APPENDIX E.15

MDMER ANNUAL REPORT

Government of Canada / Gouvernement du Canada

Canada

Mary River Mine Site - Information related to effluent and water quality monitoring studies - Version 1 - 2021

Report details

Facility name	Mary River Mine Site
Reporting period	2021
Version	1
Status	Submitted
Last modified	2022/03/14 13:10 (EDT)
Submission date	2022/03/28 21:24 (EDT)

Parent company

Parent company	Physical address
Baffinland Iron Mines Corporation	300, 2275 Upper Middle Rd, Oakville, Ontario, L6H 0C3, Canada

History

Status	Version	Last modified	Submission date
Submitted	1	2022/03/14 13:10 (EDT)	2022/03/28 21:24 (EDT)

Effluent characterization

Final discharge point	Collection date
MS-06	2021/06/01
MS-06	2021/06/15
MS-06	2021/07/08
MS-06	2021/08/08
MS-06	2021/09/10
MS-07	2021/07/08
MS-07	2021/08/17
MS-08	2021/06/23
MS-08	2021/07/08
MS-08	2021/08/03
MS-08	2021/08/08
MS-06	2021/08/04
MS-06	2021/09/01

Calculated Annual Average

Final discharge point	Mercury concentration	Selenium concentration
MS-06	0.000002	0.001449
MS-07	0.000002	0.001315
MS-08	0.000002	0.003544

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/06/01
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		16.1	1	mg/L as $CaCO_3$
Electrical conductivity		424	1	µS/cm
Hardness		84.1	0.5	mg/L as $CaCO_3$
Temperature		24.1		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.16	0.005	mg/L
Cadmium		0.000099	0.000005	mg/L
Chloride		10.7	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.0005	0.0001	mg/L
Iron		0.078	0.01	mg/L
Manganese		0.00804	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.0021	0.00005	mg/L
Nitrate		4.89	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.388	0.003	mg/L as P
Selenium		0.000136	0.00005	mg/L
Sulphate		136	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000394	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		15.8	0.05	mg/L
Dissolved organic carbon		9.23	0.5	mg/L
Fluoride		0.045	0.02	mg/L
Magnesium		11.1	0.005	mg/L
Potassium		16.9	0.05	mg/L
Sodium		149	0.5	mg/L
Total organic carbon		7.49	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/06/15
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		59.9	1	mg/L as $CaCO_3$
Electrical conductivity		856	1	µS/cm
Hardness		416	0.5	mg/L as $CaCO_3$
Temperature		14.4		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0358	0.005	mg/L
Cadmium		0.000045	0.00005	mg/L
Chloride		24.9	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00228	0.0001	mg/L
Iron		0.088	0.01	mg/L
Manganese		1.52	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00663	0.00005	mg/L
Nitrate		8.62	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.00138	0.00005	mg/L
Sulphate		355	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.000056	0.00001	mg/L
Uranium		0.0119	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		39	0.05	mg/L
Dissolved organic carbon		6.84	0.5	mg/L
Fluoride		0.074	0.02	mg/L
Magnesium		77.4	0.005	mg/L
Potassium		9.55	0.05	mg/L
Sodium		10.3	0.05	mg/L
Total organic carbon		7.38	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		39.1	1	mg/L as $CaCO_3$
Electrical conductivity		1050	1	µS/cm
Hardness		536	0.5	mg/L as $CaCO_3$
Temperature		12.6		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum	<	0.05	0.05	mg/L
Cadmium	<	0.00005	0.00005	mg/L
Chloride		29.2	2.5	mg/L
Chromium	<	0.005	0.005	mg/L
Cobalt		0.0033	0.001	mg/L
Iron	<	0.1	0.1	mg/L
Manganese		1.7	0.005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00395	0.0005	mg/L
Nitrate		11.9	0.1	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.00157	0.0005	mg/L
Sulphate		489	1.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium	<	0.0001	0.0001	mg/L
Uranium		0.00525	0.0001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		48.2	0.5	mg/L
Dissolved organic carbon		3.31	0.5	mg/L
Fluoride	<	0.1	0.1	mg/L
Magnesium		97.6	0.05	mg/L
Potassium		10.5	0.5	mg/L
Sodium		11.4	0.5	mg/L
Total organic carbon		3.73	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/08/08
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		36.3	1	mg/L as $CaCO_3$
Electrical conductivity		1010	1	µS/cm
Hardness		507	0.5	mg/L as $CaCO_3$
Temperature		9.5		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0526	0.005	mg/L
Cadmium		0.000006	0.000005	mg/L
Chloride		25.4	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00203	0.0001	mg/L
Iron		0.159	0.01	mg/L
Manganese		1.3	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00265	0.00005	mg/L
Nitrate		11.5	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0031	0.003	mg/L as P
Selenium		0.00179	0.00005	mg/L
Sulphate		420	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.000071	0.00001	mg/L
Uranium		0.00241	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		49.1	0.5	mg/L
Dissolved organic carbon		3.72	0.5	mg/L
Fluoride		0.07	0.02	mg/L
Magnesium		95.5	0.005	mg/L
Potassium		10.1	0.05	mg/L
Sodium		10.6	0.05	mg/L
Total organic carbon		2.82	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/09/10
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		27.8	1	mg/L as $CaCO_3$
Electrical conductivity		1060	1	µS/cm
Hardness		494	0.5	mg/L as $CaCO_3$
Temperature		6.1		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0257	0.003	mg/L
Cadmium		0.000007	0.000005	mg/L
Chloride		25.4	2.5	mg/L
Chromium	<	0.0001	0.0001	mg/L
Cobalt		0.00185	0.0001	mg/L
Iron		0.04	0.01	mg/L
Manganese		0.987	0.0001	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00258	0.00005	mg/L
Nitrate		12.7	0.025	mg/L expressed as nitrogen (N)
Phosphorus		0.005	0.002	mg/L as P
Selenium		0.00172	0.00005	mg/L
Sulphate		448	1.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.00006	0.00001	mg/L
Uranium		0.00159	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		50	0.05	mg/L
Dissolved organic carbon		2.4	0.5	mg/L
Fluoride	<	0.1	0.1	mg/L
Magnesium		92.7	0.005	mg/L
Potassium		10.1	0.05	mg/L
Sodium		10.3	0.05	mg/L
Total organic carbon		2.47	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-07
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		31.1	1	mg/L as $CaCO_3$
Electrical conductivity		399	1	µS/cm
Hardness		176	0.5	mg/L as $CaCO_3$
Temperature		12.4		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0435	0.005	mg/L
Cadmium		0.000023	0.000005	mg/L
Chloride		3.54	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00062	0.0001	mg/L
Iron		0.042	0.01	mg/L
Manganese		0.0421	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00729	0.00005	mg/L
Nitrate		5.99	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.00114	0.00005	mg/L
Sulphate		134	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00236	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		24.8	0.05	mg/L
Dissolved organic carbon		2.19	0.5	mg/L
Fluoride		0.117	0.02	mg/L
Magnesium		28	0.005	mg/L
Potassium		8.47	0.05	mg/L
Sodium		2.83	0.05	mg/L
Total organic carbon		2.42	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-07
* **Collection date (required)**	2021/08/17
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		67.8	1	mg/L as $CaCO_3$
Electrical conductivity		647	1	µS/cm
Hardness		282	0.5	mg/L as $CaCO_3$
Temperature		9.3		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.185	0.005	mg/L
Cadmium		0.00002	0.000005	mg/L
Chloride		8.82	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00079	0.0001	mg/L
Iron		0.214	0.01	mg/L
Manganese		0.0319	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00985	0.00005	mg/L
Nitrate		12.2	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0097	0.003	mg/L as P
Selenium		0.00149	0.00005	mg/L
Sulphate		183	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00631	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		47.4	0.05	mg/L
Dissolved organic carbon		2.91	0.5	mg/L
Fluoride		0.125	0.02	mg/L
Magnesium		39.7	0.005	mg/L
Potassium		11.7	0.05	mg/L
Sodium		4.64	0.05	mg/L
Total organic carbon		3.93	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-08
* **Collection date (required)**	2021/06/23
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		19.2	1	mg/L as $CaCO_3$
Electrical conductivity		551	1	µS/cm
Hardness		296	0.5	mg/L as $CaCO_3$
Temperature		1.4		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.108	0.005	mg/L
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.35	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00197	0.0001	mg/L
Iron		0.588	0.01	mg/L
Manganese		0.17	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000169	0.00005	mg/L
Nitrate		1.57	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.000587	0.00005	mg/L
Sulphate		262	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.000026	0.00001	mg/L
Uranium		0.000099	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		19.3	0.05	mg/L
Dissolved organic carbon		2.09	0.5	mg/L
Fluoride		0.059	0.02	mg/L
Magnesium		56.7	0.005	mg/L
Potassium		0.487	0.05	mg/L
Sodium		0.466	0.05	mg/L
Total organic carbon		1.63	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-08
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		10.4	1	mg/L as $CaCO_3$
Electrical conductivity		943	1	µS/cm
Hardness		520	0.5	mg/L as $CaCO_3$
Temperature		8.3		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.202	0.05	mg/L
Cadmium	<	0.00005	0.00005	mg/L
Chloride		3.94	0.5	mg/L
Chromium	<	0.005	0.005	mg/L
Cobalt		0.0268	0.001	mg/L
Iron		2.52	0.1	mg/L
Manganese		2.29	0.005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum	<	0.0005	0.0005	mg/L
Nitrate		7.13	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.00166	0.0005	mg/L
Sulphate		472	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium	<	0.0001	0.0001	mg/L
Uranium		0.00054	0.0001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		50	0.5	mg/L
Dissolved organic carbon		1.87	0.5	mg/L
Fluoride		0.076	0.02	mg/L
Magnesium		96.9	0.05	mg/L
Potassium		3.02	0.5	mg/L
Sodium		1.55	0.5	mg/L
Total organic carbon		1.42	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-08
* **Collection date (required)**	2021/08/03
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		10.1	1	mg/L as $CaCO_3$
Electrical conductivity		2420	1	µS/cm
Hardness		1600	1.3	mg/L as $CaCO_3$
Temperature		7.3		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.059	0.05	mg/L
Cadmium	<	0.00005	0.00005	mg/L
Chloride		9.9	2.5	mg/L
Chromium	<	0.005	0.005	mg/L
Cobalt		0.0181	0.001	mg/L
Iron		2.28	0.1	mg/L
Manganese		3.77	0.005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum	<	0.0005	0.0005	mg/L
Nitrate		18.8	0.1	mg/L expressed as nitrogen (N)
Phosphorus		0.0058	0.003	mg/L as P
Selenium		0.00586	0.0005	mg/L
Sulphate		1370	1.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.00012	0.0001	mg/L
Uranium		0.000256	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		137	0.5	mg/L
Dissolved organic carbon		2.91	0.5	mg/L
Fluoride	<	0.1	0.1	mg/L
Magnesium		316	0.05	mg/L
Potassium		6.78	0.5	mg/L
Sodium		4.23	0.5	mg/L
Total organic carbon		2.29	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-08
* **Collection date (required)**	2021/08/08
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		8.4	1	mg/L as $CaCO_3$
Electrical conductivity		2450	1	µS/cm
Hardness		1610	1.3	mg/L as $CaCO_3$
Temperature		6.2		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.097	0.05	mg/L
Cadmium	<	0.00005	0.00005	mg/L
Chloride		10.3	2.5	mg/L
Chromium	<	0.005	0.005	mg/L
Cobalt		0.033	0.001	mg/L
Iron		4.45	0.1	mg/L
Manganese		4.6	0.005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum	<	0.0005	0.0005	mg/L
Nitrate		19.2	0.1	mg/L expressed as nitrogen (N)
Phosphorus		0.0037	0.003	mg/L as P
Selenium		0.00607	0.0005	mg/L
Sulphate		1350	1.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.00012	0.0001	mg/L
Uranium		0.00037	0.0001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		139	0.5	mg/L
Dissolved organic carbon		2.11	0.5	mg/L
Fluoride	<	0.1	0.1	mg/L
Magnesium		339	0.05	mg/L
Potassium		7.76	0.5	mg/L
Sodium		4.37	0.5	mg/L
Total organic carbon		2.14	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/08/04
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		32	1	mg/L as $CaCO_3$
Electrical conductivity		1020	1	µS/cm
Hardness		506	0.5	mg/L as $CaCO_3$
Temperature		8.9		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0255	0.005	mg/L
Cadmium		0.000013	0.000005	mg/L
Chloride		24.9	0.5	mg/L
Chromium	<	0.0005	0.00005	mg/L
Cobalt		0.00211	0.0001	mg/L
Iron		0.077	0.01	mg/L
Manganese		1.3	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00266	0.00005	mg/L
Nitrate		11.3	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0086	0.003	mg/L as P
Selenium		0.00169	0.00005	mg/L
Sulphate		412	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.000071	0.00001	mg/L
Uranium		0.00231	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		45.2	0.05	mg/L
Dissolved organic carbon		5.16	0.5	mg/L
Fluoride		0.071	0.02	mg/L
Magnesium		95.1	0.005	mg/L
Potassium		9.93	0.05	mg/L
Sodium		10.6	0.05	mg/L
Total organic carbon		2.72	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Effluent characterization — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Final discharge point (required)**	MS-06
* **Collection date (required)**	2021/09/01
* **Collection method (required)**	Grab

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Required variables	<	Value	Method detection limit	Units
Alkalinity		43.1	1	mg/L as $CaCO_3$
Electrical conductivity		1090	1	µS/cm
Hardness		523	0.5	mg/L as $CaCO_3$
Temperature		5.8		°C

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.036	0.005	mg/L
Cadmium		0.000012	0.000005	mg/L
Chloride		25.2	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.00198	0.0001	mg/L
Iron		0.078	0.01	mg/L
Manganese		1.04	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00193	0.00005	mg/L
Nitrate		12.6	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.00186	0.00005	mg/L
Sulphate		434	0.3	mg/L

Required variables	<	Concentration	Method detection limit	Units
Thallium		0.000064	0.00001	mg/L
Uranium		0.00167	0.00001	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Calcium		46.6	0.05	mg/L
Dissolved organic carbon		3.23	0.5	mg/L
Fluoride		0.059	0.02	mg/L
Magnesium		98	0.005	mg/L
Potassium		9.25	0.05	mg/L
Sodium		10.2	0.05	mg/L
Total organic carbon		3.05	0.5	mg/L
Total thiosalts				mg/L

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct effluent characterization, and to report QA/QC measures that were implemented and the data related to those measures, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

Sublethal toxicity test LC_{50}

Final discharge point	Collection date	Species tested
No data available		

Sublethal toxicity test IC_{25}/EC_{25}

Final discharge point	Collection date	Species tested
MS-08	2021/06/23	Lemna minor - Growth (Frond Number)
MS-08	2021/07/08	Lemna minor - Growth (Frond Number)

Sublethal toxicity test IC_{25}/EC_{25} — 2021 — Version 1

Facility name	**Mary River Mine Site**	
* **Final discharge point (required)**	MS-08	
* **Collection date (required)**	2021/06/23	
* **Collection method (required)**	Grab	
* **Aquatic environment (required)**	Fresh water	
* **Species tested (required)**	Lemna minor - Growth (Frond Number)	
Test start date	2021/06/25	
Consultant laboratory	AquaTox Testing & Consulting Inc.	
* **IC_{25} or EC_{25} flag (required)**	>	
* **IC_{25} or EC_{25} concentration (required)**	97	%
* **IC_{25} or EC_{25} lower 95% confidence limit (conditionally required)**		%
* **IC_{25} or EC_{25} upper 95% confidence limit (conditionally required)**		%
* **Was there statistical stimulation of any concentration? (required)**	Yes	

Percent stimulation	Effluent concentration with stimulation
16	0.07

For the purpose of SLT, please indicate which data were used for determining the final discharge point that has potentially the most adverse environmental impact on the environment.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided

Note	Date	User name
Noted Deviation(s) : As requested by the client, and as per the Metal and Diamond Mining Effluent Regulations, Lemna minor dry weight for determination of the IC25 (Weight) endpoint has not been analyzed or reported.	2022/01/20 14:29 (EST)	Jasmine Lauinger

Sublethal toxicity test IC_{25}/EC_{25} — 2021 — Version 1

Facility name	**Mary River Mine Site**	
* **Final discharge point (required)**	MS-08	
* **Collection date (required)**	2021/07/08	
* **Collection method (required)**	Grab	
* **Aquatic environment (required)**	Fresh water	
* **Species tested (required)**	Lemna minor - Growth (Frond Number)	
Test start date	2021/07/09	
Consultant laboratory	AquaTox Testing & Consulting Inc.	
* **IC_{25} or EC_{25} flag (required)**	>	
* **IC_{25} or EC_{25} concentration (required)**	97	%
* **IC_{25} or EC_{25} lower 95% confidence limit (conditionally required)**		%
* **IC_{25} or EC_{25} upper 95% confidence limit (conditionally required)**		%
* **Was there statistical stimulation of any concentration? (required)**	No	

Percent stimulation	Effluent concentration with stimulation
No data available	

For the purpose of SLT, please indicate which data were used for determining the final discharge point that has potentially the most adverse environmental impact on the environment.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided

Note	Date	User name
Noted Deviation(s) : As requested by the client, and as per the Metal and Diamond Mining Effluent Regulations, Lemna minor dry weight for determination of the IC25 (Weight) endpoint has not been analyzed or reported.	2022/01/20 14:33 (EST)	Jasmine Lauinger

Water quality monitoring data for exposure area

Exposure area name	Collection date	Aquatic environment
MS-06-DS	2021/06/15	Fresh water
MS-06-DS	2021/08/08	Fresh water
MS-06-DS	2021/09/10	Fresh water
MS-07-DS	2021/08/18	Fresh water
MS-08-DS	2021/08/18	Fresh water
MS-08-DS	2021/08/08	Fresh water
MS-06-DS	2021/07/08	Fresh water
MS-08-DS	2021/07/08	Fresh water
MS-07-DS	2021/07/08	Fresh water
MS-06-DS	2021/06/20	Fresh water
MS-07-DS	2021/06/20	Fresh water
MS-08-DS	2021/06/20	Fresh water

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-06-DS
* **Collection date (required)**	2021/06/15
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-06

Required variables	<	Value	Method detection limit	Units
Hardness		15.6	0.5	mg/L as $CaCO_3$
Alkalinity		12	1	mg/L
Electrical conductivity		34.4	1	µS/cm
Salinity				Parts per thousand
Water temperature		0.4		°C
Dissolved oxygen		14.12		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.593	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00003		mg/L expressed as nitrogen (N)
Cadmium		0.000007	0.000005	mg/L
Chloride		1.57	0.5	mg/L
Chromium		0.00149	0.0005	mg/L
Cobalt		0.00037	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.729	0.01	mg/L
Manganese		0.0169	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000116	0.00005	mg/L
Nitrate		0.36	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0775	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		1.24	0.3	mg/L
Thallium		0.000014	0.00001	mg/L
Uranium		0.000428	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic		0.00013	0.0001	mg/L
Copper		0.00151	0.0005	mg/L
Cyanide				mg/L
Lead		0.000533	0.00005	mg/L
Nickel		0.00141	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		56.8	2	mg/L
Radium 226		0.008	0.0063	Bq/L
pH		7.31		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		3.13	0.05	mg/L
Dissolved organic carbon		3.73	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		1.89	0.005	mg/L
Potassium		0.7	0.05	mg/L
Sodium		0.88	0.05	mg/L
Total organic carbon		3.14	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-06-DS
* **Collection date (required)**	2021/08/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-06

Required variables	<	Value	Method detection limit	Units
Hardness		77.1	0.5	mg/L as $CaCO_3$
Alkalinity		57.2	1	mg/L
Electrical conductivity		176	1	µS/cm
Salinity				Parts per thousand
Water temperature		7.3		°C
Dissolved oxygen		11.64		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.158	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.0004		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		4.59	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.123	0.01	mg/L
Manganese		0.0157	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000441	0.00005	mg/L
Nitrate		0.675	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0086	0.003	mg/L as P
Selenium		0.000074	0.00005	mg/L
Sulphate		22	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00192	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00119	0.0005	mg/L
Cyanide				mg/L
Lead		0.000121	0.00005	mg/L
Nickel		0.00077	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0053	0.0053	Bq/L
pH		8.09		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		13.9	0.05	mg/L
Dissolved organic carbon		1.88	0.5	mg/L
Fluoride		0.024	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		10.3	0.005	mg/L
Potassium		1.37	0.05	mg/L
Sodium		3.64	0.05	mg/L
Total organic carbon		1.82	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-06-DS
* **Collection date (required)**	2021/09/10
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-06

Required variables	<	Value	Method detection limit	Units
Hardness		122	0.5	mg/L as $CaCO_3$
Alkalinity		88.3	1	mg/L
Electrical conductivity		279	1	µS/cm
Salinity				Parts per thousand
Water temperature		2.3		°C
Dissolved oxygen		13.46		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0653	0.003	mg/L
Ammonia [2]			0.005	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00073		mg/L expressed as nitrogen (N)
Cadmium		0.000006	0.000005	mg/L
Chloride		8.94	0.5	mg/L
Chromium		0.0002	0.0001	mg/L
Cobalt		0.00016	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.071	0.01	mg/L
Manganese		0.0473	0.0001	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00149	0.00005	mg/L
Nitrate		1.26	0.005	mg/L expressed as nitrogen (N)
Phosphorus		0.022	0.002	mg/L as P
Selenium		0.00013	0.00005	mg/L
Sulphate		34.9	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00493	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic		0.00018	0.0001	mg/L
Copper		0.00137	0.0005	mg/L
Cyanide				mg/L
Lead		0.000072	0.00005	mg/L
Nickel		0.00098	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		3.5	2	mg/L
Radium 226		0.0072	0.0048	Bq/L
pH		8.14		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		21.6	0.05	mg/L
Dissolved organic carbon		1.69	0.5	mg/L
Fluoride		0.033	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		16.5	0.005	mg/L
Potassium		2.04	0.05	mg/L
Sodium		5.25	0.05	mg/L
Total organic carbon		1.57	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-07-DS
* **Collection date (required)**	2021/08/18
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		79.6	0.5	mg/L as $CaCO_3$
Alkalinity		68	1	mg/L
Electrical conductivity		186	1	µS/cm
Salinity				Parts per thousand
Water temperature		5.9		°C
Dissolved oxygen		12.23		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.175	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00019		mg/L expressed as nitrogen (N)
Cadmium		0.000014	0.000005	mg/L
Chloride		4.59	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.134	0.01	mg/L
Manganese		0.00238	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000538	0.00005	mg/L
Nitrate		0.261	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.0045	0.003	mg/L as P
Selenium		0.000074	0.00005	mg/L
Sulphate		15.1	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00267	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00115	0.0005	mg/L
Cyanide				mg/L
Lead		0.000378	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0066	0.0066	Bq/L
pH		8.17		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		15.1	0.05	mg/L
Dissolved organic carbon		1.47	0.5	mg/L
Fluoride		0.026	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		10.2	0.005	mg/L
Potassium		1.24	0.05	mg/L
Sodium		2.65	0.05	mg/L
Total organic carbon		3.38	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-08-DS
* **Collection date (required)**	2021/08/18
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08

Required variables	<	Value	Method detection limit	Units
Hardness		77.4	0.5	mg/L as $CaCO_3$
Alkalinity		66.5	1	mg/L
Electrical conductivity		179	1	µS/cm
Salinity				Parts per thousand
Water temperature		5.9		°C
Dissolved oxygen		12.12		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.182	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.0002		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		4.51	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.137	0.01	mg/L
Manganese		0.00229	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000324	0.00005	mg/L
Nitrate		0.202	0.02	mg/L expressed as nitrogen (N)
Phosphorus	<	0.003	0.003	mg/L as P
Selenium		0.000078	0.00005	mg/L
Sulphate		13.9	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00267	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00106	0.0005	mg/L
Cyanide				mg/L
Lead		0.00012	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.006	0.006	Bq/L
pH		8.18		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		14.7	0.05	mg/L
Dissolved organic carbon		1.61	0.5	mg/L
Fluoride		0.025	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		9.92	0.005	mg/L
Potassium		1.18	0.05	mg/L
Sodium		2.63	0.05	mg/L
Total organic carbon		3.74	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-08-DS
* **Collection date (required)**	2021/08/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08

Required variables	<	Value	Method detection limit	Units
Hardness		66.5	0.5	mg/L as $CaCO_3$
Alkalinity		56.3	1	mg/L
Electrical conductivity		151	1	µS/cm
Salinity				Parts per thousand
Water temperature		7.1		°C
Dissolved oxygen		11.67		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.169	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00017		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		4.02	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt		0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.159	0.01	mg/L
Manganese		0.00246	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000275	0.00005	mg/L
Nitrate		0.159	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0034	0.003	mg/L as P
Selenium		0.000058	0.00005	mg/L
Sulphate		13	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00199	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00104	0.0005	mg/L
Cyanide				mg/L
Lead		0.000152	0.00005	mg/L
Nickel		0.00058	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0061	0.0061	Bq/L
pH		8.06		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		12.7	0.05	mg/L
Dissolved organic carbon		1.72	0.5	mg/L
Fluoride		0.023	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		8.43	0.005	mg/L
Potassium		1.03	0.05	mg/L
Sodium		2.29	0.05	mg/L
Total organic carbon		1.65	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-06-DS
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-06

Required variables	<	Value	Method detection limit	Units
Hardness		29.1	0.5	mg/L as $CaCO_3$
Alkalinity		27	1	mg/L
Electrical conductivity		62.4	1	µS/cm
Salinity				Parts per thousand
Water temperature		7.5		°C
Dissolved oxygen		11.54		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.259	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00005		mg/L expressed as nitrogen (N)
Cadmium		0.000029	0.000005	mg/L
Chloride		1.41	0.5	mg/L
Chromium		0.00057	0.0005	mg/L
Cobalt		0.00012	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.266	0.01	mg/L
Manganese		0.00445	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000169	0.00005	mg/L
Nitrate		0.043	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0045	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		2.95	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000429	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00139	0.0005	mg/L
Cyanide				mg/L
Lead		0.00184	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		2.7	2	mg/L
Radium 226	<	0.0045	0.0045	Bq/L
pH		7.42		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		5.86	0.05	mg/L
Dissolved organic carbon		1.36	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		3.51	0.005	mg/L
Potassium		0.643	0.05	mg/L
Sodium		0.919	0.05	mg/L
Total organic carbon		1.25	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-08-DS
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08

Required variables	<	Value	Method detection limit	Units
Hardness		31.6	0.5	mg/L as $CaCO_3$
Alkalinity		27.3	1	mg/L
Electrical conductivity		65.6	0.5	µS/cm
Salinity				Parts per thousand
Water temperature		8.8		°C
Dissolved oxygen		11.31		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.154	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00008		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.58	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.129	0.01	mg/L
Manganese		0.0021	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000103	0.00005	mg/L
Nitrate		0.08	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0034	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		4.12	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000417	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00074	0.0005	mg/L
Cyanide				mg/L
Lead		0.000114	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0066	0.0066	Bq/L
pH		7.66		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		6.59	0.05	mg/L
Dissolved organic carbon		1.33	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		3.67	0.005	mg/L
Potassium		0.598	0.05	mg/L
Sodium		0.907	0.05	mg/L
Total organic carbon		1.2	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-07-DS
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		28.7	0.5	mg/L as $CaCO_3$
Alkalinity		26.9	1	mg/L
Electrical conductivity		62.8	1	µS/cm
Salinity				Parts per thousand
Water temperature		8.1		°C
Dissolved oxygen		11.46		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.169	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00009		mg/L expressed as nitrogen (N)
Cadmium		0.00002	0.00005	mg/L
Chloride		1.45	0.5	mg/L
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.162	0.01	mg/L
Manganese		0.00266	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000159	0.00005	mg/L
Nitrate		0.047	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0057	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		3.19	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000411	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00136	0.0005	mg/L
Cyanide				mg/L
Lead		0.00157	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		2.1	2	mg/L
Radium 226	<	0.0051	0.0051	Bq/L
pH		7.58		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		5.81	0.05	mg/L
Dissolved organic carbon		1.26	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		3.46	0.005	mg/L
Potassium		0.603	0.05	mg/L
Sodium		0.899	0.05	mg/L
Total organic carbon		1.12	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-06-DS
* **Collection date (required)**	2021/06/20
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-06

Required variables	<	Value	Method detection limit	Units
Hardness		10.6	0.5	mg/L as $CaCO_3$
Alkalinity		10.2	1	mg/L
Electrical conductivity		24.8	1	µS/cm
Salinity				Parts per thousand
Water temperature		1.4		°C
Dissolved oxygen		13.75		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.189	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.000015		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.07	0.5	mg/L
Chromium		0.0006	0.0005	mg/L
Cobalt		0.00011	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.228	0.01	mg/L
Manganese		0.00569	0.0005	mg/L
Mercury[1]				mg/L
Molybdenum	<	0.000005	0.000005	mg/L
Nitrate		0.072	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0114	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.61	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000192	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00057	0.0005	mg/L
Cyanide				mg/L
Lead		0.000159	0.00005	mg/L
Nickel		0.00056	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		8.3	2	mg/L
Radium 226	<	0.006	0.006	Bq/L
pH		7.17		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		2.11	0.05	mg/L
Dissolved organic carbon		1.77	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		1.3	0.005	mg/L
Potassium		0.382	0.05	mg/L
Sodium		0.58	0.05	mg/L
Total organic carbon		1.96	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-07-DS
* **Collection date (required)**	2021/06/20
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		10.9	0.5	mg/L as $CaCO_3$
Alkalinity		10.1	1	mg/L
Electrical conductivity		24.3	1	µS/cm
Salinity				Parts per thousand
Water temperature		1		°C
Dissolved oxygen		13.94		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.297	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.000014		mg/L expressed as nitrogen (N)
Cadmium		0.000005	0.000005	mg/L
Chloride		1.03	0.5	mg/L
Chromium		0.0009	0.0005	mg/L
Cobalt		0.00016	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.285	0.01	mg/L
Manganese		0.00705	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000056	0.00005	mg/L
Nitrate		0.039	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0092	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.55	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000202	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00069	0.0005	mg/L
Cyanide				mg/L
Lead		0.000196	0.00005	mg/L
Nickel		0.00076	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		6.3	2	mg/L
Radium 226		0.0049	0.0044	Bq/L
pH		7.2		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		2.17	0.05	mg/L
Dissolved organic carbon		1.62	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		1.34	0.005	mg/L
Potassium		0.415	0.05	mg/L
Sodium		0.49	0.05	mg/L
Total organic carbon		2.04	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for exposure area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Exposure area name (required)**	MS-08-DS
* **Collection date (required)**	2021/06/20
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08

Required variables	<	Value	Method detection limit	Units
Hardness		11.1	0.5	mg/L as $CaCO_3$
Alkalinity		10.5	1	mg/L
Electrical conductivity		25.2	1	µS/cm
Salinity				Parts per thousand
Water temperature		0.9		°C
Dissolved oxygen		13.95		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.17	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.000015		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.05	0.5	mg/L
Chromium		0.00056	0.0005	mg/L
Cobalt		0.00011	0.0001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Iron		0.172	0.01	mg/L
Manganese		0.0061	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum	<	0.00005	0.00005	mg/L
Nitrate		0.037	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0131	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.57	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000205	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.0006	0.0005	mg/L
Cyanide				mg/L
Lead		0.00018	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		11.1	2	mg/L
Radium 226	<	0.0049	0.0049	Bq/L
pH		7.22		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		2.27	0.05	mg/L
Dissolved organic carbon		1.58	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Magnesium		1.31	0.005	mg/L
Potassium		0.364	0.05	mg/L
Sodium		0.474	0.05	mg/L
Total organic carbon		1.98	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area

Reference area name	Collection date	Aquatic environment
MS-08-US	2021/06/15	Fresh water
MS-08-US	2021/08/08	Fresh water
MS-08-US	2021/09/10	Fresh water
MS-08-US	2021/08/18	Fresh water
MS-08-US	2021/07/08	Fresh water
MS-08-US	2021/06/20	Fresh water

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/06/15
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		13.5	0.5	mg/L as $CaCO_3$
Alkalinity		11.5	1	mg/L
Electrical conductivity		27.7	1	µS/cm
Salinity				Parts per thousand
Water temperature		0.2		°C
Dissolved oxygen		13.82		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.384	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.000027		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.27	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium		0.00089	0.0005	mg/L
Cobalt		0.00024	0.0001	mg/L
Iron		0.448	0.01	mg/L
Manganese		0.0112	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000051	0.00005	mg/L
Nitrate		0.048	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0297	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.57	0.3	mg/L
Thallium		0.000011	0.00001	mg/L
Uranium		0.000369	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic		0.00011	0.0001	mg/L
Copper		0.00082	0.0005	mg/L
Cyanide				mg/L
Lead		0.000382	0.00005	mg/L
Nickel		0.00085	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		22.1	2	mg/L
Radium 226		0.0053	0.0038	Bq/L
pH		7.3		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		2.71	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		2.98	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L
Magnesium		1.63	0.005	mg/L
Potassium		0.575	0.05	mg/L
Sodium		0.551	0.05	mg/L
Total organic carbon		3.43	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/08/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		54.8	0.5	mg/L as $CaCO_3$
Alkalinity		55.7	1	mg/L
Electrical conductivity		121	1	µS/cm
Salinity				Parts per thousand
Water temperature		7.1		°C
Dissolved oxygen		11.52		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.118	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00017		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		4.04	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L
Iron		0.1	0.01	mg/L
Manganese		0.00126	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.00026	0.00005	mg/L
Nitrate	<	0.02	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.005	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		2.27	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00199	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00094	0.0005	mg/L
Cyanide				mg/L
Lead		0.000104	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0069	0.0069	Bq/L
pH		8.06		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		11.2	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		1.83	0.5	mg/L
Fluoride		0.023	0.02	mg/L
Magnesium		6.51	0.005	mg/L
Potassium		0.983	0.05	mg/L
Sodium		2.34	0.05	mg/L
Total organic carbon		2	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/09/10
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		96.3	0.5	mg/L as $CaCO_3$
Alkalinity		92.5	1	mg/L
Electrical conductivity		212	1	µS/cm
Salinity				Parts per thousand
Water temperature		0		°C
Dissolved oxygen		14.16		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.0343	0.003	mg/L
Ammonia [2]			0.005	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00005		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		8.84	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium		0.00013	0.0001	mg/L
Cobalt	<	0.0001	0.0001	mg/L
Iron		0.03	0.01	mg/L
Manganese		0.00063	0.0001	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000458	0.00005	mg/L
Nitrate		0.0882	0.005	mg/L expressed as nitrogen (N)
Phosphorus		0.0034	0.002	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		4.48	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00536	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic		0.00018	0.0001	mg/L
Copper		0.00102	0.0005	mg/L
Cyanide				mg/L
Lead	<	0.00005	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226	<	0.0048	0.0048	Bq/L
pH		8.07		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		19.8	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		1.5	0.5	mg/L
Fluoride		0.027	0.02	mg/L
Magnesium		11.4	0.005	mg/L
Potassium		1.27	0.05	mg/L
Sodium		3.49	0.05	mg/L
Total organic carbon		1.6	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/08/18
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		63.4	0.5	mg/L as $CaCO_3$
Alkalinity		63.8	1	mg/L
Electrical conductivity		151	1	µS/cm
Salinity				Parts per thousand
Water temperature		5.7		°C
Dissolved oxygen		12.03		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.185	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00019		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		4.55	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L
Iron		0.134	0.01	mg/L
Manganese		0.00197	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000341	0.00005	mg/L
Nitrate	<	0.02	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0036	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		2.79	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.00264	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00108	0.0005	mg/L
Cyanide				mg/L
Lead		0.000152	0.00005	mg/L
Nickel		0.00071	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids	<	2	2	mg/L
Radium 226		0.0086	0.0068	Bq/L
pH		8.16		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		13.1	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		1.59	0.5	mg/L
Fluoride		0.026	0.02	mg/L
Magnesium		7.46	0.005	mg/L
Potassium		1.12	0.05	mg/L
Sodium		2.65	0.05	mg/L
Total organic carbon		4.33	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/07/08
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		25.3	0.5	mg/L as $CaCO_3$
Alkalinity		26.5	1	mg/L
Electrical conductivity		54.5	1	µS/cm
Salinity				Parts per thousand
Water temperature		9		°C
Dissolved oxygen		11.04		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.156	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.00006		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.49	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium	<	0.0005	0.0005	mg/L
Cobalt	<	0.0001	0.0001	mg/L
Iron		0.128	0.01	mg/L
Manganese		0.00173	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum		0.000106	0.00005	mg/L
Nitrate	<	0.02	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0043	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.91	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000396	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.0007	0.0005	mg/L
Cyanide				mg/L
Lead		0.000114	0.00005	mg/L
Nickel	<	0.0005	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		3.8	2	mg/L
Radium 226	<	0.0049	0.0049	Bq/L
pH		7.55		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		5.31	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		1.23	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L
Magnesium		2.93	0.005	mg/L
Potassium		0.563	0.05	mg/L
Sodium		0.916	0.05	mg/L
Total organic carbon		0.97	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Water quality monitoring data for reference area — 2021 — Version 1

Facility name	**Mary River Mine Site**
* **Reference area name (required)**	MS-08-US
* **Collection date (required)**	2021/06/20
* **Collection method (required)**	Grab
* **Aquatic environment (required)**	Fresh water

☐ Mercury concentration is less than 0.10 µg/L in 12 consecutive samples collected under MDMER Schedule 5 subsection 4(4).

Final discharge point

Name
MS-08
MS-06
MS-07

Required variables	<	Value	Method detection limit	Units
Hardness		10.9	0.5	mg/L as $CaCO_3$
Alkalinity		10.2	1	mg/L
Electrical conductivity		23.3	1	µS/cm
Salinity				Parts per thousand
Water temperature		0.4		°C
Dissolved oxygen		13.41		mg/L

Required variables	<	Concentration	Method detection limit	Units
Aluminum		0.26	0.005	mg/L
Ammonia [2]			0.01	mg/L expressed as nitrogen (N)
Un-ionized ammonia [3]		0.000015		mg/L expressed as nitrogen (N)
Cadmium	<	0.000005	0.000005	mg/L
Chloride		1.06	0.5	mg/L

Required variables	<	Concentration	Method detection limit	Units
Chromium		0.00077	0.0005	mg/L
Cobalt		0.00015	0.0001	mg/L
Iron		0.278	0.01	mg/L
Manganese		0.00795	0.0005	mg/L
Mercury[1]	<	0.000005	0.000005	mg/L
Molybdenum	<	0.00005	0.00005	mg/L
Nitrate		0.036	0.02	mg/L expressed as nitrogen (N)
Phosphorus		0.0165	0.003	mg/L as P
Selenium	<	0.00005	0.00005	mg/L
Sulphate		0.46	0.3	mg/L
Thallium	<	0.00001	0.00001	mg/L
Uranium		0.000236	0.00001	mg/L

Required variables	<	Concentration	Method detection limit	Units
Arsenic	<	0.0001	0.0001	mg/L
Copper		0.00068	0.0005	mg/L
Cyanide				mg/L
Lead		0.000228	0.00005	mg/L
Nickel		0.00055	0.0005	mg/L
Zinc	<	0.003	0.003	mg/L
Total suspended solids		10.8	2	mg/L
Radium 226	<	0.0041	0.0041	Bq/L
pH		7.26		

Optional variables	<	Concentration	Method detection limit	Units
Calcium		2.22	0.05	mg/L

Optional variables	<	Concentration	Method detection limit	Units
Dissolved organic carbon		1.97	0.5	mg/L
Fluoride	<	0.02	0.02	mg/L
Magnesium		1.3	0.005	mg/L
Potassium		0.396	0.05	mg/L
Sodium		0.51	0.05	mg/L
Total organic carbon		2.28	0.5	mg/L
Total thiosalts				mg/L
Water depth				m

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report QA/QC measures that were implemented and the data related to the implementation of those measures, or provide description in textbox provided.

Please refer to the Methodologies & QA/QC measures and data (e.g., lab certificates) section in MERS to report description of the methodologies used to conduct water quality monitoring, or provide description in the textbox provided.

Note	Date	User name
No data available		

[1]Note: If the facility fulfills the condition of subsection 4(4) of Schedule 5 of the MDMER, this field may be blank.

[2]Note: The *concentration* and *method detection limit* fields for total ammonia are required for collection dates prior to **June 1st, 2021**. For samples collected on or after **June 1st, 2021**, only the *method detection limit* is required.

[3]Note: The *concentration* field for un-ionized ammonia is required for collection dates on or after **June 1st, 2021**.

Methodologies & QA/QC measures and data (e.g., lab certificates)

Effluent characterization

File name	Version	Date
L2624309_COA - MS-08 - Aug 8.PDF	1	3/14/2022
L2621962_COA - MS-08 - Aug 3.PDF	1	3/14/2022
L2611670_COA - MS-08 - Jul 8.PDF	1	3/14/2022
L2606206_COA. -MS-08 - June 23.PDF	1	3/14/2022
L2628143_COA - MS-07 - Aug 17.pdf	1	3/14/2022
L2611689_COA - MS-07 - Jul 8.PDF	1	3/14/2022
L2638230_COA - MS-06 - Sep 10.PDF	1	3/14/2022
L2634291_COA - MS-06 - Sept 1.pdf	1	3/14/2022
L2624310_COA - MS-06 - Aug 8.PDF	1	3/14/2022
L2622149_COA - MS-06 - Aug 4.PDF	1	3/14/2022
L2611695_COA - MS-06 - Jul 8.PDF	1	3/14/2022
L2602892_COA - MS-06 - Jun 15.PDF	1	3/14/2022
L2595285_COA - MS-06 - Jun 1.PDF	1	3/14/2022

Sublethal toxicity test

File name	Version	Date
245807-68719.pdf	1	2/2/2022
245695-68559.pdf	1	2/2/2022

Water quality monitoring data

File name	Version	Date
L2638228_COA - MS-06-DS - Sept 10.pdf	1	3/14/2022

File name	Version	Date
L2638227_COA - MS-08-US - Sept 10.pdf	1	3/14/2022
L2628817_COA - MS-08-US - Aug 18.pdf	1	3/14/2022
L2628811_COA - MS-08-DS - Aug 18.pdf	1	3/14/2022
L2628797_COA - MS-07-DS - Aug 18.pdf	1	3/14/2022
L2624314_COA - MS-06-DS - Aug 8.pdf	1	3/14/2022
L2624305_COA - MS-08-DS - Aug 8.pdf	1	3/14/2022
L2624298_COA - MS-08-US - Aug 8.pdf	1	3/14/2022
L2611702_COA - US and MS-08 DS - Jul 8.PDF	1	3/14/2022
L2603638_COA - US and MS-08 DS - Jun 20.PDF	1	3/14/2022
L2602910_COA - MS-08 US and MS-06 DS Jun 15.PDF	1	3/14/2022

Government of Canada / Gouvernement du Canada

Canada

Mary River Mine Site - Annual effluent monitoring report - Version 1 - 2021

Report details

Facility name	Mary River Mine Site
Reporting period	2021
Version	1
Status	Submitted
Last modified	2022/03/28 10:13 (EDT)
Submission date	2022/03/28 10:14 (EDT)

Parent company

Parent company	Physical address
Baffinland Iron Mines Corporation	300, 2275 Upper Middle Rd, Oakville, Ontario, L6H 0C3, Canada

History

Status	Version	Last modified	Submission date
Submitted	1	2022/03/28 10:13 (EDT)	2022/03/28 10:14 (EDT)

Identifying information

Reporting period	**2021**
Facility name	**Mary River Mine Site**
Facility physical address	
Operator name (required)	Baffinland Iron Mines Corporation
Operator telephone number	
Operator extension	
Operator e-mail address	

Note	Date	User name
No data available		

Test results

Final discharge point **MS-08**

Final discharge point latitude **71.34019**

Final discharge point longitude **-79.22178**

Monthly mean concentrations, pH and volume of effluent

Month	As (mg/L)	Cu (mg/L)	CN (mg/L)	Pb (mg/L)	Ni (mg/L)	Zn (mg/L)	TSS (mg/L)	Ra-226 (Bq/L)	NH_3 [1] (mg/L expressed as nitrogen (N))	Lowest pH	Highest pH	Effluent volume (m^3)
Jan	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Feb	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Mar	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Apr	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
May	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Jun	0	0.003	-	0.0001	0.016	0.0038	7	0.0084	0.0186	7.65	8.41	25173
Jul	0.0004	0.0095	-	0.0002	0.0264	0.0126	10.74	0.0134	0.074	6.31	8.65	96716
Aug	0.0005	0.0139	-	0.0008	0.0214	0.015	9.6	0.0091	0.1565	7.49	8.68	86061
Sep	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Oct	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Nov	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Dec	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP

[1]Note: The monthly mean concentration for un-ionized ammonia is calculated for collection dates as of June 1st, 2021.

Results of acute lethality tests

Date sample collected	Results for rainbow trout acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for *Daphnia magna* monitoring / acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for threespine stickleback acute lethality tests (mean percentage mortality in 100% effluent test concentration)
2021/06/23 16:20	0%	0%	
2021/07/08 13:05	0%	0%	
2021/08/03 13:20	0%	0%	

If effluent was non-compliant with the authorized limits set out in Schedule 4, or if the pH was less than 6.0 or greater than 9.5, or if effluent was determined to be acutely lethal, indicate the cause(s) of non-compliance and remedial measures that are planned or have been implemented.

Non-compliance information

Test results

Final discharge point **MS-06**

Final discharge point latitude **71.31111**

Final discharge point longitude **-79.27861**

Monthly mean concentrations, pH and volume of effluent

Month	As (mg/L)	Cu (mg/L)	CN (mg/L)	Pb (mg/L)	Ni (mg/L)	Zn (mg/L)	TSS (mg/L)	Ra-226 (Bq/L)	NH_3 [1] (mg/L expressed as nitrogen (N))	Lowest pH	Highest pH	Effluent volume (m^3)
Jan	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Feb	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Mar	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Apr	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
May	0.0003	0.0146	-	0.0002	0.0034	0.0875	2.3	-	-	7.46	7.46	93
Jun	0.0003	0.0061	-	0.0004	0.0062	0.0382	4.28	0.0065	0.0168	7.41	7.76	2550
Jul	0.0005	0.0025	-	0.0002	0.0082	0.015	1	0.013	0.0293	7.69	7.69	4
Aug	0.0002	0.0021	-	0.0002	0.0047	0.0218	2.075	0.0058	0.0146	7.54	7.73	671
Sep	0.0002	0.0027	-	0.0002	0.0043	0.0282	3.3	0.0096	0.0051	7.49	7.59	317
Oct	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Nov	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Dec	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP

[1]Note: The monthly mean concentration for un-ionized ammonia is calculated for collection dates as of June 1st, 2021.

Results of acute lethality tests

Date sample collected	Results for rainbow trout acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for *Daphnia magna* monitoring / acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for threespine stickleback acute lethality tests (mean percentage mortality in 100% effluent test concentration)
2021/06/01 12:00	0%	0%	
2021/07/08 09:30	0%	0%	
2021/08/04 11:10	0%	3.3333%	

Date sample collected	Results for rainbow trout acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for *Daphnia magna* monitoring / acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for threespine stickleback acute lethality tests (mean percentage mortality in 100% effluent test concentration)
2021/09/01 11:25	0%	0%	

If effluent was non-compliant with the authorized limits set out in Schedule 4, or if the pH was less than 6.0 or greater than 9.5, or if effluent was determined to be acutely lethal, indicate the cause(s) of non-compliance and remedial measures that are planned or have been implemented.

Non-compliance information

Test results

Final discharge point **MS-07**

Final discharge point latitude **71.31150**

Final discharge point longitude **-79.22186**

Monthly mean concentrations, pH and volume of effluent

Month	As (mg/L)	Cu (mg/L)	CN (mg/L)	Pb (mg/L)	Ni (mg/L)	Zn (mg/L)	TSS (mg/L)	Ra-226 (Bq/L)	NH_3 [1] (mg/L expressed as nitrogen (N))	Lowest pH	Highest pH	Effluent volume (m^3)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-	-
Jul	0	0.0009	-	0.0001	0.0006	0.0015	1	0.0068	0.0027	7.56	7.56	4242
Aug	0.0001	0.0013	-	0.0002	0.0009	0.0027	5.25	0.0076	0.001	7.24	8.29	6044
Sep	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Oct	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Nov	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP
Dec	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP	NDEP

[1]Note: The monthly mean concentration for un-ionized ammonia is calculated for collection dates as of June 1st, 2021.

Results of acute lethality tests

Date sample collected	Results for rainbow trout acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for *Daphnia magna* monitoring / acute lethality tests (mean percentage mortality in 100% effluent test concentration)	Results for threespine stickleback acute lethality tests (mean percentage mortality in 100% effluent test concentration)
2021/07/08 11:45	0%	0%	
2021/08/17 14:10	0%	0%	

If effluent was non-compliant with the authorized limits set out in Schedule 4, or if the pH was less than 6.0 or greater than 9.5, or if effluent

was determined to be acutely lethal, indicate the cause(s) of non-compliance and remedial measures that are planned or have been implemented.

Non-compliance information