



WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
TMAC Resources Inc.	Oliver Curran
Licence No. / Expiry	Representative's Title
2AM-DOH1323	VP Environmental Affairs
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
13 th -14 th / 02 / 2018	Eva Paul + Jeremy Fraser
Activities Inspected	
<input checked="" type="checkbox"/> Camp	<input checked="" type="checkbox"/> Drilling
<input checked="" type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Other:
	<input checked="" type="checkbox"/> Mining
	<input checked="" type="checkbox"/> Construction
	<input type="checkbox"/> Reclamation
	<input checked="" type="checkbox"/> Fuel Storage

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:	Item No.*	Condition	Observation No.*		
A: SCOPE, DEFINITIONS AND ENFORCEMENT		A			
B: GENERAL CONDITIONS		A			
C: CONDITIONS APPLYING TO SECURITY		NI			
D: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS		A			
E: CONDITIONS APPLYING TO THE USE OF WATER	E1	A	1		
F: CONDITIONS APPLYING TO WATER MANAGEMENT		A	2		
G: CONDITIONS APPLYING TO WASTE MANAGEMENT AND WASTE MANAGEMENT PLANS		A	3		
H: CONDITIONS APPLYING TO MODIFICATIONS		NA			
I: CONDITIONS APPLYING TO CONTINGENCY PLANNING	I3,I4	C	4,5,6		
J: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING	J1,J11	A	7		
K: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING PLANS	J5	A	8		
L: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE		A			
<i>*The item number corresponds with specific conditions within the licence and the observation number corresponds with specific comments provided below.</i>					
Samples taken by Inspector:		Location(s):			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

SECTION 1	<input checked="" type="checkbox"/> Comments (s.1)	<input type="checkbox"/> Non-Compliance with Act or Licence (s.2)	<input checked="" type="checkbox"/> Action Required (s.3)
<p>An inspection was conducted February 13-14, 2018 to verify compliance with the water licence 2AM-DOH1323. Jeremy Fraser and Eva Paul of INAC were accompanied by Oliver Curran and Sarah Warnock of TMAC Resources. The facilities inspected included the fuel farm, waste management and laydown areas at Robert's Bay; the airstrip including the new de-icing pad and access road; the main mine site at Doris North, mining activities, and associated waste and water management structures; the TIA, road, tailings line, and discharge; geotechnical drilling that was occurring at the South Dam location; and the water intake facilities at Windy and Doris Lakes.</p> <ol style="list-style-type: none">From review of the 2017 water use records it was determined that some inconsistencies in reporting existed, and that small quantities of water from Windy have been used for industrial use at Doris. Tracking of Water usage from multiple locations for multiple activities has been refined, and clarification of allowed usage with the operators has been implemented to the satisfaction of the inspector.Issues of waste rock encroachment on the diversion berm have been rectified. TMAC has moved the waste rock back from the diversion berm and installed highly visible signage on the waste rock pile to prevent operators from depositing waste rock in that area.Improvements were made to the detox tailings outfall from the mill: the outfall is now sheltered from the elements and TMAC has dedicated a loader to the activity to prevent cross-contamination. TMAC created a road directly from the mill building to the portal to backhaul the detox tailings, rather than by the original route which led around the sedimentation ponds and outside the 'contact water' zone.During inspection of the Roberts Bay lay-down area the inspectors noted hazardous material, oils and lubricants stored in sea containers. Some of these containers tipped over and several sea-cans were left open and filled with snow. This material is not stored in secondary containment and is in contravention of the licence Part I section 3. Fuel and hazardous materials storage areas should be kept free of snow to ensure adequate capacity, and to prevent contamination in case of spills. See figure 1&2At the reagent and cyanide containment facility the inspector noted that only one of the sumps is visible. The sump in the second cell is either covered by shipping containers or by snow. This area requires regular inspection of the sumps to ensure no environmental contamination occurs. See figure 3&4			



6. During inspection of the Emergency Dump Catch Basins on either side of Doris Creek, the inspectors noticed the Tailings Transfer Pipe to be substantially lower than the walls of the engineered basins. It is unclear how the tailings will be diverted to these basins in case of an emergency. *See figure 5*
7. It is suggested that TMAC install intake flow meters at all raw water intake facilities due to the possible margin for error, this will ensure accurate tracking of water usage and minimize the human error aspect of TMAC water consumption.
8. Accurate coordinates for the sumps at the Reagent Pad, and other new structures are to be provided.

SECTION 2

☐ Comments

☐ Non-Compliance with Act or Licence

☐ Action Required

2AM-DOH1323

I3. The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable standards and acceptable industry practice.

I4. The Licensee shall perform regular inspections of Fuel Storage and Containment Facilities, Sumps, Emergency Dump Catch Basins, other fuel tanks and connectors for leaks and movement and shall keep a written log of inspections to be made available to an Inspector upon request. More frequent inspections may be required at the request of an Inspector.

J5. The Licensee, in consultation with an Inspector, shall establish the locations and GPS coordinates for all monitoring stations referred to in Schedule J.

J11. The Licensee shall measure and record all flow and volume measurements on a monthly basis, during Operations and any use of Waters (unless otherwise stated):

- a. The volume of freshwater obtained from Windy Lake for domestic use;
- b. The volume of freshwater obtained from Doris Lake for domestic use...


SECTION 3

☐ Comments

☐ Non-Compliance with Act or Licence

☒ Action Required

- A. Confirm that water from Windy Lake is only to be used for domestic purposes as per the licence. All industrial water usage must originate from sources approved under 2AM-DOH1323. Metering of water usage is preferable.
- B. All hazardous materials are to be stored in secondary containment as per Part I item 3 of the licence. Storage areas should be kept free of snow to the extent possible.
- C. Sump locations in both cells of the Reagent Pad are to be confirmed and must be left unobstructed.
- D. Demonstrate how the tailings are to be diverted to the Emergency Dump Catch Basin on the east side of Doris Creek.

Licensee or Representative Oliver Curran	Inspector's Name Eva Paul
Signature 	Signature 
Date 16 Feb 2018	Date Feb 16, 2018

Office Use Only: Follow-up report to be issued by Inspector

☐ Yes ☒ No

CC: Wynter Kuliktana, KIA
Licensing Department, NWB
Erik Allain, Director of Lands, INAC



PHOTO LOG: 2AM-DOH1323 INSPECTION OF FEBRUARY 13-14 2018

Date	Camera	Inspector	Authorization
Feb. 13 th 2018	Sony Cyber-shot	Eva Paul	2AM-DOH1323
Photo Log # 1		Location (NAD 83 DD MM SS.SS)	
Photo DSC08486		N68 10 33	W106 36 54
			
Description: Hazardous material inside seacans at Roberts Bay lay-down area exposed to elements			

Photo Log # 2	Location (NAD 83 DD MM SS.SS)		
Photo DSC08481	N	W	
			
Description: Seacans with hazardous material and hydrocarbons at Roberts Bay lay-down area left open exposed to the elements.			



Photo Log # 3

Photo DSC07726

Location (NAD 83 DD MM SS.SS)

N68 8 21

W106 34 28



Description: Reagent and Cyanide storage facility. Sump on right side of facility is exposed for inspection. The sump in the left side of facility is potentially under the seacans not exposed for inspection.

Photo Log # 4

Photo DSC07727

Location (NAD 83 DD MM SS.SS)

N68 8 20

W106 34 30



Description: Reagent and Cyanide storage facility. Sump found on the right side of facility is exposed for inspection. No sump was found in the East cell.



Photo Log # 5

Photo DSC08556

Location (NAD 83 DD MM SS.SS)

N68 8 29

W106 35 11



Description: Emergency Catch Basin on west side of Doris Creek. The Tailings pipe is under snow along the orange pylons with no indication of direction into Basin if necessary.