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February 28, 2020

Licensing
Nunavut Water Board
P.O. Box 119
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Re: January 2020 – Monthly Monitoring Report for Water Licence 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 licence), and additional requirements from CIRNAC.

During the subject period of this report, the focus of activities at Doris North was underground mining, construction, ore processing, water management and environmental compliance. Final commissioning of the Robert's Bay Discharge System occurred in January with anticipation of effluent discharge in February.

Development of the Madrid North Portal continued in January. Mining activities continued in the Naartok East Crown Pillar Recovery Trench under this licence during the month.

Monitoring locations associated with Madrid infrastructure (MMS) will be established with the Inspector as per Part I Item 3 as construction of Madrid facilities are completed. Sampling locations monitored under this licence (seasonally or when facilities are operational) are provided in Figure 4 through Figure 6 at the end of this report.

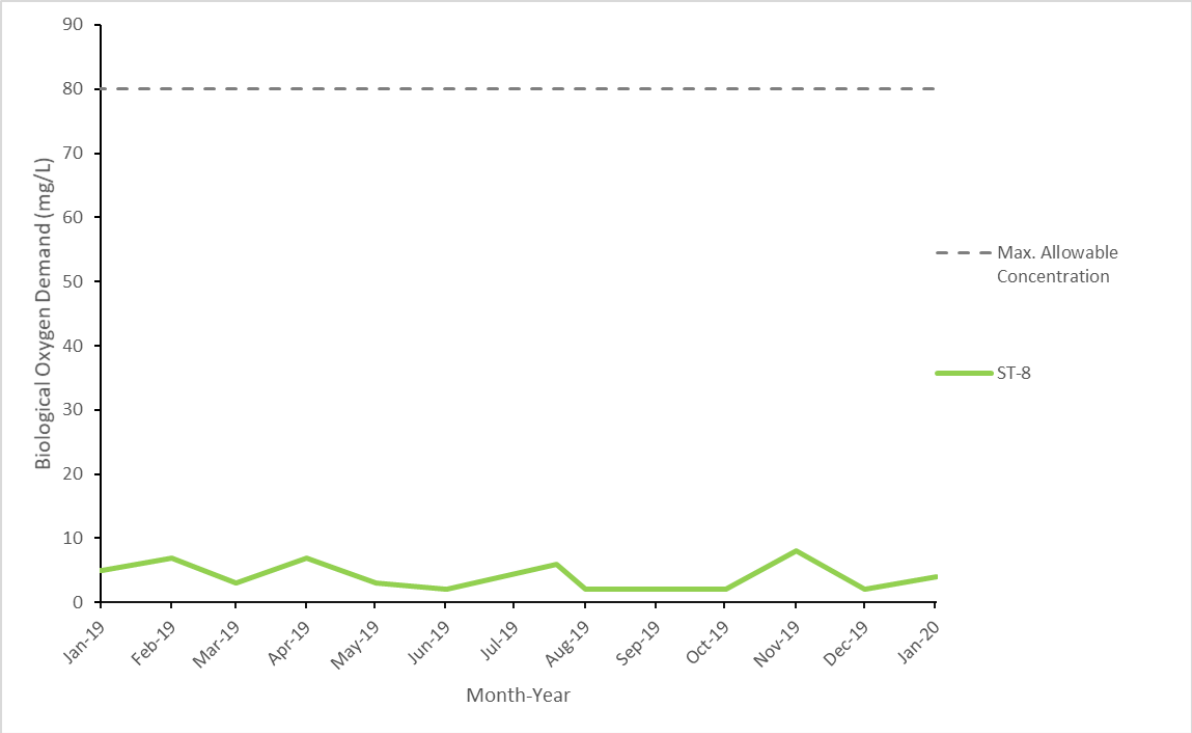
Site Wide Water Quality Monitoring Program (Part I Item 3 and Schedule I)

Water quality sampling was conducted in January 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.

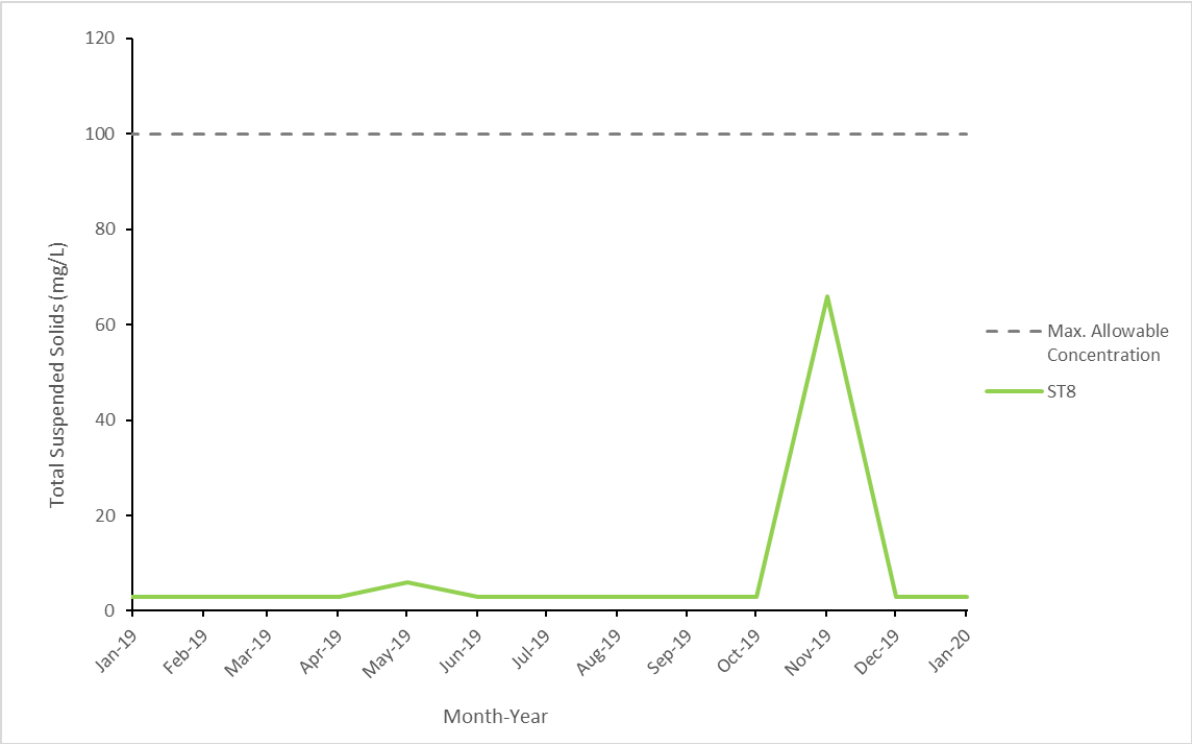
Figure 1 and 2 illustrates effluent quality characteristics for parameters of interest at select monitoring stations.

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).

Figure 2. Total Suspended Solids Results Consistently Below Discharge Criteria for Wastewater Treatment Plant (ST8)



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, January 2020

Facility	Station Code	Discharge Volume (m^3)	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	Tailings Impoundment Area	Part F Item 17, 18(a)
Non-Hazardous Landfill Sump	ST-3	0	0	Facility not constructed	Part F Item 18(a)
Landfarm 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 432904 7563494	Part F Item 18(b)
Rob Bay Fuel Storage and Containment Berm	ST-6b	0	0	Tailings Impoundment Area	Part F Item 18(b)
Doris Sewage Treatment Plant, Effluent	ST-8	1,434	0	Tundra Discharge 13W 432933 7559057	Part F Item 5(b-c)
Doris Sewage Treatment Plant, Sludge	N/A	32.8	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	85,742	N/A	Tailings Impoundment Area	
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 Brine Mixing Facility	MMS-6	0	N/A	Facility not constructed	
Madrid North Connector	MMS-7	0	N/A	No mining occurring at this time	
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	Facility not constructed	

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

* Note: Volume reported includes effluent transferred from the Doris Contact Water Pond #1, Landfarm Sump, Doris Plant Site Fuel Storage Area, Rob Bay Fuel Storage and Containment Berm and Doris Mine Water Discharge.

Table 2. Discharge from TIA, January 2020

Month	Number of days of discharge	Discharge Volume (m^3)	Exceedances of Discharge Criteria*
January	0	0	0
Annual Cumulative	**0**	**0**	**0**

* 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, January 2020

Month	Windy Lake (ST-7A)	Doris Lake (ST-7)					Total Usage
	Domestic Water (m^3)	Domestic Water (m^3)	Surface Exploration (m^3)	Industrial Usage* (m^3)	Dust Suppression (m^3)	Winter Track (m^3)	
January	1,492	0	0	289	0	93	1,874
Annual Total	1,492	0	0	289	0	93	1,874
Annual Allowance	**43,800**			**1,930,000**		**60,000**	**2,033,800**

As permitted by water licence 2AM-DOH1335 Part E Item 1 and Part I Item 5(a)(b).
* Includes industrial uses such as mining, core processing, concrete batching, etc.

Table 4. Volume of Reclaim Water from the TIA for Process Water, January 2020

Month	Reclaim Water (m^3) *
January	76,601
Annual Cumulative	**76,601**

* 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, January 2020

Month	Waste Rock Management					Underground Void Space			Ore Processing and Tailings Management		
	Produced from Mining Activity (tonnes)	Backfilled Directly to Mine (tonnes)	Returned Underground from Temporary Waste Rock Pile* (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 (m^3)	Quantity of Ore Processed** (tonnes)	Total Dry Tailings Placed in TIA** (tonnes)	Total Dry Detoxified Tailings Placed Underground** (tonnes)
December Balance	-	-	-	-	781,072	-	1,547,057	682,081	-	-	-
January	28,787	19,646	2,040	9,141	781,072	26,949	1,547,057	682,081	29,858	28,606	1,229
Cumulative Total	28,787	19,646	2,040	9,141	781,072	26,949	1,547,057	682,081	29,858	28,606	1,229

* As per Part I Item 5(d)(e)

** As per Part I Item 6

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.

Table 6. Madrid North Waste Rock and Ore Volumes, January 2020

Month	Waste Rock Management						Underground Void Space			Ore Processing
	Produced from Mining Activity (tonnes)	Backfilled Directly to Mine (tonnes)	Returned Underground from Temporary Waste Rock Pile* (tonnes)	Moved to Temporary Waste Rock Pile (tonnes)*	Used for Construction (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 (m^3)	Quantity of Ore Processed** (tonnes)
December Balance	-	-	-	-	-	-	-	-	-	-
January	65,213	749	0	60,206	4,258	309,506	85,898	447,547	159,838	21,658
Cumulative Total	65,213	749	0	60,206	4,258	309,506	85,898	447,547	159,838	21,658

* As per Part I Item 5(d)(e)

** As per Part I Item 6

Note: Void space created from mining activities is determined as the sum of the initial 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 compared to the volume of void space created from new mining activities.

Table 7. Doris Lake Water Level (ST-12), January 2020

Month	Minimum Water Level (masl)	Maximum Water Level (masl)	Mean Water Level (masl)	Monthly Water Level Variation (masl)*	Comparison of Mean Water Level from Month to Month (masl)^
January	21.712	21.748	21.726	-0.088	-0.103

* Monthly Water Level Variation is calculated as the difference between the Maximum Water Level and the Minimum Water Level measured during the month.

^ 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.

Waste Management (Part F Item 10 and 11)

No offsite waste disposal occurred in January.

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 January. 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 2020.

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 during major rain events and periods of sustained precipitation in January.

The Diversion Berm and associated check dam were observed to be functioning as designed and diverting non-contact water around the Doris site infrastructure. Photos of this infrastructure are provided in Figure 3 below.

Inspections were completed of site culverts throughout the month of January. No issues were identified with these water management structures as they were observed to be frozen.

Figure 3. Diversion berm dry during January 2020

Incident Reporting

No incidents pertaining to this licence occurred this month.

Should there be any questions regarding this monthly report, please contact enviro@tmacresources.com.

Yours sincerely,

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Cc:
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Jerome Girard, Mine General Manager, TMAC

Figure 4. 2AM-DOH1335 SNP Monitoring Locations

Figure 5. 2AM-DOH1335 SNP Monitoring Locations

Figure 6. 2AM-DOH1335 SNP Monitoring Locations