

TSF WEEKLY INSPECTION FORM

Date: December 2, 2019	Time: 10:15
Weather: -28.1C; 35 km/h NE; sunny	Inspected by: Jennifer Pyluk
Present: Pierre-Luc Sevigny	

TAILINGS PLACEMENT

Placement Area: **Center Cell**

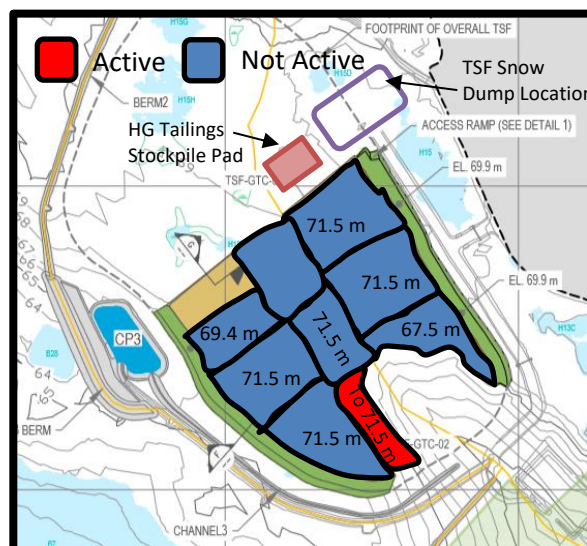
	Y	N	NA
Adequate snow removal procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lift heights respected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper compaction? (Speed, # of passes)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Traffic management?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Observations:

- Tailings placement occurring in the center area between sub-cell 4 and the esker to elevation 71.5 m.
- Although it is understood that the Church continues to be near full, expanded efforts to remove and place the material were observed.
- A light snowfall had occurred the night before the inspection and fewer vehicle tracks across the TSF surface were noted. There were however, some light vehicle and at least one mobile equipment tracks clearly visible across sub-cell 2.
- Tailings being placed in the center cell at the time of the inspection were seen to be “fresh” (unfrozen) as steam was observed to be coming off the material being pushed. Compaction was not observed to be occurring immediately after placement however, and at the ambient temperatures on the morning of the inspection, freezing of the material can be expected to occur very quickly.
- Haul trucks leaving the active area were observed to be trafficking on “undulating” placed tailings. This is expected to be due to unfrozen ground conditions underneath the tailings (as observed from ground temperature readings), incomplete compaction efforts in this location, and freezing/breaking apart of the top few inches of placed tailings.
- Snow removal was on-going from the side slopes of sub-cell 4 and the esker. Snow removal had also been started in sub-cell 1 in anticipation of completing placement in the center cell within the next few shifts.
- CIRNAC inspectors were just leaving the work site prior to the inspection. It is noted that they were on site responding to complaints from locally-based employees regarding dust generation.

Actions:

- Once placement in the center cell is completed, the next area of placement should be sub-cell 1. **All excess snow/ice must be removed from trenches, the tailings/ground surface and the side slopes prior to placement.** This is expected to be difficult in the areas of the trenches, as the material removed to form the trenches has now frozen into place on the side. Heavier equipment (ie. CAT D8) may be required in this area to suitably prepare for tailings placement.
- No additional lifts are to be placed on sub-cells 2, 3, 4 or 5 at this time.
- Winter placement conditions must be followed in order to achieve proper compaction and reduce settlement in the summer months.** This is critically important for placement in sub-cell 1 as the sub-cell is on the edge of the TSF facility and stability of this material is required.
 - Tailings must be removed from the Church immediately** to avoid freezing of this material prior to placement. **Stockpiling in the Church should only occur in extreme conditions.**
 - Compaction of tailings must occur immediately following placement.** If compacted while unfrozen, the same number of passes (**3 slow passes on high vibrate where “1 pass = 1 forward + 1 backward”**) applies. If frozen tailings material has to be placed, Engineering must be notified so that the least harmful placement location and compaction specifications can be chosen – **frozen/dried tailings must**



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not be placed in sub-cell 1.

4. **There must be no vehicle traffic on the finished tailings surface.** Flash freezing of the surface will occur and erosion/dust generation will be at its peak. Traffic over snow will grind/compress the snow into the tailings surface and will make snow removal in these areas more difficult. **AEM has regulatory requirements to make every effort to control the dust generated from the TSF.**
5. Any unusual observations (ie. "pot-holes") can be signs of serious instabilities and should be reported immediately to the GE. If the GE is not on site, photographs should be emailed for a visual evaluation.
6. Snow should not be placed/stockpile anywhere but the designated snow dump location in Cell 2. The location of the snow dump was chosen based on experiences during freshet 2019.

INSTRUMENTATION

	Y	N	NA
Ground temperature cables read?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Issues/Problems with any cables/beads? (If YES, describe below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COVER MATERIAL PLACEMENT

Placement Area: None

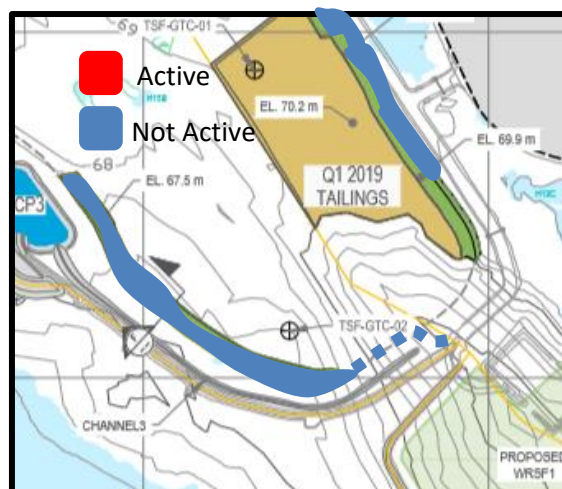
	Y	N	NA
Adequate snow removal procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lift heights respected?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper compaction? (Speed, # of passes)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Traffic management?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Observations:

- None

Actions:

1. Fill in and compact trench through the berm at sub-cell 1 and re-establish the access road.
2. **The west berm should be raised as soon as possible as the gap between the current berm and tailings is acting as a snow trap. This snow/ice must be removed prior to placing the next lift of waste rock.**
3. **Once the volume of tailings in the Church has been significantly reduced, raising of the east berm should also occur, to a level just above the current tailings height for the winter period as a method of dust mitigation.**



PHOTOGRAPHS

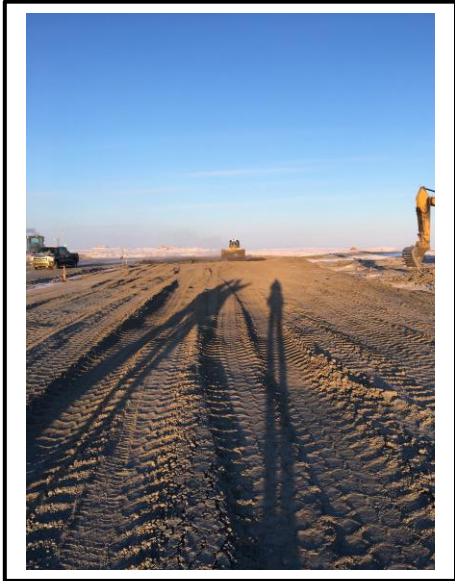


Photo 1: Steam from placed tailings in center cell; snow removal on slopes; broken top inches on placed tails; view facing north



Photo 2: Snow removal started in sub-cell 1; view facing west

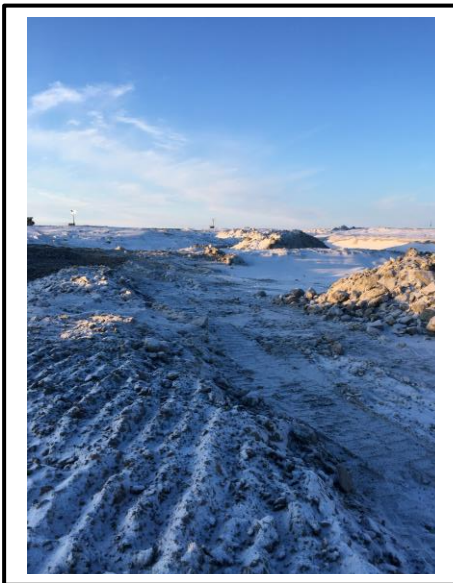


Photo 3: Frozen piles of debris/snow in sub-cell 1 requiring removal before tails placement; view facing west