



WATER LICENCE INSPECTION FORM

☒ Original  
☐ Follow-Up Report

Licensee		Licensee Representative	
TMAC Resources		Kyle Conway	
Licence No. / Expiry		Representative's Title	
2AM-DOH1335		Environment Supervisor	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
May 7-8 2019		Candice Pedersen	
Activities Inspected			
<input checked="" type="checkbox"/> Camp		<input type="checkbox"/> Mining	
<input type="checkbox"/> Roads/Hauling		<input type="checkbox"/> Drilling	
		<input type="checkbox"/> Other:	
		<input type="checkbox"/> Reclamation	
		<input checked="" type="checkbox"/> Fuel Storage	

SECTION 1	<input checked="" type="checkbox"/> Comments (s. 3)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. 3)	<input type="checkbox"/> Action Required (s. 3)
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Background:

This licence authorizes TMAC Resources Inc. to use water and dispose of waste associated with the Mining and Milling undertaking t the Doris North Project as outlines in the Water Licence Application, submitted to the Board through the regulatory process.

They are authorized to use 2,033,800 cubic meters of fresh water annually.

TMAC Resources has a Type “A” Water Licence and is authorized to:

Use water from Doris Lake for mining, milling and domestic purposes, construct and operate the following: roads, airstrip, water crossings, laydown areas, Sewage Treatment Plant, Landfill and Landfarm, and the Tailings Impoundment Area, and to divert site runoff to Water Management Facilities and to construct and operate the Contact Water Ponds and Non-Contact Water Ponds.

Inspector Statement:

On May 7, 2019 a water licence inspection was conducted at the TMAC Doris camp (2AM-DOH1323) by Inspector Candice Pedersen accompanied by Kyle Conway of TMAC. Facilities inspected included, but were not limited to; Roberts Bay Facilities, Doris Main Camp, Waste Management Area, Bulk Fuel Storage at the Single Tank Farm, Lower Laydown Area by the Batch Plant, the Burn Pit by Quarry 2, the Mill Pad, the Detox Tailings Area, the Underground Laydown Area, Doris Crown Pillar, the Tailings Impoundment Area (TIA), Windy Lake Raw Water Intake, Doris Lake Raw Water Intake, Doris Camp Pad, Doris Camp Diversion Ditch North of Camp, Fuel Storage & Refueling Station, Waste Rock Pile, Sedimentation Control Pond, Pollution Prevention Control Pond, Tailings Line, Catchment Basins East and West, North and South Dams, Tailings Discharge Line, the on ice drilling at Patch Lake, and four reported spills (19-177, 19-165, 19-132, 19-101, 18-487 and 18-430).

During this inspection on May 7 and 8, 2019 the following was noted:

Roberts Bay Facilities

**Waste Management Area:** During the inspection it was noted that waste is being segregated and disposed of as required by the water licence. Such as aerosols, batteries, oily rags, oily plastic, electronics, and general garbage, all to be disposed in appropriate facilities such as the burn bit, land farm or to be sent out to appropriate facility.

**Bulk Fuel Storage at the Single Tank Farm:** The inspector noted there were three areas of snow piles within the berm. It appears the snow was cleared from places other than inside the tank farm (see *photo log #1 and #2*). It is evident from one trail that it appears to have been plowed by heavy equipment and deposited near the single tank. The inspector is concerned that the snow will reduce the available capacity of the secondary containment if a spill were to occur. Inspector is informing TMAC Resources to stop storing snow in the secondary containment.

Doris Camp Facilities

**Diversion Berm:** During inspection of the Diversion Berm north of Doris Camp Pad, the berm was not visible due to snow cover; however, no concerns were noted.

**Fuel Storage & Refueling Station:** A small pond formed at the lowest point in the refueling station and a sheen was visible in the water; however, the area is lined with a berm meaning the water will not drain anywhere. When questioned about the water Kyle Conway said they don’t dewater the berm, they maintain the crushed gravel and the water later evaporated a week after Inspector left. No concerns were noted with this facility, it appears to be operating as intended.

**Doris Lake Raw Water Intake:** No concerns were noted with this facility it appears to be operating as intended. Photo was taken of the flow meter installed (see *photo log #5*) and shows that 26,806 cubic meters has been used since the meter was installed. TMAC records water usage internally with the number shown on the flow meter.





**Tailings Discharge Line:** During the inspection, it was noted that some tailings have been deposited on the downward side of the hill (*see photo log #3*). The location was identified as a concern in the previous inspection. TMAC since then changed the location of discharge to the base of the hill with a longer pipe. There are no concerns at this time.

**North and South Dams:** Due to snow coverage, the entire dam was not visible. There appeared to be no issues with the function of the dams. No concerns at this time.

**Burn Pit by Quarry 2:** Inspector noted ash, wood and one cardboard box in the Burn Pit. Inspector was informed the ashes get stored in drums, placed in sea cans, and tested to see if they meet criteria to be placed in the landfill each month. No concerns noted with this facility.

**Detox Tailings Area:** A previous Inspector noted concerns relating to the potential spreading of tailings. Since then TMAC has designated a loader specifically for this facility. No concerns noted.

**Sediment Control Pond:** Inspector walked around facility and did not note anything different from last inspection other than snow cover, no concerns noted with this facility. (*see photo log #6*)

**On-ice drilling:** The core shack at Patch Lake was very clean inside and outside (*see photo log #4*) from proper storing of sediment water and waste water. Completed drilling areas were left very clean because the management ensured nothing was left behind, inspector noted it was hard to see old drill spots other than the snow cleared to access the sites.

No concerns noted in this facility.

**Doris Crown Pillar:** The Doris Crown Pillar is a piece of the greenstone belt that is at the surface of the earth, it is located 500 meters directly East of the main camp. The Crown Pillar started to be stripped of the overburden in October 2018 and mined over the winter. Reclamation started in March and once Inspector arrived it was at the back filling stage (*see photo log #7*). A culvert was placed on the East corner to ensure proper drainage in the area. No concerns were noted.

Spills

Inspector and Kyle checked spills 19-177, 19-165, 19-132, 19-101, 18-487 and 18-430.

**19-177:** 950L ethylene glycol spilled due to a telehandler puncturing a tote while trying to remove it from a sea can. This spill is in the process of being cleaned up, Inspector noted 4 totes of contaminated snow from the clean up. Some remnants of glycol was seen seeping up from the snow and ground, and as it does it is being scrapped into totes for proper disposal. Because the site is still being cleaned the Inspector will check it upon next inspection.

**19-165:** 375kg of cement mix was spilled trying to remove it from a sea can. Inspector and Kyle located spill with GPS coordinates. Inspector does not see any traces of the spill. Inspector is informed this spill was reported because the cement mix contains lime which is corrosive under the MSDS sheet and TMAC was not sure if it was a reportable substance so they reported it to be on the cautious side. This spill will be considered closed.

**19-132:** 50 L of ethylene glycol coolant spilled from the failure of generator #5 at the powerhouse onto the deck of the generator module and the crush pad. The spill was cleaned up and the contaminated snow and gravel are to be stored at the Waste Management Facility to be sent out for offsite disposal.

Inspector and Kyle checked the spill, the generator has been repaired and the glycol has been cleaned up. Inspector sees no remnants of glycol and considers the spill closed.

**19-101:** 10-20L of ethylene glycol coolant spilled. The powerhouse operator identified the spill on the ground beneath one of the powerhouse generator modules while conducting a daily inspection. It was identified that a failed head gasket on two of the cylinders had caused oil to pressurize the glycol cooling system. The contaminated materials, including absorbent pads, were taken to the Waste Management Facility to be stored for offsite disposal. Inspector sees no signs of glycol left, Inspector considers the spill closed.

**18-487:** 4 cubic meters of sewage in the main lift station building spilled due to failure of the new pump installation Majority of the contaminated gravel was shoveled and removed. Soda lime was placed on the remaining gravel to prevent the development of odors or pathogens during the warmer months. Inspector has no concerns as it is contained in a building and cleaned up. The spill is considered closed.

**18-430:** 8L of ethylene glycol 60-40 coolant was spilled due to a pinhole leak in the coolant hose line of a reach stacker in the Upper Laydown area. The reach stacker was taken to the mechanical shop to replace the hose line. Contaminated materials including absorbent pads were taken to the Waste Management Facility to be stored for offsite disposal. The exact location was unable to be located due to snow cover, Inspector will check on it in the summer time.



SECTION 2	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
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Inspector wants TMAC Resources to stop pushing snow into the berm at the Bulk Fuel Storage at the Single Tank Farm.

Licensee or Representative	Inspector's Name
Kyle Canada	Candice Pedersen





Signature		Signature	
Date	7/12/2019	Date	

Office Use Only:	Follow-up report to be issued by Inspector	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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CC:           Licensing Department, NWB  
              Justin Hack, Manager of Field Operations, CIRNAC

PHOTO LOG


Date	Camera	Inspector	Authorization
07 05 2019	SONY Cybershot	Candice Pedersen	
Photo Log # 1	Location (NAD 83 DD MM SS.SS)		
Photo #1	N68 10 35.7           W106 36 57.7		
			
Description: Snow plowed into bermed area by the Bulk Fuel Storage by Tank #1			

Photo Log # 2	Location (NAD 83 DD MM SS.SS)
Photo #2	N68 10 35.8           W106 36 57.6





Description: More snow plowed into bermed area by Bulk Fuel Storage by Tank #1

Photo Log # 3

Location (NAD 83 DD MM SS.SS)

Photo #3

N68 7 0.6

W106 32 46.9



Description: Residue of tailings at old discharge location

Photo Log # 4

Location (NAD 83 DD MM SS.SS)

Photo #4

N68 2 20.7

W106 33 12.8





Description: Core shack on Patch Lake

Photo Log # 5  
Photo #5

Location (NAD 83 DD MM SS.SS)  
N W



Description: Flow meter at the Raw Water Intake Facility

Photo Log # 6  
Photo #6

Location (NAD 83 DD MM SS.SS)  
N 68 8 11.9 W106 36 33.7





Description: Sediment Control Pond

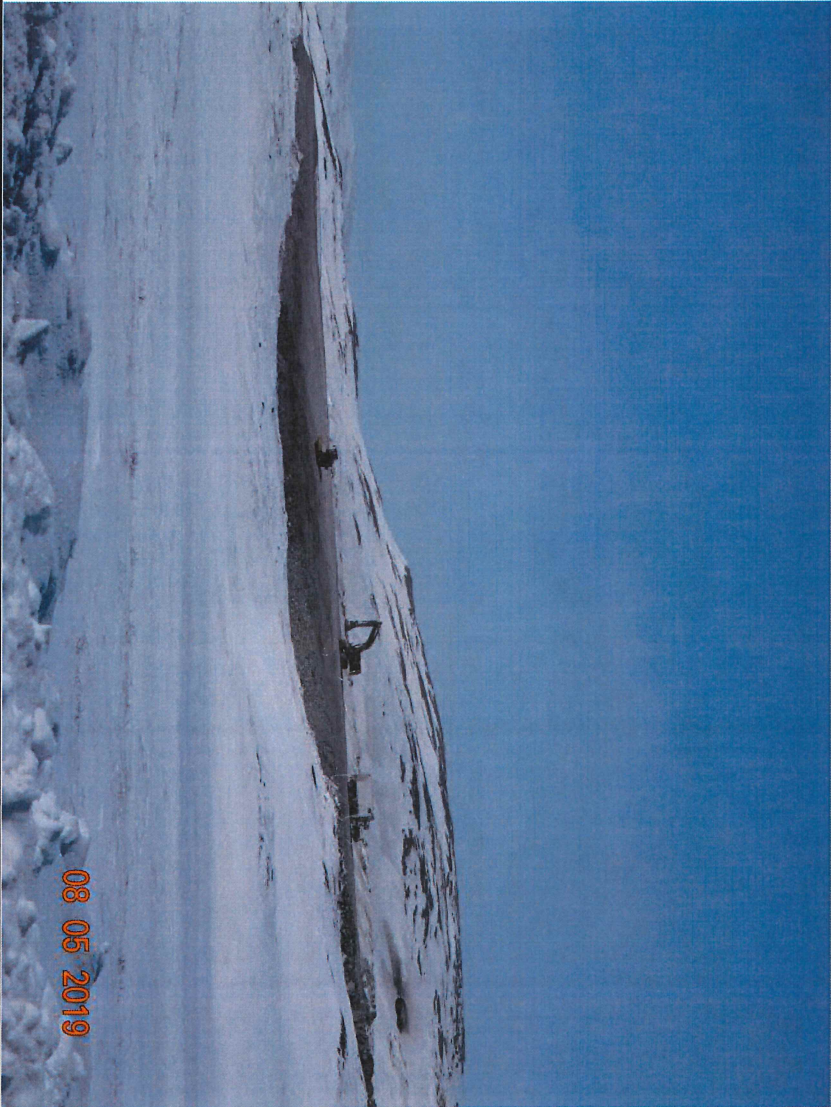
Photo Log # 7

Location (NAD 83 DD MM SS.SS)

Photo #7

N68 8 16.5

W106 35 41.9



Description: Reclamation of the Doris Crown Pillar