



# Baffinland Iron Mines Corporation

**August 14, 2023**

Project #: OMGM2212-2023

## **Annual Geotechnical Inspections – 2023 Report 1.**

### **APPENDIX "A" - Mary River Mine Complex - Photographs**

#### **Figure 12 to Figure 48**



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## 2.0 Mary River Mine Complex

### 2.1 Polishing/Wastewater Stabilization Pond Berms (3 PWS ponds)

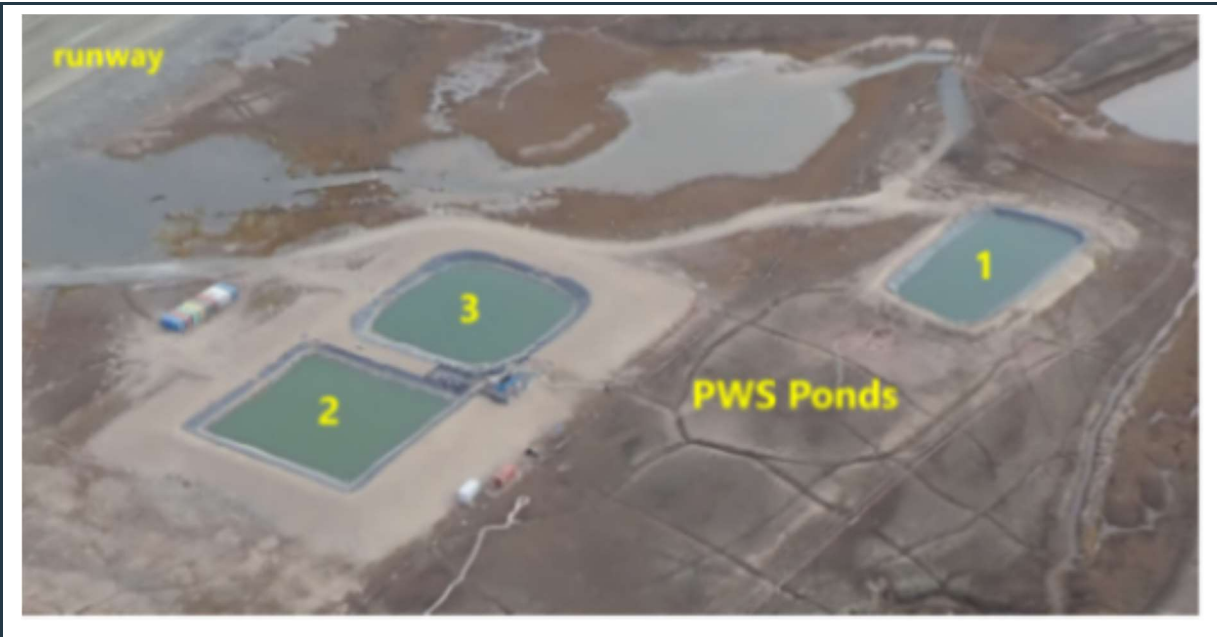


Figure 12: Historic aerial image of the layout of the three PSW ponds with robust, stable berms.



Figure 13: PWS pond #1. Well-maintained, stable perimeter berm and intact liner at the pond. Note the ice in the pond on June 22, 2023.



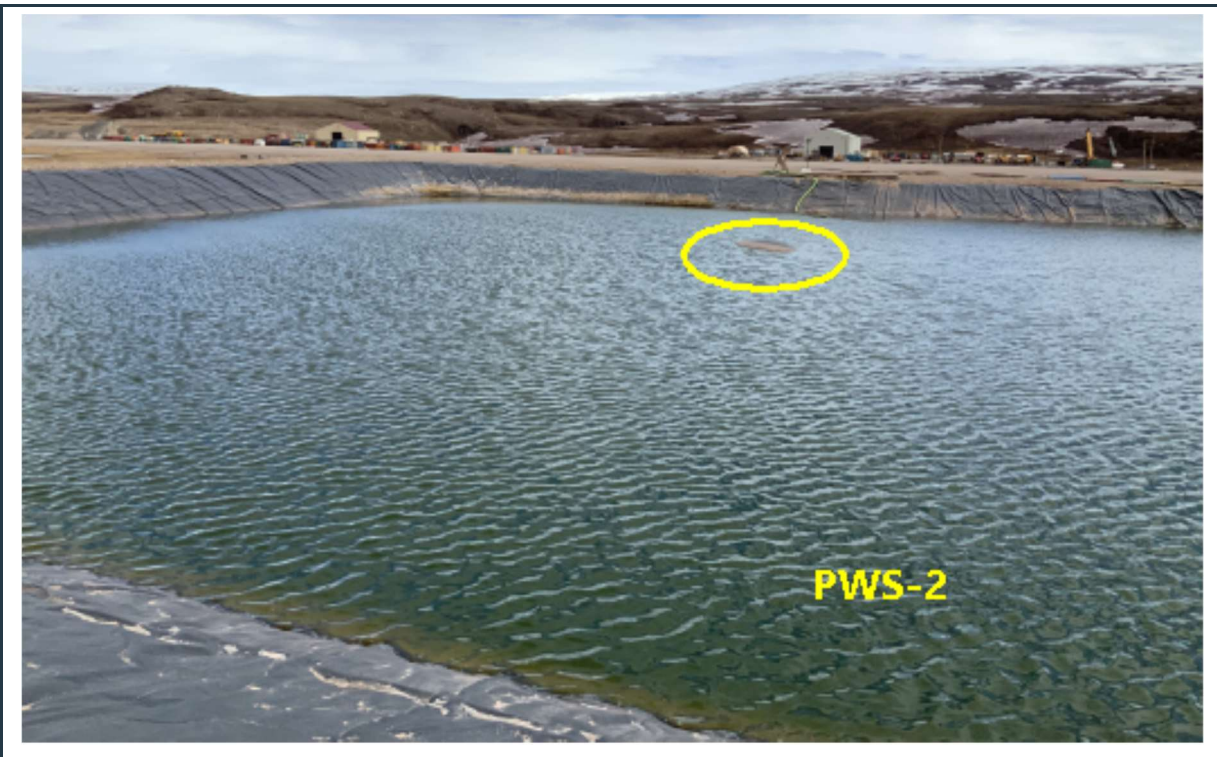


Figure 14: PWS pond #2 with stable, well-maintained berm and liner. – A small, uplifted section of the liner is visible in the pond (yellow circle), which does not pose a risk to the integrity of the liner.

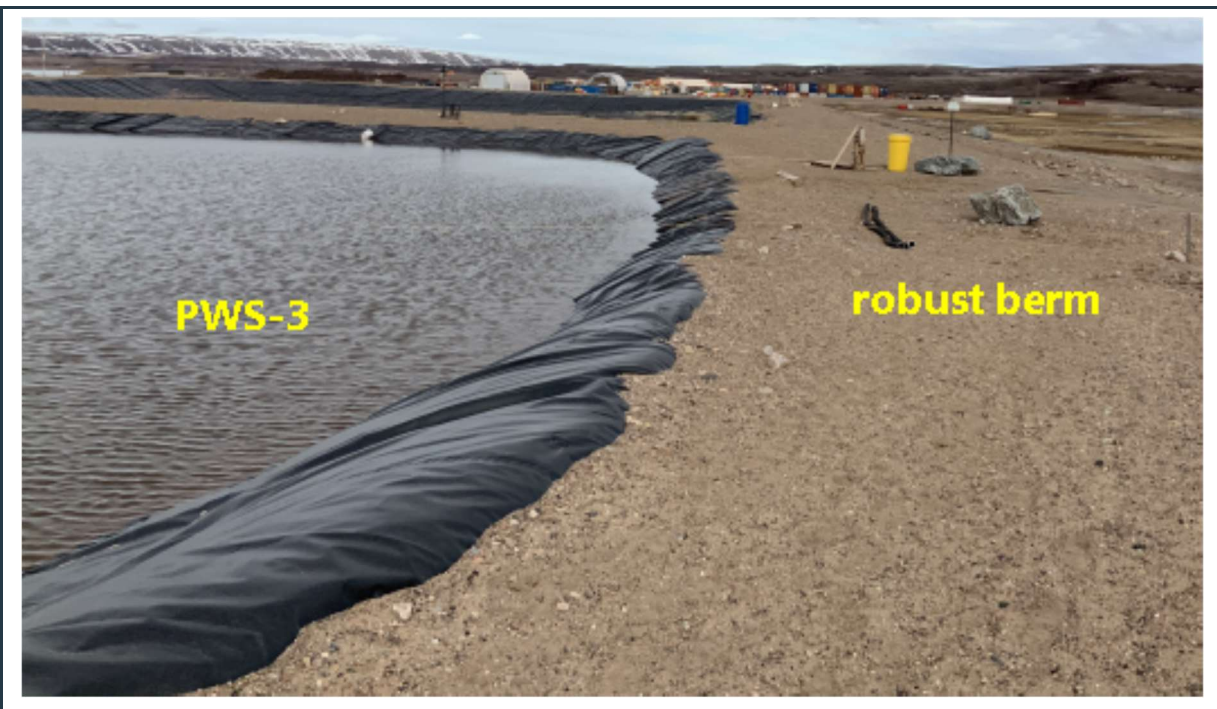


Figure 15: Robust, stable perimeter berms around PWS pond #3 – Wrinkles are common on exposed liners, but they do not pose a risk to the integrity of the high-strength HDPE liners.

## 2.2 Hazardous Waste Disposal Cell Berms (HWB-1 to HWB-7)

### a) HWB-1



Figure 16: View of HWB-1 – Currently this cell is not in use.

### b) HWB-2



Figure 17: View of the robust, stable berms around HWB-2. The presence of water in the cell indicates good liner performance.



c) HWB-3 and HWB-4



Figure 18: View of stable berms and stored fuel barrels in HWB-3.



Figure 19: View of stable berms around the HWB-4 cell, with a shipping container and fuel barrels on wooden pallets stored in the cell. The broken pallets (yellow arrow) should be removed.

d) HWB-5



Figure 20: View of HWB-5 – Currently this cell is not in use.

e) HWB-6



Figure 21: View of the completely full HWB-6 cell. The berm around the cell requires maintenance.



f) HWB-7



Figure 22: View of the stable berm around the HWB-7 cell, with an old fuel tank and oil filled plastic containers stored in the cell. The ponding water indicates good liner performance.

## 2.3 MS-06, MS-07, MS-08, and MS-11 Surface Water Management Ponds and Ditches

### a) MS-06 – Surface Water Management Pond Adjacent to the Crushing Facility



Figure 23: View of the discharge end of the recently cleaned culvert, draining the collected surface water from the crusher area to the MS-06 pond.





Figure 24: View of the robust, stable berm around the MS-06 pond, with temporary problem with the liner (lift-up by wind) at its spillway. Placement of more, heavier sandbags is recommended.

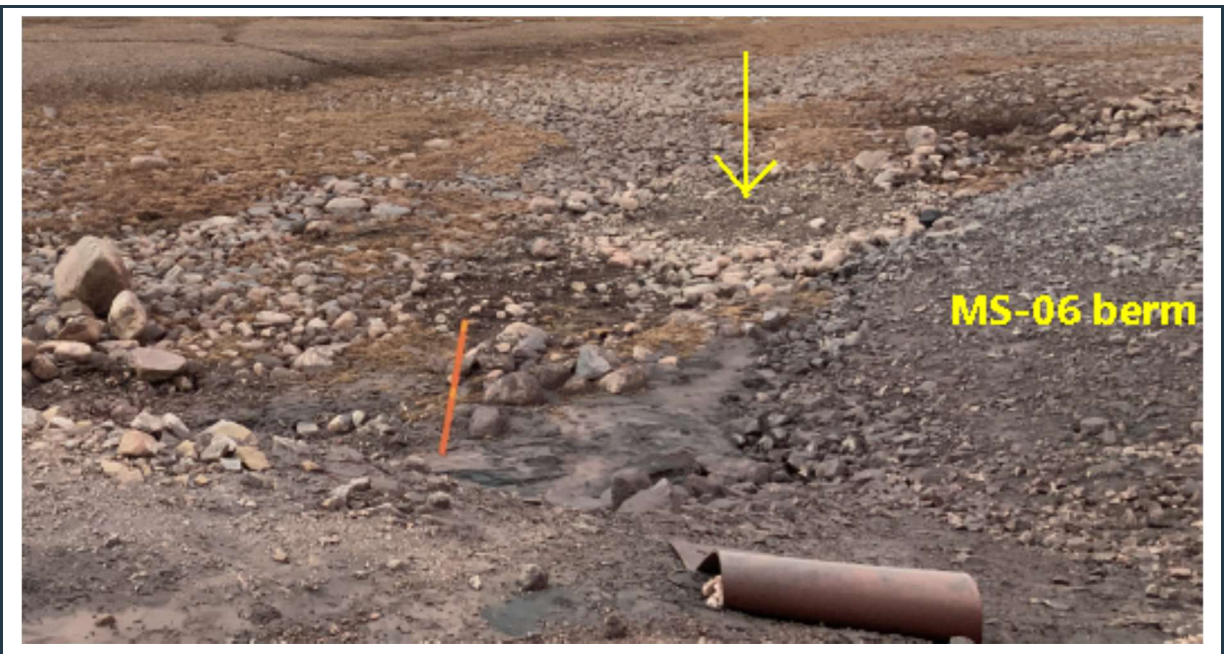


Figure 25: View of the MS-06 pond's berm. The previously excavated temporary sump at the toe of the berm had been backfilled (yellow arrow), as recommended during the previous inspection.

**b) MS-07 – Surface Water Management Pond Adjacent to the new KM106 ore storage**



Figure 26: View of the robust, stable berms and intact liner at the MS-07 surface-water management pond.

**c) MS-08 pond and drainage ditches next to the waste rock facility**



Figure 27: View of the snow- and ice-covered MS-08 pond.



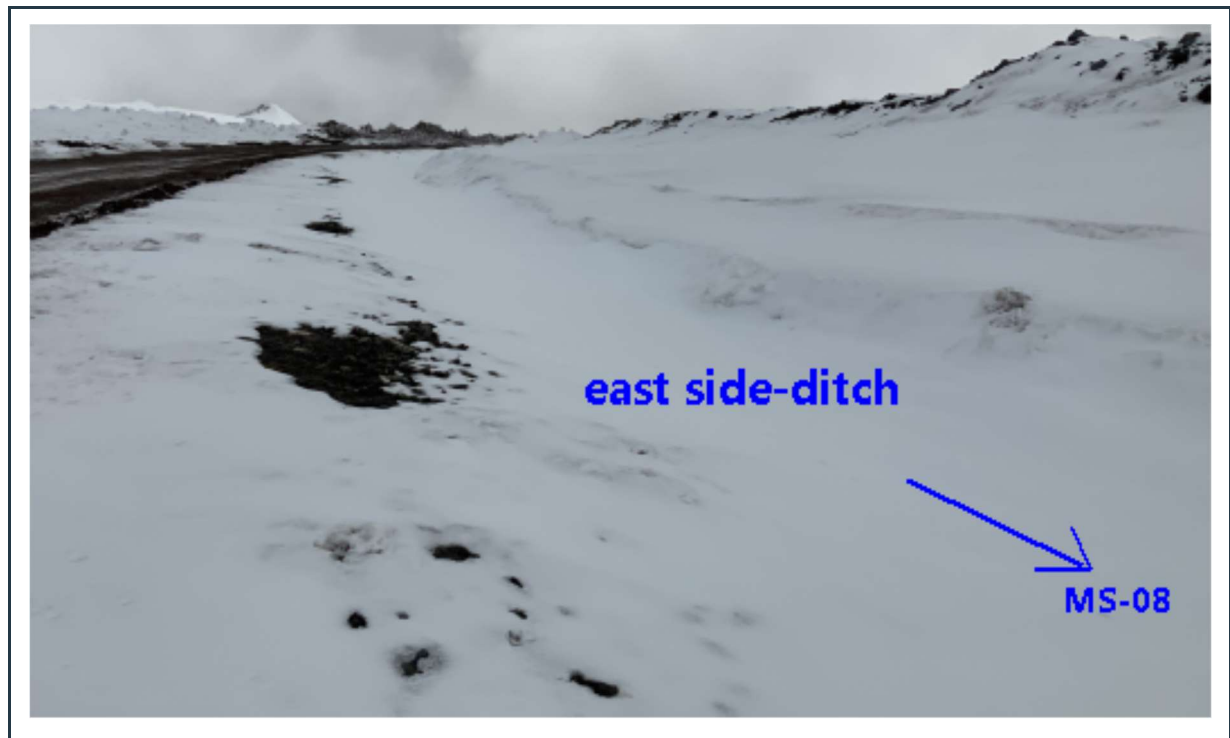


Figure 28: View of the snow- and ice-covered drainage ditch around the east side of the waste rock facility, leading to the MS-08 pond.



Figure 29: View of the snow- and ice-covered geotube pond. A small section of the liner at the south-west section of the berm (yellow circle) is still damaged and will require repair.

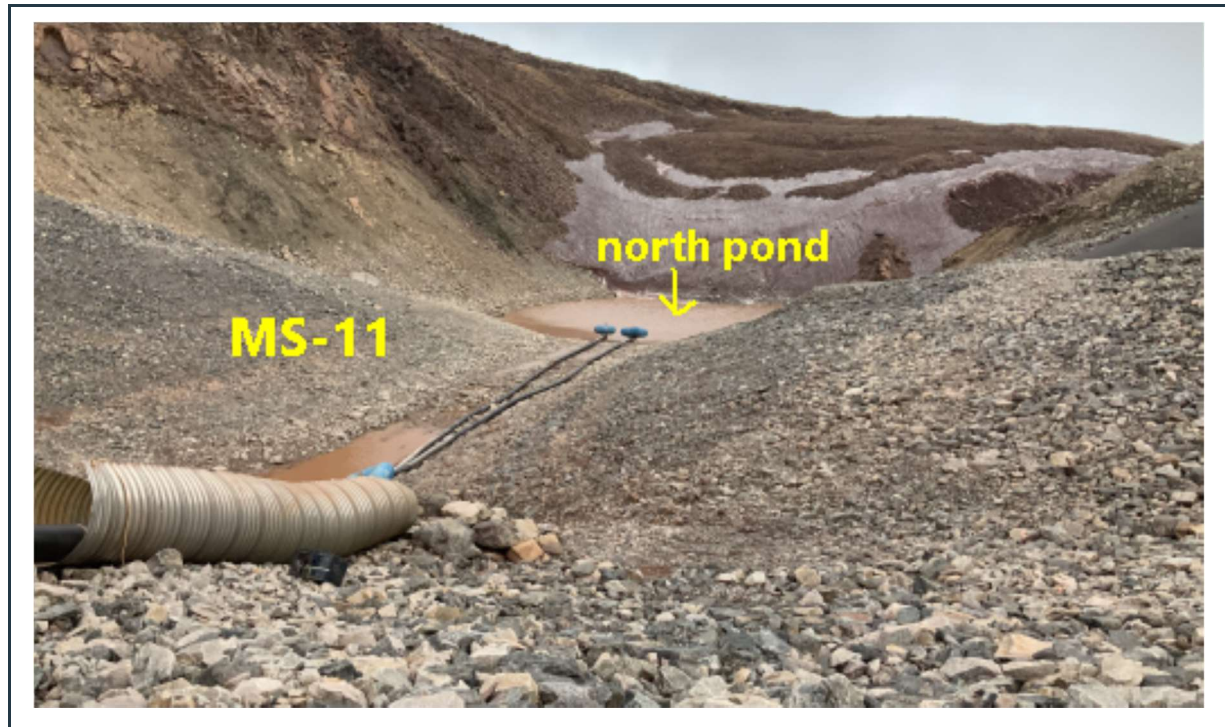
**d) MS-11 surface water management pond at KM105, with emergency spillway**

Figure 30: View of the north part of the MS-11 pond at KM105.



Figure 31: View of the robust and stable emergency spillway (gabion baskets and blankets filled with crushed rock) at KM105. Note the water seepage at the toe of the spillway.





Figure 32: View of the loosely filled and cracked liner anchor trench along the road next to the south MS-11 pond's slope. The cracks should be backfilled with fine-grained soils, regraded, and compacted to minimize water infiltration into the ground next to the slope.

## 2.4 Generator Fuel Berm



Figure 33: View of the stable berm around the "fuel bladder" cell. The adjacent road next to the east berm was recently regraded.

## 2.5 Fuel Farm Berms

### a) Jet-fuel Tank Farm



Figure 34: View of the well-maintained sand and gravel berm and access ramp at the lined jet-fuel storage facility.

### b) MS-03 Diesel Fuel Tank Farm



Figure 35: Well-maintained, stable berm around the MS-03 diesel fuel farm, with some ponding water.



c) MS-03B New Fuel Tank Farm



Figure 36: View of the well-maintained stable berm and access ramp to the interior of the new fuel tank farm. Note the ponding water, indicating good liner performance.

2.6 Solid Waste Landfill Facility and New Landfarm Cells

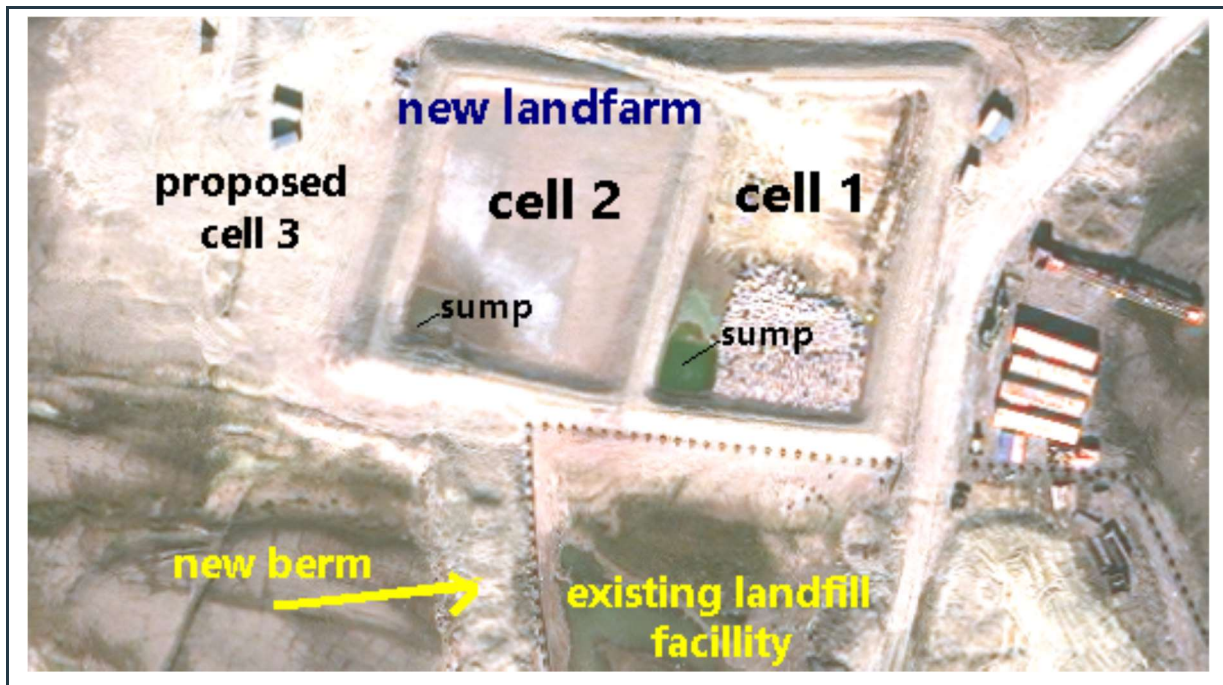


Figure 37: Satellite view of the existing solid waste landfill facility and the adjacent two, recently constructed landfarm cells. Cell 3 is proposed for construction in the future.

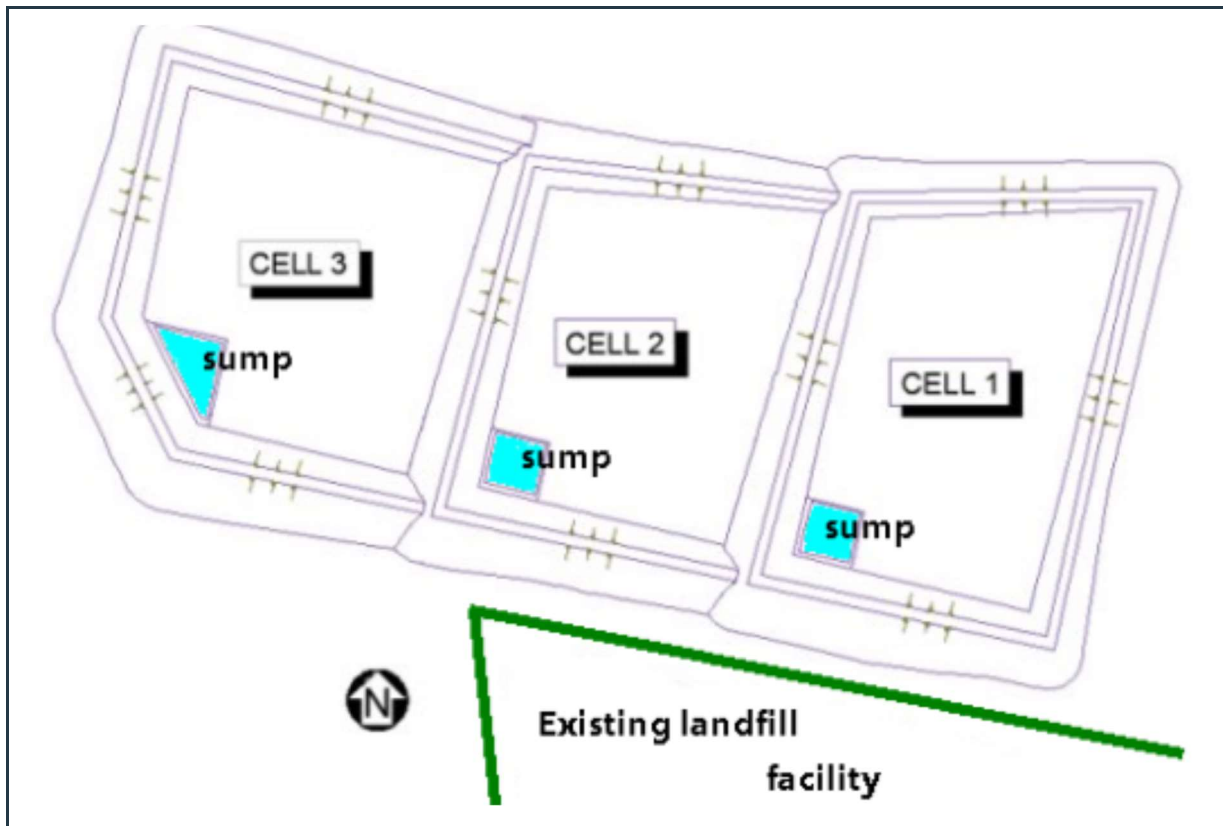


Figure 38: Layout map of the three new land-farm cells, adjacent to the existing landfill facility.



Figure 39: View of soil cover over non-hazardous solid waste in the landfill facility. Note the new berm under construction outside of the fence to prevent surface water leaving the landfill site.





Figure 40: View of a section of the recently constructed berm at the landfarm's Cell 1. Note the exposed liner in one area of the berm and the settled anchor trench along the crest of the berm.



Figure 41: View of the currently empty Cell 2 at the landfarm. Note the exposed liner at one section of the berm, above the internal sump within the facility (see Figure 38).

## 2.7 Camp Lake Settling Check Dams and Berms

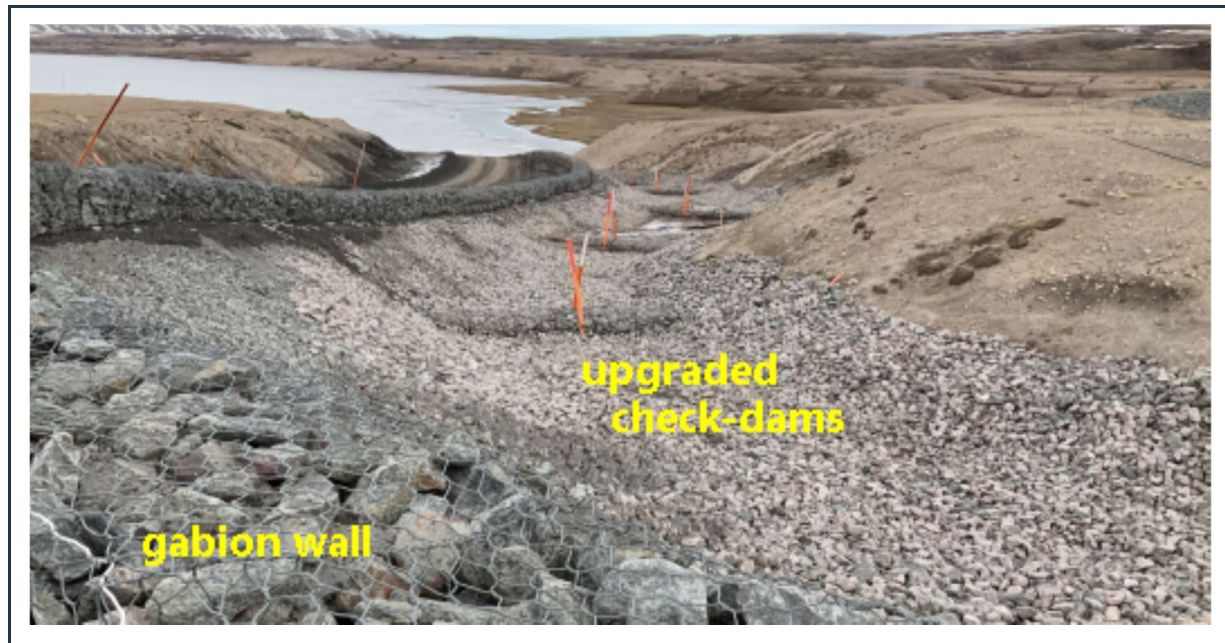


Figure 42: View of the upgraded Camp Lake check dams and new gabion wall along the road to the lake.



Figure 43: View of the new check-dam, adjacent to Camp Lake, to capture suspended solids potentially eroding from the airfield area and to prevent siltation in the lake.



## 2.8 Rock Fill Slope at the Water Discharge Area



Figure 44: View of the stable rockfill riprap slope at the water discharge area.

## 2.9 Rock Quarries and KM106 Ore Stockpile Area

### a) QMR2 Rock Quarry



Figure 45: View of the snow-covered rock face at the upper quarry level with minor potential erosion and rolling rock hazard. No activity is currently carried out in this quarry.



Figure 46: Erosion problem still exists along the edge of the access road to the quarry.

**b) D1Q1 Rock Quarry**



Figure 47: No activity is currently carried out in this quarry and the access road was blocked by snow.



**c) KM106 Ore Stockpile area**

Figure 48: View of the edge of the stockpiled ore, and rockfill berm at the new KM-106 ore stockpile area and a temporary sump, downstream from the berm. The drainage ditch to the sump should be cleaned/graded and the water from the sump should be pumped into the nearby MS-07 pond (see Figure 26).