Department of Municipal Affairs and Environment

Industrial Effluent Compliance

2016 Annual Report

Environment Branch

Pollution Prevention Division

January 2018

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1) Executive Summary

The Newfoundland and Labrador Department of Municipal Affairs and Environment (MAE) regulates industrial effluent under the *Environmental Control Water and Sewage Regulations NLR 65/03* (ECWSR). In April 2009, the ECWSR was amended. The amendment adopted specific limits from the corresponding federal regulations for each of the mining, pulp and paper and petroleum refining industrial sectors. Industries operating under a certificate of approval (COA) from the Pollution Prevention Division (PPD) have effluent streams identified and subsequent monitoring schedules developed to characterize the effluent. These schedules are designed to ensure that the effluent discharged from the industry meets regulatory requirements and is protective of the receiving environment.

MAE works closely with industries within Newfoundland and Labrador to ensure that they are continuing to improve the quality of effluent discharged into the receiving environment. Through this working relationship, as well as though relationships with other stakeholders, we strive to attain mutual goals of environmental sustainability and protection.

Copies of the ECWSR, Metal Mining Effluent Regulations, the Pulp and Paper Effluent Regulations and the Petroleum Refinery Liquid Effluent Regulations can be obtained at:
www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm
http://www.canlii.org/en/ca/laws/regu/sor-2002-222/latest/sor-2002-222.html
http://www.canlii.org/en/ca/laws/regu/sor-92-269/latest/sor-92-269.html
http://www.canlii.org/en/ca/laws/regu/crc-c-828/latest/crc-c-828.html

In 2016 there were more than 30 industries reporting effluent quality to MAE on a consistent basis. This report provides a summary of the effluent quality discharged at the major industries within the province of Newfoundland and Labrador. It is important to note that the summaries provided are for the discharge locations only. Most industries conduct additional monitoring for general water quality characterization at discharge points, as well as other locations in proximity to operations. Some industries operating in the province also participate in Environmental Effects Monitoring (EEM) programs. This report identifies EEM activities completed in 2016.

Points to Note:

- The data presented is based upon reports submitted to MAE by industry, as of November 2017.
- The actual laboratory documentation is available upon request to verify analysis as required.
- If there is a discrepancy between the results depicted in this report and the laboratory documentation, the laboratory documentation is to be considered accurate.
- Average pH values have been corrected to reflect the logarithmic nature of the parameter.
- Typically, the number of samples listed in the tables is based on the maximum collected in a month for any one parameter. Some of the parameters may have been analyzed at a different frequency.
- Although the last column in the tables indicates Total as the header, in some rows the values presented represent maximums.

2) Metal Mines

a) Anaconda Mining Inc

2016 COA
Approval #: AA13-035579
Issue Date: March 31, 2013
Expiration: March 31, 2018

Anaconda Mining Inc has one discharge point located at the Polishing Pond outflow. The effluent monitoring program requires analysis of numerous parameters; nine of these parameters have compliance limits. Acute Lethality Test (ALT) is also required as part of the COA. A total of 22 samples were collected at the outflow of the Polishing Pond in 2016. There were no reported exceedances in any grab samples. There were nine rainbow trout ALTs with no failures and nine *Daphnia magna* ALTs with no failures performed at this location.

Environmental Effects Monitoring
There were no submissions for 2016.

See Table 1: Anaconda Mining Inc 2016 Effluent Discharge Criteria Summary.

b) Beaver Brook Antimony Mine Inc

2016 COA
Approval #: AA13-035578
Issue Date: April 8, 2013
Expiration: March 19, 2018

Beaver Brook Antimony Mine Inc has one discharge point located at Site 16. The effluent monitoring program requires analysis of numerous parameters; eight of which have compliance limits. In 2016, there were a total of 52 samples collected with no reported exceedances. There were five rainbow trout ALTs with no failures and five *Daphnia magna* ALTs with no failures at this location.

It is important to note that operations were ceased at Beaver Brook Mine Antimony Inc in 2012 and the industry has been in care and maintenance since that time. Monitoring continued as part of the Care and Maintenance Plan for the facility.

Environmental Effects Monitoring
The Beaver Brook Antimony Mine Inc Cycle 2 Study Design was submitted in 2016.

See Table 2: Beaver Brook Antimony Mine Inc 2016 Effluent Discharge Criteria Summary.

c) Iron Ore Company of Canada

2016 COA
Approval #: AA13-045575B
Issue Date: April 9, 2013
Amendment: February 2, 2016
Expiration: April 9, 2018

The Iron Ore Company of Canada has nine discharge points: FDP-MD5, FDP-TIA (Julienne Narrows), FDP-Hakim Culvert, FDP-MD30, PD-11, PD-19, PD-24, PD-32 and PD-33. The effluent monitoring program for the FDP locations requires analysis of numerous parameters; eight of these have compliance limits. PD-19 requires monitoring for total petroleum hydrocarbons (TPH) only, PD-11, PD-24, PD-32 and PD-33 requires monitoring for five parameters.

FDP-MD5: Discharge of effluent occurred at this location between May and November 2016. During this time, 26 samples were collected with no reported exceedances. There were seven rainbow trout ALTs with no failures and seven *Daphnia magna* ALTs with no failures performed at this location.

FDP-TIA: 52 samples were collected at this location in 2016 with no exceedances. There were 12 rainbow trout ALTs with no failures and 12 *Daphnia magna* ALTs with no failures performed at this location.

FDP-Hakim Culvert: 52 samples were collected at this location in 2016 with no reported exceedances. There were 12 rainbow trout ALTs with no failures and 12 *Daphnia magna* ALTs with no failures performed at this location.

FDP-MD30: 34 samples were collected at FDP-MD30 in 2016 with no reported exceedances. There were 10 rainbow trout ALTs with no failures and 10 *Daphnia magna* ALTs with no failures performed at this location.

PD-11: 12 samples were collected in 2016. There were no exceedances reported.

PD-19: 12 TPH samples were collected in 2016 and all were analyzed below the detection limit.

PD-24: Three samples were collected in 2016. There were no exceedances reported.

PD-32: Three samples were collected in 2016. There were no exceedances reported.

PD-33: Four samples were collected in 2016. There were no exceedances reported.

Environmental Effects Monitoring
The Iron Ore Company of Canada Cycle 5 Study Design was submitted in 2016.

See Table 3: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary.

d) Labrador Iron Mines

2016 COA
Approval #: AA15-125615
Issue Date: December 16, 2015
Expiration: December 16, 2020

Labrador Iron Mines has one discharge point at Ruth Pit Outlet. The effluent monitoring program for this location requires analysis of numerous parameters; eight of which have associated compliance limits. There were a total of 56 samples collected with no exceedances. There were four rainbow trout ALTs with no failures and four *Daphnia magna* ALTs with no failures performed at this location. There were no mining operations at this facility in 2016.

Environmental Effects Monitoring
The Labrador Iron Mines Cycle 2 (Final) Study Design was submitted in 2016.

See Table 4: Labrador Iron Mines 2016 Effluent Discharge Criteria Summary.

e) Rambler Metals and Mining Canada Ltd (Ming Mine)

2016 COA
Approval #: AA13-035580
Issue Date: March 31, 2013
Expiration: March 31, 2018

Rambler Metals and Mining Canada Ltd (Ming Mine) has one discharge location at the Ming Mine site that discharges treated mine effluent into South Brook Pond on the Baie Verte Peninsula. The effluent monitoring program consists of numerous parameters; nine of which have environmental compliance limits. There were 35 samples collected in 2016 with no exceedances reported. There were 11 rainbow trout ALTs with no failures and 11 *Daphnia magna* ALTs with no failures performed at this location.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 5: Rambler Metals and Mining Canada Ltd (Ming Mine) 2016 Effluent Discharge Criteria Summary.

f) Rambler Metals and Mining Canada Ltd (Nugget Pond)

2016 COA
Approval #: AA13-035580
Issue Date: March 31, 2013
Expiration: March 31, 2018

There is one discharge point located at the outflow of the Polishing Pond at the Rambler Metals and Mining Canada Ltd (Nugget Pond) mill facility. The effluent monitoring program contains numerous parameters; nine of which have environmental compliance limits. ALTs are also required as part of the COA. In 2016, a total of 38 samples were collected and analyzed at the Polishing Pond with one pH being reported outside the normal discharge range. There were nine rainbow trout ALTs with no failures and nine *Daphnia magna* ALTs with no failures performed at this location.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 6: Rambler Metals and Mining Canada Ltd (Nugget Pond) 2016 Effluent Discharge Criteria Summary.

g) Tata Steel Minerals Canada Ltd

2016 COA
Approval #: AA12-085571B
Issue Date: August 10, 2012
Amendment: December 14, 2015
Expiration: August 10, 2017

Approval #: AA15-035604
Issue Date: March 27, 2015
Expiration: March 27, 2020

Tata Steel Minerals Canada Ltd operates an iron ore mine in Labrador near Schefferville, Quebec. There is very limited effluent discharge from this facility and as a result, effluent sampling only occurred in May 2016 at discharge locations SW11 and Sed Pond #1. The effluent monitoring program requires analysis of numerous parameters; eight of which have associated compliance limits.

SW11: Three samples were collected at this location in 2016 with no reported exceedances. There was one rainbow trout ALT performed at this location and it failed. There was one *Daphnia magna* ALT performed at this location with no failure.

Sed Pond #1: Two samples were collected at this location in 2016 with one pH being reported outside of the environmental discharge range. There were no ALTs performed at this location.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 7: Tata Steel Minerals Canada Ltd 2016 Effluent Discharge Criteria Summary.

h) Teck Resources Ltd

2016 Monitoring Duck Pond Closure Water Quality Monitoring Program
Issue Date: November 25, 2015
Expiration: No expiration date established

Operations ceased at Teck Resources Ltd in 2015 and they are currently following a closure water quality monitoring program. Teck Resources Ltd has one discharge point (Dam C) at their Duck Pond operation located near Millertown, NL. The effluent monitoring program requires analysis of numerous parameters; nine of which have associated compliance limits. In 2016, 39 samples were collected with no reported exceedances. There were nine rainbow trout ALTs with no failures and nine *Daphnia magna* ALTs with no failures performed at this location.

Environmental Effects Monitoring
The Duck Pond Cycle 4 Study Design was submitted in 2016.

See Table 8: Teck Resources Ltd 2016 Effluent Discharge Criteria Summary.

i) Vale Newfoundland and Labrador Ltd (Voisey's Bay)

2016 COA Approval #: AA13-125585A
Issue Date: December 31, 2013
Amendment: July 4, 2016
Expiration: December 31, 2018

The Vale Newfoundland and Labrador Ltd (Voisey's Bay) mine site near Nain, Labrador has one location that discharges treated effluent from the waste water treatment plant into Anaktalak Bay. The effluent monitoring program consists of several parameters; eight of these have compliance limits. A total of 40 samples were collected during the year with one pH being reported outside of the environmental discharge range. There were four rainbow trout ALTs with no failures and four *Daphnia magna* ALTs with two failures performed at this location. It is important to note that the *Daphnia magna* ALT is a required monitoring test but it is not a compliance determining test. It is used as a monitoring tool only.

Environmental Effects Monitoring

The Vale Newfoundland and Labrador Ltd (Voisey's Bay) Cycle 3 Interpretive Report was submitted in 2016.

See Table 9: Vale Newfoundland and Labrador Ltd (Voisey's Bay) 2016 Effluent Discharge Criteria Summary.

j) Vale Newfoundland and Labrador Ltd (Long Harbour)

2016 COA Approval #: AA13-125573A
Issue Date: December 18, 2013
Amendment: July 27, 2015

Expiration: December 18, 2018

Vale Newfoundland and Labrador Ltd (Long Harbour) has four discharge points: D2, D3, D5 and D25. The effluent monitoring program requires analysis of numerous parameters; seven of these have compliance limits.

D2: 38 samples were collected at this location in 2016. There were three nickel exceedances reported and the monthly average limit for nickel was exceeded in April and May.

D3: 12 samples were collected in 2016, with no reported exceedances.

D5: 12 samples were collected in 2016, with no reported exceedances.

D25: 12 samples were collected in 2016, with no reported exceedances.

Environmental Effects Monitoring
The Vale Newfoundland and Labrador Ltd (Long Harbour) Cycle 1 Study Design was submitted in 2016.

See Table 10: Vale Newfoundland and Labrador Ltd (Long Harbour) 2016 Effluent Discharge Criteria Summary.

k) Wabush Mines

2016 COA
Approval #: AA12-055569
Issue Date: May 31, 2012
Expiration: May 31, 2016

Wabush Mines has four discharge points: Flora Lake, Knoll Lake, East Pit #2 and the Tailings Line Emergency Dump Basin. There was no discharge from Knoll Lake during 2016. The effluent monitoring program consists of several parameters; seven of which have compliance limits. There are ALT requirements at all of these locations. It should be noted that Wabush Mines ceased operations in 2016, but the monitoring program was continued as part of their closure plan.

Flora Lake: 73 samples were collected at the Flora Lake discharge in 2016. 14 TSS exceedances were reported, two in May and 12 in June. The monthly average for May and June exceeded the monthly average limit of 15 mg/L. There were ten rainbow trout ALTs with no failures and ten *Daphnia magna* ALTs with one failure performed at this location. It is important to note that the *Daphnia magna* ALT is a required monitoring test but it is not a compliance determining test. It is used as a monitoring tool only.

East Pit #2: 30 samples were analyzed at the East Pit #2 location in 2016 with no exceedances reported. There was one rainbow trout ALT with no failures and one *Daphnia magna* ALT with no failures performed at this location. There was no discharge from January to April at this location.

Tailings Line Emergency Dump Basin: Four samples were collected at the Tailings Line Emergency Dump Basin in 2016. There were no reported exceedances. There was one rainbow trout ALT and one *Daphnia magna* ALT with no failures performed at this location. Discharge occurred at this location from June to September only.

Environmental Effects Monitoring
There were no submissions for 2016.

See Table 11: Wabush Mines 2016 Effluent Discharge Criteria Summary.

Table 1: Anaconda Mining Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Polishing Pond Discharge	Feb.	Mar.	May	Jun.	Jul.	Sept.	Oct.	Nov.	Dec.	Total
Samples	2	3	2	3	4	3	1	1	3	22
pH, Maximum (Units)	7.99	8.18	7.96	7.96	8.07	8.17	7.92	7.80	7.99	8.18
pH, Minimum (Units)	7.83	7.80	7.85	7.89	7.92	8.07	7.92	7.8	7.82	7.80
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cu, Maximum	0.487	0.462	0.161	0.055	0.138	0.209	0.0776	0.0957	0.021	0.487
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.487	0.462	0.11225	0.0298	0.0805	0.159	0.0776	0.0957	0.01747	0.487
CN, Maximum	0.34	0.39	0.031	0.024	0.034	0.084	0.065	0.059	0.031	0.39
CN, Exceedence (>2.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>1.00)	0.29	0.33	0.023	0.021	0.02200	0.054	0.044	0.059	0.029333	0.33
Pb, Maximum	0.0010	<0.0005	<0.0005	<0.0005	0.0009	0.0008	0.0007	<0.0005	0.0005	0.0010
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0010	<0.0005	<0.0005	<0.0005	0.0005	0.0005	0.0007	<0.0005	<0.0005	0.0010
Ni, Maximum	0.0022	0.003	<0.002	<0.002	<0.002	<0.002	0.0021	<0.002	<0.002	0.003
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.0022	0.003	<0.002	<0.002	<0.002	<0.002	0.0021	<0.002	<0.002	0.003
Zn, Maximum	<0.005	<0.005	<0.005	<0.005	0.0052	<0.005	<0.005	<0.005	<0.005	0.005
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TSS, Maximum	12	9	1.4	12	14	11	10	1.8	5.4	14
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	6.7	4.1333	<1.0	5.533	11.1	5.175	10	1.8	3.3333	11.1
Ra-226, Maximum				<0.010		<0.010			<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/L)				0		0			0	0
Monthly Average (>0.37 Bq/L)				<0.010		<0.010			<0.010	<0.010
Ammonia, Maximum	6.9	9.5	6.4	4.9	3.8	6.3	3.1	3.7	4.6	9.5
Cd, Maximum (ug/L)	0.01	<0.01	0.014	0.016	0.012	0.016	0.016	0.018	0.021	0.021
Fe, Maximum	0.163	0.234	0.359	1.08	1.72	0.707	1.41	0.455	0.568	1.72
Hg, Maximum								<0.013	<0.013	<0.013
Nitrate, Maximum	3.6	3.3	4.7	5.5	5.6	8.1	10	9.5	8.0	10
TDS, Maximum	680	700	550	500	470	610	480	480	500	700
TPH, Maximum						<0.10				<0.10
ALT, Pass (RT)			2	2	1	1	1	1	1	9
ALT, Fail (RT)			0	0	0	0	0	0	0	0
ALT, Pass (DM)			2	2	1	1	1	1	1	9
ALT, Fail (DM)			0	0	0	0	0	0	0	0

Table 2: Beaver Brook Antimony Mine Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Site 16	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples	4	4	4	5	5	4	4	4	5	5	4	4	52
pH, Maximum (Units)	8.19	8.10	8.07	8.15	8.24	8.28	8.20	8.32	8.18	8.23	8.15	8.10	8.32
pH, Minimum (Units)	8.10	8.03	7.91	7.77	7.93	8.14	8.02	8.21	7.99	7.96	7.84	7.87	7.77
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	0.13	0.137	0.178	0.289	0.129	0.147	0.155	0.160	0.124	0.14	0.106	0.116	0.289
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.12125	0.1185	0.133	0.195	0.104	0.141	0.1278	0.1505	0.097	0.1114	0.0873	0.0998	0.195
Cu, Maximum	<0.001	0.001	0.001	<0.001	<0.001	<0.001	0.007	<0.001	0.025	0.001	<0.001	<0.001	0.025
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00225	<0.001	0.01	<0.001	<0.001	<0.001	0.010
Pb, Maximum	<0.0005	0.0024	0.0085	0.0145	0.0012	0.0006	0.0018	<0.0005	0.0026	0.0043	0.0009	<0.0005	0.0145
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.0005	0.001	0.0049	0.0063	0.00068	<0.0005	0.0006375	<0.0005	0.0013	0.00244	0.000575	<0.0005	0.0063
Ni, Maximum	0.018	0.022	0.018	0.02	0.015	0.019	0.015	0.009	0.011	0.01	0.019	0.018	0.022
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.018	0.019	0.015	0.016	0.011	0.015	0.009	0.008	0.008	0.009	0.013	0.016	0.019
Zn, Maximum	0.052	0.017	0.009	0.012	0.005	0.008	0.013	<0.005	0.014	0.006	0.008	0.014	0.052
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.017	0.012	0.007	0.007	<0.005	<0.005	0.006	<0.005	0.010	<0.005	0.005	0.009	0.017
TSS, Maximum	<2	3	8	16	9	3	4	5	4	7	2	2	16
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<2	<2	6	10	5	2	2	3	2	5	<2	<2	10
Ra-226, Maximum		0.009			0.009		0.02	<0.005		0.005			0.02
Ra-226, Exceedence (>1.11 Bq/L)		0			0		0	0		0			0
Monthly Average (>0.37 Bq/L)		0.009			0.009		0.02	<0.005		0.005			0.02
Ammonia, Maximum					0.13		0.06	0.1	0.09	<0.03	<0.03		0.13
Cd, Maximum (ug/L)	<0.017	0.018	<0.017	0.02	<0.017	<0.017	<0.017	0.024	0.018	0.028	<0.017	<0.017	0.028
Fe, Maximum	0.145	0.378	0.861	0.991	0.316	0.171	0.104	<0.05	0.187	0.376	0.21	0.179	0.991
Hg, Maximum (ug/L)					0.038		<0.026	<0.026	<0.026	<0.026	<0.026		0.038
Nitrate, Maximum					0.45		0.51	0.33	0.41	0.53	0.29		0.53
TDS, Maximum					235		263	242	231	248	165		263
TPH, Maximum	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1
ALT, Pass (RT)		1			1		1	1		1			5
ALT, Fail (RT)		0			0		0	0		0			0
ALT, Pass (DM)		1			1		1	1		1			5
ALT, Fail (DM)		0			0		0	0		0			0

Table 3: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

FDP - MD5	May	Jun	Jul	Aug	Sept	Oct	Nov	Total
Samples	3	4	4	5	4	3	3	26
pH, Maximum (Units)	7.64	7.84	8.00	7.99	7.99	7.87	7.84	8.00
pH, Minimum (Units)	7.55	7.65	7.81	7.84	7.74	7.79	7.77	7.55
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0
As, Maximum	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
As, Exceedence (>1)	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Pb, Maximum	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ni, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Zn, Maximum	0.0096	0.008	<0.0050	<0.0050	<0.0050	0.0088	<0.0050	0.0096
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.008	0.0054	<0.0050	<0.0050	<0.0050	0.006	<0.0050	0.008
TSS, Maximum	2.2	<2.0	2.0	2.4	1.0	1.8	1.0	2.4
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	1.93	<2.0	<2.0	1.36	<1.0	1.467	<1.0	<2.0
Ra-226, Maximum	<0.010	<0.010			<0.010			<0.010
Ra-226, Exceedence (>1.11 Bq/l)	0	0			0			0
Monthly Average (>0.37)	<0.010	<0.010			<0.010			<0.010
Ammonia, Maximum		<0.050	<0.050	<0.050	0.14			0.14
Cd, Maximum (ug/L)		<0.010	<0.010	<0.010	<0.010			<0.010
Fe, Maximum		0.41	0.72	0.65	0.65			0.72
Hg, Maximum (ug/L)		<0.013	<0.013	<0.013	0.015			0.015
Nitrate, Maximum		0.079	0.063	<0.050	<0.050			0.079
TDS, Maximum	87	130	120	130	140	140	140	140
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
ALT, Pass (RT)	1	1	1	1	1	1	1	7
ALT, Fail (RT)	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	7
ALT, Fail (DM)	0	0	0	0	0	0	0	0

Table 3 Continued: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

FDP-TIA (Julienne Narrows)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	5	4	4	5	4	4	5	4	5	4	4	52
pH, Maximum (Units)	7.81	7.89	7.82	7.88	7.91	7.91	7.99	8.08	8.04	7.96	7.82	7.75	8.08
pH, Minimum (Units)	7.69	7.58	7.71	7.65	7.66	7.59	7.77	7.90	7.93	7.72	7.67	7.69	7.58
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	<0.0020	0.0027	<0.0020	<0.0020	0.0042	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0042
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021
Pb, Maximum	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ni, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Zn, Maximum	<0.0050	<0.0050	<0.0050	<0.0050	0.2	<0.0050	<0.0050	<0.0050	<0.0050	0.013	<0.0050	<0.0050	0.2
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0050	<0.0050	<0.0050	<0.0050	0.042	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.0050	<0.0050	0.042
TSS, Maximum	<1.0	1.0	<1.0	<1.0	1.2	<2.0	<1.0	1.0	2.4	1.2	1.4	<1.0	2.4
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
Ra-226, Maximum			<0.010			<0.010			<0.010			<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/l)			0			0			0			0	0
Monthly Average (>0.37)			<0.010			<0.010			<0.010			<0.010	<0.010
Ammonia, Maximum						<0.050	<0.050	<0.050	0.057				0.057
Cd, Maximum (ug/L)						<0.01	<0.01	<0.01	0.011				0.11
Fe, Maximum						0.14	0.13	<0.050	<0.050				0.14
Hg, Maximum (ug/L)						<0.013	<0.013	<0.013	<0.013				<0.013
Nitrate, Maximum						0.65	0.59	0.48	0.57				0.65
TDS, Maximum	84	82	76	94	76	70	59	91	64	64	70	99	99
ALT, Pass (RT)	1	1	1	1	1	1	1	1	1	1	1	1	12
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	1	1	1	1	1	12
ALT, Fail (DM)	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3 Continued: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

FDP-Hakim Culvert	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	5	4	4	5	4	4	5	4	5	4	4	52
pH, Maximum (Units)	7.78	7.87	7.75	7.79	8.06	8.07	8.08	8.17	8.15	8.10	8.01	8.00	8.17
pH, Minimum (Units)	7.63	7.61	7.60	7.60	7.80	7.94	7.88	7.90	8.00	7.92	7.79	7.81	7.60
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	<0.0020	0.0054	0.0054
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	0.0021	0.0021
Pb, Maximum	<0.00050	<0.00050	<0.00050	0.00052	0.00052	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00052
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ni, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Zn, Maximum	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TSS, Maximum	1	<1.0	1.8	<1.0	4.0	<2.0	<1.0	<1.0	1.2	3.4	<1.0	<1.0	4
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<1.0	<1.0	<1.0	<1.0	1.86	<2.0	<1.0	<1.0	<1.0	1.08	<1.0	<1.0	<2.0
Ra-226, Maximum			<0.010			<0.010			<0.01			<0.010	<0.01
Ra-226, Exceedence (>1.11 Bq/l)			0			0			0			0	0
Monthly Average (>0.37)			<0.010			<0.010			<0.01			<0.010	<0.01
Ammonia, Maximum	1.1	1.1	1.1	1.1	1.4	4.1	2.0	3.1	4	9.1	4.7	8.6	9.1
Cd, Maximum (ug/L)						<0.01	<0.01	<0.01	<0.01				<0.01
Fe, Maximum						0.17	0.054	<0.050	0.066				0.17
Hg, Maximum (ug/L)						<0.013	<0.013	<0.013	0.015				0.015
Nitrate, Maximum	11	11	10	10	9.7	14	11	13	13	19	16	18	19
TDS, Maximum	200	200	200	200	220	290	270	260	260	340	280	260	340
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
ALT, Pass (RT)	1	1	1	1	1	1	1	1	1	1	1	1	12
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	1	1	1	1	1	12
ALT, Fail (DM)	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3 Continued: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

FDP-MD30	Jan	Feb	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	2	1	2	4	3	5	4	5	4	4	34
pH, Maximum (Units)	7.96		8.02	8.23	8.37	8.44	8.37	8.24	8.26	8.21	8.44
pH, Minimum (Units)	7.92		8.00	8.03	8.22	8.26	8.17	8.07	8.07	7.86	7.86
pH, Exceedence (<5.5, >9.0)	0		0	0	0	0	0	0	0	0	0
As, Maximum	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
As, Exceedence (>1)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	<0.0020		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cu, Exceedence (>0.6)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.0020		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Pb, Maximum	<0.00050		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Pb, Exceedence (>0.4)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.00050		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ni, Maximum	<0.0020		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ni, Exceedence (>1)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0020		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Zn, Maximum	0.013		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn, Exceedence (>1)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.00775		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TSS, Maximum	<1.0		<1.0	2.2	<1.0	1.4	1.0	1.6	5.0	2.6	5.0
TSS, Exceedence (>30)	0		0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<1.0		<1.0	<1.0	<1.0	0.68	0.625	<1.0	1.625	1.025	1.625
Ra-226, Maximum			<0.010	<0.010			<0.010			<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/l)			0	0			0			0	0
Monthly Average (>0.37)			<0.010	<0.010			<0.010			<0.010	<0.010
Ammonia, Maximum				0.21	0.28	0.22	0.21				0.28
Cd, Maximum (ug/L)				<0.010	<0.010	<0.010	<0.010				<0.010
Fe, Maximum				<0.050	<0.05	<0.050	<0.050				<0.05
Hg, Maximum (ug/L)				<0.013	<0.013	<0.013	0.013				0.013
Nitrate, Maximum				12	12	11	12				12
TDS, Maximum	240		200	260	260	270	280	260	240	280	280
TPH, Maximum	<0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
ALT, Pass (RT)	1	1	1	1	1	1	1	1	1	1	10
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	1	1	1	10
ALT, Fail (DM)	0	0	0	0	0	0	0	0	0	0	0

Table 3 Continued: Iron Ore Company of Canada 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

PD 11	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	1	1	1	1	12
pH, Maximum (Units)						7.57	7.80	7.59	7.69				7.80
pH, Minimum (Units)						7.57	7.8	7.59	7.68				7.57
pH, Exceedence (<5.5, >9.0)						0	0	0	0				0
Fe, Maximum						<0.05	<0.05	<0.05	<0.05				<0.05
TDS, Maximum						94	120	130	140				140
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010
TSS, Maximum						<1.0	<1.0	<1.0	<1.0				<1.0
TSS, Exceedence (>30)						0	0	0	0				0
Monthly Average (>15.00)						<1.0	<1.0	<1.0	<1.0				<1.0

PD 19 (Smallwood Pit)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	1	1	1	1	12
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

PD 24	Aug	Sept	Oct	Total
Samples	1	1	1	3
pH, Maximum (Units)	7.87	7.93		7.93
pH, Minimum (Units)	7.87	7.93		7.87
pH, Exceedence (<5.5, >9.0)	0	0		0
Fe, Maximum	0.30	0.083		0.3
TDS, Maximum	490	420		490
TPH, Maximum	<0.10	<0.11	<0.10	<0.11
TSS, Maximum	<1.0	<1.0		<1.0
TSS, Exceedence (>30)	0	0		0
Monthly Average (>15.00)	<1.0	<1.0		<1.0

PD 32	May	Jun	Jul	Total
Samples	1	1	1	3
pH, Maximum (Units)		8.17	8.07	8.17
pH, Minimum (Units)		8.17	8.07	8.07
pH, Exceedence (<5.5, >9.0)		0	0	0
Fe, Maximum		0.082	0.14	0.14
TDS, Maximum		160	240	240
TPH, Maximum	<0.10	<0.10	<0.10	<0.10
TSS, Maximum		<1.0	<1.0	<1.0
TSS, Exceedence (>30)		0	0	0
Monthly Average (>15.00)		<1.0	<1.0	<1.0

PD 33	Aug	Sept	Oct	Nov	Total
Samples	1	1	1	1	4
pH, Maximum (Units)	7.87	7.6		7.21	7.87
pH, Minimum (Units)	7.87	7.6		7.21	7.21
pH, Exceedence (<5.5, >9.0)	0	0		0	0
Fe, Maximum	0.14	0.32		0.17	0.32
TDS, Maximum	120	110		40	120
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10
TSS, Maximum	1.2	4.8		2.8	4.8
TSS, Exceedence (>30)	0	0		0	0
Monthly Average (>15.00)	1.2	4.8		2.8	4.8

Table 4: Labrador Iron Mines 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Ruth Pit Outlet	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	5	4	5	5	5	5	4	6	5	4	56
pH, Maximum (Units)	7.98	8.00	7.92	7.60	7.88	7.90	7.94	8.00	7.94	7.93	8.00	7.99	8.00
pH, Minimum (Units)	7.75	7.44	7.72	5.51	6.47	7.52	7.42	7.58	7.88	7.62	7.57	7.75	5.51
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum			<0.001			<0.001	<0.001				<0.001		<0.001
As, Exceedance (>1)			0			0	0				0		0
Monthly Average (>0.50)			<0.001			<0.001	<0.001				<0.001		<0.001
Cu, Maximum			<0.001			<0.001	<0.001				0.0063		0.0063
Cu, Exceedance (>0.6)			0			0	0				0		0
Monthly Average (>0.30)			<0.001			<0.001	<0.001				0.0034		0.0034
Pb, Maximum			<0.0005			<0.0005	<0.0005				<0.0005		<0.0005
Pb, Exceedance (>0.4)			0			0	0				0		0
Monthly Average(>0.20)			<0.0005			<0.0005	<0.0005				<0.0005		<0.0005
Ni, Maximum			<0.002			<0.002	<0.002				<0.002		<0.002
Ni, Exceedance (>1)			0			0	0				0		0
Monthly Average (>0.50)			<0.002			<0.002	<0.002				<0.002		<0.002
Zn, Maximum			<0.007			<0.007	<0.007				0.029		0.029
Zn, Exceedance (>1)			0			0	0				0		0
Monthly Average (>0.50)			<0.007			<0.007	<0.007				0.016		0.016
TSS, Maximum	<2	4	3	2	3	4	5	15	16	2	<2	<2	16
TSS, Exceedance (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<2	2	<2	<2	<2	<2	2.667	4.0	5.25	<2	<2	<2	5.25
Radium, Maximum			<0.01			<0.01	<0.01				<0.010		<0.010
Radium, Exceedance (>1.11 Bq/L)			0			0	0				0		0
Monthly Average (>0.37)			<0.01			<0.01	<0.01				<0.010		<0.010
Ammonia, Maximum			<0.02			<0.02	<0.02				<0.02		<0.02
Cd, Maximum (ug/L)			<0.2			<0.2	<0.2				<0.20		<0.20
Fe, Maximum			<0.06			0.09	<0.06				<0.06		0.09
Hg, Maximum (ug/L)			<0.01			<0.01	0.03				<0.01		0.03
Nitrate, Maximum			0.34			0.31	0.23				0.3		0.34
TDS, Maximum			88			71	66				79		88
ALT, Pass (DM)			1			1	1				1		4
ALT, Fail (DM)			0			0	0				0		0
ALT, Pass (RT)			1			1	1				1		4
ALT, Fail (RT)			0			0	0				0		0

Table 5: Rambler Metals and Mining Canada Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Treated Mine Effluent	Jan	Feb	Mar	Apr	May	Jun	Aug	Sept	Oct	Nov	Dec	Total
Samples	3	3	4	3	3	4	2	3	3	4	3	35
pH, Maximum (Units)	7.85	8.22	8.08	8.00	8.42	8.93	7.26	8.24	8.14	8.21	8.05	8.93
pH, Minimum (Units)	7.38	7.36	7.42	7.23	7.18	7.88	7.20	7.19	6.00	7.35	7.54	6.00
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.0010	0.002	0.003	0.002	0.001	0.003
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	0.001	0.002	0.001	<0.001	0.002
Cu, Maximum	0.014	0.014	0.023	0.031	0.021	0.017	0.017	0.015	0.039	0.026	0.024	0.039
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.30)	0.010	0.009	0.014	0.016	0.013	0.014	0.016	0.015	0.028	0.019	0.020	0.028
CN, Maximum	0.008	0.010	0.004	0.005	0.007	0.006	0.002	0.013	0.005	0.015	0.007	0.015
CN, Exceedence (>2.0)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<1.00)	0.006	0.006	0.004	0.004	0.004	0.004	0.001	0.009	0.004	0.005	0.005	0.009
Pb, Maximum	0.0021	0.0017	0.0007	0.0059	0.0015	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0059
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.20)	0.0013	0.0009	<0.0005	0.0026	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026
Ni, Maximum	0.011	0.026	0.032	0.029	0.011	0.016	0.013	0.012	0.006	0.016	0.020	0.032
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	0.009	0.016	0.021	0.017	0.007	0.009	0.013	0.009	0.004	0.014	0.017	0.021
Zn, Maximum	0.144	0.164	0.400	0.319	0.083	0.111	0.311	0.314	0.286	0.277	0.217	0.400
Zn, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	0.091	0.123	0.234	0.131	0.047	0.059	0.308	0.148	0.115	0.168	0.155	0.308
TSS, Maximum	<1.0	<2	<2	<2	1.8	<5	<1.0	1.4	<1.0	<2.0	3.6	<5.0
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (<15.00)	<1.0	<2	<2	<2	<1.0	<5	<1.0	<1.0	<1.0	<2.0	1.7667	<5.0
Ra-226, Maximum	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	0.012	0.01	0.011	<0.010	<0.010	0.012
Ra-226, Exceedence (>1.11 Bq/L)	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.37 Bq/L)	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	0.012	<0.01	<0.01	<0.010	<0.010	0.012
Ammonia, Maximum		17			15		10			10		17
Cd, Maximum (ug/L)		2.22			0.305					4.91		4.91
Fe, Maximum		<0.05			<0.05					0.125		0.125
Hg, Maximum (ug/L)		<0.013			<0.013		<0.013			<0.013		<0.013
Nitrate, Maximum		25			17		18			20		25
TDS, Maximum		1900			1800		1900			2400		2400
TPH, Maximum		<0.10			<0.10		<0.10			<0.10		<0.10
ALT, Pass (RT)	1	1	1	1	1	1	1	1	1	1	1	11
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	1	1	1	1	11
ALT, Fail (DM)	0	0	0	0	0	0	0	0	0	0	0	0

Table 6: Rambler Metals and Mining Canada Ltd (Nugget Pond Facility) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Polishing Pond	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples	3	3	4	3	3	4	3	2	3	3	4	3	38
pH, Maximum (Units)	7.28	7.31	7.43	7.35	7.18	7.27	7.52	7.29	7.47	7.29	7.33	7.44	7.52
pH, Minimum (Units)	7.25	7.27	6.65	6.99	3.47	7.11	7.15	7.28	7.33	7.25	7.16	7.26	3.47
pH, Exceedence (<5.5, >9.0)	0	0	0	0	1	0	0	0	0	0	0	0	1
As, Maximum	0.0016	0.0013	0.0018	0.0019	0.0017	0.0018	0.0018	0.0015	0.0013	0.0012	0.0013	0.0013	0.0019
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.0014	0.0012	0.0013	0.0012	<0.001	0.0017	0.0018	0.0026	0.0013	0.0011	0.0012	0.0010	0.0026
Cu, Maximum	0.0053	0.0049	0.0121	0.0039	0.0035	0.0043	0.0043	0.0036	0.0049	0.0043	0.0043	0.0062	0.0121
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.0045	0.0045	0.0067	0.0035	0.0035	0.0040	0.0039	0.0030	0.0037	0.0039	0.0036	0.0042	0.0067
CN, Maximum	<0.0010	0.0120	<0.0020	0.0017	0.0012	<0.0012	<0.0010	0.0011	<0.0010	<0.0050	0.011	0.1900	0.1900
CN, Exceedence (>2.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>1.00)	<0.0010	0.0048	<0.0020	0.0012	<0.0010	<0.0012	<0.0010	<0.0010	<0.0010	<0.0050	0.0034	0.0640	0.0640
Pb, Maximum	0.0021	0.0954	0.0035	0.0016	0.0016	0.0035	0.0019	<0.0005	0.0006	0.0007	0.0016	0.0018	0.0954
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0017	0.0047	0.0019	0.0012	0.0013	0.0029	0.0014	<0.0005	<0.0005	<0.0005	0.0007	0.0009	0.0047
Ni, Maximum	<0.0020	<0.0020	0.0037	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Zn, Maximum	0.0136	0.0022	0.0213	0.0108	0.0113	0.0166	0.0123	0.0097	0.0079	0.0135	0.0203	0.0211	0.0213
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.0117	0.0115	0.0142	0.0094	0.0092	0.0144	0.0114	0.0079	0.0063	0.0084	0.0108	0.0109	0.0144
TSS, Maximum	<1.0	2.6	24	2	<1.0	<1.0	<1.0	1.8	1	<1.00	<1.00	<1.0	24
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<1.0	1.7	8	1	<1.0	<1.0	<1.0	1.15	<1.0	<1.0	<1.0	<1.0	8
Ra-226, Maximum	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.37 Bq/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ammonia, Maximum		0.7			0.17			<0.05			0.75		0.75
Cd, Maximum (ug/L)		0.077			0.014			0.044			0.097		0.097
Fe, Maximum		0.256			<0.050			<0.050			0.052		0.256
Hg, Maximum (ug/L)		<0.013			<0.013			<0.013			<0.013		<0.013
Nitrate, Maximum		1.6			0.15			2.3			2.0		2.3
TDS, Maximum		300			39			300			330		330
TPH, Maximum		<0.10			<0.10			0.11			<0.10		0.11
ALT, Pass (RT)	1	1	1		1		1	1	1	1		1	9
ALT, Fail (RT)	0	0	0		0		0	0	0	0		0	0
ALT, Pass (DM)	1	1	1		1		1	1	1	1		1	9
ALT, Fail (DM)	0	0	0		0		0	0	0	0		0	0

Table 7: Tata Steel Minerals Canada Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

SW 11	May	Total
Samples	3	3
pH, Maximum (Units)	7.13	7.13
pH, Minimum (Units)	5.88	5.88
pH, Exceedence (<5.5, >9.0)	0	0
As, Maximum	<0.001	<0.001
As, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	<0.001	<0.001
Cu, Maximum	0.0016	0.0016
Cu, Exceedence (>0.6)	0	0
Monthly Average (>0.30)	0.0015	0.0015
Pb, Maximum	0.00082	0.00082
Pb, Exceedence (>0.4)	0	0
Monthly Average(>0.20)	0.00064	0.00064
Ni, Maximum	<0.002	<0.002
Ni, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	<0.002	<0.002
Zn, Maximum	0.045	0.045
Zn, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	0.034	0.034
TSS, Maximum	20	20
TSS, Exceedence (>30)	0	0
Monthly Average (>15.00)	11	11
Radium, Maximum	<0.0050	<0.0050
Radium, Exceedence (>1.11 Bq/L)	0	0
Monthly Average (>0.37 Bq/L)	<0.0050	<0.0050
Ammonia, Maximum	<0.02	<0.02
Cd, Maximum (ug/L)	<0.2	<0.20
Fe, Maximum	3.9	3.9
Hg, Maximum (ug/L)	<0.1	<0.1
Nitrate, Maximum	0.17	0.17
TDS, Maximum	57	57
ALT, Pass (RT)	0	0
ALT, Fail (RT)	1	1
ALT, Pass (DM)	1	1
ALT, Fail (DM)	0	0

Sed Pond #1	May	Total
Samples	2	2
pH, Maximum (Units)	6.88	6.88
pH, Minimum (Units)	5.11	5.11
pH, Exceedence (<5.5, >9.0)	1	1
As, Maximum	<0.001	<0.001
As, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	<0.001	<0.001
Cu, Maximum	<0.001	<0.001
Cu, Exceedence (>0.6)	0	0
Monthly Average (>0.30)	<0.001	<0.001
Pb, Maximum	<0.0005	<0.0005
Pb, Exceedence (>0.4)	0	0
Monthly Average(>0.20)	<0.0005	<0.0005
Ni, Maximum	<0.002	<0.002
Ni, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	<0.002	<0.002
Zn, Maximum	<0.007	<0.007
Zn, Exceedence (>1.0)	0	0
Monthly Average (>0.50)	<0.007	<0.007
TSS, Maximum	3	3
TSS, Exceedence (>30)	0	0
Monthly Average (>15.00)	2	2
Ammonia, Maximum	<0.02	<0.02
Cd, Maximum (ug/L)	<0.20	<0.20
Fe, Maximum	0.38	0.38
Hg, Maximum (ug/L)	<0.10	<0.10
Nitrate, Maximum	0.19	0.19
TDS, Maximum	13	13

Table 8: Teck Resources Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

DPM - Dam C	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	2	5	4	5	5	4	5	5	4	39
pH, Maximum (Units)	7.18	7.65	7.67	7.71	7.71	7.64	7.46	7.57	7.73	7.73
pH, Minimum (Units)	7.14	7.04	7.47	7.58	7.31	7.43	5.51	6.65	7.44	5.51
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.01	<0.01	0.01
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cu, Maximum	0.159	0.033	0.036	0.035	0.029	0.023	0.032	0.024	0.021	0.159
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.30)	0.088	0.026	0.03475	0.0332	0.0256	0.02125	0.02475	0.0222	0.01725	0.088
CN, Maximum	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.007	0.007	<0.01	<0.01
CN, Exceedence (>2.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<1.00)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.007	<0.005	<0.01	<0.01
Pb, Maximum	0.012	0.009	<0.007	<0.007	<0.007	<0.007	<0.007	0.007	0.007	0.012
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.20)	0.008	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	0.008
Ni, Maximum	<0.004	0.006	<0.004	<0.004	0.005	0.004	<0.004	<0.004	0.006	0.006
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Zn, Maximum	0.132	0.131	0.178	0.127	0.126	0.125	0.209	0.338	0.396	0.396
Zn, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.50)	0.1075	0.0978	0.14925	0.115	0.113	0.0629	0.1391	0.2528	0.289	0.289
TSS, Maximum	<2	4	3	3	2	3	29	2	<2	29
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<15.00)	<2	2	2	3	2	2	8	<2	<2	8
Ra-226, Maximum	<0.005	0.010	0.220	0.200	0.010	0.020	0.010	0.010	<0.04	0.220
Ra-226, Exceedence (>1.11 Bq/L)	0	0	0	0	0	0	0	0	0	0
Monthly Average (<0.37 Bq/L)	<0.005	0.008	0.061	0.054	0.007	0.009	0.009	0.006	<0.04	0.061
Ammonia, Maximum	0.2	0.8	0.2	0.1	<0.1	0.2	0.1	0.2	<0.1	0.8
Cd, Maximum (ug/L)	<1	2	4	3	4	2	3	4	6	6
Fe, Maximum	0.193	0.187	0.142	0.154	0.143	0.051	0.096	0.082	0.06	0.193
Hg, Maximum (ug/L)	0.09	0.03	0.04	0.02	0.02	<0.1	<0.1	<0.01	<0.01	<0.1
Nitrate, Maximum	0.4	0.18	0.26	0.19	0.22	0.18	0.21	0.25	0.26	0.4
TDS, Maximum	280	783	1150	1120	1270	1130	1100	1120	1130	1270
ALT, Pass (RT)	1	1	1	1	1	1	1	1	1	9
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	0
ALT, Pass (DM)	1	1	1	1	1	1	1	1	1	9
ALT, Fail (DM)	0	0	0	0	0	0	0	0	0	0

Table 9: Vale Newfoundland and Labrador Ltd (Voisey's Bay) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Treated Effluent Discharge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Nov	Dec	Total
Samples	4	5	4	5	5	4	4	1	4	4	40
pH, Maximum (Units)	8.50	8.42	8.16	7.60	7.97	8.36	7.60	9.03	8.42	8.24	9.03
pH, Minimum (Units)	6.84	7.32	7.15	6.83	6.01	7.35	6.66	9.03	7.38	7.35	6.01
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	1	0	0	1
As, Maximum	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cu, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0026	0.0036	0.0027	0.0036
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0026	<0.002	<0.002	0.0026
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0024	0.0012	0.0024
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.0009
Ni, Maximum	0.048	0.045	0.033	0.039	0.150	0.089	0.095	0.034	0.056	0.045	0.150
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.043	0.039	0.032	0.031	0.051	0.059	0.073	0.034	0.045	0.039	0.725
Zn, Maximum	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zn, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TSS, Maximum	6	5	3	5	8	2	2	2	8	5	8
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	5	5	3	4	4	1	2	2	5	3	5
Ra-226, Maximum (Bq/l)		<0.010		<0.010	<0.010			<0.010	<0.010		<0.010
Ra-226, Exceedence (>1.11 Bq/L)		0		0	0			0	0		0
Monthly Average (>0.37 Bq/L)		<0.010		<0.010	<0.010			<0.010	<0.010		<0.010
Ammonia, Maximum	1.7	1.8	2	2.3	2.4	2.3	2.4	2.0	2.1	2.2	2.4
Cd, Maximum (ug/L)	<0.010	<0.010	<0.01	<0.01	0.019	0.011	0.022	<0.010	0.012	0.012	0.022
Fe, Maximum	2.3	1.7	1.2	2.2	1.7	0.55	0.71	0.58	1.9	1.3	2.3
Hg, Maximum (ug/L)	<0.013	0.02	<0.013	<0.013	0.015	<0.013	<0.013	<0.013	<0.013	<0.013	0.02
Nitrate, Maximum	2.8	2.7	2.80	2.7	3.3	3.3	3.3	3.1	3.5	3.4	3.5
TDS, Maximum	1600	1800	1700	1800	1600	1200	1300	1200	1700	1600	1800
TPH, Maximum	0.36	0.37	0.35	0.49	0.36	0.22	0.21	0.15	0.17	0.17	0.49
ALT, Pass (RT)		1			1			1	1		4
ALT, Fail (RT)		0			0			0	0		0
ALT, Pass (DM)		0			0			1	1		2
ALT, Fail (DM)		1			1			0	0		2

Table 10: Vale Newfoundland and Labrador Ltd (Long Harbour) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

D2 - Plant Site Diversion Ditch North Discharge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	5	4	4	4	5	4	5	3	38
pH, Maximum (Units)	7.22	7.53	7.70	7.31	7.67	7.66	8.30	8.50	7.90	7.50	7.39	8.83	8.83
pH, Minimum (Units)	7.22	7.53	7.70	7.31	7.39	7.18	7.40	7.60	7.28	6.82	6.61	7.07	6.61
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu, Maximum	0.002	0.001	<0.001	<0.001	<0.001	0.002	<0.002	0.007	0.009	0.003	0.003	<0.001	0.009
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.003	0.003	0.002	<0.001	0.004
Pb, Maximum	0.0008	0.0007	0.0021	0.0005	<0.0005	0.0011	<0.0005	0.0006	0.0013	0.0016	0.0021	0.0006	0.0021
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0008	0.0007	0.0021	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00055	0.00094	0.00113	<0.0005	0.0021
Ni, Maximum	0.03	0.06	0.23	16.20	10.80	0.22	0.03	0.02	0.04	0.22	0.37	0.49	16.20
Ni, Exceedence (>1)	0	0	0	1	2	0	0	0	0	0	0	0	3
Monthly Average (>0.50)	0.03	0.06	0.23	16.20	3.32	0.08	0.02	0.02	0.02	0.08	0.19	0.23	16.20
Zn, Maximum	0.013	0.016	0.029	0.154	0.108	0.015	0.017	0.010	0.011	0.016	0.022	0.019	0.154
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.013	0.016	0.029	0.154	0.043	0.010	0.008	0.005	0.006	0.013	0.017	0.012	0.154
TSS, Maximum	<5	<5	10	<5	6	8	8	6	<5	<5	17	9	17
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<5	<5	10	<5	<5	<5	<5	<5	<5	<5	6.1	<5	10
Ammonia, Maximum	<0.03	<0.03	<0.03	0.07	0.11	0.15	0.04	0.05	0.03	0.07	0.11	0.18	0.18
Cd, Maximum (ug/L)	0.106	0.122	0.333	3.78	3.03	0.149	0.109	0.075	0.06	0.133	0.212	0.279	3.78
Fe, Maximum	0.284	0.284	0.498	0.16	0.23	0.486	0.146	0.217	0.355	0.66	0.757	0.391	0.757
Hg, Maximum (ug/L)	<0.026	<0.026	<0.026	<0.026	0.027	<0.026	<0.026	<0.026	<0.026	<0.05	0.032	<0.026	0.032
Nitrate, Maximum	0.06	0.07	0.10	0.12	0.1	0.17	<0.05	0.10	0.06	0.09	0.12	0.12	0.17

Table 10 Continued: Vale Newfoundland and Labrador Ltd (Long Harbour) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

D3 - Plant Site Diversion Ditch South Discharge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	1	1	1	1	12
pH, Maximum (Units)	7.37	7.15	7.36	7.28	7.52	7.17	7.53	7.93	7.37	7.41	6.80	7.14	7.93
pH, Minimum (Units)	7.37	7.15	7.36	7.28	7.52	7.17	7.53	7.93	7.37	7.41	6.80	7.14	6.80
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu, Maximum	0.003	0.006	0.003	<0.001	0.001	0.005	0.009	<0.001	0.003	0.003	0.005	0.003	0.009
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.003	0.006	0.003	<0.001	0.001	0.005	0.009	<0.001	0.003	0.003	0.005	0.003	0.009
Pb, Maximum	0.0035	0.0054	0.0039	0.0029	0.0011	0.0055	0.0022	<0.0005	0.0037	0.0022	0.0061	0.0014	0.0061
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0035	0.0054	0.0039	0.0029	0.0011	0.0055	0.0022	<0.0005	0.0037	0.0022	0.0061	0.0014	0.0061
Ni, Maximum	0.005	0.008	0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.003	<0.002	0.002	<0.002	0.008
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.005	0.008	0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.003	<0.002	0.002	<0.002	0.008
Zn, Maximum	0.054	0.018	0.009	0.005	0.006	0.015	0.014	<0.005	0.009	0.007	0.013	0.014	0.054
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.054	0.018	0.009	0.005	0.006	0.015	0.014	<0.005	0.009	0.007	0.013	0.014	0.054
TSS, Maximum	16	30	<5	6	<5	18	<5	<5	11	<5	<5	<5	30
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	16	30	<5	6	<5	18	<5	<5	11	<5	<5	<5	30
Ammonia, Maximum	0.14	<0.03	0.19	0.06	0.05	0.06	<0.03	<0.03	<0.03	0.05	<0.03	0.08	0.19
Cd, Maximum (ug/L)	0.062	0.094	0.062	0.06	0.04	0.076	0.035	0.027	0.067	0.059	0.07	0.109	0.109
Fe, Maximum	2.26	2.21	1.42	0.772	0.910	2.94	1.46	0.579	2.5	1.49	1.36	0.755	2.94
Hg, Maximum (ug/L)	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026
Nitrate, Maximum	0.05	<0.05	0.07	<0.05	<0.05	0.09	<0.05	<0.05	0.06	<0.05	<0.05	0.07	0.09

Table 10 Continued: Vale Newfoundland and Labrador Ltd (Long Harbour) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

D5 - Laydown Pad Storm Pond Discharge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	1	1	1	1	12
pH, Maximum (Units)	7.05	6.80	7.08	7.16	6.99	7.13	7.31	7.46	7.22	7.25	7.01	7.03	7.46
pH, Minimum (Units)	7.05	6.80	7.08	7.16	6.99	7.13	7.31	7.46	7.22	7.25	7.01	7.03	6.80
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu, Maximum	0.008	0.002	0.003	0.004	0.001	0.003	0.003	<0.001	0.003	0.002	0.004	0.002	0.008
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.008	0.002	0.003	0.004	0.001	0.003	0.003	<0.001	0.003	0.002	0.004	0.002	0.008
Pb, Maximum	0.0066	0.0011	0.002	0.0012	0.001	0.0023	0.0023	<0.005	0.0019	0.0007	0.0035	0.0009	0.0066
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0066	0.0011	0.002	0.0012	0.001	0.0023	0.0023	<0.005	0.0019	0.0007	0.0035	0.0009	0.0066
Ni, Maximum	0.007	0.009	0.006	0.033	0.019	0.06	0.026	0.014	0.017	0.018	0.01	0.011	0.06
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.007	0.009	0.006	0.033	0.019	0.06	0.026	0.014	0.017	0.018	0.01	0.011	0.06
Zn, Maximum	0.012	<0.005	0.01	<0.005	0.008	0.01	0.024	<0.005	0.007	<0.005	0.011	0.006	0.024
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.012	<0.005	0.01	<0.005	0.008	0.01	0.024	<0.005	0.007	<0.005	0.011	0.006	0.024
TSS, Maximum	8	<5	8	<5	14	8	20	<5	16	<5	8	8	20
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	8	<5	8	<5	14	8	20	<5	16	<5	8	8	20
Ammonia, Maximum	<0.03	<0.03	<0.03	0.05	0.05	0.06	<0.03	<0.03	<0.03	0.04	0.03	0.07	0.07
Cd, Maximum (ug/L)	0.064	0.021	0.033	0.022	0.032	0.035	0.024	0.021	0.018	0.028	0.031	0.024	0.064
Fe, Maximum	0.625	0.658	1.39	0.543	0.494	1.91	1.51	0.256	2.24	0.647	1.81	0.688	2.24
Hg, Maximum (ug/L)	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026
Nitrate, Maximum	0.15	0.07	0.11	0.08	0.13	0.18	0.07	0.07	0.10	<0.05	0.10	0.07	0.18

Table 10 Continued: Vale Newfoundland and Labrador Ltd (Long Harbour) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

D25	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	1	1	1	1	12
pH, Maximum (Units)	6.51	6.54	6.77	6.76	6.70	6.76	6.88	7.12	6.91	6.89	6.47	6.40	7.12
pH, Minimum (Units)	6.51	6.54	6.77	6.76	6.70	6.76	6.88	7.12	6.91	6.89	6.47	6.40	6.40
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu, Maximum	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
Pb, Maximum	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0014
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0014
Ni, Maximum	0.003	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003
Ni, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.003	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003
Zn, Maximum	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.008
Zn, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.008
TSS, Maximum	<5	<5	<5	<5	<5	7	7	7	10	<5	7	18	18
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>15.00)	<5	<5	<5	<5	<5	7	7	7	10	<5	7	18	18
Ammonia, Maximum	0.03	<0.03	<0.03	0.07	0.05	0.06	<0.03	0.05	<0.03	0.05	0.05	0.07	0.07
Cd, Maximum (ug/L)	0.024	0.025	<0.017	<0.017	<0.017	0.019	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	0.025
Fe, Maximum	0.607	0.634	0.528	0.385	0.475	0.600	0.755	0.493	0.328	0.619	0.819	0.914	0.914
Hg, Maximum (ug/L)	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026
Nitrate, Maximum	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.08

Table 11: Wabush Mines 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Flora Lake Discharge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	5	4	5	26	4	5	4	4	4	4	73
pH, Maximum (Units)	7.66	7.57	7.61	7.58	7.65	7.75	7.74	7.78	7.85	7.71	7.76	7.66	7.85
pH, Minimum (Units)	7.51	7.52	7.20	7.31	7.55	7.61	7.55	7.55	7.59	7.55	7.40	7.56	7.20
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	0.0036	0.0029	0.0030	0.0022	<0.002	0.0097	0.0047	0.0055	0.0054	0.0044	0.0027	0.0034	0.0097
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0032	0.0033	0.0027	0.0021	0.0021	<0.0020	<0.0020	0.0033
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0006	0.0006	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0008
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005
Ni, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.002	<0.002	0.018	<0.002	<0.002	<0.002	0.018
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	0.005
Zn, Maximum	0.0565	0.0057	0.0106	0.0052	0.0070	0.0089	0.0235	0.0106	0.0053	0.0114	0.0177	0.0084	0.0565
Zn, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	0.0183	<0.005	<0.005	<0.005	<0.005	<0.005	0.0129	0.0063	<0.005	0.0088	0.0081	<0.005	0.0183
TSS, Maximum	3	<2.0	<2.0	<1.0	52	67	8	2	3	6	3	2	67
TSS, Exceedence (>30)	0	0	0	0	2	12	0	0	0	0	0	0	14
Monthly Average(>15.00)	2	<2.0	<2.0	<1.0	23	30	5	2	2	3	2	1	30
Ammonia, Maximum						0.051	<0.05	0.063	0.17				0.17
Cd, Maximum (ug/L)						0.046	0.02	0.051	<0.01				0.051
Fe, Maximum						6.32	1.11	0.372	0.429				6.32
Hg, Maximum (ug/L)						<0.013	<0.013	<0.013	<0.013				<0.013
Nitrate, Maximum						0.15	0.18	0.17	0.13				0.18
TDS, Maximum						52	43	43	43				52
TPH, Maximum	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10
ALT, Pass (RT)	1			1		5		1	1	1	1	1	10
ALT, Fail (RT)	0			0		0		0	0	0	0	0	0
ALT, Pass (DM)	1			1		4		1	1	1	1	1	9
ALT, Fail (DM)	0			0		1		0	0	0	0	0	1

Table 11 Continued: Wabush Mines 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

East Pit # 2	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	4	5	3	4	4	2	30
pH, Maximum (Units)	7.53	7.64	7.77	7.73	7.83	7.98	7.56	7.49	7.98
pH, Minimum (Units)	7.13	7.47	7.57	7.50	7.76	7.63	7.20	7.33	7.13
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0
As, Maximum	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
As, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cu, Maximum	0.004	0.004	0.003	0.003	<0.0020	0.003	0.004	0.009	0.009
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0
Monthly Average (>0.30)	0.002	<0.002	<0.002	<0.002	<0.0020	<0.002	0.002	0.005	0.005
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0
Monthly Average (>0.20)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ni, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ni, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zn, Maximum	0.010	0.009	0.008	0.008	<0.0050	0.010	0.011	0.013	0.013
Zn, Exceedence (>1.0)	0	0	0	0	0	0	0	0	0
Monthly Average (>0.50)	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.006	0.008	0.008
TSS, Maximum	5	7	8	3	9	2	3	2	9
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0
Monthly Average(>15.00)	3	4	5	2	6	2	1	1	6
Ammonia, Maximum		<0.050	0.11	0.15	0.12				0.15
Cd, Maximum (ug/L)		<0.01	0.012	<0.01	<0.01				0.012
Fe, Maximum		0.32	0.497	0.224	0.509				0.509
Hg, Maximum (ug/L)		<0.013	<0.013	<0.013	<0.013				<0.013
Nitrate, Maximum		7.4	9.6	8.5	9.4				9.6
TDS, Maximum		96	120	120	130				130
TPH, Maximum	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10
ALT, Pass (RT)						1			1
ALT, Fail (RT)						0			0
ALT, Pass (DM)						1			1
ALT, Fail (DM)						0			0

Table 11 Continued: Wabush Mines 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Tailings Line Emergency Dump Basin	Jun	Jul	Aug	Sept	Total
Samples	1	1	1	1	4
pH, Maximum (Units)	7.79	7.87	7.93	7.98	7.98
pH, Minimum (Units)	7.79	7.87	7.93	7.98	7.87
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
As, Maximum	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
As, Exceedence (>1.0)	0	0	0	0	0
Monthly Average (>0.50)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, Maximum	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cu, Exceedence (>0.6)	0	0	0	0	0
Monthly Average (>0.30)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Pb, Exceedence (>0.4)	0	0	0	0	0
Monthly Average (>0.20)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ni, Maximum	<0.002	<0.002	<0.002	<0.002	<0.002
Ni, Exceedence (>1.0)	0	0	0	0	0
Monthly Average (>0.50)	<0.002	<0.002	<0.002	<0.002	<0.002
Zn, Maximum	0.007	0.010	<0.005	<0.005	0.010
Zn, Exceedence (>1.0)	0	0	0	0	0
Monthly Average (>0.50)	0.007	0.010	<0.005	<0.005	0.010
TSS, Maximum	2	3	3	2	3
TSS, Exceedence (>30)	0	0	0	0	0
Monthly Average(>15.00)	2	3	3	2	3
Ammonia, Maximum	0.071	0.14	0.18	0.28	0.28
Cd, Maximum (ug/L)	0.025	0.015	<0.01	0.015	0.025
Fe, Maximum	0.154	0.114	<0.050	0.083	0.154
Hg, Maximum (ug/L)	<0.013	<0.013	<0.013	<0.013	<0.013
Nitrate, Maximum	<0.050	0.056	<0.050	<0.050	0.056
TDS, Maximum	68	81	96	110	110
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10
ALT, Pass (RT)	1				1
ALT, Fail (RT)	0				0
ALT, Pass (DM)	1				1
ALT, Fail (DM)	0				0

3) Petroleum Refining

a) North Atlantic Refining Ltd

2016 COA

Approval #: AA14-115594
Issue Date: November 13, 2014
Expiration: December 31, 2016

North Atlantic Refining Ltd has one discharge point which releases effluent into Placentia Bay. The effluent monitoring program consists of six compliance parameters, flow monitoring and ALT. The average flow for the month is determined by averaging the measurements taken three times per week. Daily loadings are calculated from the daily flow and measured concentrations (flow measurements are taken at the same time as sample collection). In November 2016, the reference production rate increased, resulting in a change in the limits for November and December 2016. A total of 156 samples were collected in 2016. There were two reported exceedances in TSS above the daily limit and one exceedance in TSS above the never to exceed limit. There was one exceedance in pH above the upper limit. There were 12 rainbow trout ALTs with no failures performed at this location.

Environmental Effects Monitoring
There were no submissions for 2016

See Table 12: North Atlantic Refining Ltd 2016 Effluent Discharge Criteria Summary.

Table 12: North Atlantic Refining Ltd 2016 Effluent Discharge Criteria Summary

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples Taken	13	12	14	12	13	13	13	13	13	14	13	13	156
Reference Crude Rate (bbls / stream day)	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	130000	130000	130000
Average Flow (Cdn. gal / day)	1,033,846	2,004,167	1,555,714	1,252,500	2,201,538	1,918,462	1,832,308	1,340,769	1,221,539	2,190,714	1,908,462	1,925,385	2,201,538
pH													
Average	7.54	7.50	7.49	7.55	7.68	7.50	7.81	7.52	7.58	7.25	7.55	7.67	7.81
Maximum (Units)	7.70	7.80	7.80	7.90	8.50	8.30	8.60	9.30	8.30	7.80	7.80	8.10	9.30
Minimum (Units)	7.40	7.20	7.00	7.10	7.40	6.70	7.40	7.00	6.90	6.80	7.20	7.40	6.70
Exceedences (< 5.5, > 9.0)	0	0	0	0	0	0	0	1	0	0	0	0	1
Oil & Grease													
Average (Month Limit < 300 lbs)	18.89	47.22	24.77	41.40	41.47	39.15	50.39	52.62	87.71	77.34	86.95	123.57	123.57
Maximum (lbs)	43.69	172.80	61.85	143.40	178.70	176.06	96.57	218.33	351.89	535.69	292.21	428.50	535.69
Daily Limit 550 lbs (Not to exceed more than one day/month)	0	0	0	0	0	0	0	0	0	0	0	0	0
Never to Exceed 750 lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenol													
Average (Monthly Limit < 30 lbs)	0.22	0.20	0.34	0.17	0.25	0.25	0.35	0.16	0.12	0.23	0.21	0.57	0.57
Maximum (lbs)	1.19	0.40	1.94	0.40	0.41	0.91	1.37	0.53	0.39	0.41	0.39	3.76	3.76
Daily Limit 55 lbs (Not to exceed more than one day/month)	0	0	0	0	0	0	0	0	0	0	0	0	0
Never to Exceed 75 lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphide													
Average (Monthly Limit < 10 lbs)	0.22	0.34	0.24	0.24	0.69	0.39	0.45	0.50	0.31	0.64	0.62	0.72	0.72
Maximum (lbs)	0.48	0.93	0.48	0.40	4.58	1.06	0.97	1.16	1.56	2.93	1.97	1.61	4.58
Daily Limit 30 lbs (Not to exceed more than one day/month)	0	0	0	0	0	0	0	0	0	0	0	0	0
Never to Exceed 50 lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
Ammonia Nitrogen													
Average (Monthly Limit < 360 lbs)	19.15	26.05	15.99	33.77	61.31	106.94	48.45	65.83	59.49	78.48	121.64	118.18	121.64
Maximum (lbs)	53.18	76.36	34.96	62.98	84.21	344.99	78.78	233.86	189.22	139.26	304.98	243.36	344.99
Daily Limit 570 lbs (Not to exceed more than one day/month)	0	0	0	0	0	0	0	0	0	0	0	0	0
Never to Exceed 720 lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
TSS													
Average (Monthly Limit < 720 lbs)	77.0	217.5	242.3	177.53	474.66	298.92	338.88	303.12	243.95	451.15	462.86	374.72	474.66
Maximum (lbs)	142.8	403	835	367.38	1830.61	558.72	786.35	1451.00	703.00	976.89	1,105.65	679.98	1,830.61
Daily Limit 1200 lbs (Not to exceed more than one day/month)	0	0	0	0	1	0	0	1	0	0	0	0	0
Never to Exceed 1500 lbs	0	0	0	0	1	0	0	0	0	0	0	0	1
pH at Outfall							1						
Samples	31	29	31	30	29	30	31	31	30	31	29	31	363
Average	7.55	7.52	7.50	7.64	7.70	7.59	7.77	7.77	7.46	7.19	7.52	7.67	7.77
Maximum (Units)	7.80	7.80	7.80	8.20	8.50	8.30	8.60	9.30	8.30	7.80	7.90	8.10	9.30
Minimum (Units)	7.30	7.00	7.00	7.10	7.00	6.70	7.20	7.00	6.90	6.60	7.20	7.40	6.60
Exceedences (< 5.5, > 9.0)	0	0	0	0	0	0	0	1	0	0	0	0	1
ALT, pass	1	1	1	1	1	1	1	1	1	1	1	1	12
ALT, fail	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: Averages are weighted with flow values

4) Pulp and Paper

a) Corner Brook Pulp and Paper Ltd

2016 COA Approval #: AA13-125584
Issue Date: December 23, 2013
Expiration: July 7, 2018

Corner Brook Pulp and Paper Ltd has two discharge locations, Effluent Treatment and East Sewer. The effluent monitoring program consists of two parameters for compliance, TSS and BOD along with ALTs. TSS and flow are measured daily while BOD is measured three times per week. The total loadings are reported in tonnes/day and there were no exceedances reported in 2016. There were 12 rainbow trout ALTs with no failures and 52 *Daphnia magna* ALTs with no failures performed at the Effluent Treatment location. There were 12 rainbow trout ALTs with no failures and 52 *Daphnia magna* ALTs with one failure performed at the East Sewer location. It is important to note that the *Daphnia magna* ALT is a required monitoring test but it is not a compliance determining test. It is used as a monitoring tool only.

Environmental Effects Monitoring
The Corner Brook Pulp and Paper Ltd Cycle 7 EEM Interpretive Report was submitted in 2016.

See Table 13: Corner Brook Pulp and Paper Ltd 2016 Effluent Discharge Criteria Summary.

b) Grand Falls Mill (Previously Abitibi-Consolidated Company of Canada)

2016 Monitoring As per memo from PPD
Issue Date: June 12, 2013
Expiration: No expiration date established

This site is currently owned and monitored by the Province of Newfoundland and Labrador. The Grand Falls Mill has one compliance point, the combined sewer and it is monitored for pH and TPH. There were 11 samples collected in 2016 with no exceedances.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 14: Grand Falls Mill 2016 Effluent Discharge Criteria Summary.

Table 13: Corner Brook Pulp and Paper 2016 Effluent Discharge Criteria Summary

				TSS Concentration				BOD Concentration	
	Average Production	Average TSS Discharge		East Sewer	Effluent Treatment	Average BOD Discharge		East Sewer	Effluent Treatment
Month	Tonne/Day	Tonne/Day	kg / FMT	mg/L	mg/L	Tonne/Day	kg / FMT	mg/L	mg/L
Jan	713.8	2.89	4.1	2.72	64.65	1.00	1.4	1.48	22.16
Feb	655.0	4.00	6.1	7.00	82.00	1.00	1.5	3.00	24.00
Mar	625.0	3.00	4.8	5.00	57.00	1.00	1.6	2.00	27.00
Apr	674.0	3.00	4.5	6.00	84.00	1.00	1.5	2.00	19.00
May	739.0	3.00	4.1	6.00	77.00	1.00	1.4	2.00	23.00
Jun	675.0	2.00	3.0	4.00	50.00	1.00	1.5	1.00	19.00
Jul	674.0	2.00	3.0	3.00	42.00	1.00	1.5	2.00	7.00
Aug	620.0	2.00	3.2	4.00	28.00	1.00	1.6	1.00	8.00
Sep	697.9	2.03	2.9	4.69	40.74	0.45	0.6	1.54	8.85
Oct	712.5	3.21	4.5	4.19	68.94	0.52	0.7	1.42	11.08
Nov	658.8	3.68	5.6	3.54	82.62	1.22	1.9	1.79	27.86
Dec	712.9	4.12	5.8	2.62	92.53	1.12	1.6	2.54	24.85

	Toxicity (% by volume)							
	96 Hr LC50				48 Hr LC50			
	East Sewer		Effluent Treatment		East Sewer		Effluent Treatment	
Month	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail
Jan	1	0	1	0	4	0	4	0
Feb	1	0	1	0	5	0	5	0
Mar	1	0	1	0	4	0	4	0
Apr	1	0	1	0	4	0	4	0
May	1	0	1	0	5	0	5	0
Jun	1	0	1	0	4	0	4	0
Jul	1	0	1	0	4	0	4	0
Aug	1	0	1	0	5	0	5	0
Sep	1	0	1	0	4	0	4	0
Oct	1	0	1	0	5	0	5	0
Nov	1	0	1	0	4	0	4	0
Dec	1	0	1	0	3	1	4	0

Table 14: Grand Falls Mill 2016 Effluent Discharge Criteria Summary

	Samples	TPH, Maximum	TPH, Exceedence (>15 mg/L)	pH, Maximum (Units)	pH, Minimum (Units)	pH, Exceedence (<5.5, >9.0)
January	1	0.19	0	7.90	7.90	0
February	1	2.0	0	7.63	7.63	0
March	1	0.67	0	7.70	7.70	0
April	1	0.31	0	7.51	7.51	0
May	1	0.72	0	7.39	7.39	0
June	0					
July	1	0.44	0	7.77	7.77	0
August	1	0.37	0	7.81	7.81	0
September	1	<0.10	0	8.54	8.54	0
October	1	0.23	0	7.73	7.73	0
November	1	0.44	0	7.28	7.28	0
December	1	<0.10	0	7.87	7.87	0
Total	**11**	**2.0**	**0**	**8.54**	**7.28**	**0**

5) Thermal Generation

a) Newfoundland and Labrador Hydro Thermal Generating Station

2016 COA
Approval #: AA16-105640
Issue Date: October 31, 2016
Expiration: August 31, 2021

Previous COA
Approval #: AA11-085563 (HTGS)
Issue Date: August 31, 2011
Expiration: August 31, 2016

Approval #: AA14-125602 (Combustion Turbine)
Issue Date: December 24, 2014
Expiration: December 24, 2016

The Newfoundland and Labrador Hydro Thermal Generating Station located in Holyrood has three discharge points, the continuous basin outfall, the periodic basin outfall and the combustion turbine oil/water separator. The effluent monitoring program consists of five parameters, and the continuous basin and the periodic basin require ALT.

Continuous Basin: 56 samples were collected in 2016. There was one reported TDS exceedance in August and two reported TSS exceedances in August. There were 13 rainbow trout ALTs with two failures performed at this location.

Periodic Basin: 68 samples were collected in 2016. There was one reported nickel exceedance in March. There were 34 rainbow trout ALTs with one reported failure performed at this location.

Combustion Turbine: 53 samples were collected in 2016. There was one reported BOD exceedance in September.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 15: Newfoundland and Labrador Hydro Thermal Generating Station 2016 Effluent Discharge Criteria Summary.

Table 15: Newfoundland and Labrador Hydro Thermal Generating Station 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

CONTINUOUS BASIN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	5	5	5	4	4	6	5	5	5	4	56
pH, Maximum (units)	7.50	6.70	7.10	6.60	7.10	7.30	7.00	7.30	7.20	7.90	7.80	7.10	7.90
pH, Minimum (units)	6.80	5.70	6.40	6.40	6.80	6.70	6.83	6.70	6.90	6.20	6.70	6.73	5.70
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum			<0.001	<0.001			<0.001	<0.001	<0.001	<0.001			<0.001
Exceedance (>0.5)			0	0			0	0	0	0			0
Ba, Maximum			<0.005	0.006			0.013	0.022	0.010	0.017			0.022
Exceedance (>0.5)			0	0			0	0	0	0			0
B, Maximum			<0.05	<0.05			<0.05	1.10	<0.05	<0.05			1.10
Exceedance (>5.0)			0	0			0	0	0	0			0
Cd, Maximum (ug/L)			0.02	0.02			0.10	0.05	0.10	0.21			0.21
Exceedance (>0.05)			0	0			0	0	0	0			0
Cr, Maximum			<0.001	<0.001			<0.001	0.001	<0.001	<0.001			0.001
Exceedance (>1.0)			0	0			0	0	0	0			0
Cu, Maximum			<0.002	<0.002			<0.002	0.003	<0.002	0.008			0.008
Exceedance (>0.3)			0	0			0	0	0	0			0
Fe, Maximum	<0.05	<0.05	<0.05	0.08	<0.05	0.40	<0.05	2.40	0.12	2.70	0.05	0.05	2.70
Exceedance (>10)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum			<0.0005	<0.0005			<0.0005	0.0006	<0.0005	<0.0005			0.0006
Exceedance (>0.2)			0	0			0	0	0	0			0
Hg, Maximum (ug/L)			<0.013	<0.013			<0.013	0.030	<0.013	<0.013			0.030
Exceedance (>0.005)			0	0			0	0	0	0			0
Ni, Maximum	<0.002	0.003	0.003	0.003	0.010	0.006	0.004	0.008	0.025	0.067	0.005	0.003	0.067
Exceedence >(0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum			<0.005	<0.005			0.009	<0.005	0.025	0.069			0.069
Exceedance (>0.5)			0	0			0	0	0	0			0
Se, Maximum			<0.001	<0.001			<0.001	<0.001	<0.001	<0.001			<0.001
Exceedance (>0.5)			0	0			0	0	0	0			0
Ag, Maximum			<0.0001	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001			<0.0001
Exceedance (>0.05)			0	0			0	0	0	0			0
TDS, Maximum							190	8600	140	140			8600
Exceedance (>1000)							0	1	0	0			1
TSS, Maximum	<2	4	<2	3	<2	<2	3	261	2	25	5	8	261
Exceedance (>30)	0	0	0	0	0	0	0	2	0	0	0	0	2
Ammonia, Maximum							0.16	0.30	0.87	0.14			0.87
Exceedence (>2.0)							0	0	0	0			0
Sulfide, Maximum							<0.020	<0.020		<0.020			<0.020
Exceedance (>0.5)							0	0		0			0
Total Oil & Grease, Maximum	1.40	<0.50	<0.50	0.90	2.20	<0.50	<5.00	<0.50	<0.50	0.90	<0.50	0.60	<5.00
Exceedance (>15)	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenol							0.002	0.011	<0.0010	0.059			0.059
Exceedance (>0.1)							0	0	0	0			0
V Maximum	0.018	0.016	0.025	0.041	0.038	0.034	0.008	0.004	0.023	0.021	0.014	0.039	0.041
V Exceedance (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (RT)	1	1	0	1	1	1	1	1	1	0	2	1	11
ALT, Fail (RT)	0	0	0	0	0	0	0	0	0	2	0	0	2

Table 15 Continued: Newfoundland and Labrador Hydro Thermal Generating Station 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Periodic Basin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	3	7	7	5	5	4	6	7	6	5	7	6	68
pH, Maximum (units)	8.50	8.40	8.70	8.60	8.20	8.30	8.30	8.20	8.60	8.30	8.80	8.50	8.80
pH, Minimum (units)	7.30	7.40	7.60	7.70	7.10	7.20	7.60	7.40	7.40	7.40	8.30	7.70	7.10
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	1.80	1.40	0.62	0.86	2.50	3.10	1.80	2.30	2.10	4.30	0.82	3.10	4.30
Exceedance (>10)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	0.19	0.15	0.77	0.12	0.10	0.12	0.10	0.09	0.11	0.15	0.06	0.11	0.77
Exceedance (>0.5)	0	0	1	0	0	0	0	0	0	0	0	0	1
TSS, Maximum	8	7	3	6	17	19	27	14	29	20	25	30	30
Exceedance (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
V Maximum	0.120	0.085	0.039	0.078	0.150	0.240	0.160	0.170	0.140	0.230	0.210	0.230	0.240
V Exceedance (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
ALT, Pass (RT)	2	5	4	3	1	3	2	1	2	3	5	2	33
ALT, Fail (RT)	0	0	0	0	1	0	0	0	0	0	0	0	1

Table 15 Continued: Newfoundland and Labrador Hydro Thermal Generating Station 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Combustion Turbine	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	5	4	5	4	5	5	4	4	5	4	53
pH, Maximum (units)	7.34	6.68	7.50	7.40	7.23	7.70	8.10	7.13	7.24	7.28	7.60	7.00	8.10
pH, Minimum (units)	6.30	6.26	6.50	6.70	6.60	6.70	6.60	6.49	6.64	6.80	6.80	6.80	6.26
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Exceedance (>0.5)		0	0	0	0	0	0	0	0	0	0	0	0
Ba, Maximum		0.013	0.018	0.016	0.041	0.040	0.062	0.016	0.002	0.008	0.041	0.006	0.062
Exceedance (>0.5)		0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	0.10
Exceedance (>5.0)		0	0	0	0	0	0	0	0	0	0	0	0
Cd, Maximum (ug/L)		0.034	0.017	0.020	0.020	0.019	0.036	0.051	<0.01	0.024	0.016	0.033	0.051
Exceedance (>0.05)		0	0	0	0	0	0	0	0	0	0	0	0
Cr, Maximum		<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	0.002
Exceedance (>1.0)		0	0	0	0	0	0	0	0	0	0	0	0
Cu, Maximum		<0.002	0.003	<0.002	0.003	<0.002	0.007	0.007	0.009	0.002	0.004	0.007	0.009
Exceedance (>0.3)		0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	1.80	0.42	0.13	0.24	1.20	0.08	2.10	1.00	0.24	0.59	0.24	0.78	2.10
Exceedance (>10)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	0.0011	<0.0005	0.0014	0.0007	0.0008	0.0028
Exceedance (>0.2)		0	0	0	0	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)		<0.013	<0.013	0.017	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.018	0.018
Exceedance (>0.005)		0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	0.0021	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.0023	<0.0020	<0.0020	0.0058	<0.0020	0.0023
Exceedance (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum		0.018	0.015	0.032	0.015	0.017	0.030	0.120	0.023	0.047	0.014	0.046	0.047
Exceedance (>0.5)		0	0	0	0	0	0	0	0	0	0	0	0
Se, Maximum		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Exceedance (>0.5)		0	0	0	0	0	0	0	0	0	0	0	0
Ag, Maximum		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Exceedance (>0.05)		0	0	0	0	0	0	0	0	0	0	0	0
TDS, Maximum	300	350	280	140	220	120	130	110	290	430	180	720	720
Exceedance (>1000)	0	0	0	0	0	0	0	0	0	0	0	0	0
TSS, Maximum	<5	4	3	4	5	1	17	7	17	3	4	5	17
Exceedance (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
BOD, Maximum	<5.0	<5.1	<5.4	<5.0	<5.0	<5.0	<5.0	<5.0	39.0	<5.0	<5.0	9.6	39.0
Exceedance (>20)	0	0	0	0	0	0	0	0	1	0	0	0	1
Ammonia, Maximum		<0.050	0.130	<0.050	0.065	0.120	0.056	0.084	0.056	<0.050	<0.050	0.063	0.130
Exceedance (>2.0)		0	0	0	0	0	0	0	0	0	0	0	0
Sulfide, Maximum									<0.020				<0.020
Exceedance (>0.5)									0				0
Total Oil & Grease, Maximum	1.3	1.0	<5.0	0.8	1.0	1.5	1.1	0.5	<0.5	0.6	<0.5	2.0	<5.0
Exceedance (>15)	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenol		0.005	<0.010	<0.001	0.010	<0.001	0.001	0.002	<0.001	<0.010	<0.050	<0.010	0.010
Exceedance (>0.1)		0	0	0	0	0	0	0	0	0	0	0	0
V Maximum	0.006	<0.002	<0.002	<0.002	0.003	<0.002	0.009	0.003	<0.002	<0.002	0.002	<0.0020	0.009
V Exceedance (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0

6) Other

a) Atlantic Barite Ltd

Atlantic Barite Ltd is no longer in operation and therefore not under a COA. In 2016, Atlantic Barite Ltd began some remediation work on the ABL Tailings Pond in Buchans, NL. Tailings were dredged and deposited inside the adjacent TP#1. During dredging, five water samples were collected at each of the outflow of the ABL pond (Spillway) and the outflow of TP#1. At TP#1, both lead and zinc were in exceedance in all five samples. At the Spillway, zinc was in exceedance at all five samples, lead was in exceedance in four samples and TSS was in exceedance in one sample.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 16: Atlantic Barite Ltd 2016 Discharge Summary.

b) Atlantic Minerals Ltd (Lower Cove)

2016 COA — Approval #: AA14-035590
Issue Date: March 31, 2014
Expiration: March 31, 2019

Atlantic Minerals Ltd collected samples at two locations in 2016, DL Quarry 2 and Highcal-Trench.

DL Quarry 2: Three samples were collected, one in May, one in October and one in November. There were no exceedances reported.

Highcal-Trench: Eight samples were collected, one in each month from May to December. There were no exceedances reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 17: Atlantic Minerals Ltd (Lower Cove) 2016 Effluent Discharge Criteria Summary.

c) Atlantic Minerals Ltd (North Star Cement)

2016 Monitoring — As per letter from PPD
Issue Date: March 10, 2005
Expiration: No expiration date established

Atlantic Minerals Ltd collected two samples at Series 1 and the Shale Quarry in 2016 for effluent monitoring. pH was monitored at Series 1 and there were no exceedances. Six parameters were analyzed at the Shale Quarry location and there was one TDS exceedance reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 18: Atlantic Minerals Ltd (North Star Cement) 2016 Effluent Discharge Criteria Summary.

d) Barite Mud Services Inc

2016 COA
Approval #: AA14-115601
Issue Date: November 19, 2014
Expiration: November 10, 2019

Barite Mud Services Inc operates a seasonal barite production plant that was in operation for two months in 2016. Eight effluent samples were collected from the discharge at the outflow of Tailings Pond 1. Zinc was reported above the 0.5 mg/L limit in four of the samples. However, due to the existing zinc levels in Tailings Pond 1 prior to the commencement of operation, this is not considered an exceedance attributable to Barite Mud Services Inc. Lead was in exceedance in five of the samples collected and TSS exceeded in one sample.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 19: Barite Mud Services Inc 2016 Effluent Discharge Criteria Summary.

e) Buchans

2016 Monitoring
As per internal memo, PPD
Issue Date: September 8, 2010
Updated: January 15, 2014
Expiration: No expiration date established

Several locations are sampled around the town of Buchans and four of these locations discharge into the environment: Tailings Pond 1 (TP1), Tailings Pond 2 (TP2), the Mucky Ditch and the outflow of the Polishing Pond.

TP1: Two samples collected at TP1 in 2016. There were two lead exceedances, two zinc exceedances and one TSS exceedance reported.

TP2: Two samples were collected at TP2 in 2016. There was one zinc exceedance reported.

Mucky Ditch: Two samples were collected at the Mucky Ditch in 2016. There were two copper exceedances, two lead exceedances, two zinc exceedances and two cadmium exceedances reported.

Polishing Pond Outflow: Two samples were collected at the Polishing Pond in 2016. There were two zinc exceedances reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 20: Buchans 2016 Effluent Discharge Criteria Summary.

f) Canada Fluorspar (NL) Inc

2016 COA
Approval #: AA16-045637
Issue Date: April 8, 2016
Expiration: April 8, 2020

Construction began at Canada Fluorspar (NL) Inc in 2016, and of the three planned discharge locations, only one (WQ-STA-24) was operational in 2016. Several parameters are required as part of the effluent discharge criteria and 19 of them have associated limits.

In 2016, 33 samples were collected at WQ-STA-24 with one pH being reported outside of the environmental discharge range. There were two exceedances in TSS and one exceedance in iron reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 21: Canada Fluorspar (NL) Inc 2016 Effluent Discharge Criteria Summary.

g) Capital Ready Mix Ltd – Black Mountain Quarry

2016 Monitoring Directed by Environmental Protection Plan
Submitted: June 2009
Expiration: No expiration date established

Monitoring is conducted at three locations on the Capital Ready Mix Ltd – Black Mountain Quarry site. Two of these locations are waterbodies that are monitored for general water chemistry to ensure that the operation is not having an effect on the receiving environment. Additionally, the operation has a series of settling ponds on site to treat generated process effluent. The effluent is recirculated through the process and during 2016 there were no discharges to the environment. As such, data was collected for information only in the settling pond during 2016 but it is not presented in this report as it was not released to the environment.

Environmental Effects Monitoring
There is no EEM program at this site.

h) Carino Processing Ltd

2016 COA Approval #: AA13-125586
Issue Date: December 18, 2013
Expiration: December 18, 2018
Compliance Agreement: November 18, 2014 – June 30, 2017

Carino Processing Ltd has one location that discharges effluent directly to the ocean. The effluent monitoring program contains numerous water quality parameters; several of which have associated compliance limits. 19 samples were collected between April and December 2016. The exceedances included: six iron, six TDS, four TSS, 18 BOD, 19 ammonia, six oil and grease, and 16 phenol.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 22: Carino Processing Ltd 2016 Effluent Discharge Criteria Summary.

i) Central Regional Services Board (CRSB)

2016 COA Approval #: WMS-16-04-004
Issue Date: April 15, 2016
Expiration: April 30, 2017
Previous COA Approval #: WMS-15-06-003
Issue Date: June 15, 2015
Expiration: June 30, 2016

The Central Regional Services Board has one discharge location at SW-9. In 2016, there were a total of 13 samples collected. There were two exceedances in zinc, three

exceedances in TSS, three exceedances in BOD, three exceedances in ammonia and one exceedance in nitrate.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 23: Central Regional Services Board 2016 Effluent Discharge Criteria Summary.

j) Country Ribbon Inc

2016 COA — Approval #: WMS-16-03-002
Issue Date: April 29, 2016
Expiration: April 30, 2017

Previous COA — Approval #: WMS-15-02-001
Issue Date: February 6, 2015
Expiration: February 29, 2016

Country Ribbon Inc has one discharge location. In 2016, 52 samples were collected and there were eight TSS exceedances, 46 BOD exceedances, and 32 oil and grease exceedances reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 24: Country Ribbon Inc 2016 Effluent Discharge Criteria Summary.

k) DJ Composites

2016 Monitoring — As per letter from PPD
Issue Date: March 8, 2012
Expiration: No expiration date established

The monitoring at DJ Composites is directed by a letter from PPD dated March 8, 2012. DJ Composites occasionally discharges effluent to the municipal sewer in Gander, NL. In 2016, there were eight discharges to the environment and there were no exceedances reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 25: DJ Composites 2016 Effluent Discharge Criteria Summary.

l) Envirosystems Inc

2016 COA — Approval #: WMS-07-07-017
Issue Date: March 26, 2015
Expiration: March 31, 2018

Envirosystems Inc has one effluent discharge location. In 2016, there 39 samples collected with no reported exceedances.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 26: Envirosystems Inc 2016 Effluent Discharge Criteria Summary.

m) Gullbridge Mine Site

The Gullbridge mine site is an abandoned mine site that is being managed by the Government of Newfoundland and Labrador. The Department of Natural Resources has undertaken work at this site to maintain the integrity of the tailings impoundment area of the mine site. There were three monitoring events conducted in 2016 with two copper exceedances and two pH samples reported outside the environmental limits.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 27: Gullbridge Mine Site 2016 Effluent Discharge Criteria Summary.

n) Hebron Bull Arm Site

2016 Monitoring — Directed by Environmental Protection Plan
Submitted: February 2011
Expiration: No expiration date established

Effluent from the Hebron Bull Arm Site is monitored as per their Environmental Protection Plan. There was no discharge from this site in 2016.

Environmental Effluent Monitoring
There is no EEM program at this site.

o) Hope Brook Mine Site

2016 Monitoring — As per letter from PPD
Issue Date: January 30, 2008
Expiration: No expiration date established

The Hope Brook mine site has been remediated by the Government of Newfoundland and Labrador. The Department of Natural Resources monitors effluent from seven different areas of the mine site to ensure remediation efforts are stable. There were no exceedances reported at the site in 2016. There were five rainbow trout ALTs performed at the site with no failures.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 28: Hope Brook Mine Site 2016 Effluent Discharge Criteria Summary.

p) Husky Oil Operations Ltd – Atlantic Region

2016 COA — Approval #: AA13-115582A
Issue Date: October 3, 2014
Expiration: November 30, 2019
Compliance Agreement: August 15, 2016 – August 31, 2019

Husky Oil Operations Ltd – Atlantic Region has two effluent discharge locations, the Settling Pond #1 Weir and the Settling Pond #2 Weir at their Argentia Graving Dock site. Husky is pumping down the graving dock area with perimeter wells. These wells are drawing salt water from the marine environment. As such, the inflow TDS is subtracted from the final discharge TDS and the the resulting TDS is considered to be attributed to the Husky activity.

Settling Pond #1 Weir: 49 samples were collected from this location with one zinc exceedance and 12 ammonia exceedances reported.

Settling Pond #2 Weir: 48 samples were collected from this location with 10 TDS exceedances and 12 ammonia exceedances reported.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 29: Husky Oil Operations Ltd – Atlantic Region 2016 Effluent Discharge Criteria Summary.

q) Labatt Breweries Newfoundland

2016 COA
Approval #: AA15-075607
Issue Date: July 27, 2015
Expiration: July 27, 2020
Compliance Agreement: July 16, 2015 – May 26, 2018

Labatt Breweries Newfoundland has one discharge point that deposits effluent into the City of St. John's municipal sewer. 44 samples were collected and analyzed in 2016. There were eight pH samples reported outside of the acceptable range, 32 BOD exceedances and 26 TSS exceedances.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 30: Labatt Breweries Newfoundland 2016 Effluent Discharge Criteria Summary.

r) Molson Coors Canada, St. John's

2016 COA
Approval #: AA11-125568
Issue Date: December 14, 2011
Expiration: December 28, 2016

Molson Coors Canada, St. John's has one discharge point that deposits effluent into the City of St. John's municipal sewer. 44 samples were collected and analyzed in 2016. There were 19 pH samples reported outside of the acceptable range, 23 BOD exceedances and one TSS exceedance.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 31: Molson Coors Canada, St. John's 2016 Effluent Discharge Criteria Summary.

s) Newfoundland Transshipment Ltd

2016 COA
Approval #: AA13-035577
Issue Date: March 13, 2013
Expiration: March 12, 2018

Newfoundland Transshipment Ltd monitors water quality at nine locations. The effluent monitoring program for discharge criteria compliance consists of three parameters. Additionally, there is an ALT analysis required at the Containment Pond and a TDS analysis required at the Oily Water Separator. There were no exceedances of the allowable discharge

criteria. There were two rainbow trout ALTs performed at the Containment Pond location with no reported failures.

Environmental Effects Monitoring
There were no EEM submissions for 2016.

See Table 32: Newfoundland Transshipment Ltd 2016 Effluent Discharge Criteria Summary.

t) Pardy's Dewatering Technologies Ltd

2016 COA
Approval #: WMS-15-10-013
Issue Date: November 1, 2015
Expiration: November 1, 2020

Pardy's Dewatering Technologies Ltd operates a waste management facility on Incinerator Road and has one effluent discharge location. In 2016, 37 samples were collected and analyzed. Reported exceedances included: five selenium, six TSS, eight BOD, three total coliform, four fecal coliform, 32 orthophosphate, 37 TDS, 22 nitrate, one TPH, seven ammonia and one pH that was outside the acceptable range. There was one rainbow trout ALT performed with no failure.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 33: Pardy's Dewatering Technologies Ltd 2016 Effluent Discharge Criteria Summary.

u) Robin Hood Bay Regional Waste Management Facility

2016 COA
Approval #: WMS-2014-02-002
Issue Date: February 28, 2014
Expiration: February 28, 2019

The Robin Hood Bay Regional Waste Management Facility has one discharge location at SW4. In 2016, there were no reported discharges from this site.

Environmental Effects Monitoring
There is no EEM program at this site.

v) Vale Newfoundland and Labrador Ltd (Argentia Hydrometallurgical Demonstration Plant)

Vale Newfoundland and Labrador Ltd Argentia Hydrometallurgical Demonstration Plant has one discharge point at the Polishing Pond. Decommissioning and remediation activities began at this site in 2015. In 2016, there was one discharge from the Polishing Pond in February with a reported exceedance in TDS. There was one rainbow trout ALT performed at this location with no failure.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 34: Vale Newfoundland and Labrador Ltd (Argentia) 2016 Effluent Discharge Criteria Summary.

w) Whalesback Mine Site

The Whalesback mine site is an abandoned mine site that is being managed by the Government of Newfoundland and Labrador. The Department of Natural Resources has undertaken work at this site to maintain the integrity of the tailings impoundment area of the mine site. There is one discharge location from this site and one sample was collected in 2016 with no exceedances.

Environmental Effects Monitoring
There is no EEM program at this site.

See Table 35: Whalesback Mine Site 2016 Effluent Discharge Criteria Summary.

Table 16: Atlantic Barite Ltd 2016 Discharge Summary (mg/L, unless noted)

TP1	May	Jun	Total
Samples	1	4	5
pH, Maximum	7.62	7.72	7.72
pH, Minimum		7.55	7.55
pH, Violations (<5.5, >9.0)	0	0	0
TSS, Maximum	<5	12	12
TSS, Violations (>30)	0	0	0
TDS, Maximum	66	78	78
TDS, Violations (>1000)	0	0	0
Fe, Maximum	0.494	0.609	0.609
Fe, Violations (> 10)	0	0	0
Ammonia, Maximum	0.06	0.07	0.07
Ammonia, Violations (>2)	0	0	0
Nitrate, Maximum	<0.05	<0.05	<0.05
Nitrate, Violations (>10)	0	0	0
As, Maximum	<0.002	0.007	0.007
As, Violations (>0.5)	0	0	0
Cd, Maximum	0.00361	0.00588	0.00588
Cd, Violations (>0.05)	0	0	0
Cu, Maximum	0.019	0.032	0.032
Cu, Violations (>0.3)	0	0	0
Pb, Maximum	0.223	0.621	0.621
Pb, Violations (>0.2)	1	4	5
Ni, Maximum	<0.002	0.003	0.003
Ni, Violations (>0.5)	0	0	0
Zn, Maximum	1.78	2.35	2.35
Zn, Violations (>0.5)	1	4	5

Spillway Discharge	May	Jun	Total
Samples	1	4	5
pH, Maximum	8.08	8.00	8.08
pH, Minimum		7.68	7.68
pH, Violations (<5.5, >9.0)	0	0	0
TSS, Maximum	<5	36	36
TSS, Violations (>30)	0	1	1
TDS, Maximum	118	109	118
TDS, Violations (>1000)	0	0	0
Fe, Maximum	0.091	1.29	1.29
Fe, Violations (> 10)	0	0	0
Ammonia, Maximum	0.06	0.07	0.07
Ammonia, Violations (>2)	0	0	0
Nitrate, Maximum	<0.05	<0.05	<0.05
Nitrate, Violations (>10)	0	0	0
As, Maximum	<0.002	0.013	0.013
As, Violations (>0.5)	0	0	0
Cd, Maximum	0.0164	0.00606	0.0164
Cd, Violations (>0.05)	0	0	0
Cu, Maximum	0.005	0.11	0.11
Cu, Violations (>0.3)	0	0	0
Pb, Maximum	0.177	0.969	0.969
Pb, Violations (>0.2)	0	4	4
Ni, Maximum	0.002	0.003	0.003
Ni, Violations (>0.5)	0	0	0
Zn, Maximum	4.29	2.74	4.29
Zn, Violations (>0.5)	1	4	5

Table 17: Atlantic Minerals Ltd (Lower Cove) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

DL Quarry 2	May	Oct	Nov	Total
Samples	1	1	1	3
pH, Maximum	7.73	8.17	8.17	8.17
pH, Minimum	7.73	8.17	8.17	7.73
pH, Exceedance (<5.5, >9.0	0	0	0	0
TSS, Maximum	<2.0	3.2	<1.0	3.2
TSS, Exceedance (>30)	0	0	0	0

Highcal-Trench	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	1	1	1	1	1	1	1	8
pH, Maximum	8.17	8.14	8.07	8.26	8.06	8.10	8.05	8.03	8.26
pH, Minimum	8.17	8.14	8.07	8.26	8.06	8.10	8.05	8.03	8.03
pH, Exceedance (<5.5, >9.0	0	0	0	0	0	0	0	0	0
As, Maximum		<0.001	<0.001	<0.001	<0.001				<0.001
As, Exceedance (>1)		0	0	0	0				0
Cu, Maximum		0.0031	<0.002	<0.002	<0.002				0.0031
Cu, Exceedance (> 0.6)		0	0	0	0				0
Pb, Maximum		0.0014	0.0016	0.0022	0.0024				0.0024
Pb, Exceedance (>0.4)		0	0	0	0				0
Ni, Maximum		0.0039	0.0031	0.0038	0.0027				0.0039
Ni, Exceedance (>1)		0	0	0	0				0
Zn, Maximum		0.0098	0.0091	0.01	0.013				0.013
Zn, Exceedance (>1)		0	0	0	0				0
TSS, Maximum	3.6	1.8	<1.0	14	4.2	4.0	2.4	16	16
TSS, Exceedance (>30)	0	0	0	0	0	0	0		0
Ammonia, Maximum		0.98	0.37	0.066	1.2				1.2
Fe, Maximum		0.12	0.075	0.36	0.17				0.36
Nitrate, Maximum		9.2	7.5	7.9	7				9.2
TDS, Maximum		290	230	290	220				290

Table 18: Atlantic Minerals Ltd (North Star Cement) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Series 1	May	Jun	Total
Samples	1	1	2
pH, Maximum	8.27	8.64	8.64
pH, Exceedance (<5.5, >9.0)	0	0	0

Shale Quarry	May	Jun	Total
Samples	1	1	2
pH, Maximum	7.92	7.95	7.95
pH, Exceedance (<5.5, >9.0)	0	0	0
TSS, Maximum	<2	11	11
TSS, Exceedance (>30)	0	0	0
TDS, Maximum	0	1400	1400
TDS, Exceedance (>1000)	0	1	1
Ca, Maximum	100	160	160
Mg, Maximum	15	24	24
Hardness, Maximum	320	490	490

Table 19: Barite Mud Services Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

TP1	Aug	Sept	Total
Samples	4	4	8
pH, Maximum (units)	7.87	7.87	7.87
pH, Minimum (units)	7.57	7.70	7.57
pH, Exceedance (<5.5, >9.0)	0	0	0
As, Maximum	0.007	0.01	0.01
Exceedence (>0.5)	0	0	0
Ba, Maximum	2.45		2.45
Exceedence (>5.0)	0		0
B, Maximum	0.005		0.005
Exceedence (>5.0)	0		0
Cd, Maximum (ug/L)	2.48		2.48
Exceedence (>0.05)	0		0
Cr, Maximum	0.003		0.003
Exceedence (>1.0)	0		0
Cu, Maximum	0.034	0.06	0.06
Exceedence (>0.3)	0	0	0
Fe, Maximum	0.958		0.958
Exceedence (>10)	0		0
Pb, Maximum	0.312	0.401	0.401
Exceedence (>0.2)	1	4	5
Hg, Maximum (ug/L)	0.027		0.027
Exceedence (>0.005)	0		0
Ni, Maximum	0.002	0.003	0.003
Exceedence (>0.5)	0	0	0
Zn, Maximum	0.982	1.3	1.3
Exceedence (>0.5)	1	3	4
Se, Maximum	<0.001		<0.001
Exceedence (>0.01)	0		0
Ag, Maximum	0.0007		0.0007
Exceedence (>0.05)	0		0
TDS, Maximum	119		119
Exceedence (>1000)	0		0
TSS, Maximum	18	44	44
Exceedence (>30)	0	1	1
Ammonia, Maximum	0.09		0.09
Exceedence (>2.0)	0		0
Phenol	<0.001		<0.001
Exceedence (>0.1)	0		0

Table 20: Buchans 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

TP1 (Site 1)	Jun	Oct	Total
Samples	1	1	2
pH, Maximum (Units)	7.47	7.88	7.88
pH, Minimum (Units)	7.47	7.88	7.47
pH, Exceedence (<5.5, >9.0)	0	0	0
As, Maximum	0.0026	0.013	0.013
As, Exceedence (>0.5)	0	0	0
Cu, Maximum	0.017	0.097	0.097
Cu, Exceedence (>0.3)	0	0	0
Pb, Maximum	0.33	0.62	0.62
Pb, Exceedence (>0.2)	1	1	2
Ni, Maximum	<0.002	0.003	0.003
Ni, Exceedence (>0.5)	0	0	0
Zn, Maximum	1.4	2	2
Zn, Exceedence (>0.5)	1	1	2
TSS, Maximum	12	63	63
TSS, Exceedence (>30)	0	1	1
Ammonia, Maximum	<0.050	<0.050	<0.050
Ammonia, Exceedence (>2)	0	0	0
Cd, Maximum	0.005	0.0068	0.0068
Cd, Exceedence (0.05)	0	0	0
Fe, Maximum	0.45	2.7	2.7
Fe, Exceedence (>10)	0	0	0
Hg, Maximum (ug/L)	0.023	0.068	0.068
Hg, Exceedence (5.0 ug/L)	0	0	0
Nitrate, Maximum	<0.05	<0.050	<0.050
Nitrate, Exceedence (>10)	0	0	0

TP2 (Site 2)	Jun	Oct	Total
Samples	1	1	2
pH, Maximum (Units)	7.37	7.35	7.37
pH, Minimum (Units)	7.37	7.35	7.35
pH, Exceedence (<5.5, >9.0)	0	0	0
As, Maximum	<0.001	<0.001	<0.001
As, Exceedence (>0.5)	0	0	0
Cu, Maximum	0.0061	0.0082	0.0082
Cu, Exceedence (>0.3)	0	0	0
Pb, Maximum	0.03	0.042	0.042
Pb, Exceedence (>0.2)	0	0	0
Ni, Maximum	<0.002	<0.002	<0.002
Ni, Exceedence (>0.5)	0	0	0
Zn, Maximum	0.52	0.44	0.52
Zn, Exceedence (>0.5)	1	0	1
TSS, Maximum	<1.0	<1.0	<1.0
TSS, Exceedence (>30)	0	0	0
Ammonia, Maximum	<0.050	<0.050	<0.050
Ammonia, Exceedence (>2)	0	0	0
Cd, Maximum	0.002	0.0019	0.002
Cd, Exceedence (0.05)	0	0	0
Fe, Maximum	0.097	0.096	0.097
Fe, Exceedence (>10)	0	0	0
Hg, Maximum ug/L	<0.013	<0.013	<0.013
Hg, Exceedence (5.0 ug/L)	0	0	0
Nitrate, Maximum	<0.050	<0.050	<0.050
Nitrate, Exceedence (>10)	0	0	0

Table 20 Continued: Buchans 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Mucky Ditch (Site 12)	Jun	Oct	Total
Samples	1	1	2
pH, Maximum (Units)	7.15	7.33	7.33
pH, Minimum (Units)	7.15	7.33	7.15
pH, Exceedence (<5.5, >9.0)	0	0	0
As, Maximum	<0.001	0.0021	0.0021
As, Exceedence (>0.5)	0	0	0
Cu, Maximum	0.36	0.42	0.42
Cu, Exceedence (>0.3)	1	1	2
Pb, Maximum	0.38	0.43	0.43
Pb, Exceedence (>0.2)	1	1	2
Ni, Maximum	0.0057	0.0077	0.0077
Ni, Exceedence (>0.5)	0	0	0
Zn, Maximum	19	22	22
Zn, Exceedence (>0.5)	1	1	2
TSS, Maximum	<1.0	11	11
TSS, Exceedence (>30)	0	0	0
Ammonia, Maximum	<0.05	<0.050	<0.050
Ammonia, Exceedence (>2)	0	0	0
Cd, Maximum	0.072	0.082	0.082
Cd, Exceedence (0.05)	1	1	2
Fe, Maximum	<0.05	0.46	0.46
Fe, Exceedence (>10)	0	0	0
Hg, Maximum ug/L	<0.02	<0.013	<0.02
Hg, Exceedence (5.0 ug/L)	0	0	0
Nitrate, Maximum	0.36	0.27	0.36
Nitrate, Exceedence (>10)	0	0	0

Polishing Pond (Site 17)	Jun	Oct	Total
Samples	1	1	2
pH, Maximum (Units)	7.70	7.51	7.70
pH, Minimum (Units)	7.70	7.51	7.51
pH, Exceedence (<5.5, >9.0)	0	0	0
As, Maximum	<0.001	<0.001	<0.001
As, Exceedence (>0.5)	0	0	0
Cu, Maximum	<0.002	<0.002	<0.002
Cu, Exceedence (>0.3)	0	0	0
Pb, Maximum	<0.0005	<0.0005	<0.0005
Pb, Exceedence (>0.2)	0	0	0
Ni, Maximum	<0.002	<0.002	<0.002
Ni, Exceedence (>0.5)	0	0	0
Zn, Maximum	0.95	0.67	0.95
Zn, Exceedence (>0.5)	1	1	2
TSS, Maximum	<1.0	4.4	4.4
TSS, Exceedence (>30)	0	0	0
Ammonia, Maximum	<0.05	0.063	0.063
Ammonia, Exceedence (>2)	0	0	0
Cd, Maximum	0.0011	0.00051	0.0011
Cd, Exceedence (0.05)	0	0	0
Fe, Maximum	0.52	2.3	2.3
Fe, Exceedence (>10)	0	0	0
Hg, Maximum ug/L	<0.013	<0.013	<0.013
Hg, Exceedence (5.0 ug/L)	0	0	0
Nitrate, Maximum	<0.05	0.067	0.067
Nitrate, Exceedence (>10)	0	0	0

Table 21: Canada Fluorspar (NL) Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

WQ-STA-24	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	1	5	4	6	4	4	6	3	33
pH, Maximum (Units)	5.43	7.11	6.95	6.82	6.96	7.49	7.05	6.86	7.49
pH, Minimum (Units)	5.43	5.75	6.90	6.14	6.79	6.79	6.53	6.46	5.43
pH, Maximum (<5.5, >9.0)	1	0	0	0	0	0	0	0	1
As, Maximum	0.003	0.011	0.016	0.007	0.002	0.002	0.003	0.003	0.016
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0
Ba, Maximum	0.018	0.053	0.137	0.033	0.022	0.022	0.027	0.023	0.137
Exceedence (>5.0)	0	0	0	0	0	0	0	0	0
B, Maximium	0.011	0.013	0.035	0.013	0.016	0.012	0.012	0.008	0.035
Exceedence (>5.0)	0	0	0	0	0	0	0	0	0
Cr, Maximum	0.006	0.007	0.018	0.005	0.002	0.002	0.002	0.002	0.018
Exceedence (>1.0)	0	0	0	0	0	0	0	0	0
Cu, Maximum	0.009	0.02	0.053	0.008	0.021	0.006	0.007	0.007	0.053
Exceedence (>0.3)	0	0	0	0	0	0	0	0	0
Pb, Maximum	0.0075	0.0365	0.0556	0.0093	0.0151	0.0144	0.0224	0.0270	0.0556
Exceedence (>0.2)	0	0	0	0	0	0	0	0	0
Ni, Maximum	0.003	0.007	0.018	0.004	<0.002	<0.002	0.002	<0.002	0.018
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0
Zn, Maximum	0.025	0.059	0.164	0.018	0.017	0.016	0.047	0.058	0.164
Maximum (>0.5)	0	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)		<0.026		<0.026			<0.026		<0.026
Exceedence (>0.005)		0		0			0		0
TSS, Maximum	8	72	58	6	7	6	12	26	72
Exceedence (>30)	0	1	1	0	0	0	0	0	2
Ra-226, Maximum (Bq/L)		0.006	<0.01	0.006	0.01	0.01	0.01	0.03	0.01
Exceedence (>0.37 Bq/L)		0	0	0	0	0	0	0	0
Ammonia, Maximum	0.06	0.21	<0.05	0.13	0.09	0.36	0.22	0.15	0.36
Exceedence (>2.0)	0	0	0	0	0	0	0	0	0
Se, Maximum	<0.001	0.002	0.002	0.001	0.002	<0.001	<0.001	<0.001	0.002
Exceedence (>0.01)	0	0	0	0	0	0	0	0	0
Ag, Maximum	<0.00025	<0.00025	0.0001	<0.00025	<0.0001	<0.0001	<0.00025	<0.0001	<0.00025
Exceedence (>0.05)	0	0	0	0	0	0	0	0	0
Cd. Maximum (ug/L)	<0.30	<0.3	0.284	<0.30	0.051	0.085	<0.3	0.206	0.284
Exceedence (>0.05)	0	0	0	0	0	0	0	0	0
Fe, Maximum	4.49	9.87	18.4	2.65	1.11	1.21	1.41	1.58	18.4
Exceedence (>10)	0	0	1	0	0	0	0	0	1
Nitrate, Maximum	<0.05	0.08	0.1	0.21	0.46	1.61	1.86	1.95	1.86
Exceedence (>10)	0	0	0	0	0	0	0	0	0
TDS, Maximum	37	90	118	116	104	210	98	302	210
Exceedence (>1000)	0	0	0	0	0	0	0	0	0
TPH, Maximum		0.2	<0.1	0.7	<0.1	0.2	<0.1	<0.1	0.7
Exceedence (>15)		0	0	0	0	0	0	0	0

Table 22: Carino Processing Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Apr	May	Jun	Jul	Sept	Oct	Nov	Dec	Total
Samples	1	4	4	2	3	2	2	1	19
pH, Maximum (units)	7.51	8.72	8.00	7.77	7.86	7.40	7.10	7.14	8.72
pH, Minimum (units)		6.46	7.39	7.05	7.52	7.03	6.74	7.06	6.74
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0
As, Maximum		0.0019	<0.01	<0.001	0.0019	<0.001		<0.01	<0.01
Exceedence (>0.5)		0	0	0	0	0		0	0
Ba, Maximum		0.005	<0.010	0.006	0.007	0.004		0.013	0.013
Exceedence (>0.5)		0	0	0	0	0		0	0
B, Maximum		0.051	<0.500	<0.050	0.099	<0.050		<0.500	0.099
Exceedence (>5.0)		0	0	0	0	0		0	0
Cd, Maximum (ug/L)		0.042	<0.100	0.013	0.130	0.150		<0.100	0.150
Exceedence (>0.05)		0	0	0	0	0		0	0
Cr, Maximum		0.005	0.015	0.037	0.053	0.003		0.700	0.700
Exceedence (>1.0)		0	0	0	0	0		0	0
Cu, Maximum		0.004	<0.020	<0.002	0.035	0.099		<0.020	0.099
Exceedence (>0.3)		0	0	0	0	0		0	0
Fe, Maximum	1.7	83.0	7.0	18.0	8.5	13.0	14.0	7.7	83.0
Exceedence (>10)	0	2	0	1	0	1	2	0	6
Pb, Maximum		<0.0005	<0.0050	<0.0005	0.0075	0.0036		<0.0050	0.0075
Exceedence (>0.2)		0	0	0	0	0		0	0
Hg, Maximum (ug/L)		0.082	0.022	<0.013	0.013	0.013		0.017	0.082
Exceedence (>0.005)		0	0	0	0	0		0	0
Ni, Maximum		0.049	0.034	0.018	0.040	0.059		0.025	0.059
Exceedence (>0.5)		0	0	0	0	0		0	0
Zn, Maximum		<0.0058	<0.0500	0.0095	0.1400	0.0750		0.1200	0.1400
Exceedence (>0.5)		0	0	0	0	0		0	0
Se, Maximum		<0.0019	<0.0100	<0.0010	0.0027	0.0012		<0.0100	<0.0100
Exceedence (>0.5)		0	0	0	0	0		0	0
Ag, Maximum		<0.0001	<0.0010	<0.0001	<0.0001	<0.0001		<0.0010	<0.0010
Exceedence (>0.05)		0	0	0	0	0		0	0
TDS, Maximum		4400	4600	3600	8800	5300		9900	9900
Exceedence (>1000)		1	1	1	1	1		1	6
TSS, Maximum	14	230	17	22	31	68	22	54	230
Exceedence (>30)	0	1	0	0	1	1	0	1	4
BOD, Maximum	270	1100	480	140	210	830	460	350	1100
Exceedence (>20)	1	4	4	2	2	2	2	1	18
Ammonia, Maximum	3	90	22	13	3	4.3	5.7	3.3	90
Exceedence (>2.0)	1	4	4	2	3	2	2	1	19
Sulfide, Maximum		0.037	0.073	0.280	0.024	<0.020		0.038	0.073
Exceedence (>0.5)		0	0	0	0	0		0	0
Total Oil & Grease, Maximum	7.8	32	10	5.4	7.3	35	27	29	35
Exceedence (>15)	0	2	0	0	0	1	2	1	6
Phenol	4.30	5.70	5.60	0.08	0.64	0.18	0.52	0.27	5.70
Exceedence (>0.1)	1	4	4	0	3	1	2	1	16
Cyanide		0.0062	0.0038	0.0031	0.0053	<0.0010		0.0070	0.0070
Exceedence (>0.025)		0	0	0	0	0		0	0

Table 23: Central Regional Services Board 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

SW-9	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Total
Samples	1	1	1	2	1	1	1	2	1	2	13
pH, Maximum (units)	8.14	8.35	8.29	8.36	8.49	8.36	8.54	8.35	8.25	8.19	8.54
pH, Minimum (units)	8.14	8.35	8.29	8.17	8.49	8.36	8.54	8.34	8.25	7.75	7.75
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0
As, Maximum				0.0057				0.0054		0.0085	0.0085
Exceedence (>0.5)				0				0		0	0
Ba, Maximum				0.12				0.17		0.24	0.24
Exceedence (>0.5)				0				0		0	0
B, Maximum				0.49				1		0.43	1
Exceedence (>5.0)				0				0		0	0
Cd, Maximum (ug/L)				<0.010				0.019		0.02	0.02
Exceedence (>0.05)				0				0		0	0
Cr, Maximum				0.0032				0.0029		0.0029	0.0032
Exceedence (>1.0)				0				0		0	0
Cu, Maximum				<0.002				0.0023		<0.002	0.0023
Exceedence (>0.3)				0				0		0	0
Fe, Maximum	1.3	2.4	2.3	3.3	1.1	2.1	1.6	1.3	0.83	3.9	3.9
Exceedence (>10)	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum				<0.0005				0.0005		<0.0005	0.0005
Exceedence (>0.2)				0				0		0	0
Ni, Maximum				0.018				0.032		0.017	0.032
Exceedence (>0.5)				0				0		0	0
Zn, Maximum				0.0079				2.4		7.3	7.3
Exceedence (>0.5)				0				1		1	2
Se, Maximum				<0.001				<0.001		<0.001	<0.001
Exceedence (>0.5)				0				0		0	0
Ag, Maximum				<0.0001				<0.0001		<0.0001	<0.0001
Exceedence (>0.05)				0				0		0	0
TDS, Maximum				610				900		640	900
Exceedence (>1000)				0				0		0	0
TSS, Maximum	8	24	11	22	22	42	14	7	8	49	49
Exceedence (>30)	0	0	0	0	0	1	0	0	0	2	3
BOD, Maximum	4.3	23	22	9	11	8.9	6.7	11	9.9	160	160
Exceedence (>20)	0	1	1	0	0	0	0	0	0	1	3
Ammonia, Maximum				36				7.3		29	36
Exceedence (>2.0)				1				1		1	3
Nitrate, Maximum	22	2.3	0.35	0.67	1.3	0.53	0.23	2.4	5.2	0.082	22
Exceedence (>10)	1	0	0	0	0	0	0	0	0	0	1
Phosphorus, Maximum	0.13	0.24	0.17	0.21	0.21	0.36	0.14	0.22	0.18	0.35	0.36
Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0

Table 24: Country Ribbon Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Post DAF	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Samples	4	4	5	4	5	4	4	4	5	4	5	4	52
pH, Maximum (units)	6.64	6.35	6.47	6.42	6.36	6.25	6.47	6.27	6.79	6.57	6.59	6.58	6.79
pH, Minimum (units)	6.15	6.16	6.2	6.34	6.15	5.99	6.16	6.11	6.32	6.10	6.04	6.08	5.99
pH, Exceedance (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum	<0.05		<0.05			<0.05			<0.05			<0.050	<0.05
Exceedence (>5.0)	0		0			0			0			0	0
Cd, Maximum (ug/L)	0.072		0.03			0.018			0.11			0.092	0.11
Exceedence (>0.05)	0		0			0			0			0	0
Cr, Maximum	0.0012		0.0014			<0.001			0.0014			0.0032	0.0032
Exceedence (>1.0)	0		0			0			0			0	0
Cu, Maximum	0.029		0.023			0.02			0.11			0.14	0.14
Exceedence (>0.3)	0		0			0			0			0	0
Fe, Maximum	0.38		0.34			0.3			0.45			0.48	0.48
Exceedence (>15)	0		0			0			0			0	0
Pb, Maximum	<0.0005		<0.0005			<0.0005			<0.0005			<0.0005	<0.0005
Exceedence (>0.2)	0		0			0			0			0	0
Ni, Maximum	0.0022		<0.002			<0.002			0.002			0.0041	0.0041
Exceedence (>0.5)	0		0			0			0			0	0
Zn, Maximum	0.088		0.075			0.029			0.1			0.13	0.13
Exceedence (>0.5)	0		0			0			0			0	0
TSS, Maximum	370	270	270	280	250	460	280	360	380	470	610	440	610
Exceedence (>350)	1	0	0	0	0	2	0	1	1	1	1	1	8
BOD, Maximum	630	380	420	520	440	840	490	850	660	810	980	680	980
Exceedence (>300)	4	2	3	4	4	4	4	3	5	4	5	4	46
Total Oil & Grease, Maximum	300	160	150	130	140	280	210	510	320	380	250	480	510
Exceedence (>100)	1	1	1	2	4	3	3	3	4	3	4	3	32
TDS, Maximum	430	380	360	360	320	440	300	360	460	460	500	420	500

Table 25: DJ Composites 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Jan	Feb	Mar	May	Jun	Jul	Oct	Total
Samples	1	1	2	1	1	1	1	8
pH Maximum (Units)	8.01	8.73	8.56	8.78	8.19	7.92	8.14	8.78
pH Minimum (Units)	8.01	8.73	8.18	8.78	8.19	7.92	8.14	7.92
pH Violations (<5.5, >9.0)	0	0	0	0	0	0	0	0
BOD Maximum	13	14	11	53	<15	<130	<5.0	<130
BOD Violations (>300)	0	0	0	0	0	0	0	0
TSS, Maximum	1.2	2.2	4.5	1.4	2.4	1.2	7.6	7.6
TSS Violations (>350)	0	0	0	0	0	0	0	0
B, Maximum	0.76	<0.5	1.1	0.58	<0.50	0.58	<5.0	<5.0
Exceedence (>5.0)	0	0	0	0	0	0	0	0
Cd, Maximum ug/L	<0.10	<0.10	0.37	<0.10	<0.10	0.13	<1.0	<1.0
Exceedence (>0.05)	0	0	0	0	0	0	0	0
Cr, Maximum	0.013	0.02	0.26	0.051	0.015	0.091	<0.10	0.26
Exceedence (>1.0)	0	0	0	0	0	0	0	0
Cr (+3), Maximum	0.01	0.02	0.26	0.05	0.02	0.09	<0.1	0.26
Exceedence (>1.0)	0	0	0	0	0	0	0	0
Chromium (VI), Maximum	<0.005	<0.0005	0.003	<0.0005	<0.0005	<0.0005	<0.005	<0.005
Exceedence (>0.05)	0	0	0	0	0	0	0	0
Cu, Maximum	<0.02	0.1	0.093	<0.02	<0.020	0.16	<0.20	0.16
Exceedence (>0.3)	0	0	0	0	0	0	0	0
Fe, Maximum	<0.5	<0.50	0.66	<0.50	<0.50	<0.50	<5.0	<5.0
Exceedence (>15)	0	0	0	0	0	0	0	0
Pb, Maximum	0.0089	0.014	0.019	0.0073	0.006	0.063	<0.05	0.063
Exceedence (>0.2)	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)	<0.013	0.025	<0.40	<0.13	0.028	0.073	0.023	<0.40
Exceedence (>0.005)	0	0	0	0	0	0	0	0
Ni, Maximum	<0.02	<0.02	<0.02	<0.02	<0.020	<0.020	<0.20	<0.20
Exceedence (>0.5)	0	0	0	0	0	0	0	0
Zn, Maximum	0.098	0.19	0.31	0.12	0.11	0.39	<0.50	<5.0
Exceedence (>0.5)	0	0	0	0	0	0	0	0
Orthophosphate, Maximum	0.2	0.31	<1.0	0.53	0.33	0.31	1.8	1.8
Exceedence (>4.36)	0	0	0	0	0	0	0	0
Total Oil & Grease, Maximum	7	7.1	52	5.9	<0.50	12	3.5	52
Exceedence (>100)	0	0	0	0	0	0	0	0
Phenol	0.17	<0.10	0.47	0.068	0.0017	0.17	0.13	0.47
Exceedence (>0.5)	0	0	0	0	0	0	0	0
Cyanide	0.23	0.052	0.65	0.09	0.062	0.16	0.02	0.65
Exceedence (>2.0)	0	0	0	0	0	0	0	0
As, Maximum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.10
Ba, Maximum	0.022	<0.01	0.015	0.013	0.011	0.022	<0.10	<0.10
Se, Maximum	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.10	<0.10
Ag, Maximum	0.0027	0.0012	0.0069	0.0054	<0.001	0.015	<0.010	0.015

Table 26: Envirosystems Inc 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Samples	3	2	3	4	3	1	4	3	4	2	5	5	39
pH Maximum (Units)	7.51	7.29	7.18	7.04	7.33	6.86	7.69	8.04	7.40	7.90	7.45	7.53	8.04
pH Minimum (Units)	6.63	7.01	7.01	6.68	6.51		7.01	7.60	6.10	7.23	6.42	7.02	6.10
pH Violations (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
TSS, Maximum	17	2	27	4.8	10	12	15	3	61	<1.0	29	19	61
TSS Violations (>350)	0	0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum	1.6	1.3	0.85	1.9	0.78	0.94	0.76	0.5	2.1	<0.5	3.6	0.97	3.6
Exceedence (>5.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cd, Maximum (ug/L)	0.28	0.12	0.11	<0.10	<0.1	<0.1	0.11	<0.10	<1.0	<0.10	<0.10	<0.10	<1.0
Exceedence (>0.05)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cr, Maximum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	0.011
Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cu, Maximum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Exceedence (>0.3)	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	1.7	0.7	2.8	1.1	1.6	<0.5	0.55	<0.5	2.7	<0.5	1.5	1.5	2.8
Exceedence (>15)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Exceedence (>0.2)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Exceedence (>0.005)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	<0.02	0.02	0.036	0.024	0.023	<0.02	<0.02	0.021	0.18	0.3	0.064	0.078	0.3
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum	0.28	0.38	0.3	0.31	0.39	0.2	0.37	<0.05	0.48	0.29	0.44	0.38	0.48
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
TPH, Maximum	2.8	0.6	16	2.6	3.7	0.9	7.4	2.9	19	0.1	8.00	3.4	19
TPH, Exceedence (>100)	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 27: Gullbridge Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Below Berm	June	Sept	October	Total
Samples	1	1	1	3
pH, Maximum (units)	4.52	7.27	4.31	7.27
pH, Minimum (units)	4.52	7.27	4.31	4.31
pH, Exceedance (<5.5, >9.0)	1	0	1	2
As, Maximum	<0.001	<0.001	<0.001	<0.001
As, Exceedance (>0.5)	0	0	0	0
Ba, Maximum	0.039	0.034	0.030	0.039
Ba, Exceedance (>0.5)	0	0	0	0
B, Maximum	<0.050	<0.050	<0.050	<0.050
B, Exceedance (>5.0)	0	0	0	0
Cd, Maximum	0.001	0.00031	0.0012	0.0012
Cd, Exceedance(>0.05)	0	0	0	0
Cr, Maximum	<0.001	<0.001	<0.001	<0.001
Cr, Exceedance (>1.0 Cr(III) Limit)	0	0	0	0
Cu, Maximum	1.5	0.17	2.1	2.1
Cu, Exceedance (>0.3)	1	0	1	2
Fe, Maximum	0.92	1.0	1.2	1.2
Fe, Exceedance (>10)	0	0	0	0
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005
Pb, Exceedance (>0.2)	0	0	0	0
Ni, Maximum	0.25	0.06	0.30	0.30
Ni, Exceedance (>0.5)	0	0	0	0
Zn, Maximum	0.19	0.045	0.25	0.25
Zn, Exceedance (>0.5)	0	0	0	0
Se, Maximum	<0.001	<0.001	<0.001	<0.001
Se, Exceedance (>0.5)	0	0	0	0
TDS, Maximum	420	360	390	420
TDS, Exceedance (>1000)	0	0	0	0
TSS, Maximum	13	3.4	<2.0	13
TSS, Exceedance (>30)	0	0	0	0

Table 28: Hope Brook Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Banana Pond	Jul	Total
Samples	1	1
pH, Maximum (units)	7.12	7.12
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	14	14
Exceedence (30)	0	0
Ba, Maximum	0.014	0.014
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.066	0.066
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.021	0.021
Exceedence (0.3)	0	0
Fe, Maximum	0.29	0.29
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	<0.0020	<0.0020
Exceedence (0.5)	0	0
Zn, Maximum	0.007	0.007
Exceedence (0.5)	0	0
TDS, Maximum	96	96
Exceedence (1000)	0	0

BH6	Jul	Total
Samples	1	1
pH, Maximum (units)	6.58	6.58
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	2.8	2.8
Exceedence (30)	0	0
Ba, Maximum	0.028	0.028
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.39	0.39
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.16	0.16
Exceedence (0.3)	0	0
Fe, Maximum	0.080	0.080
Exceedence (10.0)	0	0
Pb, Maximum	0.00099	0.00099
Exceedence(0.2)	0	0
Ni, Maximum	0.0036	0.0036
Exceedence (0.5)	0	0
Zn, Maximum	0.057	0.057
Exceedence (0.5)	0	0
TDS, Maximum	110	110
Exceedence (1000)	0	0

Table 28 Continued: Hope Brook Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Pine Pond Outflow	Jul	Total
Samples	1	1
pH, Maximum (units)	6.59	6.59
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	<1.0	<1.0
Exceedence (30)	0	0
Ba, Maximum	0.022	0.022
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.012	0.000012
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.007	0.007
Exceedence (0.3)	0	0
Fe, Maximum	0.11	0.11
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	<0.0020	<0.0020
Exceedence (0.5)	0	0
Zn, Maximum	<0.0050	<0.0050
Exceedence (0.5)	0	0
TDS, Maximum	28	28
Exceedence (1000)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Inlet to Boat Hole Brook	Jul	Total
Samples	1	1
pH, Maximum (units)	7.20	7.20
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	<1.0	<1.0
Exceedence (30)	0	0
Ba, Maximum	0.012	0.012
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.02	0.02
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.0084	0.0084
Exceedence (0.3)	0	0
Fe, Maximum	0.13	0.13
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	<0.0020	<0.0020
Exceedence (0.5)	0	0
Zn, Maximum	<0.0050	<0.0050
Exceedence (0.5)	0	0
TDS, Maximum	54	54
Exceedence (1000)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Table 28 Continued: Hope Brook Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Open Pit Spillway	Jul	Total
Samples	1	1
pH, Maximum (units)	7.58	7.58
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	16	16
Exceedence (30)	0	0
Ba, Maximum	0.013	0.013
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.05	0.05
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.0025	0.0025
Exceedence (0.3)	0	0
Fe, Maximum	1.1	1.1
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	0.005	0.005
Exceedence (0.5)	0	0
Zn, Maximum	<0.0050	<0.0050
Exceedence (0.5)	0	0
TDS, Maximum	870	870
Exceedence (1000)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Polishing Pond	Jul	Total
Samples	1	1
pH, Maximum (units)	6.93	6.93
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	2.6	2.6
Exceedence (30)	0	0
Ba, Maximum	0.021	0.021
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.022	0.022
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.012	0.012
Exceedence (0.3)	0	0
Fe, Maximum	0.21	0.21
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	<0.0020	<0.0020
Exceedence (0.5)	0	0
Zn, Maximum	<0.0050	<0.0050
Exceedence (0.5)	0	0
TDS, Maximum	39	39
Exceedence (1000)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Table 28 Continued: Hope Brook Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Catch Basin	Jul	Total
Samples	1	1
pH, Maximum (units)	7.47	7.47
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
TSS, Maximum	<1.0	<1.0
Exceedence (30)	0	0
Ba, Maximum	0.017	0.017
Exceedence (0.5)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0)	0	0
Cd, Maximum (ug/L)	0.027	0.027
Exceedence (50 ug/L)	0	0
Cr, Maximum	<0.0010	<0.0010
Exceedence (1.0 mg/L)	0	0
Cu, Maximum	0.007	0.007
Exceedence (0.3)	0	0
Fe, Maximum	0.23	0.23
Exceedence (10.0)	0	0
Pb, Maximum	<0.00050	<0.00050
Exceedence(0.2)	0	0
Ni, Maximum	<0.0020	<0.0020
Exceedence (0.5)	0	0
Zn, Maximum	<0.0050	<0.0050
Exceedence (0.5)	0	0
TDS, Maximum	410	410
Exceedence (1000)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Table 29: Husky Oil Operations Ltd – Atlantic Region 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Settling Pond 1 Weir	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples	4	4	5	4	4	4	3	4	4	4	5	4	49
pH, Maximum (Units)	7.51	7.55	7.56	7.54	7.62	7.65	7.7	7.62	7.68	7.61	7.62	7.62	7.71
pH, Minimum (Units)	7.40	7.46	7.41	7.45	7.54	7.46	7.57	7.51	7.54	7.51	7.47	7.48	7.40
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ba, Maximum	0.064	0.056	0.054	<0.10	0.056	0.058	0.062	0.057	0.054	0.059	0.063	0.057	<0.10
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum	3.3	3.3	3.2	<5.0	3.5	3.5	3.6	3.3	3.5	3.6	3.6	3.1	<5.0
Exceedence (>5.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cd, Maximum (ug/L)	1.4	1.2	1.3	1.2	1.3	1.2	1.4	1.3	1.1	1.2	1.4	1.3	1.4
Exceedence(>50 ug/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cr, Maximum	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10
Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cu, Maximum	<0.020	<0.020	<0.020	<0.20	0.089	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.20
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	0.86	0.98	0.93	<5.0	0.86	0.72	0.73	0.69	0.71	0.78	0.74	1.4	<5.0
Exceedence (>10.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)	0.022	0.018	<0.013	0.017	<0.013	0.023	<0.013	0.025	0.013	0.013	<0.013	<0.013	0.025
Exceedence (>5 ug/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	<0.020	<0.020	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.20
Ni, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum	<0.050	<0.050	<0.050	<0.50	3.6	<0.050	<0.050	<0.050	0.11	<0.050	<0.050	<0.050	3.6
Zn, Exceedence (>0.5)	0	0	0	0	1	0	0	0	0	0	0	0	1
Se, Maximum	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag, Maximum	<0.001	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01
Exceedence (>0.05)	0	0	0	0	0	0	0	0	0	0	0	0	0
TDS, Maximum	27000	29000	28000	27000	29000	30000	28000	27000	28000	28000	26000	25000	29000
TDS, Maximum attributed to operations	1000	0	0	0	0	0	0	1000	0	1000	0	0	1000
Exceedence (>1000)	0	0	0	0	0	0	0	0	0	0	0	0	0
TSS, Maximum	3.8	6.2	2	3.2	2.8	2	4	2.2	1.8	4.8	2.6	4.0	6.2
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ammonia, Maximum	8	7.6	7.7	7.6	7.7	7.4	6.9	6.7	7.4	6.6	6.2	5.9	8.0
Exceedence (>2.0)	1	1	1	1	1	1	1	1	1	1	1	1	12
Sulfide, Maximum	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
TPH, Maximum	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Exceedence (>15)	0	0	0		0	0	0	0	0	0	0	0	0
Phenol	<0.010	0.012	<0.010	<0.010	0.021	0.001	<0.010	0.019	0.099	0.075	0.042	0.028	0.099
Exceedence (>0.1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ra-226, Maximum	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/l)	0	0	0	0	0	0		0	0	0	0	0	0
Nitrate, Maximum	0.2	0.28	0.25	0.2	0.22	0.2	0.25	0.19	0.22	0.23	0.18	0.27	0.28
Exceedence (10mg/L)	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 29 Continued: Husky Oil Operations Ltd – Atlantic Region 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Settling Pond 2 Weir	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples	4	4	4	4	4	4	3	4	5	3	4	5	48
pH, Maximum (Units)	7.57	7.48	7.53	7.52	7.66	7.66	7.71	7.66	7.72	7.69	7.56	7.62	7.72
pH, Minimum (Units)	7.49	7.39	7.44	7.45	7.54	7.53	7.6	7.54	7.51	7.48	7.46	7.50	7.39
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
As, Maximum	<0.010	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.010	<0.010	<0.010
As, Exceedence (>1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ba, Maximum	0.18	0.16	0.17	0.15	0.15	0.15	0.14	0.15	0.13	0.12	0.12	0.12	0.18
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum	0.98	1.1	0.96	1.1	1.2	1.1	1.3	1.3	1.3	1.7	1.6	1.8	1.8
Exceedence (>5.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cd, Maximum (ug/L)	1.2	1.3	1.2	1.2	1.4	1.3	1.4	1.4	1.4	1.3	1.2	1.3	1.4
Exceedence(> 50 ug/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cr, Maximum	<0.010	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.010	<0.01	<0.010
Exceedence (>1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cu, Maximum	<0.020	<0.020	<0.002	<0.020	<0.002	<0.020	<0.020	<0.020	<0.020	0.0031	<0.020	<0.020	<0.020
Cu, Exceedence (>0.6)	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	<0.50	<0.50	0.11	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.11	<0.50	<0.50	<0.50
Exceedence (>10.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pb, Exceedence (>0.4)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hg, Maximum (ug/L)	<0.013	0.015	<0.013	0.02	0.017	0.015	0.013	0.013	0.013	0.018	0.017	0.017	0.02
Exceedence (>5 ug/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	<0.020	<0.020	<0.002	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ni, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum	<0.050	<0.050	<0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.050	<0.050	<0.050
Zn, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Se, Maximum	<0.010	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.010	<0.010	<0.010
Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag, Maximum	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00016	<0.001	<0.001	<0.001
Exceedence (>0.05)	0	0	0	0	0	0	0	0	0	0	0	0	0
TDS, Maximum	12000	14000	12000	14000	15000	13000	15000	14000	16000	16000	17000	18000	18000
TDS, Maximum attributed to operations	2100	3000	1000	3000	4000	1000	3000	2000	3000	4000	3000	4000	4000
Exceedence (>1000)	1	1	0	1	1	0	1	1	1	1	1	1	10
TSS, Maximum	4.8	6.6	3.0	2.2	2.0	3.6	2.4	5.6	6.8	3.4	2.0	1.0	6.8
TSS, Exceedence (>30)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ammonia, Maximum	2.6	3.2	2.8	2.9	3.0	3.0	3.5	3.5	3.8	4.4	4.5	4.4	4.5
Exceedence (2.0)	1	1	1	1	1	1	1	1	1	1	1	1	12
Sulfide, Maximum	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Exceedence (0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
TPH, Maximum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Exceedence (15)	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenol	<0.010	0.016	0.011	<0.010	<0.010	<0.010	0.022	0.021	0.023	0.021	<0.010	0.022	0.023
Exceedence (0.1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ra-226, Maximum	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ra-226, Exceedence (>1.11 Bq/l)	0	0	0	0	0	0		0	0	0	0	0	0
Nitrate, Maximum	0.31	0.28	0.25	0.25	0.26	0.25	0.27	0.24	0.21	0.20	0.23	0.21	0.31
Exceedence (10.0)	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 30: Labatt Breweries Newfoundland 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Samples	3	3	5	2	3	5	4	4	4	4	4	3	44
pH Maximum (Units)	6.84	10.70	7.17	7.12	7.03	7.03	7.02	5.89	7.15	7.08	7.18	6.74	10.70
pH Minimum (Units)	4.83	4.73	5.80	6.24	4.55	4.81	5.65	5.64	5.77	5.43	5.20	4.77	4.55
pH Violations (<5.5, >9.0)	1	2	0	0	1	1	0	0	0	1	1	1	8
BOD Maximum	2000	1400	1100	730	1700	1500	1500	1900	1300	1600	1700	2100	2100
BOD Violations (>300)	3	3	4	2	2	4	2	3	2	2	3	2	32
TSS, Maximum	1900	1200	940	730	1100	830	820	1100	1400	1100	1200	1300	1900
TSS Violations (>350)	2	2	4	2	1	3	2	2	2	2	2	2	26
B, Maximum				<0.05		<0.05							<0.05
Exceedance (>5.0)				0		0							0
Cd, Maximum (ug/L)				0.11		0.11							0.11
Exceedance (>0.05)				0		0							0
Cr, Maximum				0.013		0.018							0.018
Exceedance (>1.0)				0		0							0
Cu, Maximum				0.19		0.12							0.19
Exceedance (>0.3)				0		0							0
Fe, Maximum				0.57		0.93							0.93
Exceedance (>15)				0		0							0
Pb, Maximum				0.0069		0.0098							0.0098
Exceedance (>0.2)				0		0							0
Hg, Maximum (ug/L)				0.038		0.032							0.038
Exceedance (>0.005)				0		0							0
Ni, Maximum				0.0096		0.0074							0.0096
Exceedance (>0.5)				0		0							0
Zn, Maximum				0.19		0.18							0.19
Exceedance (>0.5)				0		0							0
Phenol				0.5		0.0071							0.5
Exceedance (>0.5)				0		0							0
Se, Maximum				<0.001		<0.001							<0.001
As, Maximum				<0.001		<0.001							<0.001
Ba, Maximum				0.0083		0.0099							0.0099
Ag, Maximum				<0.0001		<0.0001							<0.0001
TDS, Maximum				1800		760							1800
Ammonia, Maximum				1		0.77							1
Sulfide, Maximum				0.089		0.033							0.089

Table 31: Molson Coors Canada, St. John's 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Samples	4	3	4	3	4	4	4	4	3	4	4	3	44
pH Maximum (Units)	11.30	9.91	6.91	7.33	7.41	7.11	7.47	11.6	12.40	12.3	12.20	11.50	12.40
pH Minimum (Units)	5.67	6.94	6.69	6.89	7.11	6.62	7.16	10.1	9.64	9.4	11.6	7.30	5.67
pH Violations (<5.5, >9.0)	1	1	0	0	0	0	0	4	3	4	4	2	19
BOD Maximum	760	3100	2800	<5.0	<5.0	1600	350	1500	1200	1600	1700	1500	3100
BOD Violations (>300)	2	1	2	0	0	2	1	4	3	2	4	2	23
TSS, Maximum	770	58	180	18	5.2	240	130	250	150	110	110	200	770
TSS Violations (>350)	1	0	0	0	0	0	0	0	0	0	0	0	1
B, Maximum			<0.050					<0.050			<0.050		<0.050
Exceedence (>5.0)			0					0			0		0
Cd, Maximum (ug/L)			0.025					0.057			0.036		0.057
Exceedence (>0.05)			0					0			0		0
Cr, Maximum			0.0055					0.0055			0.0071		0.0071
Exceedence (>1.0)			0					0			0		0
Cu, Maximum			0.028					0.075			0.12		0.12
Exceedence (>0.3)			0					0			0		0
Fe, Maximum			0.31					0.69			0.73		0.73
Exceedence (>15)			0					0			0		0
Pb, Maximum			0.0023					0.0079			0.019		0.019
Exceedence (>0.2)			0					0			0		0
Hg, Maximum (ug/L)			<0.013					0.028			0.025		0.028
Exceedence (>0.005)			0					0			0		0
Ni, Maximum			<0.0020					0.003			0.0029		0.003
Exceedence (>0.5)			0					0			0		0
Zn, Maximum			0.063					0.13			0.12		0.13
Exceedence (>0.5)			0					0			0		0
Phenol			0.024					0.052			0.071		0.071
Exceedence (>0.5)			0					0			0		0
As, Maximum			<0.001					<0.001			<0.001		<0.001
Ba, Maximum			0.0069					0.0051			0.0073		0.0073
Se, Maximum			<0.001					<0.001			<0.001		<0.001
Ag, Maximum			<0.0001					<0.0001			<0.0001		<0.0001
TDS, Maximum			370					870			1500		1500
Ammonia, Maximum			0.17					0.95			0.58		0.95
Sulfide, Maximum			<0.020					0.077			0.051		0.077

Table 32: Newfoundland Transshipment Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Tank No. 1- Sump No. 1	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	7.1	<1.6	<1.6	<1.6	7.1
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	6.7	7.5	7.5	7.8	7.8
pH, Minimum (Units)	6.7	7.5	7.5	7.8	6.7
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	7.9	4.7	7.7	3.6	7.9
TPH, Exceedence (>15)	0	0	0	0	0

Tank No. 2- Sump No. 2	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	<1.6	<1.6	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	7.9	7.7	7.8	7.9	7.9
pH, Minimum (Units)	7.9	7.7	7.8	7.9	7.7
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	4.9	3.0	6.9	3.4	6.9
TPH, Exceedence (>15)	0	0	0	0	0

Tank No. 3- Sump No. 3	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	<1.6	<1.6	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	7.8	7.7	7.8	7.9	7.9
pH, Minimum (Units)	7.8	7.7	7.8	7.9	7.7
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	1.8	4.0	5.9	6.5	6.5
TPH, Exceedence (>15)	0	0	0	0	0

Table 32 Continued: Newfoundland Transshipment Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Tank No. 4- Sump No. 4	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	<1.6	<1.6	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	7.7	7.5	7.7	7.8	7.8
pH, Minimum (Units)	7.7	7.5	7.7	7.8	7.5
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	5.6	6.2	7.2	3.7	7.2
TPH, Exceedence (>15)	0	0	0	0	0

Tank No. 5- Sump No. 5	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	1.8	<1.6	<1.6	<1.6	1.8
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	7.6	7.2	7.5	7.7	7.7
pH, Minimum (Units)	7.6	7.2	7.5	7.7	7.2
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	4.7	3.9	6.0	8.5	8.5
TPH, Exceedence (>15)	0	0	0	0	0

Tank No. 6- Sump No. 6	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	<1.6	<1.6	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	7.5	7.3	7.3	7.6	7.6
pH, Minimum (Units)	7.5	7.3	7.3	7.6	7.3
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	3.6	4.0	4.2	7.7	7.7
TPH, Exceedence (>15)	0	0	0	0	0

Table 32 Continued: Newfoundland Transshipment Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Tank No. 7- Sump No. 7	Jan	Apr	Jul	Oct	Total
Number of Samples	1	1	1	1	4
TSS, Maximum	<1.6	<1.6	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0	0	0
pH, Maximum (Units)	8.0	7.8	7.8	7.8	8.0
pH, Minimum (Units)	8.0	7.8	7.8	7.8	7.8
pH, Exceedence (<5.5, >9.0)	0	0	0	0	0
TPH, Maximum	4.5	3.9	6.8	5.0	6.8
TPH, Exceedence (>15)	0	0	0	0	0

Containment Pond	Apr	Oct	Total
Number of Samples	1	1	2
TSS, Maximum	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0
pH, Maximum (Units)	7.2	6.9	7.2
pH, Minimum (Units)	7.2	6.9	6.9
pH, Exceedence (<5.5, >9.0)	0	0	0
TPH, Maximum	5.2	4.8	5.2
TPH, Exceedence (>15)	0	0	0
ALT, Pass (RT)	1	1	2
ALT, Fail (RT)	0	0	0

Oily Water Separator	May	Oct	Total
Number of Samples	1	1	2
TSS, Maximum	<1.6	<1.6	<1.6
TSS, Exceedence (>30)	0	0	0
pH, Maximum (Units)	7.0	7.1	7.1
pH, Minimum (Units)	7.0	7.1	7
pH, Exceedence (<5.5, >9.0)	0	0	0
TPH, Maximum	4.2	6.7	6.7
TPH, Exceedence (>15)	0	0	0
TDS, Maximum	2594	694	2594
TDS,Exceedence (>36000 mg/L)	0	0	0

Table 33: Pardy's Dewatering Technologies Ltd 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Samples	3	3	4	3	1	3	4	3	4	3	4	2	37
pH, Maximum (Units)	9.65	6.31	7.25	7.60	6.43	8.10	8.11	8.27	7.90	7.55	8.25	7.17	9.65
pH, Minimum (Units)	7.15	6.15	6.36	6.47		7.46	7.35	7.96	7.31	5.78	6.83	6.40	5.78
pH, Exceedence (<5.5, >9.0)	1	0	0	0	0	0	0	0	0	0	0	0	1
As, Maximum	0.006	0.005	0.007	0.004	0.004	0.003	0.003	0.004	0.005	0.007	0.007	0.005	0.007
As, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ba, Maximum	0.027	0.025	0.031	0.04	0.04	0.042	0.051	0.005	<0.005	0.01	0.032	0.04	0.051
Ba, Exceedence (>5.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
B, Maximum	0.228	0.287	0.238	0.25	0.206	0.182	0.276	0.211	0.212	0.337	0.183	0.251	0.337
B, Exceedence (>5.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cd, Maximum (ug/L)	0.036	0.04	0.067	0.414	0.484	0.529	0.150	0.057	0.060	0.162	0.199	0.359	0.529
Cd, Exceedence (>50ug/L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cr, Maximum	<0.001	0.001	0.002	0.001	0.001	0.002	0.002	0.001	<0.001	0.001	0.002	0.001	0.002
Cr, Exceedence (1.0)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cu, Maximum	0.015	0.015	0.016	0.014	0.015	0.013	0.009	0.009	0.006	0.024	0.019	0.027	0.027
Cu, Exceedence (>0.3)	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe, Maximum	0.559	0.49	0.379	0.221	0.296	0.230	0.249	0.562	0.149	0.189	1.24	0.766	1.24
Fe, Exceedence (>10)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pb, Maximum	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0008
Pb, Exceedence (>0.2)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni, Maximum	0.027	0.037	0.025	0.019	0.024	0.027	0.023	0.024	0.031	0.059	0.038	0.041	0.059
Ni, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Se, Maximum	0.002	0.003	0.011	0.005	0.002	0.004	0.010	<0.001	0.006	0.012	0.013	0.005	0.013
Se, Exceedence (0.01)	0	0	1	0	0	0	0	0	0	2	2	0	5
Ag, Maximum	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001	0.001
Ag, Exceedence (0.05)	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn, Maximum	0.088	0.081	0.046	0.181	0.092	0.038	0.025	0.038	0.006	0.041	0.022	0.068	0.181
Zn, Exceedence (>0.5)	0	0	0	0	0	0	0	0	0	0	0	0	0
TSS, Maximum	31	37	15	34	34	22	17	28	11	15	36	20	37
TSS, Exceedence (>30)	1	1	0	2	1	0	0	0	0	0	1	0	6
BOD, Maximum	60	84	41	15	12	13	20	28	9	5	93	4	93
BOD, Exceedence (>20)	2	2	2	0	0	0	0	1	0	0	1	0	8
Total Coliform, Maximum	7	1300	49	2.3	0.045	23	230	230	0.79	0.49	0.49	0.49	1300
Total Coliform, Exceedence (>50)	0	1	0	0	0	0	1	1	0	0	0	0	3
Fecal Coliform, Maximum	2.2	230	0.33	0.79	<0.018	7.9	23	23	0.13	0.061	<0.018	0.33	230
Fecal Coliform, Maximum (>10)	0	2	0	0	0	0	1	1	0	0	0	0	4
Orthophosphate, Maximum	0.31	0.8	9.71	0.71	11.4	18.8	31.1	14.2	16.1	53.4	27.4	26.8	53.4
Orthophosphate, Maximum (>0.436)	0	3	3	2	1	3	4	3	4	3	4	2	32
TDS, Maximum	2070	2110	1740	2060	1530	1540	2100	1470	1460	2190	2080	1840	2190
TDS, Exceedence (>1000)	3	3	4	3	1	3	4	3	4	3	4	2	37
Nitrate, Maximum	6.81	4.77	2.59	5.53	72.9	57.2	33.7	32.4	92.3	177	175	180	180
Nitrate, Exceedence (>10)	0	0	0	0	1	3	3	3	4	3	3	2	22
TPH, Maximum	7.3	2.3	64	2.6	<1.0	6.6	1.9	<1.0	1.5	2.5	12.9	2.4	64
TPH, Exceedence (>15)	0	0	1	0	0	0	0	0	0	0	0	0	1
Ammonia, Maximum	24.6	16.6	12.5	1.2	0.75	0.92	0.38	0.40	1.14	1.20	180	0.09	180
Ammonia, Exceedence (>2.0)	2	3	1	0	0	0	0	0	0	0	1	0	7
ALT, Pass (RT)									1				1
ALT, Fail (RT)									0				0

Table 34: Vale Newfoundland and Labrador Ltd (Argentia) 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Polish Pond Discharge	Feb	Total
Samples	1	1
pH, Maximum (Units)	7.48	7.48
pH, Minimum (Units)		
pH, Exceedence (<5.5, >9.0)	0	0
As, Maximum	<0.0002	<0.0002
As, Exceedence (>0.5)	0	0
Cd, Maximum (ug/L)	0.02	0.02
Cd, Exceedence (>0.05)	0	0
Cu, Maximum	0.0186	0.0186
Cu, Exceedence (>0.3)	0	0
Fe, Maximum	1.38	1.38
Fe, Exceedence (> 10)	0	0
Pb, Maximum	0.00015	0.00015
Pb, Exceedence (>0.2)	0	0
Hg, Maximum (ug/L)	0.02	0.02
Hg, Exceedence (>0.005)	0	0
Ni, Maximum	0.0789	0.0789
Ni, Exceedence (>0.5)	0	0
Zn, Maximum	0.003	0.003
Zn, Exceedence (>0.5)	0	0
Ammonia, Maximum	<0.1	<0.1
Ammonia, Exceedence (>2)	0	0
Nitrate, Maximum	<0.06	<0.06
Nitrate, Exceedence (>10)	0	0
TDS, Maximum	2030	2030
TDS, Exceedence (>1000)	1	1
TPH, Maximum	<0.10	<0.10
TPH, Exceedence (>15)	0	0
TSS, Maximum	<2	<2
TSS, Exceedence (>30)	0	0
ALT, Pass (RT)	1	1
ALT, Fail (RT)	0	0

Table 35: Whalesback Mine Site 2016 Effluent Discharge Criteria Summary (mg/L, unless noted)

Tunnel Exit	Jun	Total
Samples	1	1
pH, Maximum (units)	7.07	7.07
pH, Minimum (units)		
pH, Exceedance (<5.5, >9.0)	0	0
As, Maximum	<0.001	<0.001
Exceedence (0.5 mg/L)	0	0
Ba, Maximum	0.0021	0.0021
Exceedence (0.5 mg/L)	0	0
B, Maximum	<0.050	<0.050
Exceedence (5.0 mg/L)	0	0
Cd, Maximum (ug/L)	0.5	0.5
Exceedence(0.05 mg/L)	0	0
Cr, Maximum	0.0019	0.0019
Exceedence (1.0 mg/L Cr(III) Limit	0	0
Cu, Maximum	0.13	0.13
Exceedence (0.3 mg/L)	0	0
Fe, Maximum	5.5	5.5
Exceedence (10 mg/L)	0	0
Pb, Maximum	<0.0005	<0.0005
Exceedence(0.2 mg/L)	0	0
Ni, Maximum	0.0062	0.0062
Exceedence (0.5 mg/L)	0	0
Zn, Maximum	0.085	0.085
Exceedence (0.5 mg/L)	0	0
Se, Maximum	<0.0010	<0.0010
Exceedence (0.5 mg/L)	0	0
TDS, Maximum	220	220
Exceedence (1000 mg/L)	0	0
TSS, Maximum	22	22
Exceedence (30 mg/L)	0	0
Ammonia, Maximum	<0.050	<0.050
Exceedence (2.0mg/L)	0	0

7) Conclusion

MAE regulates effluent discharged from the industrial sectors of the province. The nature of these industries and the types of effluent generated are very different and specific; no two industries can be viewed exactly the same. Differences within the industrial facilities and the receiving environment make this a dynamic field that has to be constantly monitored.

The industries operating within Newfoundland and Labrador are diligent in working with MAE to achieve the mutual goals of environmental sustainability and protection.

Additional effluent monitoring and water quality monitoring data from the industrial sector is available upon request.

For further information related to industrial effluent quality and monitoring, please contact the Pollution Prevention Division at:

Pollution Prevention Division
Newfoundland and Labrador
Department of Municipal Affairs and Environment
PO Box 8700
St. John's, NL A1B 4J6

(709) 729-2556

8) Appendix A: Abbreviations and Acronyms

ALT	- Acute Lethality Test
BOD	- Biological Oxygen Demand
COA	- Certificate of Approval
ECWSR	- Environmental Control Water and Sewage Regulations, 2003 (NLR 65/03)
EEM	- Environmental Effects Monitoring
MAE	- NL Department of Municipal Affairs and Environment
MMER	- Metal Mining Effluent Regulations
PPD	- Pollution Prevention Division
TDS	- Total Dissolved Solids
TIA	- Tailings Impoundment Area
TPH	- Total Petroleum Hydrocarbons
TSS	- Total Suspended Solids