

TABLE 4.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
COMPREHENSIVE ENVIRONMENTAL MONITORING PLAN
WATER QUALITY AND QUANTITY MONITORING LOCATIONS

Monitoring Location ID	Description	UTM Coordinates (NAD83)		Parameters	Maximum Amount/Average Concentration	Maximum Grab Concentration	Sampling Frequency	Monitoring and Reporting Requirement	Reporting Frequency
		Easting (m)	Northing (m)						
MRY-1	Water Supply for the Mary River Mine Site at Camp Lake	557,682	7,914,693	Daily Volume	< 60 m ³ /d (combined total for all camp usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
MRY-2	Summer Water Supply for the Milne Port at Phillips Creek	514,503	7,964,579	Daily Volume	< 60 m ³ /d (combined total for all camp usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
MRY-3	Winter water supply for Milne Port at Km 32 Lake ⁽¹⁾	521,714	7,951,862	Daily Volume	< 60 m ³ /d (combined total for all camp usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
Unnamed	Water Supply for the Rail Camp at Unnamed Lake Adjacent to Camp	595,547	7,876,328	Daily Volume	< 60 m ³ /d (combined total for all camp usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
Unnamed	Water Supply for the Steensby Port at 3km Lake, 10 km Lake or Ocean	596,585	7,800,231	Daily Volume	< 60 m ³ /d (combined total for all camp usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
Various	Water Supply for Exploration and Geotechnical Drilling at Various Named and Unnamed Sources Throughout the Project Area	Various locations upstream, downstream, and near-field.		Daily Volume	< 325 m ³ /d (combined total for all drilling usage)	N/A	Daily	Water License Part B, Item 6 Part I, Items 9, 19 and 20	Daily Volume Requirement for monthly reporting
MRY-5-INF	Sewage Influent - WWTF at Milne Port	Primary Chamber		BOD ₅ Total suspended solids (TSS) Faecal coliforms pH Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus	N/A	N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
MILNE-RC1	Receiving waters of Milne Port, adjacent drainage ditch	TBD	TBD	BOD ₅ Total suspended solids (TSS) Faecal coliforms pH Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus	N/A	N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
MRY-4-INF	Sewage Influent - WWTF at Mary River Mine Site	Primary Chamber		BOD ₅ Total suspended solids (TSS) Faecal coliforms pH Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus	N/A	N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
Shear-RC1	Sheardown Lake in the vicinity of the sewage outfall	TBD	TBD	BOD ₅ Total suspended solids (TSS) Faecal coliforms pH Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus Dissolved oxygen	N/A	N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
MRY-4	Mary River Mine Site sewage discharge at the WWTF	557,920	7,914,372	BOD ₅ TSS pH Faecal Coliforms Oil and Grease Volume	30 mg/L 35 mg/L 6.0 to 9.5 1,000 CFU/100 mL No visible sheen	N/A	Every 4 weeks during discharge, daily for volumes	Water License Part B, Item 6 Part D, Item 13 Part I, Items 4, 19 and 20	Daily Volume Requirement for monthly reporting
				Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus		N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
				Acute lethality to Rainbow Trout and Daphnia magna (Biological Test Methods EPS/1/RM/13 and EPS/1/RM/14)	Non-toxic	N/A	Once annually during open water	Water License Part B, Item 6 Part D, Item 15 Part I, Items 5, 19 and 20	Monthly report following testing; annual report
MRY-4a	Mary River Mine Site sewage discharge from the PWSPs	558,706	7,913,930	BOD ₅ TSS pH Faecal Coliforms Oil and Grease Volume	30 mg/L 35 mg/L 6.0 to 9.5 1,000 CFU/100 mL No visible sheen	N/A	Once prior to discharge and every 4 weeks thereafter; daily for volumes	Water License Part B, Item 6 Part D, Item 13 Part I, Items 4, 19 and 20	Daily Volume Requirement for monthly reporting
				Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus		N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
				Acute lethality to Rainbow Trout and Daphnia magna (Biological Test Methods EPS/1/RM/13 & EPS/1/RM/14)	Non-toxic	N/A	Once annually during open water	Water License Part B, Item 6 Part D, Item 15 Part I, Items 5, 19 and 20	Monthly report following testing; annual report

TABLE 4.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
COMPREHENSIVE ENVIRONMENTAL MONITORING PLAN
WATER QUALITY AND QUANTITY MONITORING LOCATIONS

Monitoring Location ID	Description	UTM Coordinates (NAD83)		Parameters	Maximum Amount/Average Concentration	Maximum Grab Concentration	Sampling Frequency	Monitoring and Reporting Requirement	Reporting Frequency
		Easting (m)	Northing (m)						
MRY-5	Mine Port sewage discharge at the WWTF	503,462	7,975,764	BOD ₅ TSS pH Faecal Coliforms Oil and Grease Volume	100 mg/L 120 mg/L 6.0 to 9.5 10,000 CFU/100 mL No visible sheen	N/A	Every 4 weeks during discharge; daily for volumes	Water License Part B, Item 6 Part D, Item 14 Part I, Items 4, 19 and 20	Daily Volume Requirement for monthly reporting
				Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus		N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
				Acute lethality to Rainbow Trout and <i>Daphnia magna</i> (Biological Test Methods EPS/1/RM/13 and EPS/1/RM/14)	Non-toxic	N/A	Once annually during open water	Water License Part B, Item 6 Part D, Item 15 Part I, Items 5, 19 and 20	Monthly report following testing; annual report
MRY-5a	Mine Port sewage discharge from the PWSP	503,344	7,976,118	BOD ₅ TSS pH Faecal Coliforms Oil and Grease Volume	100 mg/L 120 mg/L 6.0 to 9.5 10,000 CFU/100 mL No visible sheen	N/A	Once prior to discharge and every 4 weeks thereafter; daily for volumes	Water License Part B, Item 6 Part D, Item 14 Part I, Items 4, 19 and 20	Daily Volume Requirement for monthly reporting
				Total Kjeldahl Nitrogen (TKN) Ammonia-nitrogen Total phosphorus		N/A	Every 4 weeks during discharge	Baffinland Requirement	For information only; not reported
				Acute lethality to Rainbow Trout and <i>Daphnia magna</i> (Biological Test Methods EPS/1/RM/13 and EPS/1/RM/14)	Non-toxic	N/A	Once annually during open water	Water License Part B, Item 6 Part D, Item 15 Part I, Items 5, 19 and 20	Monthly report following testing; annual report
MRY-6	Water collected within the Bulk Fuel Storage Facility at Mine Port prior to release	558,186	7,914,780	Benzene Toluene Ethylbenzene Lead Oil and Grease	370 µg/L 2 µg/L 90 µg/L 1 µg/L 15,000 µg/L and no visible sheen	N/A	Monthly during removal of water	Water License Part B, Item 6 Part D, Item 20 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-7	Water collected within the Bulk Fuel Storage Facility at Mine Port prior to release	503,309	7,976,097	Benzene Toluene Ethylbenzene Lead Oil and Grease	370 µg/L 2 µg/L 90 µg/L 1 µg/L 15,000 µg/L and no visible sheen	N/A	Monthly during removal of water	Water License Part B, Item 6 Part D, Item 20 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-7a	Water collected within the Steel Tank Storage Facility at Mine Port prior to release	503,630	7,976,149	Benzene Toluene Ethylbenzene Lead Oil and Grease	370 µg/L 2 µg/L 90 µg/L 1 µg/L 15,000 µg/L and no visible sheen	N/A	Monthly during removal of water	Water License Part B, Item 6 Part D, Item 20 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-8	Minewater and surface drainage either pumped or released from the Hematite Open Pit	NO LONGER REQUIRED ⁽²⁾							
MRY-9	Minewater and surface drainage either pumped or released from the Magnetite Open Pit ⁽²⁾	563,239	7,914,596	Total Arsenic Total Copper Total Lead Total Nickel Total Zinc TSS Oil and Grease pH (of waste discharged)	As 0.5 mg/L Cu 0.30 mg/L Pb 0.20 mg/L Ni 0.50 mg/L Zn 0.50 mg/L TSS 15 mg/L O&G No visible sheen pH Between 6.0 and 9.5	As 1.00 mg/L Cu 0.60 mg/L Pb 0.40 mg/L Ni 1.00 mg/L Zn 1.00 mg/L TSS 50.0 mg/L	Monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-10	Surface discharge from the weathered ore stockpile	563,349	7,915,262	Total Arsenic Total Copper Total Lead Total Nickel Total Zinc TSS Oil and Grease pH (of waste discharged)	As 0.5 mg/L Cu 0.30 mg/L Pb 0.20 mg/L Ni 0.50 mg/L Zn 0.50 mg/L TSS 15 mg/L O&G No visible sheen pH Between 6.0 and 9.5	As 1.00 mg/L Cu 0.60 mg/L Pb 0.40 mg/L Ni 1.00 mg/L Zn 1.00 mg/L TSS 50.0 mg/L	Seepage / surface run off - monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-11	Surface discharge from the lump ore and fine ore stockpiles at the processing area (Mine Site)	560,987	7,913,364	Total Arsenic Total Copper Total Lead Total Nickel Total Zinc TSS Oil and Grease pH (of waste discharged)	As 0.5 mg/L Cu 0.30 mg/L Pb 0.20 mg/L Ni 0.50 mg/L Zn 0.50 mg/L TSS 15 mg/L O&G No visible sheen pH Between 6.0 and 9.5	As 1.00 mg/L Cu 0.60 mg/L Pb 0.40 mg/L Ni 1.00 mg/L Zn 1.00 mg/L TSS 50.0 mg/L	Seepage / surface run off - monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-12	Surface discharge from the lump ore and fine ore stockpiles at Mine Port	12a - 503,356	7,976,452	Total Arsenic Total Copper Total Lead Total Nickel Total Zinc TSS Oil and Grease pH (of waste discharged)	As 0.5 mg/L Cu 0.30 mg/L Pb 0.20 mg/L Ni 0.50 mg/L Zn 0.50 mg/L TSS 15 mg/L O&G No visible sheen pH Between 6.0 and 9.5	As 1.00 mg/L Cu 0.60 mg/L Pb 0.40 mg/L Ni 1.00 mg/L Zn 1.00 mg/L TSS 50.0 mg/L	Seepage / surface run off - monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
		12b - 503,522	7,976,399	Total Arsenic Total Copper Total Lead Total Nickel Total Zinc TSS Oil and Grease pH (of waste discharged)	As 0.5 mg/L Cu 0.30 mg/L Pb 0.20 mg/L Ni 0.50 mg/L Zn 0.50 mg/L TSS 15 mg/L O&G No visible sheen pH Between 6.0 and 9.5	As 1.00 mg/L Cu 0.60 mg/L Pb 0.40 mg/L Ni 1.00 mg/L Zn 1.00 mg/L TSS 50.0 mg/L	Seepage / surface run off - monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 6, 19 and 20	Monthly report following testing; annual report
MRY-13	Surface discharge downstream of non-hazardous landfill at Mine Site	560,756	7,912,496	pH Alkalinity Conductivity Total Dissolved Solids (TDS) Total Suspended Solids (TSS) Oil and Grease Phenols Total Organic Carbon (TOC) Dissolved Organic Carbon (DOC) Total Trace metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Sr, Ti, Tl, U, V, Zn); and Trace Arsenic and Mercury			Seepage / surface run off - monthly during periods of flow	Water License Part B, Item 6 Part D, Item 12 Part I, Items 7, 19 and 20	Monthly report following testing; annual report
MS-C-A MS-C-B MS-C-C MS-C-D MS-C-E MS-C-F	Surface discharge downstream of construction areas at Mine Site	561,027 560,961 560,326 561,162 561,750 562,314	7,913,277 7,913,436 7,913,469 7,912,031 7,911,791 7,911,805	TSS/Turbidity Oil and Grease	TSS - 50 mg/L Avg. and Max Grab 100 mg No Visible Sheen	N/A	Seepage / surface run off - monthly during periods of flow	Future Requirement to Support Site Preparation Work Prior to 2013 Sea Lift (2013 Work Plan submitted to QIA and Application for new Type B Water Licence submitted in March 2013)	Annual Water Licence Report.
MP-C-A MP-C-B MP-C-C MP-C-D MP-C-E MP-C-F MP-C-G MP-C-H	Surface discharge downstream of construction areas at Mine Port	503,201 503,031 503,436 503,660 503,736 503,881 503,006 504,113	7,976,478 7,975,629 7,975,427 7,976,377 7,976,346 7,976,365 7,976,484 7,976,509	TSS/Turbidity Oil and Grease	TSS - 50 mg/L Avg. and Max Grab 100 mg No Visible Sheen	N/A	Seepage / surface run off - monthly during periods of flow	Future Requirement to Support Site Preparation Work Prior to 2013 Sea Lift (2013 Work Plan submitted to QIA and Application for new Type B Water Licence submitted in March 2013)	Annual Water Licence Report.
Exploration Drill Monitoring		Various locations upstream, downstream, and near-field.		Major ions, total metals, general parameters, flow.	N/A	N/A		Annual NIRB Report	Once per year.

TABLE 4.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
COMPREHENSIVE ENVIRONMENTAL MONITORING PLAN
WATER QUALITY AND QUANTITY MONITORING LOCATIONS

Monitoring Location ID	Description	UTM Coordinates (NAD83)		Parameters	Maximum Amount/Average Concentration	Maximum Grab Concentration	Sampling Frequency	Monitoring and Reporting Requirement	Reporting Frequency
		Easting (m)	Northing (m)						

Notes:

1. Shaded monitoring location ID cells denote Water Licence Monitoring Locations.
 2. Shaded parameters cells denote required parameters to be reported under the Water Licence.
 3. This location is referenced as Km 90 Lake in the Water Licence. This is in error.
 4. There is actually only one bulk sample pit now.
 5. More frequent sampling of MRY-4, 4a, 5, 5a, Milne-INFL, and MRY-INFL may be undertaken for the purpose of internal process management and early detection of potential upset conditions.
 6. MRY-11 and MRY-13 are referenced in reverse in the Water Licence.
 7. MP-C-B - will also test for nitrates, nitrites, ammonia-nitrogen and total phosphorus as it is potential runoff location from Quarry Q1)
- The designations for the camps have been modified from previous years so as to be in alignment with the terminologies used in the documentation for the approved Project. The following changes have been made from previous annual reports:
- * Milne Inlet Camp site is now termed Milne Port;
 - * Mary River Camp site is now termed Mine Site; and,
 - * Steensby Inlet Campsite is now termed Steensby Port.

Rev. 1 - Updated and Reissued