



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
TMAC Resources	Sarah Warnock
Licence No. / Expiry	Representative's Title
2AM-DOH1323	Environmental Coordinator
Land / Other Authorizations	Land / Other Authorizations
77A/3-1-2	
Date of Inspection	Inspector
8-9 July 2017	Eva Paul
Activities Inspected	
<input checked="" type="checkbox"/> Camp	<input 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
	<input type="checkbox"/> Other:

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	D4,16	C	1		
D: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS	D11	C	2		
D: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS	D27	C	3		
E: CONDITIONS APPLYING TO USE OF WATER		A			
F: CONDITIONS APPLYING TO WATER MANAGEMENT	F2	C	3		
G: CONDITIONS APPLYING TO WASTE MANAGEMENT / PLANS	G21	A	4		
G: CONDITIONS APPLYING TO WASTE MANAGEMENT / PLANS	G27(j)	A	5		
G: CONDITIONS APPLYING TO WASTE MANAGEMENT / PLANS	G35	A	6		
H: CONDITIONS APPLYING TO MODIFICATIONS		A			
I: CONDITIONS APPLYING TO CONTINGENCY PLANNING		A	7		
J: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING		A			
K: CONDITIONS APPLYING TO GENERAL / AQUATIC EFFECTS MON. PLANS		NI			
L: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE		A			
M: SCHEDULES					
*The item number corresponds with specific conditions within the licence and the observation number corresponds with specific comments provided below.					
Samples taken by Inspector:	Location(s): ST-6A, ST-6B, TL-1				
<input checked="" type="checkbox"/> Yes <input 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 over July 8-9 2017 at TMAC's Doris North Project. I was accompanied throughout the inspection by Sarah Warnock, TMAC's on-site Environmental Coordinator. The facilities inspected included: Roberts Bay Fuel Farm, waste management area, and jetty; the airstrip, apron, and new pad construction; the laydown area; the burn pan, landfarm, quarry, and new burn pan placement; Doris North camp, mill pad, waste rock and ore piles, and water management structures; and the TIA, TIA road, reagent pad, explosives storage, tailings line and discharge.</p> <p>Changes to site since my April 2017 inspection include a pad for de-icing (in progress) at the south end of the airstrip, the second (east) emergency tailings catchment at Doris Creek (in progress), the liner for the reagent pad, the removal of the fueling station and empty drums from Roberts Bay, and a modification to the detoxified tailings chute for backhaul underground.</p> <p>Comments specific to items identified above:</p> <ol style="list-style-type: none">No silt fencing was installed at Doris Creek for the construction of the emergency catchment on the east side of the creek. No visible sediment/construction rock was visible near the creek at the time of the inspection.It was suggested that due to a shortage in availability of liner, the expansion of the single bulk tank berm may be postponed but the tank may be partially filled during the fuel delivery later this summer.It is noted that the northern extent of the waste rock pile not only abuts the diversion berm, but sits atop it. This means that some runoff from the waste rock pile could flow over the berm. The diversion berm is specifically named in the licence for regular inspections; this issue should have been noted before now.Much progress on managing construction waste and general site tidiness has been made since my April inspection. Now that the major construction is past, attention can return to smaller debris, garbage, and small spills around site.A modification to the loading area for detoxified tailings was undertaken following my April inspection. The contaminated gravel was removed and replaced with a solid pad on which the waste now falls. It appears that the waste is now loaded by excavator into trucks for haulage back underground.			



6. It is noted that the construction of a pad for de-icing aircraft means that a plan to manage aircraft de-icing fluid and storage is likely in the works. Please note that this plan is to be submitted at least three months prior to the anticipated usage of de-icing fluid.
7. Samples were taken prior to, and during the spring dewatering of the Roberts Bay fuel farm. The pre-discharge samples were compliant, but the mid-discharge sample (taken voluntarily) showed a toluene exceedence. TMAC reacted appropriately and diverted the discharge immediately to the TIA rather than the tundra location, and also re-sampled. The third set of samples was compliant. After discussion, it was agreed that a spill report would be filed with an estimate of the volume of potentially-non-compliant effluent discharged [spill #17-249]. There was a spill within the berm that was noted during my last inspection (non-reportable). Several spills were also inspected during this visit and will be closed with the Spill Line: 15-453, 16-228, 16-293, 16-328, 17-041, 17-069 and 17-102. TMAC spill handling procedures are generally very good, although small visible stains are becoming more common around site. Spill 16-427 (1500L sewage from WWTP) was inspected but will not be closed at this time; it is expected that further work may be required as some effluent is trapped under the facility and cannot be addressed until it is moved (or removed at closure).

SECTION 2

☐ Comments

☒ Non-Compliance with Act or Licence

☐ Action Required

N/A

SECTION 3

☐ Comments

☐ Non-Compliance with Act or Licence

☒ Action Required

- A. Please ensure that any usage of the single tank at Roberts Bay is consistent with CCME Code of Practice as per Part D item 11a.
- B. Ensure that the waste rock pile is wholly contained within the diversion berm and that no runoff from waste areas may flow over the north side of the berm.
- C. Please provide assurance that the equipment used to manage detoxified tailings is not used for any purposes that may contaminate non-contact materials or areas.
- D. Sampling methods for BTEX are to be reviewed to ensure all employees are following sampling protocols.

Licensee or Representative	Inspector's Name
	Eva Paul
Signature	Signature
	Sent electronically
Date	Date
	19 July 2017

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

☐ Yes ☒ No

CC: Licensing Department, NWB
Erik Allain, Manager of Field Operations, INAC
Kitikmeot Inuit Association



PHOTO LOG

Date	Camera	Inspector	Authorization
July 8 2017	SONY DSC-HX50V	Eva Paul	2AM-DOH1323
Photo Log # 1		Location (NAD 83 DD MM SS.SS)	
Photo DSC06870		N68 08 16.2	W106 35 31.7 (Approx. from the air)



Description: Catchment basins on either side of Doris Creek. East basin was under construction at the time of the inspection.

Photo Log # 2	Location (NAD 83 DD MM SS.SS)
Photo DSC06953	N68 08 28.8 W106 35 12.4



Description: East catchment basin; no sediment control measures in place.



Photo Log # 3	Location (NAD 83 DD MM SS.SS)	
Photo DSC06890	N68 08 28 3	W106 36 10.1



Description: Waste rock pile from the air. Waste rock is deposited ON the Diversion Berm, not entirely within.

Photo Log # 4	Location (NAD 83 DD MM SS.SS)	
Photo DSC07014	N68 08 23.9	W106 36 18.3



Description: Waste rock over the crest of the Diversion Berm.



Description: Better waste management controls at the mill building. Labelled sea cans to segregate hazardous goods were also present.



Description: Spillage of unknown powder outside mill building.



Photo Log # 7

Location (NAD 83 DD MM SS.SS)

Photo DSC06995

N68 08 16.7

W106 36 31.3



Description: Detoxified tailings are now deposited on the pad, and moved by excavator into trucks.

Photo Log # 8

Location (NAD 83 DD MM SS.SS)

Photo DSC06854

N69 09 10.6

W106 36 44.6 (approx. from air)



Description: Aircraft de-icing pad (under construction). Liner will be present to contain the fluid. No sediment control measures noted.



Photo Log # 9	Location (NAD 83 DD MM SS.SS)	
Photo DSC06876	N68 06 48.5	W106 32 43.7 (approx. from air)



08 07 2017

Description: Tailings discharge at the time of the inspection.

Photo Log #10	Location (NAD 83 DD MM SS.SS)	
Photo DSC06879	N68 07 02.4	W106 32 47.8 (approx. from air)



08 07 2017

Description: Tailings discharge at the time of the inspection.



Photo Log # 11	Location (NAD 83 DD MM SS.SS)	
Photo DSC06858	N68 10 40.4	W106 36 33.0 (approx. from air)
		
Description: 5ML berm at Roberts Bay – fuel station and empty barrels removed. TMAC intends to combine these 2 berms to provide adequate containment for the 5ML tank which cannot currently be used.		