



Figure 65: View of the lined MP-06A overflow pond with robust stable berms.



Figure 66: View of the 2023 condition of the “west” surface water collection ditch adjacent to the ore storage area, draining water from pond #3 to the MP-06 pond. This photograph was taken in 2023. Note the changes in ditch condition in Figure 67, which was taken in August 2024.



Figure 67: View of the 2024 condition of the “west” surface water collection ditch adjacent to the ore storage area. Note the new, widened berm along the ditch, partly constructed within the ditch.

3.6 Q01 rock quarry – Main Level



Figure 68: View of ponding and flowing water at many areas of the lower (main) level of the Q01 rock quarry. The drainage problem should be rectified prior to restarting the operation in the quarry.



Figure 69: Poor surface water control in many areas of the lower (main) level of the Q01 rock quarry.

3.7 Surface Water Collection Ditches (P-SWD-3, P-SWD-5, P-SWD-6, P-SWD-7, W3/W14, 380-Person Camp, and PSC Ditches)

a) P-SWD-3 (south side of the LP2 laydown area)



Figure 70: View of the southern section of the P-SWD-3 surface water collection ditch with failed slope sections and ponding water due to inadequate longitudinal channel slope.



Figure 71: View of the damaged culvert (yellow circle) and the northern section of the P-SWD-3 surface water collection ditch with failed slopes and ponding water.

b) P-SWD-5 (along the main level of the Q01 rock quarry)



Figure 72: P-SWD-5 – “Q01-North” surface water collection ditch with missing riprap at one section of the ditch. Note the continuous seepage from the granular fill pad of the quarry’s lower level.



Figure 73: View of the clogged, undersized culvert beneath the access road to the Q01 rock quarry. This culvert should be removed and replaced with a larger diameter pipe.

c) P-SWD-6 (south of the Q01 rock quarry)



Figure 74: View of the P-SWD-6 surface water collection ditch. As opposed to the original design intent, no water is drained from the quarry in this ditch with its invert level constructed above the current (lower) level of the quarry (see Figure 75 as well).



Figure 75: View of the over-excavated southern area of the Q01 quarry with ponding water (see Figure 11 for location). Note the start of the P-SWD-6 ditch in the image, with its invert level well above the new ground level in the area (bottom of the pond).

d) P-SWD-7 (ditch and culverts adjacent to the new freight dock)



Figure 76: View of the P-SWD-7 surface water collection ditch and culverts (inlet).



Figure 77: View of the well-maintained P-SWD-7 surface water collection ditch and culverts (outlet).

e) W3/W14 (surface water collection ditch)



Figure 78: View of the partly completed W3/W14 surface water collection ditch with crushed rock riprap slope protection. The area around the culvert's inlet and the side-ditch from the left still require the placement of geotextile and riprap for erosion protection.

f) 380-Person Camp (surface water collection ditch)



Figure 79: View of the well-maintained south section of the 380-Person Camp surface water collection ditch.



Figure 80: View of the east section of the 380-Person Camp surface water collection ditch in good condition.

g) PSC (new surface water collection ditch)



Figure 81: View of the “west end” of the PSC surface water collection ditch (red circle in Figure 8). Note the localized slope degradation due to frequent water seepage from the granular fill of the LP-2 laydown pad (yellow arrow). The culvert shown in the image can be removed.



Figure 82: View of the “east end” of the PSC surface water collection ditch (also shown by green circle B in Figure 8). Additional riprap and a check dam should be installed along this section of the ditch.

3.8 Tote Road Ditch and Culverts



Figure 83: View the inlet of twin culverts draining surface water from the P-SWD-6 ditch and from the road's side-ditch, under the tote road.



Figure 84: View of the outlet of the twin culverts, installed within the road embankment.

3.9 Effluent Discharge Pipe



Figure 85: View of the end of the water discharge pipe (blue arrow) and a nearby culvert (yellow arrow) draining water to the same valley. More ripraps should be placed into the upper section of the valley, marked by red arrows, to prevent erosion of the valley floor and side-slopes.

3.10 LP-5 Storage Pad



Figure 86: View of the recently regraded LP-5 storage area.

3.11 Western Globe Fuel Module (WGFM)

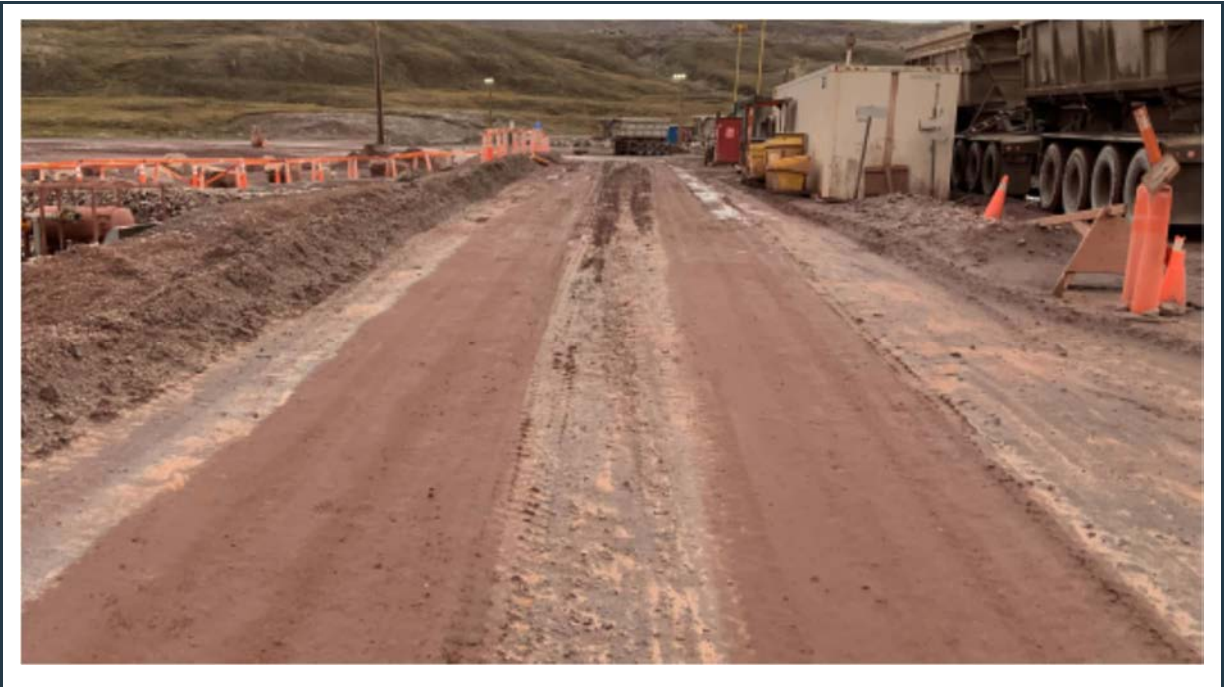


Figure 87: View of the Western Globe Fuel Module (WGFM) north of the 380 Camp. No humps are visible at the entrance and exit points of the refueling station.

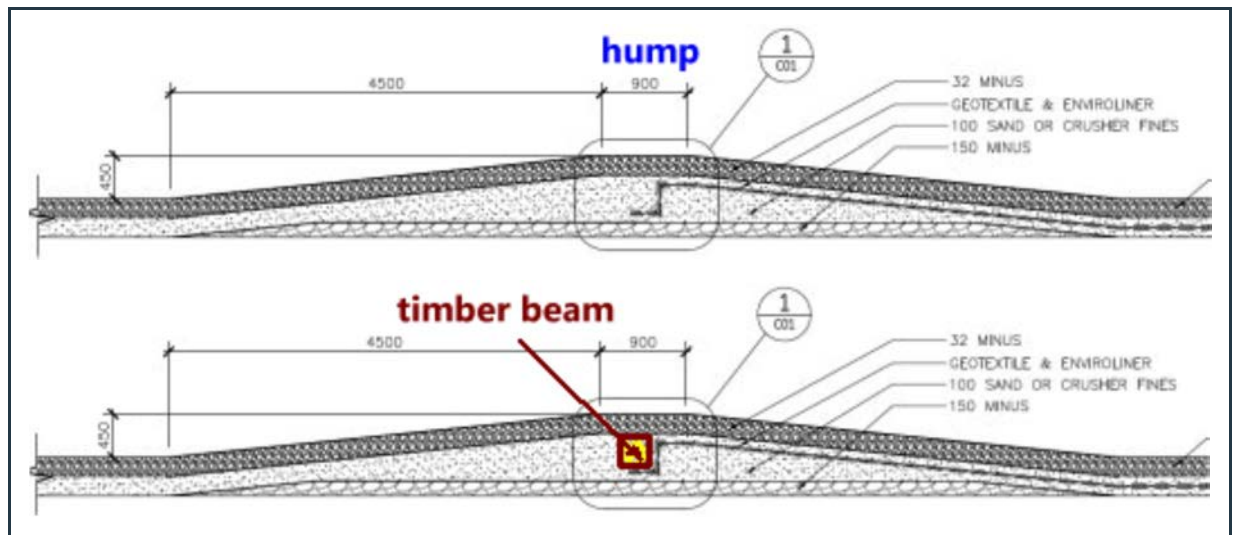


Figure 88: Top image: Section of 900 mm wide (at its crest) drainage control hump with 10H:1V slopes for the Western Globe Fuel Module (WGFM), specified by B.H. Martin Consulting Engineer and Architect, in June 2016. Lower image: A 10" by 10" timber beam should be installed within the humps to prevent the flattening of the granular fill by the heavy trucks. The humps should prevent potential oily surface water escaping the refueling area toward the ends of the WGFM.



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APPENDIX "C" – Tote/Haul Road - Photographs
Figures 89 to 118



Aerial view of a section of the Tote Road near Milne Inlet Port.

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4.0 Tote Road Between the Mary River Mine and Milne Inlet Port

4.1 Bridges (4)

a) Bridge 17 (located 17 km from Milne Inlet port)



Figure 89: View of the stable abutments with riprap erosion protection at the north side of bridge KM17.



Figure 90: View of the stable abutments with riprap scour protection at the south side of bridge KM-17.



Figure 91: View of the west abutment, where the old metal crib has been removed and replaced with new riprap erosion protection at the south side of bridge KM17.



Figure 92: View of the east abutment, where the old metal crib has been removed and replaced with new riprap erosion protection at the south side of bridge KM17.

b) Bridge 63 (located approximately 63 km from Milne Inlet port)



Figure 93: View of the west side of bridge 63, with stable abutments and riprap scour protection.



Figure 94: View of the stable abutments at the east side of bridge 63. Also note that one (south) of the two “old” crib abutments is still in place, while the north one has been removed and replaced with rock fill (cobbles and boulders).

c) Bridge 80 (located approximately 80 km from Milne Inlet port)



Figure 95: View of the west side of bridge 80, with riprap scour protection around the abutments.



Figure 96: View of the abutments with riprap scour protection at the east side of bridge 80.

d) Bridge 97 (located approximately 97 km from Milne Inlet port)



Figure 97: View of the stable abutments at the west side of bridge KM 97. As shown, there is only one remaining old crib abutment present at this bridge. Note the area between the old and new abutments (yellow circle) where additional rock fill should be placed for erosion protection.



Figure 98: View the enlarged image of the area between the old and new abutments (yellow circle) where additional rock fill should be placed for erosion protection.



Figure 99: View of the stable abutments at the east side of bridge KM97. Note the area marked by the yellow circle where additional rock fill should be placed at the shore of the river and adjacent to the approach embankment to the bridge abutment, for erosion protection.



Figure 100: View of the enlarged image of the area marked by the yellow circle in Figure 99, where additional rock fill should be placed for erosion protection.

4.2 Selected Culverts (7)

a) KM 32+900 Lake access road culvert and check dams



Figure 101: View of the damaged culvert at its inlet at KM 32+900. The culvert should be replaced as soon as practically possible. More rockfill should also be placed around the culvert's inlet.

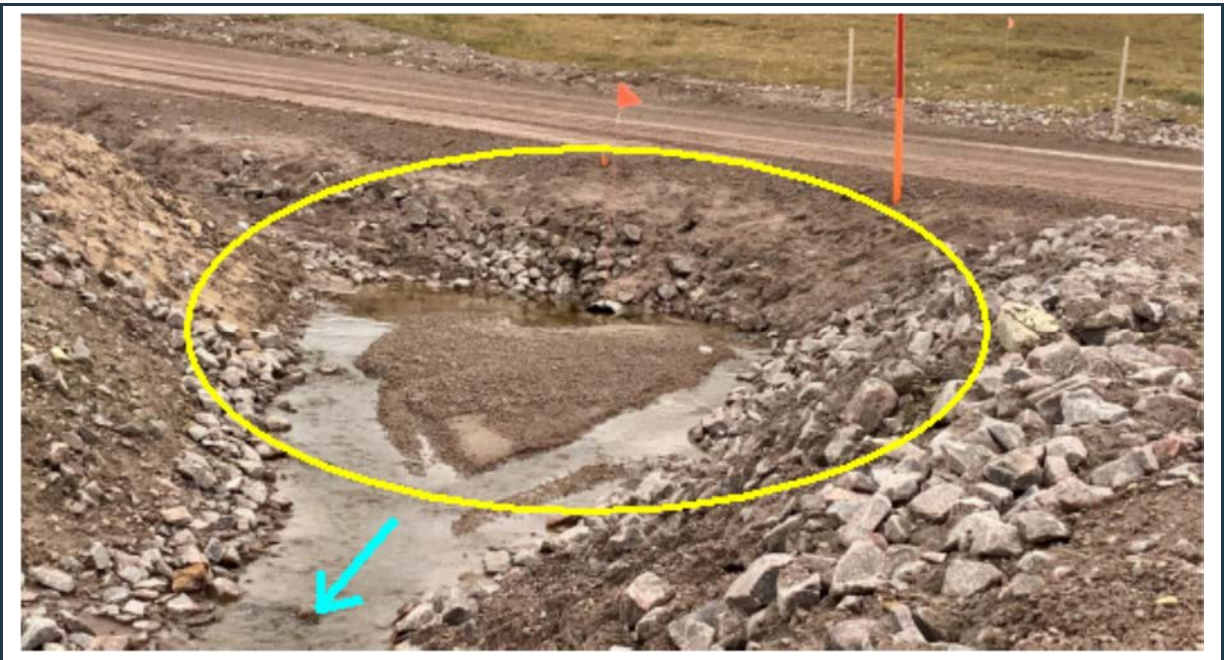


Figure 102: View of the outlet of the culvert at KM 32+900. The ditch at the front of the culvert should be cleaned from the sediment during culvert replacement, and more ripraps should be placed.



Figure 103: View of the ditch and check dams at KM 32+900. The ditch should be cleaned (yellow circle) and the crest of the check dams repaired/raised (yellow arrows) during maintenance work.

b) KM 33+100 Culverts



Figure 104: View of the inlet of the twin culverts at KM 33+100. No water was flowing through the culverts that show some sagging in their centre, under the weight of the road embankment.



Figure 105: View of the outlet of the twin culverts at KM 33+100. No water was flowing through the culverts that show some sagging in their centre, under the weight of the road embankment.

c) KM 36+000 Culverts



Figure 106: View of the inlet of the twin culverts at KM 36+000, in good condition.



Figure 107: View of the outlet of the twin culverts at KM 36+000, in good condition.

d) KM 59+800 Culverts



Figure 108: View of the inlet of the twin culverts at KM 59+800, in good condition.



Figure 109: View of the outlet of the twin culverts at KM 59+800, in good condition.

e) KM 80+500 Culverts



Figure 110: View of the inlet of five culverts at KM 80+500. All five culverts suffered serious differential settlements (sagging) and all of them will need to be replaced as soon as practically possible.



Figure 111: View of the outlet of five culverts at KM 80+500. All five culverts suffered serious differential settlements (sagging) and all of them will need to be replaced as soon as practically possible.

f) KM 90+100 Culverts

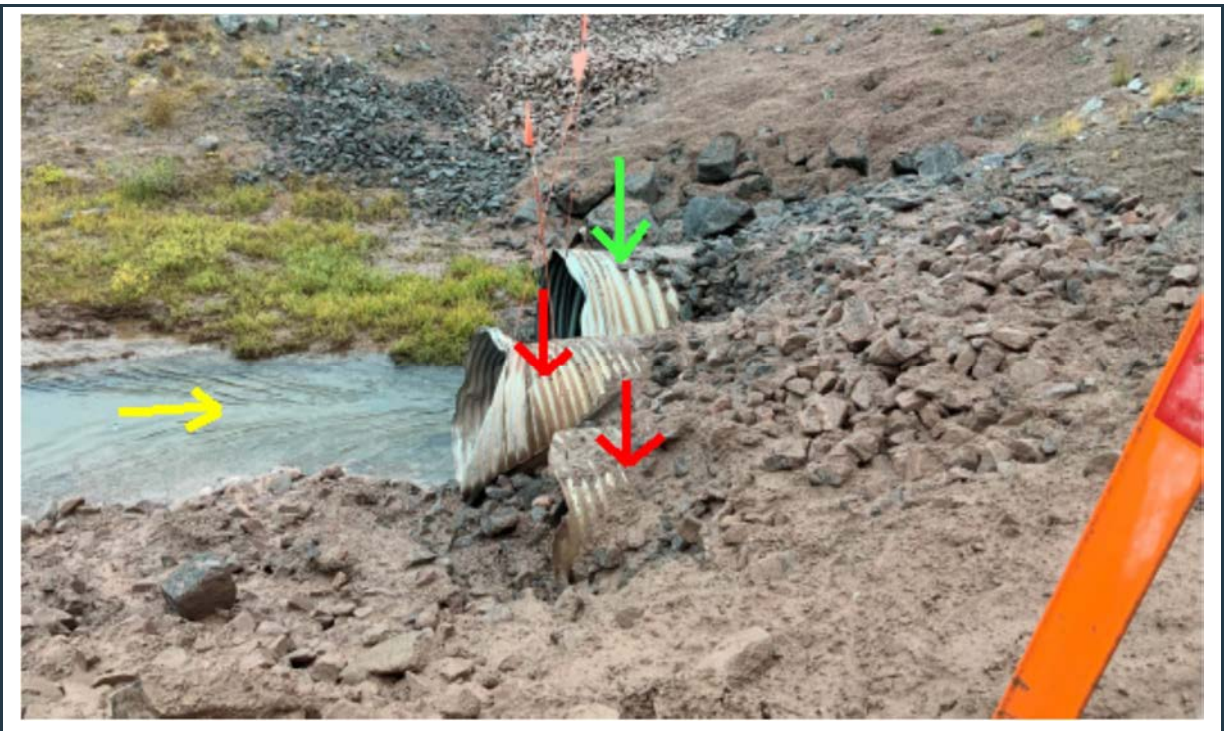


Figure 112: View of the inlet of three culverts at KM 90+100. Only one (green arrow) is operational.

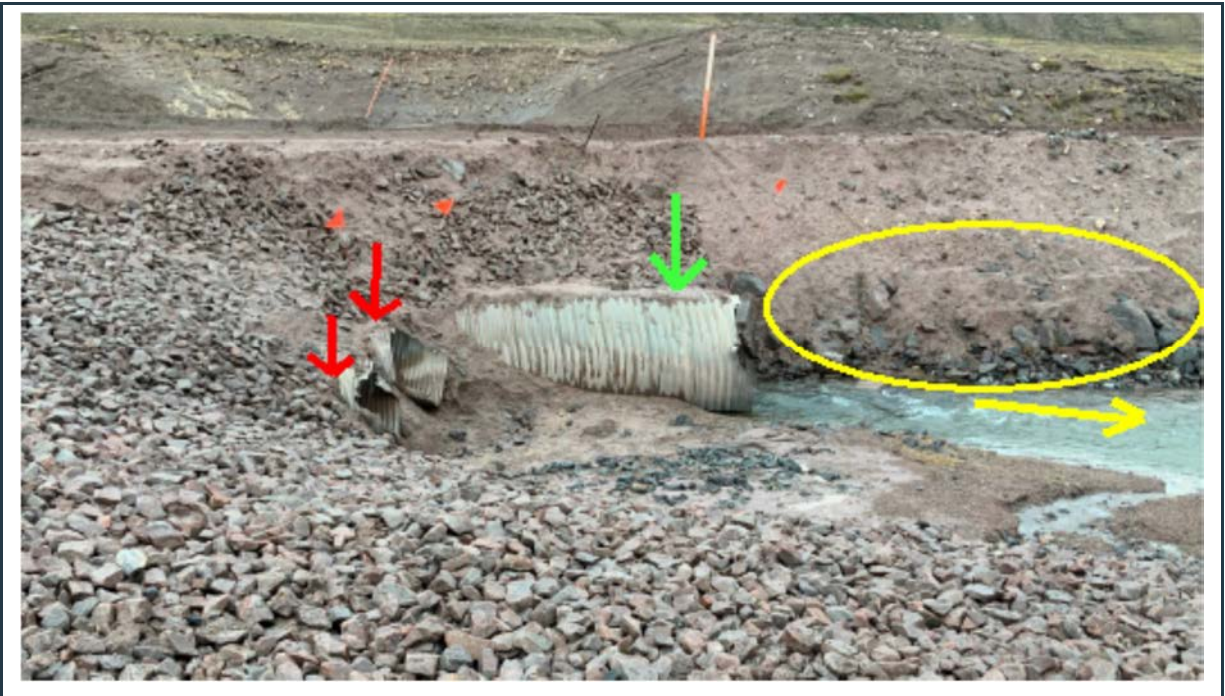


Figure 113: View of the outlet of three culverts at KM 90+100. Only one (green arrow) is operational.

g) KM 94+060 Culvert



Figure 114: View of the inlet of three culverts at KM 94+060, in good condition.