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## Sent by Email

**December 21, 2022** 

Licensing Nunavut Water Board P.O. Box 119 Gjoa Haven, NU X0B 1J0

# Re: November 2022 – Monthly Monitoring Report for Water License 2AM-DOH1335

This report is comprised of the monitoring requirements set out in Part I and Schedule I of water licence 2AM-DOH1335 Amendment 2 (the license), and additional requirements from CIRNAC.

In March 2022, Agnico made the decision to maintain the suspension of production activities at the Doris Mine site and Madrid North Portal to dedicate the infrastructure of the Hope Bay site to exploration activities. As such, the mill operation will remain suspended and underground activities will focus on exploration development.

During the subject period of this report, the focus of activities at Doris was water management, environmental compliance, and a ramp down of underground mining.

Dewatering of the Doris underground workings was directed to the temporary water-filled portable dam in the TIA throughout the month of November.

Sampling locations monitored under this licence (seasonally or when facilities are operational) are provided in Figure 6 through Figure 8 at the end of this report.

A waste rock pile survey was carried out during the month of July and the cumulative tonnage on the waste rock pile for Doris, contained in table 5 has been adjusted as a result.

#### Site Wide Water Quality Monitoring Program (Part I Item 3 and Schedule I)

Water quality sampling was conducted in October at monitoring stations identified in Schedule I of the licence (ST-1 through ST-13, TL-1 through TL-12 and MMS-1 through MMS-10). Water quality samples were not collected for monitoring stations that were inactive during the month being reported (e.g., facilities that had not yet been constructed, were frozen during the month, or were not operationally active).

All parameters were compared to the applicable effluent quality limits outlined in Part D and Part F of the licence. No exceedances of effluent quality limits were observed in any samples collected this month. Results of all water quality monitoring are provided in Appendix A attached to this report.

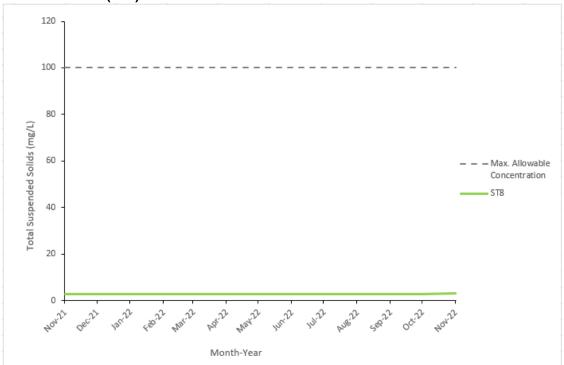
Figure 1 and 2 illustrates effluent quality characteristics for parameters of interest at select monitoring stations.

90
80
70
70
10
10
10
10
10
Month-Year

Figure 1. Biological Oxygen Demand Results Consistently Below Discharge Criteria for Wastewater Treatment Plant (ST8)

Note: Maximum Average Concentration as per Part F Item 4(b).





Note: Maximum Average Concentration as per Part F Item 4(b).

# Flow and Volume Measurements (Part F, Part I and Schedule I)

Table 1. Effluent discharge, November 2022

Facility	Station Code	Discharge Volume (m³)	Exceedances of Discharge Criteria	Discharge Location	Licence Reference
Doris Sedimentation Pond *	ST-1	0	N/A	Tailings Impoundment Area	Part F Item 17
Doris Contact Water Pond #1	ST-2	0	N/A	Doris sedimentation pond	Part F Item 17, 18(a)
Non-Hazardous Landfill Sump	ST-3	0	0	Facility not constructed	Part F Item 18(a)
Land farm Sump	ST-4	0	0	Tailings Impoundment Area	Part F Item 18(b)
Doris Plant Site Fuel Storage Area	ST-5	0	0	Tailings Impoundment Area	Part F Item 18(b)
Rob Bay Single 5ML Fuel Storage Area	ST-6a	0	0	Tundra Discharge 13W 432954 7563407	Part F Item 18(b)
Rob Bay Fuel Storage and Containment Berm	ST-6b	0	0	Tundra Discharge 13W 432878 7563130	Part F Item 18(b)
Doris Sewage Treatment Plant, Effluent	ST-8	873	0	Tundra Discharge 13W 432933 7559057	Part F Item 5(b-c)
Doris Sewage Treatment Plant, Sludge	N/A	31.2	N/A	Tailings Impoundment Area	Part I Item 5(f)
Doris Reagent and Cyanide Storage Facility Sump	ST-11	0	N/A	Tailings Impoundment Area	Part F Item 17
Doris Contact Water Pond #2	ST-13	0	N/A	Facility not constructed	Part F Item 17
Doris Mine Water Discharge	TL-12	48,225	N/A	Tailings Impoundment Area Roberts Bay	
Madrid North Contact Water Pond	MMS-1	0	0	Tailings Impoundment Area	Part F Item 17, 18(a)
Madrid South Primary Contact Water Pond	MMS-2	0	N/A	Facility not constructed	Part F Item 17, 18(a)
Madrid South Secondary Contact Water Pond	MMS-3	0	N/A	Facility not constructed	Part F Item 17, 18(a)
Madrid South Fuel Storage Facility	MMS-5	0	0	Facility not constructed	Part F Item 18(b)
Madrid North Connector	MMS-7	0	N/A	Facility not constructed	
Madrid North Fuel Storage Facility	MMS-8	0	0	Facility not constructed	Part F Item 18(b)
Madrid Mine Water Discharge	MMS-10	0	N/A	Tailings Impoundment Area	

Records of visual monitoring of discharge to tundra are maintained on file as per Part I Item 11.

<sup>\*</sup> Note: Volume reported includes effluent transferred from the Doris Contact Water Pond #1, Landfarm Sump, Doris Plant Site Fuel Storage Area and Madrid North Contact Water Pond.

Table 2. Discharge from TIA to Roberts Bay, November 2022

Month	Number of days of discharge	Discharge Volume (m³)	Exceedances of Discharge Criteria*
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	1	1,231	0
September	0	0	0
October	18	84,195	0
November	30	144,291	
Annual Cumulative	49	229,717	0

<sup>\*</sup> Discharge criteria as outlined in *Metal and Diamond Mining Effluent Regulations*.

Acute Lethality testing conducted as outlined in Part F Item 22 and Part I Item 14

Table 3. Water Usage, November 2022

		Windy Lake	(ST-7A)			Doris Lake (ST-7)					
Month	Domestic Water*	Industrial**	Winter Track	Surface Exploration	Domestic Water*	Surface Exploration	Industrial Usage**	Dust Suppression	Winter Track		
January	784	14	10	55	0	0	0	0	0	863	
February	1,087	12	493	223	0	0	0	0	0	1,815	
March	1,017	16	1,114	386	0	212	0	0	300	3,045	
April	745	0	288	0	0	0	0	0	80	1,113	
May	755	14	0	0	0	0	0	0	0	769	
June	890	15	0	0	0	0	0	128	0	1,033	
July	901	11	0	0	0	0	0	208	0	1,120	
August	1,128	21	0	0	0	0	0	0	0	1,148	
September	1,188	1.3	0	0	0	268	0	1.6	0	1,191	
October	1,061	10	0	0	0	0	0	0	0	1,071	
November	1,068	0	0	0	0	0	0	0	32	1,100	
Annual Total	10,625	113	1,905	664	0	480	0	336	412	14,535	
Annual Allowance	43,800			MOOF Park Filtra			1,930,000			2,033,800	

<sup>\*</sup> As permitted by water licences 2BE-HOP1222 and 2AM-DOH1335 Part E Item 1 and Part I Item 5(a)(b) \*\* Includes industrial uses such as underground drilling, core processing, milling, concrete batching, etc.

Table 4. Volume of Reclaim Water from the TIA for Process Water, November 2022

Month	Reclaim Water (m <sup>3</sup> ) *
January	58,114
February	77,385
March	29,403
April	0
May	0
June	0
July	0
August	0
September	0
October	0
November	0
Annual Cumulative	164,902

<sup>\*</sup> As per Part E Item 5 and Part I Item 5(c)
Numbers rounded to the nearest cubic meter.

Table 5. Doris Waste Rock and Ore Volumes, November 2022

	Waste Rock Management						Underground Void Space			Ore Processing and Tailings Management		
Month	Produced from Mining Activity (tonnes)	Backfilled Directly to Mine (tonnes)	Returned Underground from Temporary Waste Rock Pile* (tonnes)	Waste Hauled for Surface Construction from Surface Stockpile (tonnes)	Moved to Temporary Waste Rock Pile (tonnes)*	Cumulative on Temporary Waste Rock Pile (tonnes)*	Volume Created from Mining Activities (tonnes)	Cumulative Volume Available for Backfill (tonnes)	Cumulative Volume Available for Backfill (m³)	Quantity of Ore Processed** (tonnes)	Total Dry Tailings Placed in TIA** (tonnes)	Total Dry Detoxified Tailings Placed Underground** (tonnes)
December Balance	-	-	-	-	-	723,872	-	1,700,749	751,239	-	-	-
January	12,306	2,214	0	0	10,092	733,964	15,751	1,558,255	677,353	0	0	0
February	9,080	6,565	0	0	2,515	736,479	6,521	1,551,734	679,682	0	0	0
March	11,560	6,644	0	0	4,916	741,395	2,923	1,548,811	680,726	0	0	0
April	12,368	0	0	0	12,368	753,763	12,368	1,561,179	685,143	0	0	0
May	13,106	0	0	0	13,106	766,869	13,106	1,574,285	689,824	0	0	0
June	13,615	0	0	28,848	13,615	780,484	13,615	1,587,900	703,439	0	0	0
July	14,657	0	0	4,326	14,657	686,044	14,657	1,671,859	828,875	0	0	0
August	14,011	0	0	0	14,011	700,055	14,011	1,685,870	833,879	0	0	0
September	11,172	0	0	0	11,172	711,227	11,172	1,697,042	837,869	0	0	0
October	12,190	0	0	0	12,190	723,417	12,190	1,709,232	842,222	0	0	0
November	10,636	0	0	13,937	10,636	734,053	10,636	1,719,868	846,021	0	0	0
Cumulative Total	124,065	15,423	0		108,642		116,314			0	0	0

<sup>\*</sup> As per Part I Item 5(d)(e)

Note: Void space created from mining activities is determined as the sum of the initial void space as calculated in March 2017 and void space created each month from mining activities. A negative volume of void space created in a month indicates that a higher volume of waste rock and detoxified tailings was returned underground compared to the volume of void space created from new mining activities.

<sup>\*\*</sup> As per Part I Item 6

Table 6. Madrid North Waste Rock and Ore Volumes, November 2022

			Waste Rock N	/lanagement	Underground Void Space			Ore Produced		
Month	Produced from Mining Activity (tonnes)	Backfilled Directly to Underground Mine (tonnes)	Returned Underground from Temporary Waste Rock Pile* (tonnes)	Moved to Temporary Waste Rock Pile (tonnes)*	Moved to Naartok East Crown Pillar Trench for Backfill (tonnes)*	Cumulative on Temporary Waste Rock Pile (tonnes)*	Volume Created from Mining Activities (tonnes)	Cumulative Volume Available for Backfill (tonnes)	Cumulative Volume Available for Backfill (m³)	Quantity of Ore Produced** (tonnes)
December Balance	-	-	-	-	-	0	-	-	-	-
January	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0	0	0
Cumulative Total	0	0	0	0	0	0	0	0	0	0

<sup>\*</sup> As per Part I Item 5(d)(e)

Note: Void space created from mining activities is determined as the sum of the initial void space as calculated in December 2021 and void space created each month from mining activities. A negative volume of void space created in a month indicates that a higher volume of waste rock was returned underground or backfilled in the Naartok East Crown Pillar trench compared to the volume of void space created from new mining activities.

<sup>\*\*</sup> As per Part I Item 6

Table 7. Doris Lake Water Level (ST-12), November 2022

Month	Minimum Water Level (masl)	Maximum Water Level (masl)	Water Level Water Level		Comparison of Mean Water Level from Month to Month (masl)^
January	21.774	21.802	21.788	-0.005	-0.010
February	21.755	21.790	21.774	0.035	-0.014
March	21.742	21.764	21.753	0.023	-0.021
April	21.718	21.753	21.735	0.035	-0.018
May	21.706	21.787	21.734	0.081	-0.001
June	21.817	22.079	22.021	0.262	0.287
July	21.787	21.998	21.888	0.211	-0.133
August	21.725	21.796	21.757	0.071	-0.131
September	21.799	21.993	21.889	0.194	0.132
October	21.905	22.078	21.999	0.173	0.110
November	21.880	21.999	21.925	0.119	-0.074

<sup>\*</sup> Monthly Water Level Variation is calculated as the difference between the Maximum Water Level and the Minimum Water Level measured during the month.

## Waste Management (Part F Item 10 and 11)

In November, Agnico shipped no hazardous waste offsite. As a result, table 8 has been removed from this month's report. Waste shipments are expected to proceed in December.

# Summary of Assessments of Water Balance and Water Quality Model (Part F Item 24 and Part I Item 12 c)

Average monthly water quality, hydrologic, and climatic monitoring data were collected while in operations during November. Data will contribute to the assessment of the water and load balance model and will be compared to the predicted water quality and elevation within the TIA and will be reported in the annual report for 2022.

### Thermal Monitoring (Part I Items 7, 8 and Schedule I)

Thermal monitoring undertaken as per Part I Items 7, 8 and Schedule I is reported in the annual Geotechnical Report.

### Site Freshet and Precipitation Conditions (Part I Item 12(d))

Visual monitoring was conducted at the Diversion Berm this month. No issues were identified at the Diversion Berm and associated check dam in November. Photos of this infrastructure are provided in Figure 3 below.

Inspections were suspended of site culverts throughout the month of November due to snow build up. Inspections are due to be resumed in freshet of 2023.

<sup>^</sup> Comparison of the change in water level from month to month. This value is calculated by subtracting the Mean Water Level of the current month from the Mean Water Level of the previous month (e.g. February Mean Water level - January Mean Water level). A positive value from this calculation indicates a rise in water level since the previous month; a negative value from this calculation indicates a drop in water level since the previous month.

Figure 3. Diversion berm during November 2022

# **Incident Reporting**

No incidents pertaining to this licence occurred this month.

Should there be any questions regarding this monthly report, please contact me at <a href="mailto:guillaume.dumont-vandewinkel@agnicoeagle.com">guillaume.dumont-vandewinkel@agnicoeagle.com</a>.

Yours sincerely,

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Figure 6. 2AM-DOH1335 SNP Monitoring Locations



Figure 7. 2AM-DOH1335 SNP Monitoring Locations



Figure 8. 2AM-DOH1335 SNP Monitoring Locations

