 0.2 | 9 | 100% |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 0.5 | | 17.2 | 19.3 | 19.9 | 18.0 | 18.1 | 5.3 | 6.9 | 5.4 | 7.1 | 9 | 13.0 | 6.6 | 9 | 100% |
| | | | | | 1 | | | | | | | | | | | | | | | |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | | | 34 | 38 | 155 | 34 | 35 | 10 | 14 | 12 | 14 | 9 | 38 | 45 | 9 | 100% |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | 2 | | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | *2* | 9 | 2 | 0 | 9 | 100% |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 5 | | *5* | <5 | 6 | 6 | 9 | *5* | *5* | *5* | *5* | 8 | 6 | 1 | 8 | 100% |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | 0.25 | | *0.25* | *0.2500* | *0.2500* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | *0.25* | 9 | 0.25 | 0.00 | 9 | 100% |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 120 | 11 | 13 | 13 | 11 | 10 | 2 | 3 | 2 | 3 | 9 | 8 | 5 | 7 | 78% |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | | 1 | 1 | *1.0000* | 3 | 3 | *1* | *1* | *1* | *1* | 9 | 1.4444 | 0.8819 | 7 | 78% |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.021-231 | *0.02* | *0.0200* | *0.0200* | *0.02* | *0.02* | 0.06 | 0.02 | 0.02 | *0.02* | 9 | 0.0244 | 0.0133 | 9 | 100% |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | 0.100 | 0.06 | *0.005* | *0.1000* | *0.0050* | *0.005* | *0.005* | *0.10* | *0.005* | *0.10* | *0.005* | 9 | 0.037 | 0.048 | 9 | 100% |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | 13 | *0.1* | *0.1000* | *0.1000* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 9 | 0.1000 | 0.0000 | 9 | 100% |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | 0.1 | | *0.1* | *0.1000* | *0.1000* | *0.1* | *0.1* | *0.10* | *0.10* | *0.10* | *0.10* | 9 | 0.1000 | 0.0000 | 9 | 100% |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | | 0.003 | *0.0110* | *0.0030* | 0.003 | *0.003* | 0.004 | 0.003 | 0.007 | *0.003* | 9 | 0.004 | 0.003 | 9 | 100% |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 0.5 | | 2.5 | 2.2 | 1.8 | 1.9 | 1.6 | 2.7 | 3.1 | 2.8 | 3 | 9 | 2.4 | 0.5 | 8 | 89% |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 0.5 | | 2.1 | 2 | 1.8 | 1.4 | 1.6 | 2.5 | 2.6 | 2.4 | 2.6 | 9 | 2.1 | 0.4 | 9 | 100% |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.1 | | 0.18 | 0.11 | <0.10 | 0.11 | 0.14 | *0.10* | *0.10* | 0.18 | *0.10* | 8 | 0.13 | 0.03 | 8 | 100% |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | *0.001* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | *0.001* | 9 | 0.0010 | 0.0000 | 9 | 100% |
| Total Metals and Non-Metals | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | 0.005-0.1 | **0.0134** | *0.0063* | *0.0276* | 0.00390 | 0.00330 | 0.0105 | 0.0077 | 0.009 | 0.0055 | 9 | 0.0097 | 0.0074 | 9 | 100% |
| Antimony | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.00010 | 0.00000 | 9 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | 0.005 | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.00010 | 0.00000 | 9 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00311 | 0.00322 | 0.00319 | 0.00262 | 0.00264 | 0.00281 | 0.00292 | 0.00299 | 0.00296 | 9 | 0.00294 | 0.00022 | 9 | 100% |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.00050 | 0.00000 | 9 | 100% |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.00050 | 0.00000 | 9 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | 1.5 | *0.01* | *0.0100* | *0.0100* | *0.01000* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | 9 | 0.01000 | 0.00000 | 9 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | 0.000029 | 0.000011 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 9 | 0.000010 | 0.000000 | 9 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 4.92 | 5.6 | 5.87 | 5.27 | 5.47 | 1.11 | 1.46 | 1.14 | 1.51 | 9 | 3.59 | 2.19 | 9 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | 0.0047 | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0005 | 0.0000 | 9 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.00010 | 0.00000 | 9 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | 0.002 | 0.00048 | *0.0005* | *0.0005* | 0.00038 | 0.00041 | *0.0005* | *0.0005* | 0.0009 | *0.0005* | 9 | 0.00052 | 0.00015 | 9 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | 0.3 | 0.053 | 0.08 | 0.1 | *0.03000* | *0.03000* | 0.14 | 0.16 | 0.14 | 0.1 | 9 | 0.09256 | 0.04836 | 9 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | 0.001 | *0.00005* | *0.0001* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 0.00013 | *0.00005* | 9 | 0.00006 | 0.00003 | 9 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.005* | *0.0050* | *0.0050* | *0.00500* | *0.00500* | *0* | *0* | *0* | *0* | 9 | 0.00500 | 0.00000 | 9 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 1.11 | 1.28 | 1.28 | 1.04 | 1.03 | 0.61 | 0.78 | 0.61 | 0.8 | 9 | 0.95 | 0.26 | 9 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00455 | 0.002 | 0.00361 | 0.00199 | 0.00264 | 0.00125 | 0.00115 | 0.00134 | 0.000549 | 9 | 0.00212 | 0.00128 | 9 | 100% |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | 0.00001 | 0.000026 | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 9 | 0.00001 | 0.00000 | 9 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | 0.073 | *0.00005* | *0.0001* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 9 | 0.00005 | 0.00000 | 9 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | 0.083 | *0.0005* | *0.0005* | *0.0005* | *0.00050* | *0.00050* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.00050 | 0.00000 | 9 | 100% |
| Phosphorus | | | | | 0.003 | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.643 | 0.623 | 0.675 | 0.532 | 0.532 | 0.447 | 0.468 | 0.46 | 0.48 | 9 | 0.540 | 0.086 | 9 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.001 | *0.001* | *0.0010* | *0.0010* | *0.00100* | *0.00100* | *0* | *0* | *0* | *0* | 9 | 0.00100 | 0.00000 | 9 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.24 | 0.24 | 0.32 | 0.24600 | 0.23600 | 0.21 | 0.31 | 0.21 | 0.32 | 9 | 0.25911 | 0.04509 | 9 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | 0.0001 | *0.00001* | *0.000001* | *0.000001* | *0.00001* | *0.00001* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 9 | 0.000004 | 0.000005 | 9 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 1.67 | 1.8 | 1.78 | 1.49 | 1.54 | 0.545 | 0.575 | 0.564 | 0.581 | 9 | 1.172 | 0.583 | 9 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.0452 | 0.0521 | 0.0557 | 0.04090 | 0.04290 | 0.00549 | 0.00649 | 0.00563 | 0.00647 | 9 | 0.02899 | 0.02224 | 9 | 100% |
| Thallium | mg/L | | 0.00010 | 0.0001 | 0.0001 | 0.0008 | *0.0001* | *0.0001* | *0.0001* | *0.00010* | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | 0.00011 | *0.00010* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Titanium | mg/L | | 0.010 | 0.01 | 0.01 | | *0.01* | *0.0100* | *0.0100* | *0.01000* | *0.01000* | *0.01* | *0.01* | *0.01* | *0.01* | 9 | 0.01000 | 0.00000 | 9 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | 0.015 | 0.000026 | 0.000045 | 0.000029 | 0.000014 | 0.000013 | 0.000018 | 0.000014 | 0.00002 | *0.00001* | 9 | 0.000021 | 0.000011 | 9 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | 0.006 | *0.001* | *0.001* | *0.001* | *0.001000* | *0.001000* | *0.001* | *0.001* | *0.001* | *0.001* | 9 | 0.001000 | 0.000000 | 9 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | 0.03 | 0.0023 | *0.0030* | *0.0030* | *0.001000* | *0.001000* | *0.003* | *0.003* | *0.003* | *0.003* | 9 | 0.002478 | 0.000869 | 9 | 100% |
| Dissolved Metals and Non-Metals | | | | | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.003 | | 0.0042 | *0.0030* | *0.0030* | 0.0013 | *0.0010* | *0.003* | *0.003* | *0.003* | *0.003* | 9 | 0.0027 | 0.0010 | 9 | 100% |
| Antimony | mg/L | | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00287 | 0.00321 | 0.00261 | 0.00262 | 0.00269 | 0.00274 | 0.00337 | 0.00257 | 0.0033 | 9 | 0.00289 | 0.00032 | 9 | 100% |
| Beryllium | mg/L | | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0005 | 0.0000 | 9 | 100% |
| Bismuth | mg/L | | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0005 | 0.0000 | 9 | 100% |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | 0.01 | | *0.01* | *0.0100* | *0.0100* | *0.0100* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.01* | 9 | 0.0100 | 0.0000 | 9 | 100% |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | 0.00001 | | 0.000012 | *0.0000* | *0.0000* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 9 | 0.00001 | 0.00000 | 9 | 100% |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 0.05 | | 5.01 | 5.56 | 5.93 | 5.42 | 5.50 | 1.09 | 1.45 | 1.09 | 1.46 | 9 | 3.61 | 2.24 | 9 | 100% |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0005 | 0.0000 | 9 | 100% |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0005 | | 0.00046 | *0.0005* | *0.0005* | 0.0002 | 0.0003 | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0004 | 0.0001 | 9 | 100% |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | 0.03 | | *0.03* | 0.03 | <0.03 | *0.0300* | *0.0300* | 0.06 | 0.06 | 0.06 | 0.05 | 8 | 0.0438 | 0.0151 | 8 | 100% |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | 0.00005 | | *0.00005* | *0.0001* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 9 | 0.00005 | 0.00000 | 9 | 100% |
| Lithium | mg/L | | 0.0050 | 0.005 | 0.005 | | *0.005* | *0.0050* | *0.0050* | *0.0050* | *0.0050* | *0* | *0* | *0* | *0* | 9 | 0.0050 | 0.0000 | 9 | 100% |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 0.1 | | 1.13 | 1.27 | 1.28 | 1.08 | 1.05 | 0.59 | 0.77 | 0.59 | 0.77 | 9 | 0.95 | 0.27 | 9 | 100% |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00005 | | 0.00318 | 0.00148 | 0.00107 | 0.000872 | 0.000335 | 0.000787 | 0.000901 | 0.000757 | 0.000908 | 9 | 0.001143 | 0.000820 | 9 | 100% |
| Mercury | mg/L | | 0.000050 | 0.00001 | 0.00001 | | *0.00001* | *0.0000* | *0.0000* | *0.0000* | *0.0000* | *0.00001* | *0.00001* | *0.00001* | *0.00001* | 9 | 0.00001 | 0.00000 | 9 | 100% |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | 0.00005 | | *0.00005* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.00005* | *0.00005* | *0.00005* | *0.00005* | 9 | 0.00005 | 0.00000 | 9 | 100% |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | 0.0005 | | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | *0.0005* | 9 | 0.0005 | 0.0000 | 9 | 100% |
| Phosphorus | | | | | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.05 | | 0.606 | 0.625 | 0.56 | 0.529 | 0.522 | 0.437 | 0.545 | 0.418 | 0.531 | 9 | 0.530 | 0.068 | 9 | 100% |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | 9 | 0.001 | 0.000 | 9 | 100% |
| Silicon | mg/L | | 0.050 | 0.05 | 0.05 | | 0.226 | 0.23 | 0.28 | 0.2360 | 0.2450 | 0.2 | 0.31 | 0.19 | 0.3 | 9 | 0.2463 | 0.0421 | 9 | 100% |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | 0.000001 | | *0.00001* | *0.0000* | *0.0000* | *0.0000* | *0.0000* | *0.000001* | *0.000001* | *0.000001* | *0.000001* | 9 | 0.000004 | 0.000005 | 9 | 100% |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.0012 | | 1.6 | 1.75 | 1.61 | 1.51 | 1.53 | 0.512 | 0.681 | 0.486 | 0.685 | 9 | 1.152 | 0.540 | 9 | 100% |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.0001 | | 0.044 | 0.0496 | 0.0501 | 0.0409 | 0.0429 | 0.0052 | 0.00718 | 0.00544 | 0.00723 | 9 | 0.02806 | 0.02090 | 9 | 100% |
| Thallium | mg/L | - | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.0001 | 0.0000 | 9 | 100% |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.0001 | | *0.0001* | *0.0001* | *0.0001* | 0.00035 | 0.00024 | *0.0001* | *0.0001* | *0.0001* | *0.0001* | 9 | 0.00014 | 0.00009 | 9 | 100% |
| Titanium | mg/L | - | 0.010 | 0.01 | 0.01 | | *0.01* | *0.0100* | *0.0100* | *0.0100* | *0.0100* | *0.01* | *0.01* | *0.01* | *0.01* | 9 | 0.0100 | 0.0000 | 9 | 100% |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00001 | | 0.000022 | 0.000036 | *0.0000* | 0.000012 | *0.000010* | 0.000015 | 0.000013 | 0.000014 | 0.000012 | 9 | 0.000016 | 0.000008 | 9 | 100% |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | 0.001 | | *0.001* | *0.0010* | *0.0010* | *0.0010* | *0.0010* | *0.001* | *0.001* | *0.001* | *0.001* | 9 | 0.0010 | 0.0000 | 9 | 100% |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | 0.003 | | 0.0021 | *0.0030* | *0.0030* | *0.0010* | *0.0010* | *0.003* | *0.003* | *0.003* | 0.0041 | 9 | 0.0026 | 0.0010 | 9 | 100% |

Knight Piésold CONSULTING

**TABLE 3.7**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**LAKE WATER QUALITY SUMMARY DATA AND STATISTICS**

Print Dec/21/11 15:21:50

| Parameters | Units | Method Detection Limit | Method Detection Limit | Method Detection Limit | Candidate Reference Lake | | | | Mary Lake Tributary 2 | | | | Sheardown Lake Tributary 1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CRL-3-S Surface | CRL-3-B Bottom | Number of Samples | Mean | MLST2 | MLST2-WQ | Number of Samples | Mean | SDLT1-R1 | SDLT1-R1 | Number of Samples | Mean |
| | | 2006 | 2007 | 2008 | 04-Aug-08 | 04-Aug-08 | | | 25-Jun-08 | 26-Jul-08 | | | 25-Jun-08 | 14-Sep-08 | | |
| In Situ Parameters | | | | | | | | | | | | | | | | |
| Temperature | °C | | | | 14.4 | 10.2 | 2 | 12.3 | 5.2 | | 1 | 5.2 | 6.2 | 1.2 | 2 | 3.7 |
| Specific Conductance | mS/cm | | | | 0.111 | 0.105 | 2 | 0.108 | 0.029 | | 1 | 0.029 | 0.113 | 0.257 | 2 | 0.185 |
| Dissolved Oxygen | mg/L | | | | 10.66 | 11.17 | 2 | 10.92 | 12.61 | | 1 | 12.61 | 12.81 | 13.24 | 2 | 13.03 |
| pH | - | | | | **6.26** | 6.97 | 2 | 6.62 | 7.05 | | 1 | 7.05 | 7.61 | 8.12 | 2 | 7.87 |
| Wetted Width | m | - | | - | | | 0 | | | | | | | | | |
| Average Depth (m) | (m) | | | | | | 0 | | | | | | | | | |
| Flow Rate | m3/s | - | | - | | | 0 | | | | | | | | | |
| Measured Depth (m) | (m) | | | | | | 0 | | | | | | | | | |
| Total Depth - May Samples Only | m | | | | | | 0 | | | | | | | | | |
| Ice Thickness -May Samples Only | m | | | | | | 0 | | | | | | | | | |
| Airspace - May Samples Only | m | | | | | | 0 | | | | | | | | | |
| Snow Depth - May Samples Only | m | | | | | | 0 | | | | | | | | | |
| Water Depth | m | | | | 10 | 10 | 2 | 10 | 0.15 | 0.15 | 2 | 0.15 | 0.2 | 0.2 | 2 | 0.2 |
| Turbidity | NTU | | | | 0 | 0 | 2 | 0 | | | | | | 4.1 | 1 | 4.1 |
| Secchi Disk Depth | m | | | | | | 0 | | | | | | | | | |
| General Parameters and Nutrients | | | | | | | 0 | | | | | | | | | |
| pH | - | - | | 1 | 7.83 | 7.82 | 2 | 7.83 | 7.38 | 7.51 | 2 | 7.45 | 7.88 | | 1 | 7.88 |
| Conductivity | µS/cm | 5 | 5 | 5 | 99 | 96 | 2 | 98 | 32 | 39 | 2 | 36 | 117 | | 1 | 117 |
| Turbidity | NTU | 0.1 | 0.1 | 0.1 | 0.5 | 0.7 | 2 | 0.6 | 0.4 | 0.4 | 2 | 0.4 | 1.5 | | 1 | 1.5 |
| Hardness | mg/L as $CaCO_3$ | 1 | 0.5 | 0.5 | 50.1 | 49.1 | 2 | 49.6 | 15.3 | 19.4 | 2 | 17.4 | 57.6 | | 1 | 57.6 |
| TDS (COND - CALC) | mg/L | 5 | 5 | 5 | 64 | 62 | 2 | 63 | 21 | 25 | 2 | 23 | 76 | | 1 | 76 |
| Total Suspended Solids (TSS) | mg/L | | 2 | 2 | *2* | *2* | 2 | 2 | *2* | *2* | 2 | 2 | *2.00* | | 1 | 2.00 |
| Alkalinity | mg/L as $CaCO_3$ | 5 | 5 | 5 | 50 | 49 | 2 | 50 | 14 | 23 | 2 | 19 | 49 | | 1 | 49 |
| Bromide ($Br^-$) | mg/L | 0.05 | 0.05 | 0.05 | *0.25* | *0.25* | 2 | 0.25 | *0.250* | *0.250* | 2 | 0.250 | *0.25* | | 1 | 0.25 |
| Chloride ($Cl^-$) | mg/L | 1 | 1 | 1 | 1 | 1 | 2 | 1 | *1.000* | *1.000* | 2 | 1.000 | 6 | | 1 | 6 |
| Sulphate ($SO_4^{2-}$) | mg/L | 1 | 1 | 1 | 1 | 1 | 2 | 1 | *1.000* | *1.000* | 2 | 1.000 | 1 | | 1 | 1 |
| Ammonia ($NH_3$+$NH_4$) | mg N/L | 0.02 | 0.02 | 0.02 | *0.02* | *0.02* | 2 | 0.02 | 0.070 | *0.020* | 2 | 0.045 | 0.02 | | 1 | 0.02 |
| Nitrite ($NO_2^-$) | mg N/L | 0.005 | 0.002 | 0.005 | *0.005* | *0.005* | 2 | 0.005 | *0.005* | *0.005* | 2 | 0.005 | *0.01* | | 1 | 0.01 |
| Nitrate ($NO_3^-$) | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | 2 | 0.1 | *0.100* | *0.100* | 2 | 0.100 | *0.10* | | 1 | 0.10 |
| $NO_2$+$NO_3$ | mg N/L | 0.1 | 0.10 | 0.1 | *0.1* | *0.1* | 2 | 0.1 | *0.100* | *0.100* | 2 | 0.100 | *0.10* | | 1 | 0.10 |
| Total Phosphorus | mg/L | 0.01 | 0.003 | 0.003 | 0.003 | 0.007 | 2 | 0.005 | 0.005 | *0.003* | 2 | 0.004 | 0.004 | | 1 | 0.004 |
| Total Organic Carbon (TOC) | mg/L | | 0.5 | 0.5 | 2.6 | 2.5 | 2 | 2.6 | 4.40 | 5.8 | 2 | 5.10 | 3.1 | | 1 | 3.1 |
| Dissolved Organic Carbon | mg/L | | 0.5 | 0.5 | 2.4 | 2.4 | 2 | 2.4 | 4.10 | 5.6 | 2 | 4.85 | 2.9 | | 1 | 2.9 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | | 0.05 | 0.1 | 0.22 | 0.18 | 2 | 0.20 | 0.410 | 0.30 | 2 | 0.36 | 0.23 | | 1 | 0.23 |
| Phenols | mg/L | 0.001 | 0.001 | 0.001 | *0.001* | *0.001* | 2 | 0.001 | *0.001* | *0.001* | 2 | 0.001 | *0.001* | | 1 | 0.001 |
| Total Metals and Non-Metals | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | 0.00280 | 0.00150 | 2 | 0.00215 | 0.00980 | 0.0089 | 2 | 0.00935 | 0.05840 | | 1 | 0.05840 |
| Antimony | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00309 | 0.00296 | 2 | 0.00303 | 0.00201 | 0.00248 | 2 | 0.00225 | 0.00589 | | 1 | 0.00589 |
| Beryllium | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | | 1 | 0.00050 |
| Bismuth | mg/L | - | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | | 1 | 0.00050 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.01000* | *0.01000* | 2 | 0.01000 | *0.01000* | *0.01000* | 2 | 0.01000 | *0.01000* | | 1 | 0.01000 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | 2 | 0.00001 | 0.00001 | *0.00001* | 2 | 0.00001 | 0.00001 | | 1 | 0.00001 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 11.0 | 10.6 | 2 | 10.8 | 2.95 | 3.73 | 2 | 3.34 | 10.9 | | 1 | 10.9 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | | 1 | 0.00050 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00090 | 0.00041 | 2 | 0.00066 | **0.00229** | 0.00052 | 2 | 0.00141 | **0.00300** | | 1 | 0.00300 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.030* | 0.0480 | 2 | 0.0390 | 0.05700 | 0.091 | 2 | 0.074 | 0.08400 | | 1 | 0.08400 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | 2 | 0.00005 | 0.00007 | *0.00005* | 2 | 0.00006 | 0.00021 | | 1 | 0.00021 |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.00500* | 2 | 0.00500 | *0.00500* | *0.00500* | 2 | 0.00500 | *0.00500* | | 1 | 0.00500 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 5.53 | 5.38 | 2 | 5.46 | 1.95 | 2.43 | 2 | 2.19 | 7.28 | | 1 | 7.28 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.00223 | 0.00418 | 2 | 0.00321 | 0.00043 | 0.000831 | 2 | 0.000630 | 0.00145 | | 1 | 0.00145 |
| Mercury | mg/L | 0.0001 | 0.000050 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | | 1 | 0.00001 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | *0.00005* | *0.00005* | 2 | 0.00005 | *0.00005* | *0.00005* | 2 | 0.00005 | 0.00098 | | 1 | 0.00098 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00182* | 0.00093 | 2 | 0.00138 | *0.00146* | | 1 | 0.00146 |
| Phosphorus | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.373 | 0.363 | 2 | 0.368 | 0.360 | 0.205 | 2 | 0.283 | 1.16 | | 1 | 1.16 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.00100* | | 1 | 0.00100 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.58400 | 0.59500 | 2 | 0.58950 | 0.67500 | 1.15 | 2 | 0.91250 | 0.94700 | | 1 | 0.94700 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | | 1 | 0.00001 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.658 | 0.608 | 2 | 0.633 | 0.297 | 0.32 | 2 | 0.309 | 0.522 | | 1 | 0.522 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00599 | 0.00576 | 2 | 0.00588 | 0.00253 | 0.00403 | 2 | 0.00328 | 0.00675 | | 1 | 0.00675 |
| Thallium | mg/L | | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.00022 | 0.00010 | 2 | 0.00016 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Titanium | mg/L | | 0.010 | 0.01 | *0.010* | *0.010* | 2 | 0.010 | *0.01000* | *0.01000* | 2 | 0.01000 | *0.01000* | | 1 | 0.01000 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.000178 | 0.000175 | 2 | 0.000177 | 0.000016 | 0.000024 | 2 | 0.000020 | 0.000877 | | 1 | 0.000877 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.0010* | *0.0010* | 2 | 0.0010 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.00100* | | 1 | 0.00100 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.0010* | *0.0010* | 2 | 0.0010 | 0.00440 | *0.00100* | 2 | 0.00270 | 0.00370 | | 1 | 0.00370 |
| Dissolved Metals and Non-Metals | | | | | | | | | | | | | | | | |
| Aluminium | mg/L | 0.005 | 0.0010 | 0.001 | *0.001* | *0.001* | 2 | 0.001 | 0.00750 | 0.00650 | 2 | 0.00700 | 0.00800 | | 1 | 0.00800 |
| Antimony | mg/L | | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | 0.00010 | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Arsenic | mg/L | 0.001 | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | 0.00010 | 2 | 0.00010 | *0.00010* | | 1 | 0.00010 |
| Barium | mg/L | 0.01 | 0.000050 | 0.00005 | 0.003 | 0.003 | 2 | 0.003 | 0.00197 | 0.00290 | 2 | 0.00244 | 0.00582 | | 1 | 0.00582 |
| Beryllium | mg/L | | 0.00050 | 0.0005 | *0.001* | *0.001* | 2 | 0.001 | *0.00050* | 0.00050 | 2 | 0.00050 | *0.00050* | | 1 | 0.00050 |
| Bismuth | mg/L | | 0.00050 | 0.0005 | *0.001* | *0.001* | 2 | 0.001 | *0.00050* | 0.00050 | 2 | 0.00050 | *0.00050* | | 1 | 0.00050 |
| Boron | mg/L | 0.01 | 0.010 | 0.01 | *0.010* | *0.010* | 2 | 0.010 | *0.01000* | 0.010 | 2 | 0.010 | *0.01000* | | 1 | 0.01000 |
| Cadmium | mg/L | 0.0001 | 0.000017 | 0.000017 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | 0.00001 | 2 | 0.00001 | 0.000013 | | 1 | 0.000013 |
| Calcium | mg/L | 1 | 0.050 | 0.05 | 10.9 | 10.7 | 2 | 10.8 | 2.96 | 3.76 | 2 | 3.36 | 11.0 | | 1 | 11.0 |
| Chromium | mg/L | 0.001 | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | *0.00050* | 0.00050 | 2 | 0.00050 | *0.000500* | | 1 | 0.000500 |
| Cobalt | mg/L | 0.0002 | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | 0.00010 | 2 | 0.00010 | *0.000100* | | 1 | 0.000100 |
| Copper | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00052 | 0.00125 | 2 | 0.00089 | 0.00056 | 0.00059 | 2 | 0.00058 | 0.003050 | | 1 | 0.003050 |
| Iron | mg/L | 0.03 | 0.030 | 0.03 | *0.03000* | *0.03000* | 2 | 0.03000 | 0.04700 | 0.0570 | 2 | 0.05200 | *0.030000* | | 1 | 0.030000 |
| Lead | mg/L | 0.001 | 0.000050 | 0.00005 | *0.00005* | 0.00016 | 2 | 0.00011 | *0.00005* | *0.00005* | 2 | 0.00005 | 0.000100 | | 1 | 0.000100 |
| Lithium | mg/L | | 0.0050 | 0.005 | *0.00500* | *0.00500* | 2 | 0.00500 | *0.00500* | *0.00500* | 2 | 0.00500 | *0.005000* | | 1 | 0.005000 |
| Magnesium | mg/L | 1 | 0.10 | 0.1 | 5.54 | 5.42 | 2 | 5.48 | 1.93 | 2.44 | 2 | 2.19 | 7.30 | | 1 | 7.30 |
| Manganese | mg/L | 0.01 | 0.000050 | 0.00005 | 0.000549 | 0.000259 | 2 | 0.000404 | 0.000217 | 0.00059 | 2 | 0.00040 | 0.000626 | | 1 | 0.000626 |
| Mercury | mg/L | | 0.000050 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.000010* | | 1 | 0.000010 |
| Molybdenum | mg/L | 0.005 | 0.000050 | 0.00005 | *0.00005* | 0.000053 | 2 | 0.00005 | *0.00005* | *0.00005* | 2 | 0.00005 | 0.000981 | | 1 | 0.000981 |
| Nickel | mg/L | 0.005 | 0.00050 | 0.0005 | *0.00050* | *0.00050* | 2 | 0.00050 | 0.00075 | 0.00089 | 2 | 0.00082 | 0.001370 | | 1 | 0.001370 |
| Phosphorus | | | | | | | | | | | | | | | | |
| Potassium | mg/L | 0.01 | 2.0 | 0.05 | 0.370 | 0.355 | 2 | 0.363 | 0.306 | 0.205 | 2 | 0.256 | 1.15 | | 1 | 1.15 |
| Selenium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.001000* | | 1 | 0.00100 |
| Silicon | mg/L | | 0.050 | 0.05 | 0.59000 | 0.59100 | 2 | 0.59050 | 0.67100 | 1.150 | 2 | 0.91050 | 0.823000 | | 1 | 0.823000 |
| Silver | mg/L | 0.0001 | 0.000010 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.00001* | *0.00001* | 2 | 0.00001 | *0.000010* | | 1 | 0.000010 |
| Sodium | mg/L | 0.05 | 2.0 | 0.05 | 0.663 | 0.721 | 2 | 0.692 | 0.234 | 0.326 | 2 | 0.280 | 0.492 | | 1 | 0.492 |
| Strontium | mg/L | 0.001 | 0.00010 | 0.0001 | 0.00591 | 0.00564 | 2 | 0.00578 | 0.00247 | 0.00402 | 2 | 0.00325 | 0.006750 | | 1 | 0.006750 |
| Thallium | mg/L | - | 0.00010 | 0.0001 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.00010* | *0.00010* | 2 | 0.00010 | *0.000100* | | 1 | 0.000100 |
| Tin | mg/L | 0.01 | 0.00010 | 0.0001 | 0.00046 | 0.00021 | 2 | 0.00034 | *0.00010* | *0.00010* | 2 | 0.00010 | 0.000180 | | 1 | 0.000180 |
| Titanium | mg/L | - | 0.010 | 0.01 | *0.01000* | *0.01000* | 2 | 0.01000 | *0.01000* | 0.010 | 2 | 0.01000 | *0.010000* | | 1 | 0.010000 |
| Uranium | mg/L | | 0.000010 | 0.00001 | 0.00018 | 0.00017 | 2 | 0.00017 | 0.000015 | 0.000024 | 2 | 0.000020 | 0.000863 | | 1 | 0.000863 |
| Vanadium | mg/L | 0.001 | 0.0010 | 0.001 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.00100* | *0.00100* | 2 | 0.00100 | *0.001000* | | 1 | 0.001000 |
| Zinc | mg/L | 0.01 | 0.0010 | 0.001 | *0.00100* | *0.00100* | 2 | 0.00100 | 0.00140 | 0.01090 | 2 | 0.00615 | 0.003800 | | 1 | 0.003800 |

v A - Aquatic Program Summary Report\Tables\[Table 3.7_LakeStats_Updated.xls]Miscellaneous

Knight Piésold
CONSULTING

**NOTES:**

1. METHOD DETECTION LIMITS CAN VARY FOR INDIVIDUAL SAMPLES BASED ON TURBIDITY. MDLS LISTED IN THIS TABLE ARE THE GENERAL MDL VALUES PROVIDED BY THE LABORATORY.
2. IN-SITU DATA PROVIDED BY KNIGHT PIESOLD LTD. NORTH/SOUTH CONSULTANTS INC.
3. FOR STATISTICAL PURPOSES, WHERE A RESULT WAS REPORTED AS BELOW THE METHOD DETECTION LIMIT, THE "<" SYMBOL WAS REMOVED AND THE RESULT WAS CONSIDERED TO BE EQUAL TO THE METHOD DETECTION LIMIT. THE RESULT IS SHOWN IN RED ITALICIZED FONT.
4. WHERE THERE WERE TWO SETS OF LABORATORY RESULTS FOR A SITE, ONLY THE NUMBER OF SAMPLES AND A LAKE-WIDE MEAN WERE CALCULATED. IF ONLY ONE SET OF DATA EXISTS FOR A SITE, NO STATISTICS WERE CALCULATED.
5. SAMPLES ANALYZED BY EXOVA ACCUTEST LABORATORIES AND ALS VANCOUVER.
6. HOLDING TIMES FOR SPECIFIC GENERAL PARAMETERS WERE EXCEEDED FOR VARIOUS SAMPLES IN JULY 2008. WHERE THE GENERAL PARAMETERS WERE RE-SAMPLED, THE MOST RECENT GENERAL RESULTS WERE USED IN CONJUNCTION WITH THE METALS ANALYZED IN JULY.
7. WHERE THERE WAS NO BOAT ACCESS, SAMPLES WERE COLLECTED FROM SHORE.
8. **BOLDED** VALUES INDICATE RESULTS ABOVE THE RESPECTIVE CCME GUIDELINES.
9. WHERE THE LABORATORY REPORTED METALS AS µg/L, RESULTS HAVE BEEN CONVERTED TO mg/L.
10. WATER QUALITY GUIDELINE LIMITS FOR TOTAL AMMONIA ARE DEPENDENT UPON BOTH TEMPERATURE AND pH, SEE THE CCME GUIDELINES FOR MORE DETAILS.
11. ALUMINUM (Al) GUIDELINES LIMITS ARE DEPENDENT UPON pH. THE LOWER LIMIT OF 0.005 mg/L CORRESPONDS TO A pH of <6.5, THE UPPER LIMIT OF 0.1 mg/L CORRESPONDS TO A pH of >= 6.5.
12. FOR THE PURPOSE OF STATISTICAL CALCULATIONS, LABORATORY RESULTS THAT ARE CONSIDERED TO BE OUTLIERS (UNUSUALLY HIGH OR LOW) WERE REMOVED FROM THE DATA.
13. THE NUMBER OF SIGNIFICANT DIGITS SHOWN ON THE CALCULATED STATISTICS ARE THE SAME AS THE ONES ON THE PARAMETER WITH THE MOST SIGNIFICANT DIGITS.

I:\1\02\00181\30\A\Report\Report 5, Rev 0 - Aquatic Program Summary Report\Tables\[Table 3.7_LakeStats_Updated.xls]NOTES

| REV | DATE | DESCRIPTION | PREP'D | CHK'D | APP'D |
|---|---|---|---|---|---|
| 0 | 22DEC`11 | ISSUED WITH REPORT NB102-181/30-5 | ML | AJ | SRA |

Knight Piésold CONSULTING

**TABLE 3.8**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**SEDIMENT QUALITY DATA SUMMARY STATISTICS**

Print Dec/23/11 8:37:16

| Sample ID | | Sample Date | Moisture % | TKN % | TOC % | NO2 as N % | NO3 as N % | Nitrite ppm as N | Nitrate ppm as N | Nitrite µg/g as N | Nitrate µg/g as N | NO2+NO3 as N % | Hg µg/g | Ag µg/g | Al µg/g | As µg/g | B µg/g | Ba µg/g | Be µg/g | Bi µg/g | Ca µg/g | Cd µg/g | Co µg/g | Cr µg/g | Cu µg/g | Fe µg/g | K µg/g | Mg µg/g | Mn µg/g | Mo µg/g | Na µg/g | Ni µg/g | P µg/g | TP % | Pb µg/g | Sb µg/g | Se µg/g | Sn µg/g | Sr µg/g | Ti µg/g | Tl µg/g | V µg/g | Zn µg/g | Sand (>0.050mm) % | Silt (>0.002-0.050mm) % | Clay (<=0.002mm) % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCME | ISQG | | | | | | | | | | | | 0.17 | | | 5.9 | | | | | | 0.6 | | 37.3 | 35.7 | | | | | | | | | | | | | | | | 123 | | | |
| | PEL | | | | | | | | | | | | 0.486 | | | 17 | | | | | | 3.5 | | 90 | 197 | | | | | | | | | | | | | | | | 315 | | | |
| Ontario Sediment Quality Guidelines | LEL | | | 0.055 | 1 | | | | | | | | | | | | | | | | | | | | 20000 | | | 460 | | | 16 | 600 | 0.06 | | | | | | | | | | | |
| | SEL | | | 0.48 | 10 | | | | | | | | | | | | | | | | | | | | 40000 | | | 1100 | | | 75 | 2000 | 0.2 | | | | | | | | | | | |
| MDL (2005) | | | 0.0001 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 1 | 0.03 | 3 | 0.05 | 0.1-5 | 0.3 | 1 | 0.006 | 0.3 | 0.5 | 0.1 | 0.5 | 1 | 1 | 0.05 | 0.3 | 1 | 1 | 5 | | 0.7 | 0.4 | 0.2 | 1 | 0.2 | 3 | 0.2 | 0.9 | 0.1 | 0.1 | 0.1 | 0.1 |
| MDL (2006) | | | | | 0.01 | | | | | 1 | 1 | | 0.1 | 0.42 | 1 | 1.0 | 0.5 | 1 | 1 | | 100 | 0.5 | 1 | 1 | 1 | 1 | 100 | 100 | 1 | 1 | 100 | 1 | 100 | 0.01 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| Analytical Detection Limit (2007) | | | | | 0.01 | 0.01 | | | | 1 | 1 | | 0.1 | 0.42 | 1 | 1 | 0.5 | 1 | 1 | | 100 | 0.5 | 1 | 1 | 1 | 1 | 100 | 100 | 1 | 1 | 100 | 1 | 100 | 0.01 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| MRL (2008) | | | | | 0.01 | 0.01 | | 1 | 1 | 1 | 1 | | 0.1 | 0.2 | 1 | 1 | 0.5 | 0.5 | 1 | | 100 | 0.5 | 1 | 1 | 0.1 | 1 | 100 | 100 | 1 | 1 | 100 | 1 | 100 | 0.01 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| MRL (2011) | | | 0.1 | 0.01 | 0.01 | 0.01 | | 1 | 10 | | | 10 | 0.1 | 0.2 | 5 | 1 | 0.5 | 1 | 1 | | 100 | 0.5 | 1 | 1 | 1 | 5 | 100 | 100 | 1 | 1 | 100 | 1 | 100 | 0.01 | 1 | 1 | 1 | | 1 | | 1 | 2 | 2 | 1 | 1 | 1 |
| MDL | | | 0.01 | 0.01 | .01- 0.05 | | | | | 1-100 | 1-100 | 0.01 | 0.1 | 0.1-0.42 | 1 | 0.03-1.0 | 0.5-3 | 0.5-1 | 0.1-5 | 0.3 | 1-100 | .006-0.1 | 0.3-1 | 0.5-1 | 0.1-1 | 0.5-1 | 1-100 | 1-100 | 0.05-1 | 0.3-1 | 1-100 | 1 | 5-100 | 0.01 | 0.7-1 | 0.4-1 | 0.2-1 | 1 | 0.2-1 | 3 | 0.2-1 | 0.9-1 | 0.1-1 | | | |
| Reporting Accuracy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.1-1 | 0.1-1 | 0.1-1 |
| **Upstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H0-01 | | 12-Aug-05 | 19.2 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 1000 | 0.56 | 3 | 5.7 | 0.1 | 0.3 | 709 | 0.011 | 1.0 | 7.0 | 1.7 | 2400 | 260 | 1100 | 31 | 0.3 | 14 | 4 | 120 | | 1.3 | 0.4 | 0.5 | 1 | 1.3 | 130 | 0.2 | 4.5 | 4.5 | 99.7 | 0.1 | 0.3 |
| G0-09-S | | 1-Sep-06 | | | 0.09 | | | 1 | 2 | 1 | 2 | | 0.1 | 0.42 | 1280 | 1 | 0.5 | 9 | 1 | | 2390 | 0.5 | 4 | 33 | 3 | 28800 | 353 | 1440 | 70 | 1 | 387 | 11 | 100 | 0.01 | 3 | 1 | 1 | | 5 | | 1 | 50 | 9 | 97 | 1 | 2 |
| G0-09-Sed-Mean | | 5-Sep-07 | | 0.01 | 0.02 | | | | | 1 | 1 | | 0.1 | 0.42 | 1036 | 1 | 0.5 | 5 | 1 | | 594 | 0.5 | 1 | 6 | 1 | 3283 | 251 | 1077 | 28 | 1 | 100 | 2 | 100 | 0.01 | 1 | 1 | 1 | | 2 | | 1 | 7 | 4 | 98 | 1 | 1 |
| Number of sites | | | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of samples | | | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| Percentage of Detects | | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 67% | 67% |
| Minimum | | | 19.20 | 0.01 | 0.02 | 0.01 | 0.01 | 1.00 | 2.00 | 1.00 | 1.00 | 0.01 | 0.10 | 0.10 | 1000.00 | 0.56 | 0.50 | 5.00 | 0.10 | 0.30 | 594.00 | 0.01 | 1.00 | 6.00 | 1.00 | 2400 | 251.00 | 1077.00 | 28 | 0.30 | 14.00 | 2 | 100.00 | 0.01 | 1.00 | 0.40 | 0.50 | 1.00 | 1.30 | 130.00 | 0.20 | 4.50 | 4.0 | 97 | ND | ND |
| Maximum Detected | | | 19.20 | 0.01 | 0.09 | 0.01 | 0.01 | 1.00 | 2.00 | 100.00 | 100.00 | 0.01 | 0.10 | 0.42 | 1280.00 | 1.00 | 3.00 | 9.00 | 1.00 | 0.30 | 2390.00 | 0.50 | 4.00 | 33.00 | 3.00 | 28800 | 353.00 | 1440.00 | 70 | 1.00 | 387.00 | 11 | 120 | 0.01 | 3.00 | 1.00 | 1.00 | 1.00 | 5.00 | 130.00 | 1.00 | 50.00 | 9.0 | 99.7 | 1 | 2 |
| Mean | | | 19.20 | 0.01 | 0.05 | 0.01 | 0.01 | 1.00 | 2.00 | 34.00 | 34.33 | 0.01 | 0.10 | 0.31 | 1105.33 | 0.85 | 1.33 | 6.57 | 0.70 | 0.30 | 1231.00 | 0.34 | 2.00 | 15.33 | 1.90 | 11494 | 288.00 | 1205.67 | 43 | 0.77 | 167.00 | 6 | 107 | 0.01 | 1.77 | 0.80 | 0.83 | 1.00 | 2.77 | 130.00 | 0.73 | 20.50 | 5.8 | 98 | 1 | 1 |
| **Downstream of Deposits** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E0-03-S | | 11-Aug-05 | 22.0 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 581 | 0.34 | 3 | 3.6 | 0.1 | 0.3 | 780 | 0.006 | 1.0 | 4.5 | 0.8 | 4400 | 120 | 720 | 22 | 0.3 | 6 | 4 | 240 | | 1.4 | 0.4 | 0.3 | 1 | 1.4 | 120 | 0.2 | 8.3 | 2.8 | 99.0 | 1.0 | 0.0 |
| E0-03-S | | 29-Aug-11 | 13.2 | 0.01 | 0.18 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1310 | 1 | 0.5 | 7 | 1 | | 1200 | 0.5 | 3 | 25 | 3 | 25600 | 400 | 1300 | 87 | 1 | 100 | 9 | | | 2 | 1 | 1 | | 3 | | 1 | 33 | 8 | 96 | 2 | 2 |
| E0-04-S | | 29-Aug-11 | 12.4 | 0.01 | 0.15 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1670 | 1 | 0.5 | 12 | 1 | | 1100 | 0.5 | 3 | 26 | 3 | 13800 | 400 | 1600 | 128 | 1 | 100 | 12 | | | 2 | 1 | 1 | | 2 | | 1 | 20 | 8 | 96 | 2 | 2 |
| E0-12-S | | 31-Aug-11 | 16.8 | 0.01 | 0.01 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1300 | 1 | 0.5 | 7 | 1 | | 1900 | 0.5 | 2 | 17 | 2 | 9720 | 400 | 1800 | 56 | 1 | 100 | 8 | | | 2 | 1 | 1 | | 3 | | 1 | 20 | 6 | 98 | 2 | 1 |
| E1-01-S | | 31-Aug-11 | 20.2 | 0.03 | 0.23 | | | 2.0 | 11 | | | 11 | 1.1 | 1.2 | 1301 | 2 | 1.5 | 8 | 2 | | 1901 | 1.5 | 3 | 18 | 3 | 9721 | 401 | 1801 | 57 | 2 | 101 | 9 | | | 3 | 2 | 2 | | 4 | | 2 | 21 | 7 | 98 | 1 | 2 |
| E3-01-S | | 31-Aug-11 | 16.8 | 0.01 | 0.21 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1360 | 1 | 0.5 | 5 | 1 | | 1900 | 0.5 | 1 | 7 | 3 | 5350 | 400 | 1700 | 90 | 1 | 100 | 6 | | | 2 | 1 | 1 | | 3 | | 1 | 5 | 21 | 96 | 1 | 4 |
| E3-02-S | | 31-Aug-11 | 15.2 | 0.01 | 0.15 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 2130 | 1 | 0.5 | 9 | 1 | | 2100 | 0.5 | 2 | 10 | 5 | 13700 | 400 | 2700 | 286 | 1 | 100 | 10 | | | 6 | 1 | 1 | | 3 | | 1 | 8 | 13 | 96 | 2 | 2 |
| E3-03-S | | 31-Aug-11 | 17.6 | 0.01 | 0.22 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1700 | 1 | 0.5 | 6 | 1 | | 1700 | 0.5 | 2 | 11 | 3 | 9310 | 400 | 1900 | 148 | 1 | 100 | 8 | | | 2 | 1 | 1 | | 4 | | 1 | 8 | 8 | 96 | 1 | 4 |
| C0-01 | | 11-Aug-05 | 23.6 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 674 | 0.68 | 3 | 3.6 | 0.1 | 0.3 | 1200 | 0.006 | 1.3 | 5.2 | 6.6 | 4900 | 120 | 800 | 26 | 0.3 | 7 | 4 | 450 | | 1.6 | 0.4 | 0.2 | 1 | 2.2 | 120 | 0.2 | 8.3 | 3.3 | 99.1 | 0.8 | 0.1 |
| C0-01 | | 3-Sep-07 | | 0.01 | 0.02 | | | | | 1 | 1 | | 0.1 | 0.42 | 2180 | 1 | 0.5 | 11 | 1 | | 1980 | 0.5 | 4 | 58 | 5 | 39933 | 379 | 2167 | 164 | 1 | 100 | 24 | 100 | 0.01 | 4 | 1 | 1 | | 4 | | 1 | 71 | 15 | 98 | 1 | 1 |
| C0-10-S | | 30-Aug-06 | | | 0.09 | | | 1.0 | 1 | 1 | 1 | | 0.1 | 0.42 | 628 | 1 | 0.5 | 4 | 1 | | 871 | 0.5 | 1 | 7 | 1 | 5990 | 144 | 848 | 25 | 1 | 250 | 4 | 100 | 0.01 | 2 | 1 | 1 | | 2 | | 1 | 12 | 3 | 95 | 1 | 4 |
| G0-03-Sed | | 5-Sep-07 | | 0.01 | 0.03 | | | | | 1 | 1 | | 0.1 | 0.42 | 2260 | 1 | 0.5 | 13 | 1 | | 1300 | 0.5 | 3 | 118 | 3 | 13400 | 747 | 2080 | 86 | 1 | 100 | 46 | 200 | 0.02 | 3 | 1 | 1 | | 4 | | 1 | 23 | 13 | 99 | 1 | 1 |
| E0-01-Sed-Mean | | 4-Sep-07 | | 0.01 | 0.02 | | | | | 1 | 1 | | 0.1 | 0.42 | 2863 | 1 | 0.5 | 12 | 1 | | 2500 | 0.5 | 3 | 34 | 7 | 7033 | 601 | 4397 | 81 | 1 | 100 | 27 | 100 | 0.01 | 2 | 1 | 1 | | 4 | | 1 | 10 | 13 | 98 | 1 | 1 |
| C0-10-Sed-Mean | | 4-Sep-07 | | 0.01 | 0.02 | | | | | 1 | 1 | | 0.1 | 0.42 | 1173 | 1 | 0.5 | 6 | 1 | | 1583 | 0.5 | 3 | 40 | 23 | 34667 | 212 | 1423 | 97 | 1 | 100 | 15 | 100 | 0.01 | 2 | 1 | 1 | | 3 | | 1 | 55 | 11 | 98 | 1 | 1 |
| C0-05-S | | 3-Sep-07 | | 0.01 | 0.02 | | | | | 1 | 1 | | 0.1 | 0.42 | 1050 | 1 | 0.5 | 5 | 1 | | 1420 | 0.5 | 2 | 27 | 2 | 17200 | 192 | 1340 | 50 | 1 | 100 | 13 | 100 | 0.01 | 2 | 1 | 1 | | 2 | | 1 | 28 | 5 | 99 | 1 | 1 |
| C0-05-S | | 28-Aug-11 | 19.8 | 0.01 | 0.18 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1120 | 1 | 0.5 | 5 | 1 | | 1400 | 0.5 | 1 | 8 | 3 | 4340 | 300 | 1000 | 33 | 1 | 100 | 5 | | | 2 | 1 | 1 | | 3 | | 1 | 8 | 5 | 96 | 2 | 2 |
| Number of sites | | | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of samples | | | 10 | 13 | 16 | 2 | 2 | 9 | 9 | 8 | 8 | 10 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 2 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 8 | 6 | 16 | 16 | 16 | 2 | 16 | 2 | 16 | 16 | 16 | 16 | 16 | 16 |
| Number of Detects | | | 10 | 13 | 16 | 2 | 2 | 9 | 9 | 8 | 8 | 10 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 2 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 8 | 6 | 16 | 16 | 16 | 2 | 16 | 2 | 16 | 16 | 16 | | | |
| Percentage of Detects | | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | |
| Minimum | | | 12.40 | 0.01 | 0.01 | 0.01 | 0.01 | 1.00 | 1.00 | 1.00 | 1.00 | 0.01 | 0.10 | 0.10 | 581.00 | 0.34 | 0.50 | 3.60 | 0.10 | 0.30 | 780.00 | 0.01 | 1.00 | 4.50 | 0.80 | 4340 | 120.00 | 720.00 | 22 | 0.30 | 6.00 | 4 | 100 | 0.01 | 1.40 | 0.40 | 0.20 | 1.00 | 1.40 | 120.00 | 0.20 | 5.00 | 2.8 | | | |
| Maximum Detected | | | 23.60 | 0.03 | 0.23 | 0.01 | 0.01 | 2.00 | 11.00 | 100.00 | 100.00 | 11.00 | 1.10 | 1.20 | 2863.00 | 2.00 | 3.00 | 13.00 | 2.00 | 0.30 | 2500.00 | 1.50 | 4.00 | 118.00 | 23.00 | 39933 | 747.00 | 4397.00 | 286 | 2.00 | 250.00 | 46 | 450 | 0.02 | 6.00 | 2.00 | 2.00 | 1.00 | 4.00 | 120.00 | 2.00 | 71.00 | 21.0 | | | |
| Mean | | | 17.76 | 0.01 | 0.10 | 0.01 | 0.01 | 1.11 | 9.11 | 25.75 | 25.75 | 8.10 | 0.16 | 0.33 | 1456.25 | 1.00 | 0.88 | 7.32 | 0.95 | 0.30 | 1552.19 | 0.50 | 2.21 | 25.98 | 4.59 | 13692 | 351.00 | 1723.50 | 90 | 0.98 | 97.75 | 13 | 174 | 0.01 | 2.44 | 0.99 | 0.97 | 1.00 | 2.98 | 120.00 | 0.96 | 21.16 | 8.9 | | | |
| **Drainage of Deposits** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L1-08-S | | 1-Sep-11 | 18.2 | 0.01 | 0.10 | | | 1.0 | 10 | | | | 0.1 | 0.2 | 5460 | 1 | 0.5 | 11 | 1 | | 1800 | 0.5 | 5 | 27 | 14 | 9400 | 700 | 5500 | 94 | 1 | 200 | 20 | | | 2 | 1 | 1 | | 5 | | 1 | 25 | 13 | 96 | 4 | 1 |
| L1-09-S | | 1-Sep-11 | 17.6 | 0.01 | 0.32 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 5740 | 1 | 0.5 | 14 | 1 | | 2800 | 0.5 | 5 | 25 | 11 | 10700 | 800 | 6300 | 231 | 1 | 100 | 18 | | | 3 | 1 | 1 | | 5 | | 1 | 20 | 19 | 96 | 2 | 2 |
| L2-03-S | | 1-Sep-11 | 20.9 | 0.03 | 0.01 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1070 | 1 | 0.5 | 7 | 1 | | 1100 | 0.5 | 1 | 10 | 3 | 3940 | 300 | 1200 | 119 | 1 | 100 | 8 | | | 1 | 1 | 1 | | 3 | | 1 | 5 | 5 | 98 | 1 | 2 |
| Number of sites | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of samples | | | 3 | 3 | 3 | | | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | 3 | 3 | 3 | | | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| Percentage of Detects | | | 100% | 100% | 100% | | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | |
| Minimum | | | 17.60 | 0.01 | 0.01 | | | 1.00 | 10.00 | | | 10.00 | 0.10 | 0.20 | 1070.00 | 1.00 | 0.50 | 7.00 | 1.00 | | 1100.00 | 0.50 | 1.00 | 10.00 | 3.00 | 3940 | 300.00 | 1200.00 | 94 | 1.00 | 100.00 | 8 | | | 1.00 | 1.00 | 1.00 | | 3.00 | | 1.00 | 5.00 | 5.0 | | | |
| Maximum Detected | | | 20.90 | 0.03 | 0.32 | | | 1.00 | 10.00 | | | 10.00 | 0.10 | 0.20 | 1070.00 | 1.00 | 0.50 | 14.00 | 1.00 | | 2800.00 | 0.50 | 5.00 | 27.00 | 14.00 | 10700 | 800.00 | 6300.00 | 231 | 1.00 | 200.00 | 20 | | | 3.00 | 1.00 | 1.00 | | 5.00 | | 1.00 | 25.00 | 19.0 | | | |
| Mean | | | 18.90 | 0.02 | 0.14 | | | 1.00 | 10.00 | | | 10.00 | 0.10 | 0.20 | 4090.00 | 1.00 | 0.50 | 10.67 | 1.00 | | 1900.00 | 0.50 | 3.67 | 20.67 | 9.33 | 8013 | 600.00 | 4333.33 | 148 | 1.00 | 133.33 | 15 | | | 2.00 | 1.00 | 1.00 | | 4.33 | | 1.00 | 16.67 | 12.3 | | | |
| **Background Tributary to Mary River** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E2-01 | | 11-Aug-05 | 23.3 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 927 | 0.71 | 3 | 4.4 | 0.1 | 0.3 | 703 | 0.046 | 1.3 | 4.8 | 1.3 | 3100 | 170 | 1200 | 29 | 0.3 | 8 | 6 | 220 | | 1.4 | 0.4 | 0.4 | 2 | 1.4 | 120 | 0.2 | 4.7 | 4.2 | 99.3 | 0.6 | 0.1 |
| E0-20-S | | 29-Aug-11 | 16.2 | 0.01 | 0.19 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1380 | 1 | 0.5 | 7 | 1 | | 1700 | 0.5 | 4 | 30 | 5 | 20400 | 400 | 1500 | 81 | 1 | 100 | 12 | | | 2 | 1 | 1 | | 3 | | 1 | 36 | 8 | 98 | 1 | 2 |
| E0-21-S | | 29-Aug-11 | 11.4 | 0.01 | 0.01 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 2480 | 1 | 0.5 | 14 | 1 | | 6800 | 0.5 | 3 | 38 | 4 | 10400 | 500 | 5200 | 109 | 1 | 100 | 20 | | | 2 | 1 | 1 | | 6 | | 1 | 17 | 10 | 94 | 3 | 3 |
| Number of sites | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of samples | | | 3 | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | 3 | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 3 | | | |
| Percentage of Detects | | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | |
| Minimum | | | 11.40 | 0.01 | 0.01 | 0.01 | 0.01 | 1.00 | 10.00 | 100.00 | 100.00 | 0.01 | 0.10 | 0.10 | 927.00 | 0.71 | 0.50 | 4.40 | 0.10 | 0.30 | 703.00 | 0.05 | 1.30 | 4.80 | 1.30 | 3100 | 170.00 | 1200.00 | 29 | 0.30 | 8.00 | 6 | 220 | | 1.40 | 0.40 | 0.40 | 2.00 | 1.40 | 120.00 | 0.20 | 4.70 | 4.2 | | | |
| Maximum Detected | | | 23.30 | 0.01 | 0.19 | 0.01 | 0.01 | 1.00 | 10.00 | 100.00 | 100.00 | 10.00 | 0.10 | 0.20 | 2480.00 | 1.00 | 3.00 | 14.00 | 1.00 | 0.30 | 6800.00 | 0.50 | 4.00 | 38.00 | 5.00 | 20400 | 500.00 | 5200.00 | 109 | 1.00 | 100.00 | 20 | 220 | | 2.00 | 1.00 | 1.00 | 2.00 | 6.00 | 120.00 | 1.00 | 36.00 | 10.0 | | | |
| Mean | | | 16.97 | 0.01 | 0.08 | 0.01 | 0.01 | 1.00 | 10.00 | 100.00 | 100.00 | 6.67 | 0.10 | 0.17 | 1595.67 | 0.90 | 1.33 | 8.47 | 0.70 | 0.30 | 3067.67 | 0.35 | 2.77 | 24.27 | 3.43 | 11300 | 356.67 | 2633.33 | 73 | 0.77 | 69.33 | 13 | 220 | | 1.80 | 0.80 | 0.80 | 2.00 | 3.47 | 120.00 | 0.73 | 19.23 | 7.4 | | | |
| **Mary River- Downstream of Mary Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A0-01 | | 14-Aug-05 | 16.5 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 360 | 0.36 | 3 | 2.2 | 5 | 0.3 | 350 | 0.006 | 0.5 | 3 | 0.9 | 1500 | 92 | 320 | 13 | 0.3 | 5 | 1.3 | 130 | | 0.94 | 0.4 | 1 | 1 | 1.4 | 69 | 0.2 | 2.8 | 1.5 | 99.1 | 0.1 | 0 |
| A0-01-Sed | | 5-Sep-07 | | 0.01 | 0.01 | | | | | 1 | 1 | | 0.1 | 0.42 | 3250 | 1 | 0.5 | 14 | 1 | | 2050 | 0.5 | 4 | 146 | 13 | 10600 | 680 | 2730 | 166 | 1 | 100 | 57 | 500 | 0.05 | 2 | 1 | 1 | | 9 | | 1 | 18 | 14 | 97 | 1 | 2 |
| Number of sites | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | 1 | 1 | 2 | 1 | 1 | | | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of Detects | | | 1 | 1 | 2 | 1 | 1 | | | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 |
| Percentage of Detects | | | 100% | 100% | 100% | 100% | 100% | | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 50% | 100% |
| Minimum | | | 16.50 | 0.01 | 0.01 | 0.01 | 0.01 | | | 1.00 | 1.00 | 0.01 | 0.10 | 0.10 | 360.00 | 0.36 | 0.50 | 2.20 | 1.00 | 0.30 | 350.00 | 0.01 | 0.50 | 3.00 | 0.93 | 1500 | 92.00 | 320.00 | 13 | 0.30 | 5.00 | 1 | 130 | 0.05 | 0.94 | 0.40 | 1.00 | 1.00 | 1.40 | 69.00 | 0.20 | 2.80 | 1.5 | 97.00 | ND | 0.00 |
| Maximum Detected | | | 16.50 | 0.01 | 0.05 | 0.01 | 0.01 | | | 100.00 | 100.00 | 0.01 | 0.10 | 0.42 | 3250.00 | 1.00 | 3.00 | 14.00 | 5.00 | 0.30 | 2050.00 | 0.50 | 4.00 | 146.00 | 13.00 | 10600 | 680.00 | 2730.00 | 166 | 1.00 | 100.00 | 57 | 500 | 0.05 | 2.00 | 1.00 | 1.00 | 1.00 | 9.00 | 69.00 | 1.00 | 18.00 | 14.0 | 99.10 | 0.01 | 2.00 |
| Mean | | | 16.50 | 0.01 | 0.03 | 0.01 | 0.01 | | | 50.50 | 50.50 | 0.01 | 0.10 | 0.26 | 1805.00 | 0.68 | 1.75 | 8.10 | 3.00 | 0.30 | 1200.00 | 0.25 | 2.25 | 74.50 | 6.97 | 6050 | 386.00 | 1525.00 | 90 | 0.65 | 52.50 | 29 | 315 | 0.05 | 1.47 | 0.70 | 1.00 | 1.00 | 5.20 | 69.00 | 0.60 | 10.40 | 7.8 | 98.05 | - | 1.00 |
| **Tributaries of Sheardown Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D1-01 | | 11-Aug-05 | 27.8 | | 0.57 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 1900 | 0.83 | 3 | 9.8 | 0.1 | 0.3 | 1300 | 0.11 | 2.9 | 9.8 | 7.3 | 6100 | 370 | 2300 | 90 | 0.5 | 13 | 14 | 200 | | 3.1 | 0.4 | 0.5 | 1 | 1.7 | 140 | 0.2 | 8.2 | 11 | 98.5 | 1.4 | 0.1 |
| D0-01 | | 11-Aug-05 | 19.7 | | 0.05 | 0.01 | 0.01 | | | 100 | 100 | 0.01 | 0.1 | 0.1 | 1400 | 0.12 | 3 | 6.9 | 0.1 | 0.3 | 1900 | 0.023 | 2.3 | 12 | 6.4 | 8500 | 240 | 2100 | 58 | 0.3 | 15 | 11 | 390 | | 2.6 | 0.4 | 0.2 | 1 | 2.4 | 220 | 0.2 | 15 | 6.6 | 99.5 | 0.5 | 0.0 |
| D0-01 | | 28-Aug-11 | 14.8 | 0.01 | 0.13 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 1870 | 1 | 0.5 | 9 | 1 | | 1700 | 0.5 | 3 | 23 | 5 | 11900 | 400 | 2200 | 69 | 1 | 100 | 13 | | | 2 | 1 | 1 | | 3 | | 1 | 23 | 9 | 98 | 1 | 2 |
| DI-05-S | | 4-Sep-11 | 31.3 | 0.11 | 0.53 | | | 1.0 | 10 | | | 10 | 0.1 | 0.2 | 8020 | 1 | 0.5 | 25 | 1 | | 3100 | 0.7 | 7 | 29 | 42 | 16400 | 1100 | 7500 | 212 |

Knight Piésold CONSULTING

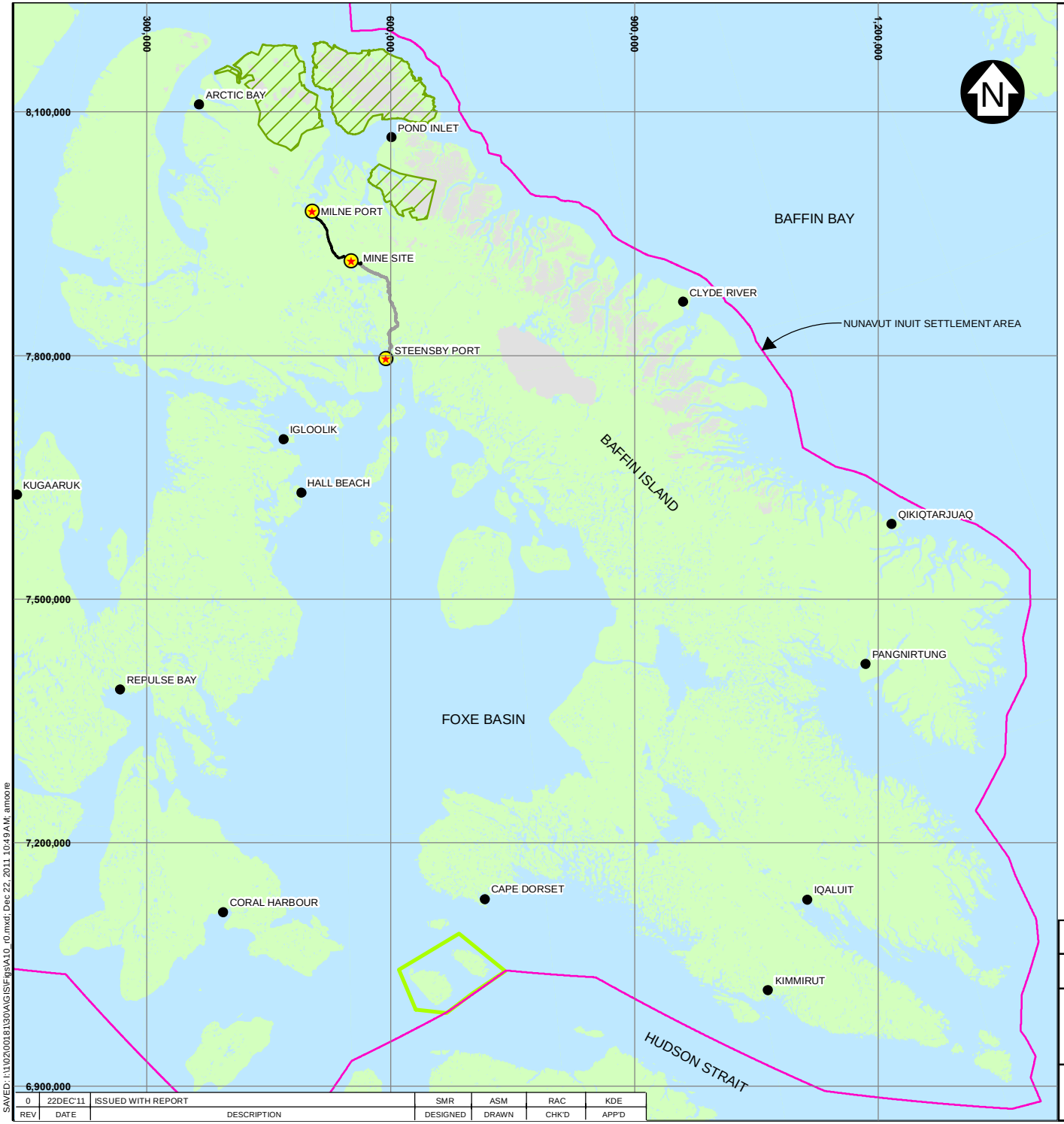
**TABLE 3.8**

**BAFFINLAND IRON MINES CORPORATION**
**MARY RIVER PROJECT**

**SURFACE WATER AND SEDIMENT QUALITY BASELINE REPORT**
**SEDIMENT QUALITY DATA SUMMARY STATISTICS**

Print Dec/23/11 8:37:15

| Sample ID | | Sample Date | Moisture | TKN | TOC | NO2 | NO3 | Nitrite | Nitrate | Nitrite | Nitrate | NO2+NO3 | Hg | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe | K | Mg | Mn | Mo | Na | Ni | P | TP | Pb | Sb | Se | Sn | Sr | Ti | Tl | V | Zn | Sand | Silt | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | % | % | % | as N % | as N % | ppm as N | ppm as N | µg/g as N | µg/g as N | as N % | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | % | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | (>0.050mm) % | (>0.002-0.050mm) % | (<=0.002mm) % |
| **Sheardown Lake S.E.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DL0-02-1-Sed-Mean1 | | 8-May-07 | | 0.10 | 0.89 | | | | | 1 | 1 | | 0.1 | 0.42 | 12700 | 2.0 | 1.8 | 69 | 1 | | 9130 | 0.5 | 13 | 80 | 26 | 31467 | 3323 | 13767 | 363 | 1 | 327 | 66 | 1000 | 0.10 | 16 | 1 | 1 | | 20 | | 1 | 48 | 44 | 25 | 61 | 14 |
| DL0-02-1-Sed-Mean2 | | 3-Sep-07 | | 0.09 | 0.80 | | | | | 1 | 1 | | 0.1 | 0.42 | 12533 | 1.4 | 1.3 | 65 | 1 | | 9560 | 0.5 | 12 | 72 | 24 | 30167 | 3287 | 13567 | 430 | 1 | 397 | 62 | 1000 | 0.10 | 14 | 1 | 1 | | 12 | | 1 | 44 | 50 | 23 | 63 | 14 |
| DL0-02-2-Sed | | 3-Sep-07 | | 0.09 | 0.82 | | | | | 1 | 1 | | 0.1 | 0.42 | 13700 | 1.7 | 1.4 | 68 | 1 | | 8640 | 0.5 | 11 | 71 | 22 | 32200 | 3580 | 13500 | 393 | 1 | 323 | 56 | 900 | 0.09 | 15 | 1 | 1 | | 11 | | 1 | 45 | 51 | 24 | 60 | 16 |
| DL0-02-3-Sed | | 3-Sep-07 | | 0.01 | 0.03 | | | | | 1 | 23 | | 0.1 | 0.42 | 4330 | 1.0 | 0.5 | 22 | 1 | | 2040 | 0.5 | 5 | 31 | 7 | 11200 | 880 | 3970 | 218 | 1 | 123 | 25 | 700 | 0.07 | 4 | 1 | 2 | | 4 | | 1 | 18 | 19 | 95 | 1 | 4 |
| DL0-02-4-Sed | | 3-Sep-07 | | 0.46 | 5.70 | | | | | 1 | 1 | | 0.1 | 0.42 | 17200 | 1.7 | 3.2 | 92 | 1 | | 3490 | 0.5 | 12 | 76 | 33 | 33100 | 4570 | 11500 | 561 | 2 | 378 | 57 | 1300 | 0.13 | 18 | 1 | 1 | | 12 | | 1 | 56 | 58 | 40 | 40 | 20 |
| Number of sites | | | | 4 | 4 | | | | | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of samples | | | | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of Detects | | | | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 |
| Percentage of Detects | | | | 100% | 100% | | | | | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 80% | 100% |
| Minimum | | | | 0.01 | 0.03 | | | | | 1.00 | 1.00 | | 0.10 | 0.42 | 4330.00 | 1.00 | 0.50 | 22.00 | 1.00 | | 2040.00 | 0.50 | 5.00 | 31.00 | 7.00 | 11200 | 880.00 | 3970.00 | 218 | 1.00 | 123.00 | 25 | 700 | 0.07 | 4.00 | 1.00 | 1.00 | | 4.00 | | 1.00 | 18.00 | 19.0 | 23.00 | ND | 4.00 |
| Maximum Detected | | | | 0.46 | 5.70 | | | | | 1.00 | 23.00 | | 0.10 | 0.42 | 17200.00 | 2.00 | 3.20 | 92.00 | 1.00 | | 9560.00 | 0.50 | 13.00 | 80.00 | 33.00 | 33100 | 4570.00 | 13767.00 | 561 | 2.00 | 397.00 | 66 | 1300 | 0.13 | 18.00 | 1.00 | 2.00 | | 20.00 | | 1.00 | 56.00 | 58.0 | 95.00 | 63.00 | 20.00 |
| Mean | | | | 0.15 | 1.65 | | | | | 1.00 | 5.40 | | 0.10 | 0.42 | 12092.60 | 1.56 | 1.64 | 63.20 | 1.00 | | 6572.00 | 0.50 | 10.60 | 66.00 | 22.40 | 27627 | 3128.00 | 11260.80 | 393 | 1.20 | 309.60 | 53 | 980 | 0.10 | 13.40 | 1.00 | 1.20 | | 11.80 | | 1.00 | 42.20 | 44.4 | 41.40 | 45.00 | 13.60 |
| **Sheardown Lake Nearshore Dust Monitoring** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DD-Hab 4-Sln 1 | | 12-Sep-08 | | 0.02 | 0.10 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 2160 | 1.1 | 0.5 | 8 | 1 | | 1730 | 0.5 | 2 | 21 | 4 | 4430 | 403 | 2420 | 96 | 1 | 146 | 14 | 200 | 0.02 | 2 | 1 | 1 | | 2 | | 1 | 7 | 9 | 95 | 4 | 1 |
| DD-Hab 4-Sln 2 | | 12-Sep-08 | | 0.02 | 0.17 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 3420 | 1.0 | 0.5 | 11 | 1 | | 4680 | 0.5 | 4 | 16 | 7 | 8920 | 703 | 5570 | 141 | 1 | 141 | 16 | 300 | 0.03 | 4 | 1 | 1 | | 4 | | 1 | 17 | 15 | 94 | 2 | 4 |
| DD-Hab 4-Sln 3 | | 12-Sep-08 | | 0.02 | 0.09 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 1430 | 1.0 | 0.5 | 5 | 1 | | 1110 | 0.5 | 2 | 6 | 2 | 3600 | 295 | 1470 | 47 | 1 | 100 | 4 | 100 | 0.01 | 2 | 1 | 1 | | 2 | | 1 | 6 | 8 | 97 | 1 | 2 |
| Number of sites | | | | 3 | 3 | | | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of samples | | | | 3 | 3 | | | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | | 3 | 3 | | | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Percentage of Detects | | | | 100% | 100% | | | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 67% | 67% |
| Minimum | | | | 0.02 | 0.09 | | | 1.00 | 4.00 | 1.00 | 4.00 | | 0.10 | 0.20 | 1430.00 | 1.00 | 0.50 | 5.00 | 1.00 | | 1110.00 | 0.50 | 2.00 | 6.00 | 2.00 | 3600 | 295.00 | 1470.00 | 47 | 1.00 | 100.00 | 4 | 100 | 0.01 | 2.00 | 1.00 | 1.00 | | 2.00 | | 1.00 | 6.00 | 8.0 | 94.00 | 1.00 | 1.00 |
| Maximum Detected | | | | 0.02 | 0.17 | | | 1.00 | 4.00 | 1.00 | 4.00 | | 0.10 | 0.20 | 3420.00 | 1.10 | 0.50 | 11.00 | 1.00 | | 4680.00 | 0.50 | 4.00 | 21.00 | 7.00 | 8920 | 703.00 | 5570.00 | 141 | 1.00 | 146.00 | 16 | 300 | 0.03 | 4.00 | 1.00 | 1.00 | | 4.00 | | 1.00 | 17.00 | 15.0 | 97.00 | 4.00 | 4.00 |
| Mean | | | | 0.02 | 0.12 | | | 1.00 | 4.00 | 1.00 | 4.00 | | 0.10 | 0.20 | 2336.67 | 1.03 | 0.50 | 8.00 | 1.00 | | 2506.67 | 0.50 | 2.67 | 14.33 | 4.33 | 5650 | 467.00 | 3153.33 | 95 | 1.00 | 129.00 | 11 | 200 | 0.02 | 2.67 | 1.00 | 1.00 | | 2.67 | | 1.00 | 10.00 | 10.7 | 95.33 | 2.33 | 2.33 |
| **Sheardown Lake Offshore Dust Monitoring** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DD-Hab 9-Sln 1 | | 12-Sep-08 | | 0.33 | 3.83 | | | 1 | 3 | 1 | 3 | | 0.1 | 0.2 | 9580 | 3.4 | 1 | 41 | 1 | | 3840 | 0.5 | 11 | 40 | 29 | 22700 | 2010 | 7280 | 255 | 2 | 200 | 37 | 600 | 0.06 | 9 | 1 | 1 | | 6 | | 1 | 30 | 40 | 92 | 8 | 1 |
| DD-Hab 9-Sln 2 | | 12-Sep-08 | | 0.36 | 2.86 | | | 1 | 3 | 1 | 3 | | 0.1 | 0.2 | 11600 | 3.3 | 2 | 224 | 1 | | 3180 | 0.5 | 12 | 71 | 39 | 33800 | 3300 | 9660 | 2230 | 11 | 257 | 67 | 900 | 0.09 | 15 | 1 | 1 | | 7 | | 1 | 44 | 55 | 58 | 17 | 25 |
| DD-Hab 9-Sln 3 | | 12-Sep-08 | | 0.41 | 4.07 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 14700 | 10.5 | 1.9 | 130 | 1 | | 3650 | 0.5 | 15 | 68 | 41 | 52200 | 3450 | 9730 | 1340 | 7 | 312 | 59 | 1300 | 0.13 | 13 | 1 | 1 | | 9 | | 1 | 44 | 60 | 82 | 10 | 8 |
| Number of sites | | | | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of samples | | | | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 1 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 2 |
| Percentage of Detects | | | | 100% | 100% | - | - | 0% | 100% | 0% | 100% | - | 0% | 0% | 100% | 100% | 100% | 100% | 33% | - | 100% | 0% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | - | 0% | 100% | 100% | - | 0% | 100% | 100% | 100% | 100% | 100% | 67% |
| Minimum | | | | 0.33 | 2.86 | - | - | ND | 3.00 | ND | 3.00 | - | ND | ND | 9580.00 | 3.30 | 1.00 | 41.00 | ND | - | 3180.00 | ND | 11.00 | 40.00 | 29.00 | 22700 | 2010.00 | 7280.00 | 255 | 2.00 | 200.00 | 37 | 600 | 0.06 | 9.00 | ND | ND | - | 6.00 | - | ND | 30.00 | 40.0 | 58.00 | 8.00 | ND |
| Maximum Detected | | | | 0.41 | 4.07 | - | - | ND | 4.00 | ND | 4.00 | - | ND | ND | 14700.00 | 10.50 | 2.00 | 224.00 | 1.00 | - | 3840.00 | ND | 15.00 | 71.00 | 41.00 | 52200 | 3450.00 | 9730.00 | 2230 | 11.00 | 312.00 | 67 | 1300 | 0.13 | 15.00 | ND | ND | - | 9.00 | - | ND | 44.00 | 60.0 | 92.00 | 17.00 | 25.00 |
| Mean | | | | 0.37 | 3.59 | - | - | - | 3.33 | - | 3.33 | - | - | - | 11960.00 | 5.73 | 1.63 | 131.67 | - | - | 3556.67 | - | 12.67 | 59.67 | 36.33 | 36233 | 2920.00 | 8890.00 | 1275 | 6.67 | 256.33 | 54 | 933 | 0.09 | 12.33 | - | - | - | 7.33 | - | - | 39.33 | 51.7 | 77.33 | 11.67 | 11.33 |
| **Sheardown Lake Tributary** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDLT1-R1-Sed | | 10-Sep-08 | | 0.01 | 0.07 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 3240 | 2.3 | 0.5 | 19 | 1 | | 14400 | 0.5 | 5 | 54 | 10 | 11700 | 536 | 9980 | 305 | 1 | 116 | 36 | 200 | 0.02 | 3 | 1 | 1 | | 10 | | 1 | 9 | 23 | 97 | 1 | 2 |
| SDLT1-R2A-Sed | | 10-Sep-08 | | 0.07 | 0.95 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 3220 | 1.5 | 0.8 | 16 | 1 | | 1890 | 0.5 | 3 | 23 | 16 | 10100 | 603 | 3100 | 128 | 1 | 100 | 23 | 100 | 0.01 | 5 | 1 | 1 | | 2 | | 1 | 13 | 22 | 97 | 1 | 2 |
| SDLT1-R4-Sed | | 11-Sep-08 | | 0.07 | 0.56 | | | 1 | 4 | 1 | 4 | | 0.1 | 0.2 | 15800 | 2.5 | 0.8 | 40 | 1 | | 3190 | 0.7 | 18 | 124 | 41 | 26300 | 1440 | 17300 | 264 | 2 | 216 | 119 | 300 | 0.03 | 13 | 1 | 1 | | 4 | | 1 | 40 | 68 | 94 | 4 | 2 |
| Number of sites | | | | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of samples | | | | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Number of Detects | | | | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 3 | 3 | 2 | 3 | 0 | 0 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 1 |
| Percentage of Detects | | | | 100% | 100% | - | - | 0% | 100% | 0% | 100% | - | 0% | 0% | 100% | 100% | 67% | 100% | 0% | - | 100% | 33% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 0% | 0% | - | 100% | - | 0% | 100% | 100% | 100% | 100% | 100% | 33% |
| Minimum | | | | 0.01 | 0.07 | - | - | 1.00 | 4.00 | 1.00 | 4.00 | - | ND | ND | 3220.00 | 1.50 | ND | 16.00 | ND | - | 1890.00 | ND | 3.00 | 23.00 | 10.00 | 10100 | 536.00 | 3100.00 | 128 | ND | ND | 23 | 100 | 0.01 | 3.00 | ND | ND | - | 2.00 | - | ND | 9.00 | 22.0 | 94.00 | ND | 2.00 |
| Maximum Detected | | | | 0.07 | 0.95 | - | - | 1.00 | 4.00 | 1.00 | 4.00 | - | ND | ND | 15800.00 | 2.50 | 0.80 | 40.00 | ND | - | ####### | 0.70 | 18.00 | 124.00 | 41.00 | 26300 | 1440.00 | 17300.00 | 305 | 2.00 | 216.00 | 119 | 300 | 0.03 | 13.00 | ND | ND | - | 10.00 | - | ND | 40.00 | 68.0 | 97.00 | 4.00 | 2.00 |
| Mean | | | | 0.05 | 0.53 | - | - | 1.00 | 4.00 | 1.00 | 4.00 | - | - | - | 7420.00 | 2.10 | 0.70 | 25.00 | - | - | 6493.33 | - | 8.67 | 67.00 | 22.33 | 16033 | 859.67 | 10126.67 | 232 | - | 144.00 | 59 | 200 | 0.02 | 7.00 | - | - | - | 5.33 | - | - | 20.67 | 37.7 | 96.00 | - | 2.00 |
| **Steensby Inlet Lake ST3** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST3 | | 2-Sep-08 | | 2.25 | 23.2 | | | 1 | 452 | 1 | 452 | | 0.1 | 0.2 | 4030 | 2.0 | 21.8 | 26 | 1 | | 10900 | 0.5 | 5 | 73 | 43 | 16500 | 1620 | 4380 | 63 | 7 | 704 | 33 | 1000 | 0.1 | 5 | 1 | 1 | | 34 | | 1 | 28 | 43 | IS | IS | IS |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| **Steensby Inlet Lake ST6** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST6 | | 1-Sep-08 | | IS | 18.20 | | | 1 | 5 | | | | 0.1 | 0.2 | 7470 | 3.0 | 11.2 | 54 | 1 | | 7530 | 0.5 | 7 | 40 | 69 | 20100 | 1730 | 5720 | 120 | 5 | 876 | 18 | 1600 | 0.16 | 7 | 1 | 1 | | 25 | | 1 | 35 | 63 | 84 | 8 | 8 |
| Number of sites | | | | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST24** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST24 | | 2-Sep-08 | | 1.09 | 9.28 | | | 1 | 14 | | | | 0.1 | 0.6 | 10000 | 3.3 | 17.7 | 62 | 1 | | 23000 | 2.9 | 9 | 81 | 42 | 32700 | 3590 | 19200 | 202 | 4 | 841 | 45 | 1500 | 0.15 | 173 | 1 | 1 | | 25 | | 1 | 54 | 911 | IS | IS | IS |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| **Steensby Inlet Lake ST28** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST28 | | 8-Sep-08 | | 0.94 | 11.20 | | | 1 | 47 | | | | 0.2 | 0.2 | 11100 | 3.7 | 14 | 73 | 1 | | 5620 | 0.5 | 9 | 28 | 54 | 29100 | 3620 | 7670 | 196 | 5 | 872 | 22 | 1400 | 0.14 | 10 | 1 | 1 | | 15 | | 1 | 45 | 87 | 74 | 7 | 19 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST92** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST92 | | 3-Sep-08 | | 0.02 | 0.94 | | | 1 | 4 | | | | 0.1 | 0.2 | 5810 | 1.0 | 1.8 | 41 | 1 | | 4750 | 0.5 | 5 | 24 | 11 | 23300 | 2090 | 5190 | 124 | 1 | 301 | 11 | 1500 | 0.15 | 6 | 1 | 1 | | 11 | | 1 | 41 | 36 | 38 | 50 | 12 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST88** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST88 | | 3-Sep-08 | | 0.04 | 1.22 | | | 1 | 5 | | | | 0.1 | 0.2 | 7140 | 1.0 | 0.9 | 59 | 1 | | 4620 | 0.5 | 7 | 63 | 17 | 25300 | 2480 | 5910 | 150 | 1 | 235 | 27 | 1100 | 0.11 | 6 | 1 | 1 | | 12 | | 1 | 40 | 43 | 69 | 23 | 8 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST81** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST81 | | 3-Sep-08 | | 0.01 | 0.19 | | | 1 | 5 | | | | 0.1 | 0.2 | 2350 | 1.0 | 0.5 | 13 | 1 | | 2100 | 0.5 | 3 | 19 | 6 | 13700 | 630 | 1730 | 51 | 1 | 100 | 7 | 700 | 0.07 | 2 | 1 | 1 | | 4 | | 1 | 31 | 17 | 94 | 4 | 2 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST29** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST29 | | 1-Sep-08 | | 0.91 | 9.80 | | | 1 | 6 | | | | 0.2 | 0.4 | 18600 | 1.7 | 3.3 | 118 | 1 | | 4000 | 0.6 | 9 | 44 | 117 | 38800 | 2970 | 8150 | 244 | 7 | 387 | 30 | 2100 | 0.21 | 14 | 1 | 1 | | 17 | | 1 | 58 | 142 | 84 | 8 | 8 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Lake ST32** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST32 | | 1-Sep-08 | | 0.13 | 1.03 | | | 1 | 3 | | | | 0.1 | 0.2 | 12600 | 1.5 | 2.1 | 59 | 1 | | 1730 | 0.5 | 13 | 31 | 64 | 32600 | 2170 | 6000 | 258 | 4 | 246 | 15 | 900 | 0.09 | 9 | 1 | 1 | | 7 | | 1 | 42 | 81 | 71 | 21 | 8 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Stream 17** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stream 17 | | 27-Aug-08 | | 2.76 | 35.40 | | | 1 | 8 | | | | 0.1 | 0.2 | 3890 | 3.6 | 0.5 | 52 | 1 | | 8800 | 0.5 | 3 | 21 | 29 | 21000 | 878 | 3050 | 110 | 3 | 243 | 18 | 400 | 0.04 | 3 | 1 | 1 | | 29 | | 1 | 21 | 69 | 53 | 37 | 10 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Steensby Inlet Stream 18** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stream 18 | | 27-Aug-08 | | 0.43 | 6.10 | | | 1 | 3 | | | | 0.1 | 0.2 | 6790 | 1.0 | 1.3 | 33 | 1 | | 2140 | 0.5 | 7 | 19 | 21 | 15400 | 986 | 4010 | 207 | 1 | 115 | 11 | 1100 | 0.11 | 7 | 1 | 1 | | 7 | | 1 | 28 | 35 | 82 | 14 | 4 |
| Number of sites | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of samples | | | | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 




**LEGEND:**

- COMMUNITY
- MILNE INLET TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- AREA OF EQUAL USE AND OCCUPANCY NUNAVUT AND NUNAVIK
- NUNAVUT INUIT SETTLEMENT AREA
- WATER
- SIRMILIK NATIONAL PARK
- GLACIERS

**NOTES:**

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. CO-ORDINATE GRID IS IN METRES.
   DATUM: NAD83
   PROJECTION: UTM ZONE 17

SCALE 60 30 0 60 120 180 240 300 km

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**PROJECT LOCATION MAP**

Knight Piésold CONSULTING

P/A NO. NB102-181/30

REF NO. 5

**FIGURE 1.1**

REV 0

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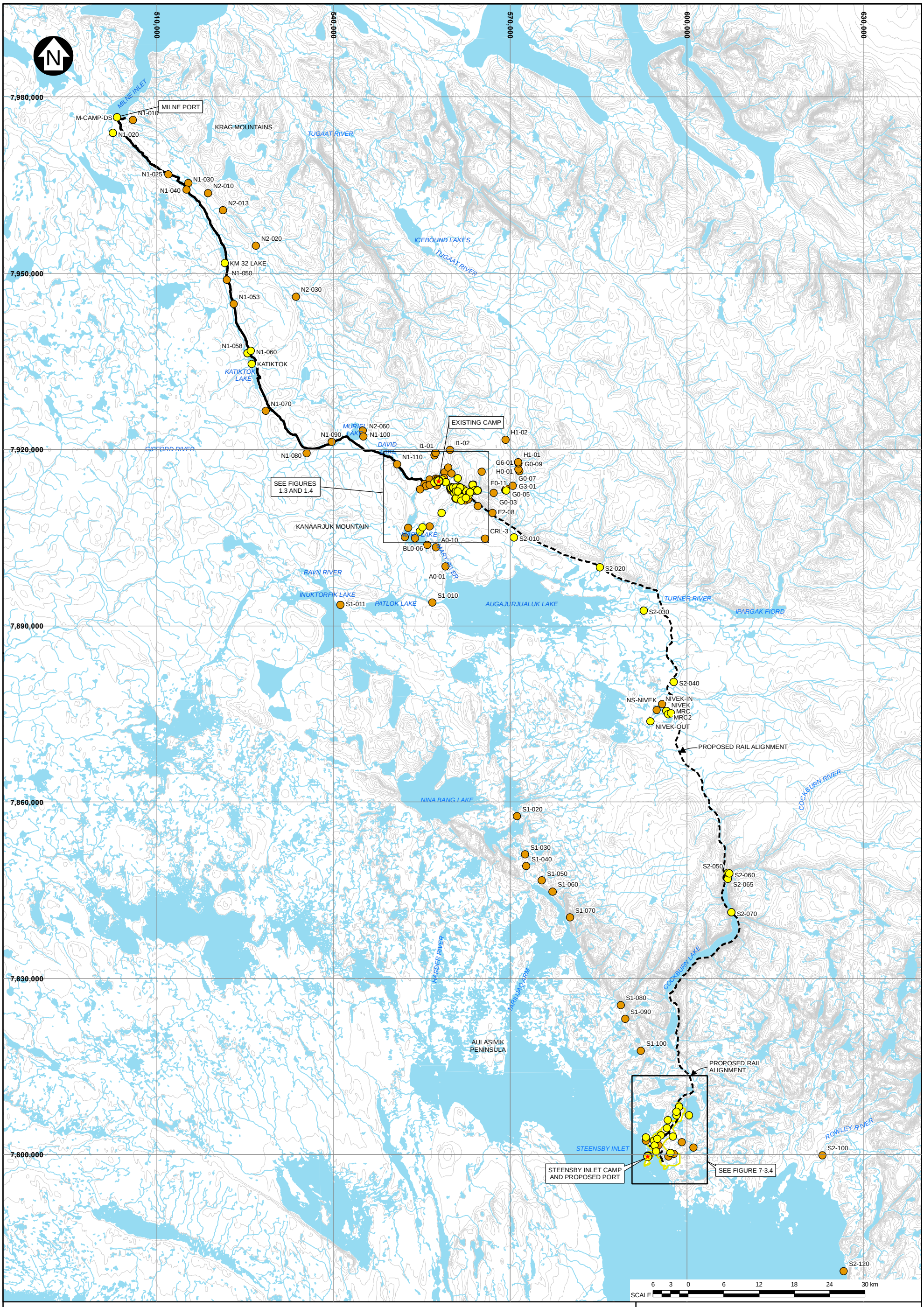


**LEGEND:**

- 2011 WATER QUALITY SAMPLE LOCATION
- HISTORIC WATER QUALITY SAMPLE LOCATION
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- RIVER/STREAM/DRAINAGE
- WATER
- POTENTIAL DEVELOPMENT AREA

**NOTES:**

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS UTM NAD83 ZONE 17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

# STREAM AND LAKE WATER QUALITY SAMPLE LOCATIONS IN THE FRESHWATER RSA

Knight Piésold CONSULTING

P/A NO. NB102-181/30

REF NO. 5

FIGURE 1.2

REV 0

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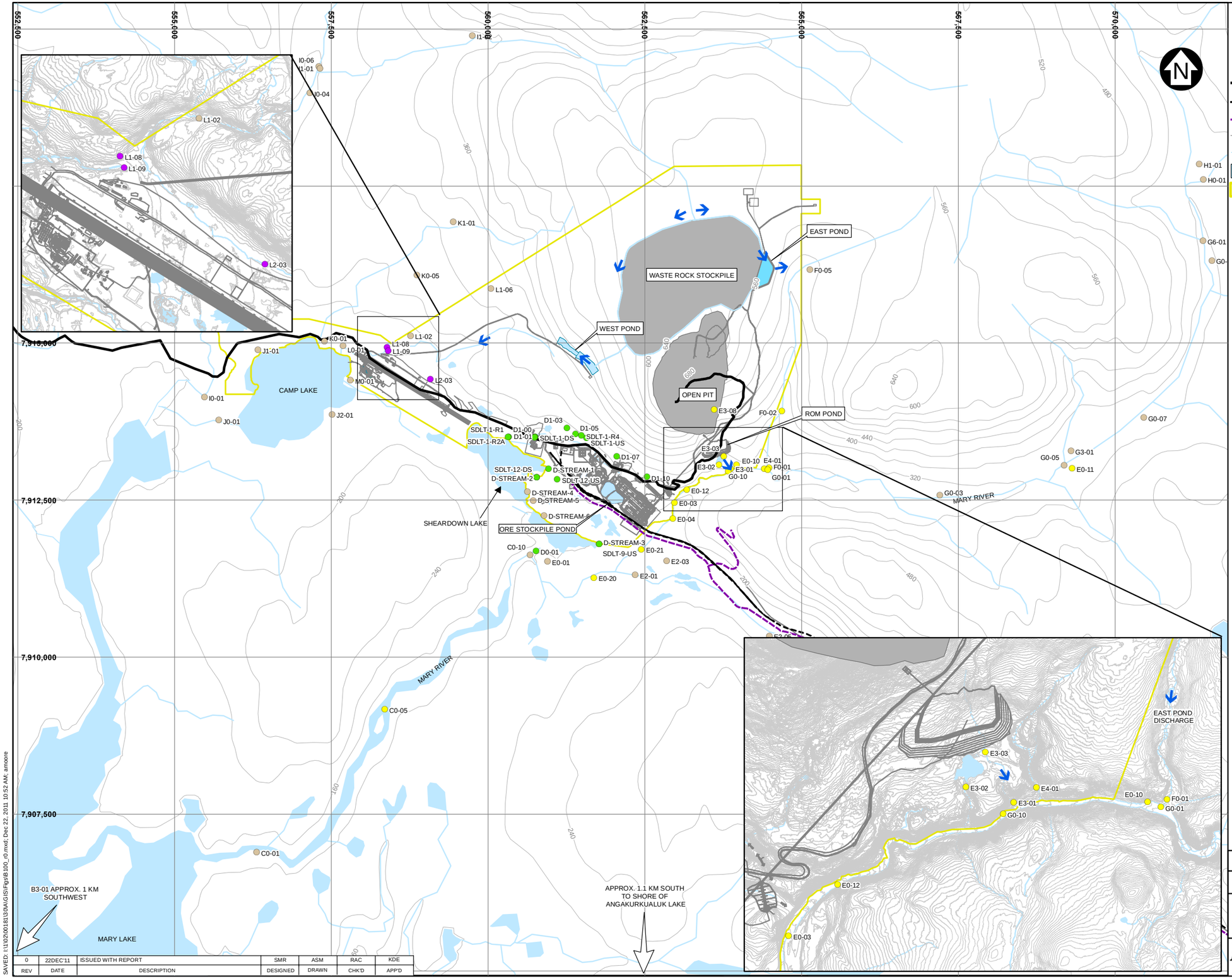


**LEGEND:**

- DOWNSTREAM OF DEPOSITS
- TRIBUTARIES OF SHEARDOWN LAKE
- TRIBUTARIES OF CAMP LAKE
- HISTORIC STREAM WATER SAMPLE LOCATIONS
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- PROPOSED CONSTRUCTION ACCESS ROAD
- PROPOSED SITE INFRASTRUCTURE
- RIVER/STREAM/DRAINAGE
- WATER
- POTENTIAL DEVELOPMENT AREA (PDA)

**NOTES:**

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2. COORDINATE GRID IS UTM (WGS84/NAD83) ZONE17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. LAKE SAMPLE LOCATIONS VARY SLIGHTLY DURING WINTER MONTHS DUE TO ICE CONDITIONS.
5. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

SCALE 500 250 0 500 1,000 1,500 2,000 2,500 m

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

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BAFFINLAND IRON MINES CORPORATION

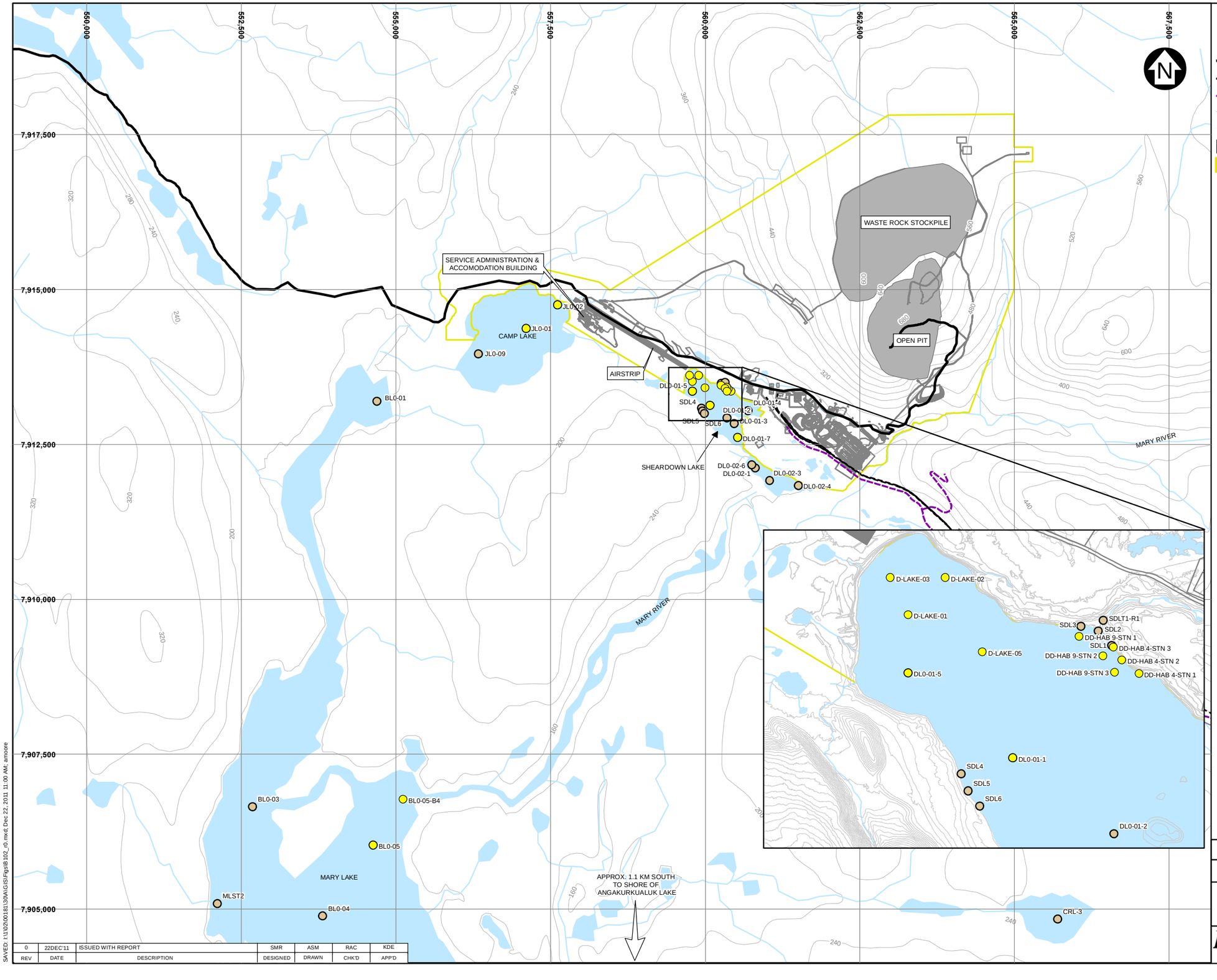
MARY RIVER PROJECT

**STREAM WATER QUALITY SAMPLE LOCATIONS MINE SITE**

Knight Piésold CONSULTING

| P/A NO. | REF NO. |
|---|---|
| NB102-181/30 | 5 |

**FIGURE 1.3** REV 0




**LEGEND:**

- 2011 WATER QUALITY SAMPLE LOCATION
- HISTORIC WATER QUALITY SAMPLE LOCATION
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- PROPOSED CONSTRUCTION ACCESS ROAD
- PROPOSED SITE INFRASTRUCTURE
- RIVER/STREAM/DRAINAGE
- WATER
- POTENTIAL DEVELOPMENT AREA (PDA)

**NOTES:**

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2. COORDINATE GRID IS UTM (WGS84/NAD83) ZONE17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. LAKE SAMPLE LOCATIONS VARY SLIGHTLY DURING WINTER MONTHS DUE TO ICE CONDITIONS.
5. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

SCALE 500 250 0 500 1,000 1,500 2,000 2,500 m

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

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BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**LAKE WATER QUALITY SAMPLE LOCATIONS MINE SITE**

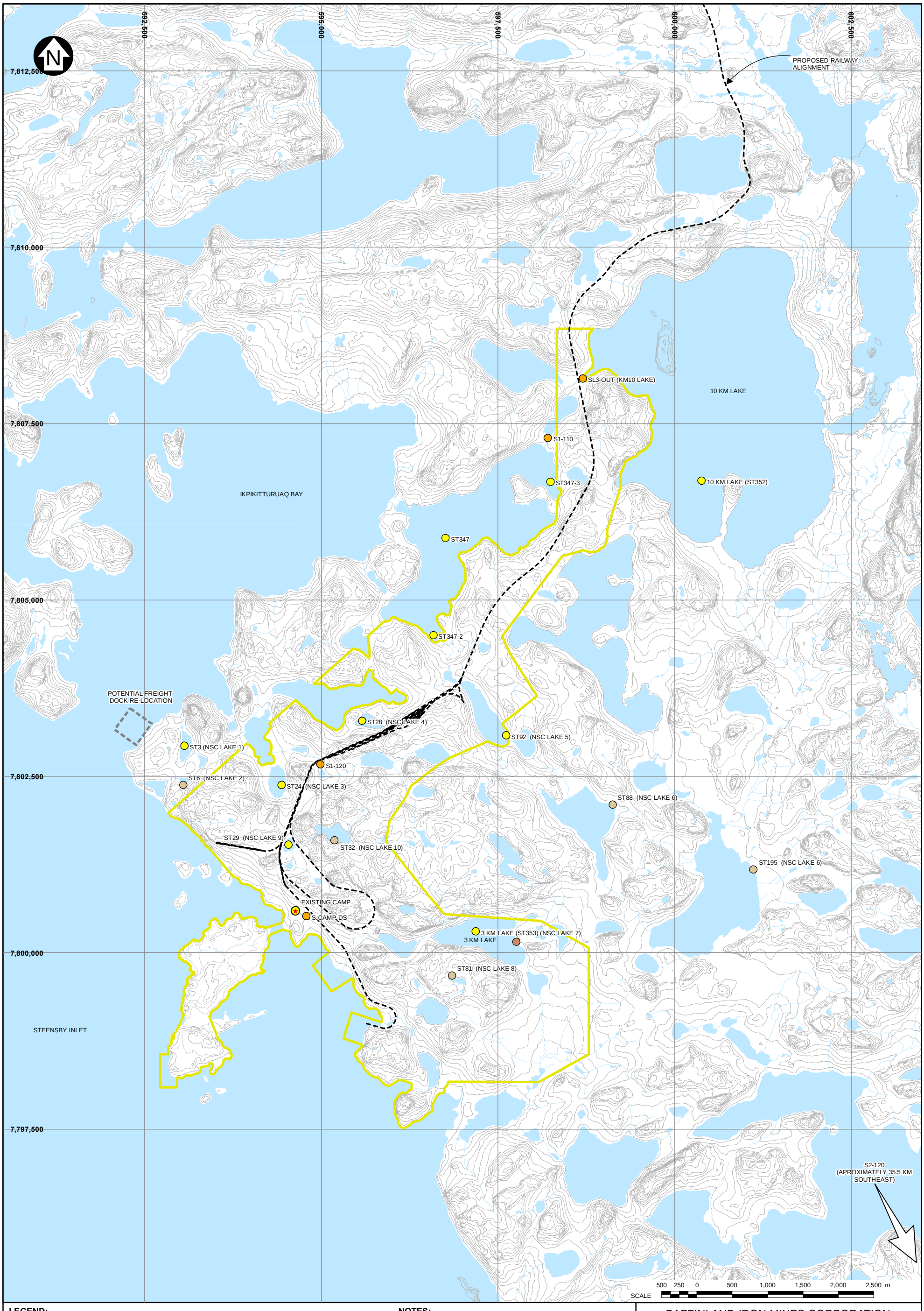
Knight Piésold CONSULTING

P/A NO. NB102-181/30

REF NO. 5

**FIGURE 1.4**

REV 0




**LEGEND:**

- 2011 LAKE SAMPLE LOCATION
- 2011 STREAM SAMPLE LOCATION
- HISTORIC LAKE SAMPLE LOCATION
- HISTORIC STREAM SAMPLE LOCATION
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- CONTOUR
- RIVER/STREAM/DRAINAGE
- POTENTIAL DEVELOPMENT AREA (PDA)
- WATER

**NOTES:**

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
2. COORDINATE GRID IS UTM NAD83 ZONE17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

# STREAM AND LAKE WATER QUALITY SAMPLE LOCATIONS STEENSBY PORT

Knight Piésold CONSULTING

P/A NO. NB102-181/30

REF NO. 5

FIGURE 1.5

REV 0

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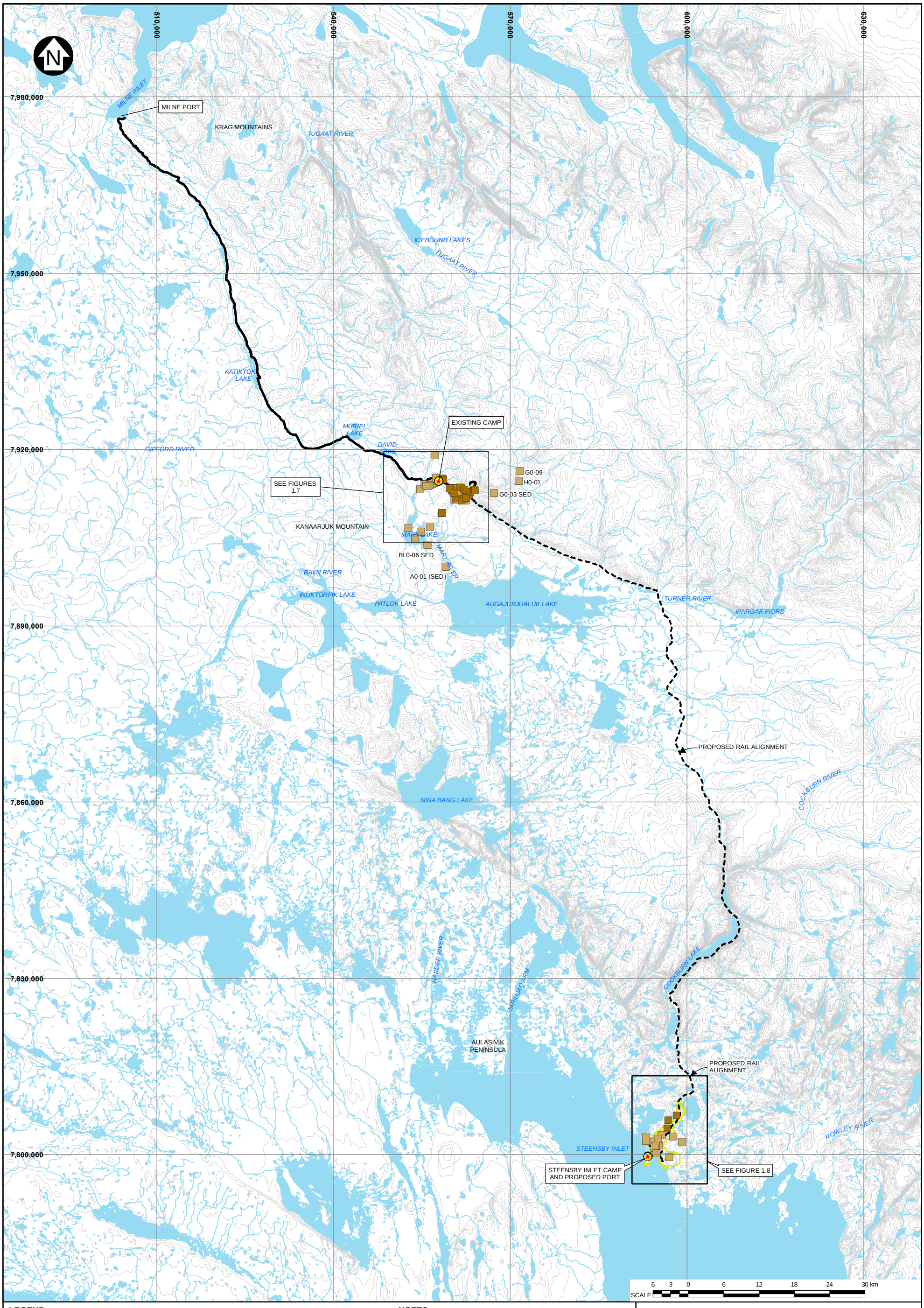


**LEGEND:**

- 2011 WATER QUALITY SAMPLE LOCATION
- HISTORIC WATER QUALITY SAMPLE LOCATION
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- RIVER/STREAM/DRAINAGE
- WATER
- POTENTIAL DEVELOPMENT AREA

**NOTES:**

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2. COORDINATE GRID IS UTM NAD83 ZONE 17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
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BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**SEDIMENT SAMPLE LOCATIONS IN THE FRESHWATER RSA**

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P/A NO. NB102-181/30

REF NO. 5

**FIGURE 1.6**

REV 0

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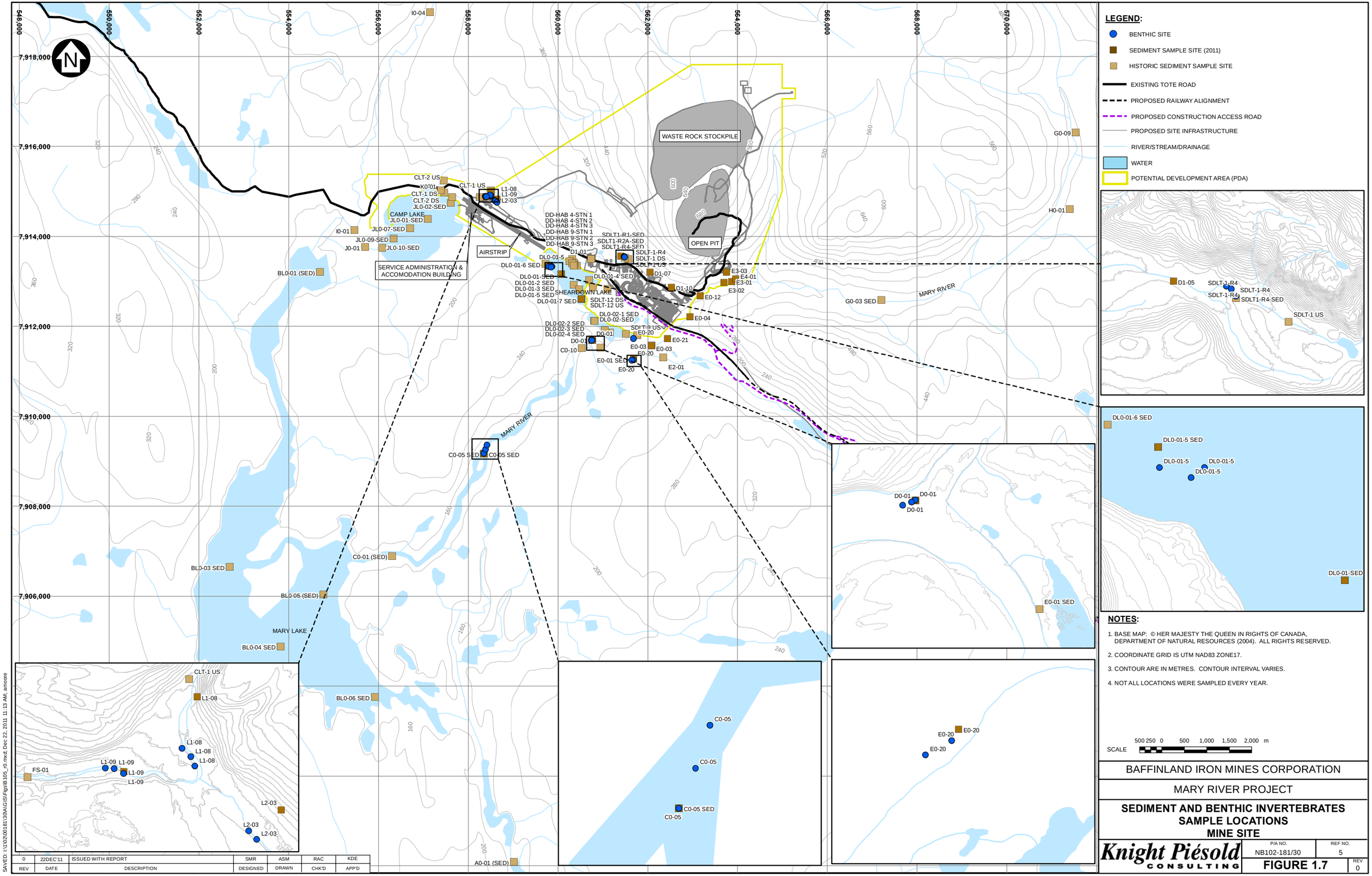


**NOTES:**

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS UTM NAD83 ZONE17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

SCALE 500 250 0 500 1,000 1,500 2,000 m

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**SEDIMENT AND BENTHIC INVERTEBRATES SAMPLE LOCATIONS MINE SITE**

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**FIGURE 1.7** | REV 0

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
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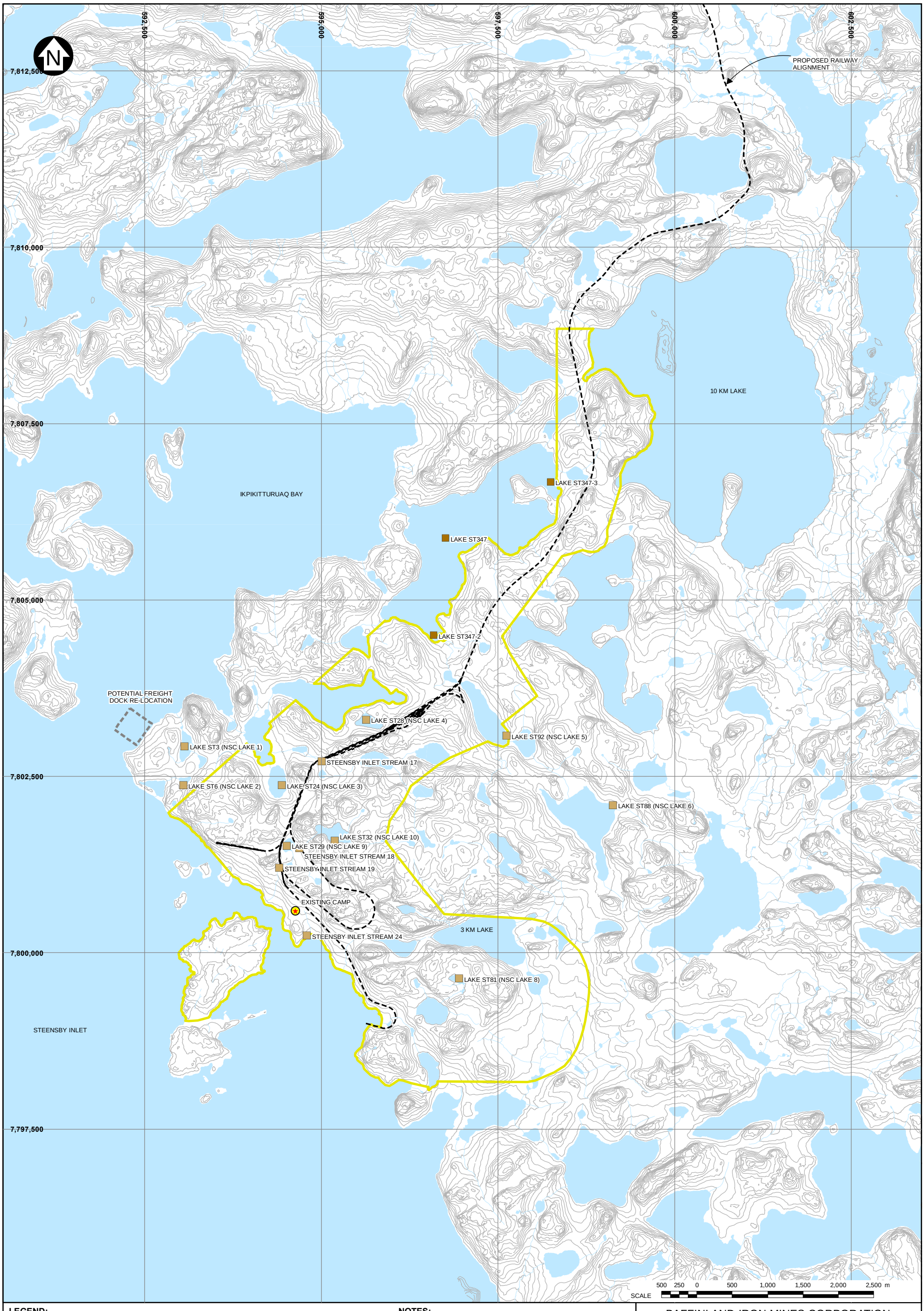


**LEGEND:**

- SEDIMENT SAMPLE LOCATION (2011)
- HISTORIC SEDIMENT SAMPLE LOCATION
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- CONTOUR
- RIVER/STREAM/DRAINAGE
- WATER
- POTENTIAL DEVELOPMENT AREA (PDA)

**NOTES:**

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
2. COORDINATE GRID IS UTM NAD83 ZONE17.
3. CONTOUR ARE IN METRES. CONTOUR INTERVAL VARIES.
4. NOT ALL LOCATIONS WERE SAMPLED EVERY YEAR.

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D |
|---|---|---|---|---|---|---|
| 0 | 22DEC'11 | ISSUED WITH REPORT | SMR | ASM | RAC | KDE |

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**SEDIMENT SAMPLE LOCATIONS STEENSBY PORT**

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P/A NO. NB102-181/30

REF NO. 5

**FIGURE 1.8**

REV 0

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