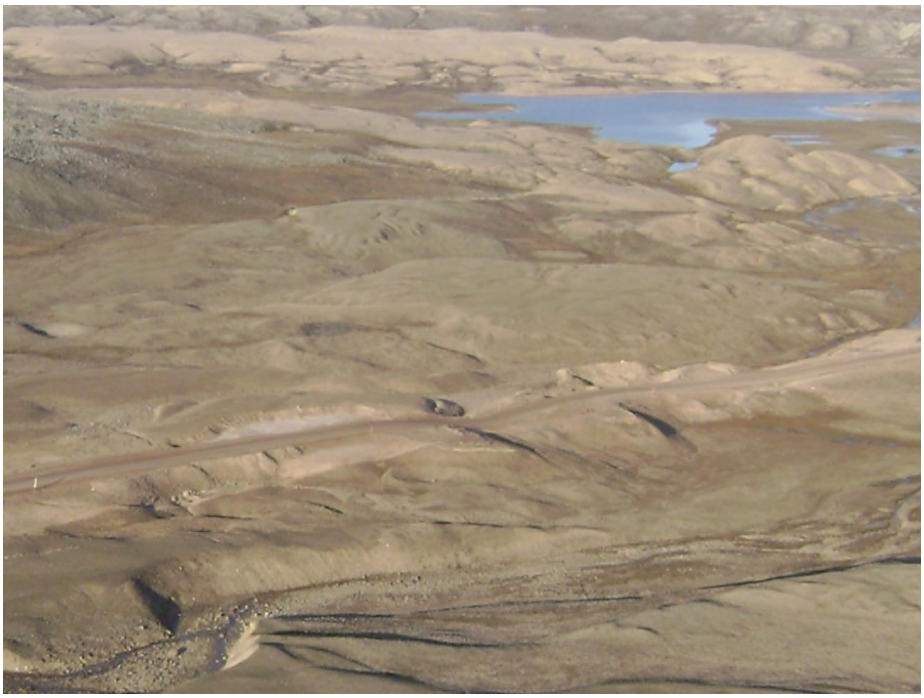

Photo 20 (2558):
Pits at KM 63 to 63.8 (Figure 9), continued thaw of ice-rich material threatens road stability at this location.

Photo 21 (2657):
Pit at KM 63.8 (Figure 9), continued thaw of ice-rich material beside the realigned road leading to steep side slope and instability of the embankment. Side slopes need to be significantly flattened to provide better thermal protection and stability.

Photo 22 (2662):
Pits at KM 63 to 63.4 (Figure 9), continued thaw of ice-rich material beside the realigned road leading to steep side slope and instability of the embankment. Side slopes need to be significantly flattened to provide better thermal protection and stability.

Photo 23 (2014 Photo):
Pit at KM 72.4 (Figure 10), extensive thaw settlement of very ice-rich soils in the borrow pits on both sides.

Photo 24 (2555):
Pit at KM 72.4 (Figure 10), compare to Photo 24. Thaw settlement is ongoing. Road was rebuilt after a failure occured at the location of the pond on the left side of the road. Erosion channel from the left side is now more visible. When the water rises in the thaw settlement areas on the right side of the road it flows out and down to the creek and may be a source of sediment.

Photo 25 (2555):
Pit at KM 72.4 (Figure 10), photo shows right side borrow pit with very deep ponding due to thaw. Embankment shows signs of instability due to very steep slopes. Outlet for ponded water can be seen and is probably the source of sediments noted by the QIA.

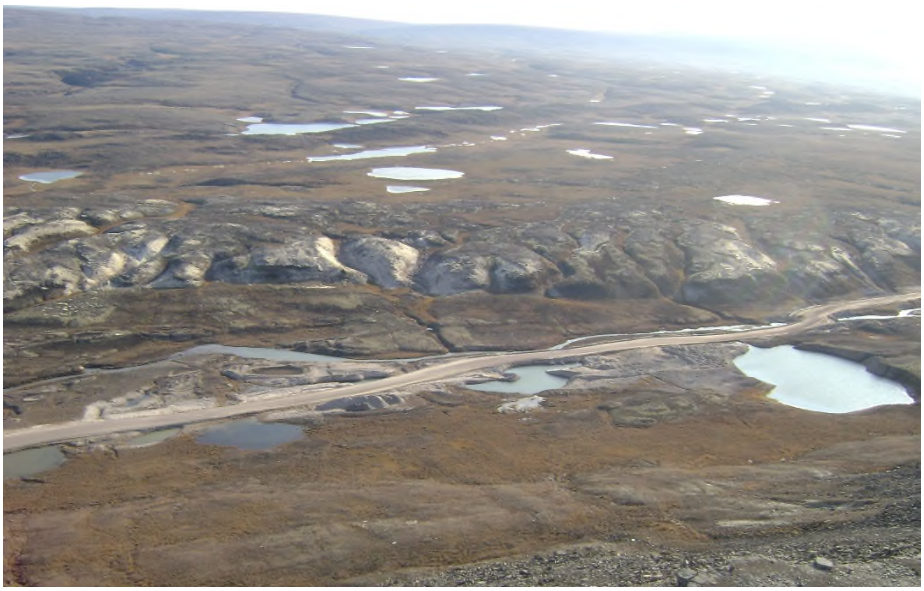

Photo 26 (2597):
Pit at KM 89.8 (Figure 12), photo shows borrow pit on the right side with very deep ponding due to thaw (centre of photo). Larger pond on the right is a natural thermokarst pond that existed before the road was constructed and is typical of the ponds that form due to thaw of massive ice bodies. This was likely also the case at the borrow pit location where the removal of the active layer initiated thaw of massive ice.

Photo 27 (2656):
Pit at KM 89.8 (Figure 12), photo shows right side borrow pit with very deep ponding due to thaw. Embankment shows signs of instability due to very steep slopes and ongoing thaw.

Photo 28 (2678):
KM 17 Bridge, west abutment. Note tilting of upper bin wall.

Photo 29 (2683):
KM 17 Bridge, east abutment. Note tilting of upper bin wall.

Photo 30 (2683):
KM 63 Bridge, north abutment. Note tilting of upper bin wall.

Photo 31 (2708):
KM 64 Bridge, south abutment. Note tilting of upper bin wall.

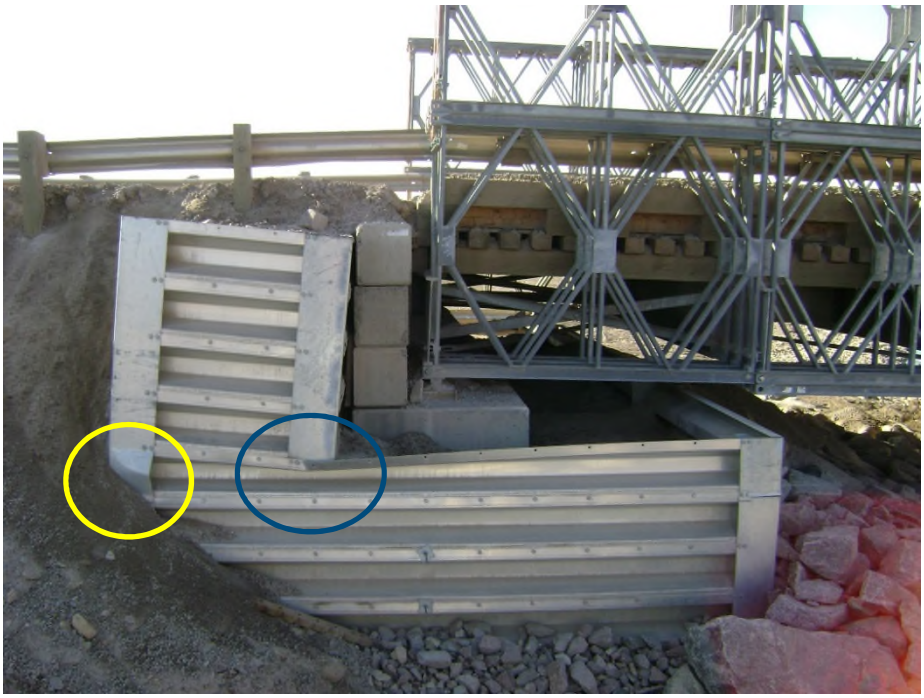

Photo 32 (2712):
KM 64 Bridge, south abutment. Note tilting of upper bin wall, buckling of back bin wall corner post (yellow) and bending of upper plate in the lower bin wall (blue).

Photo 33 (2715):
KM 80 Bridge, south abutment. Note tilting of upper bin wall.

Photo 34 (2718):
KM 80 Bridge, road surfacing gravel that has fallen though the centerline joint in the bridge deck and is visible in the river.

Photo 35 (2719):
KM 97 Bridge, north abutment. Shorter upper bin wall has not tilted as much as other bridges. Lower chord of the bridge truss appears to be in contact with the lower bin wall.

Photo 36 (2523):
KM 2.5 slope instability and mud slide adjacent to the Tote Road.

Photo 37 (2524):
KM 2.5 slope instability and mud slide adjacent to the Tote Road. Photo on terrace above the road, note evidence of a small instability near the top of the slope and thawed surficial materials on the terrace.

Photo 38 (2526):
KM 4.0 erosion location. Erosion is seen on the north (left in the photo) side of terrace (see also photo 39) with a large sedimentation fan near the creek, a wet area on the terrace below the road (see Photo 40) and secondary erosion feature (see Photo 41 on the south (right in the photo) side of the terrace.

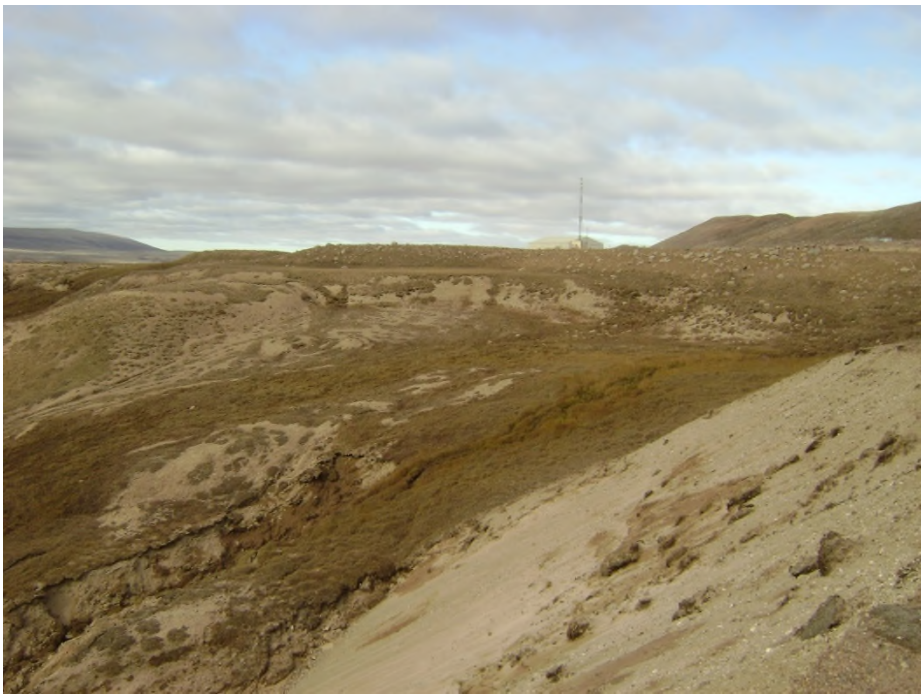

Photo 39 (2528):
KM 4.0 erosion location immmediately below the culvert on the north side of the terrace.

Photo 40 (2526):
KM 4.0 erosion location. Photo shows wet area below the road on the top of the terrace.

Photo 41 (2527):
KM 4.0 erosion location. Photo shows erosion at the edge of the south side of the terrace.

Photo 42 (2728):
Natural instability/erosion feature south of the Tote Road near KM 71. Surface water erosion leading to thaw and sediment release.

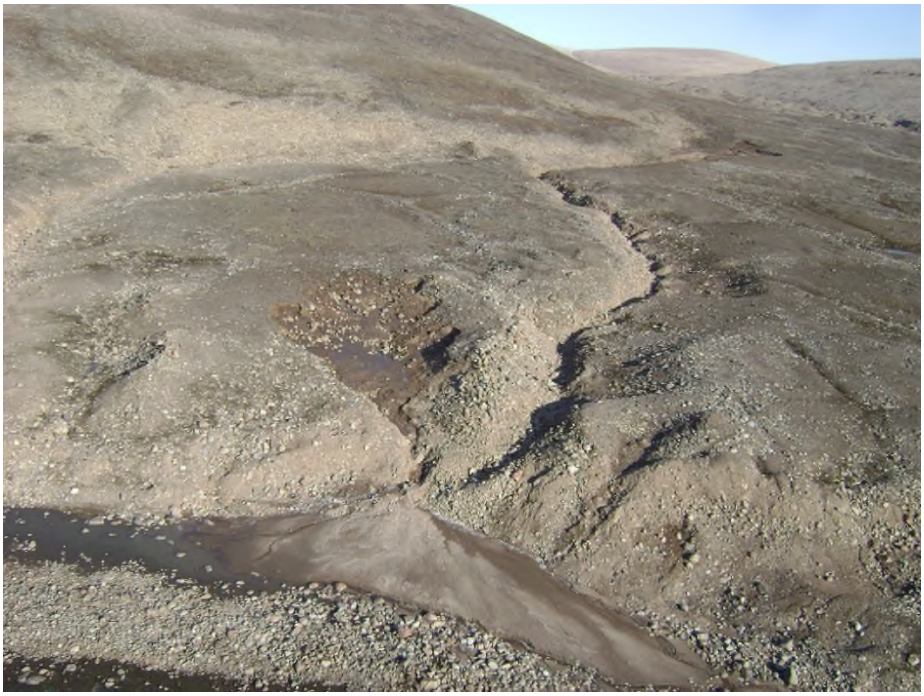

Photo 43 (2721):
Natural instability feature (active layer detachment side) on the headwaters of the Mary River 16 km east-northeast of the mine.

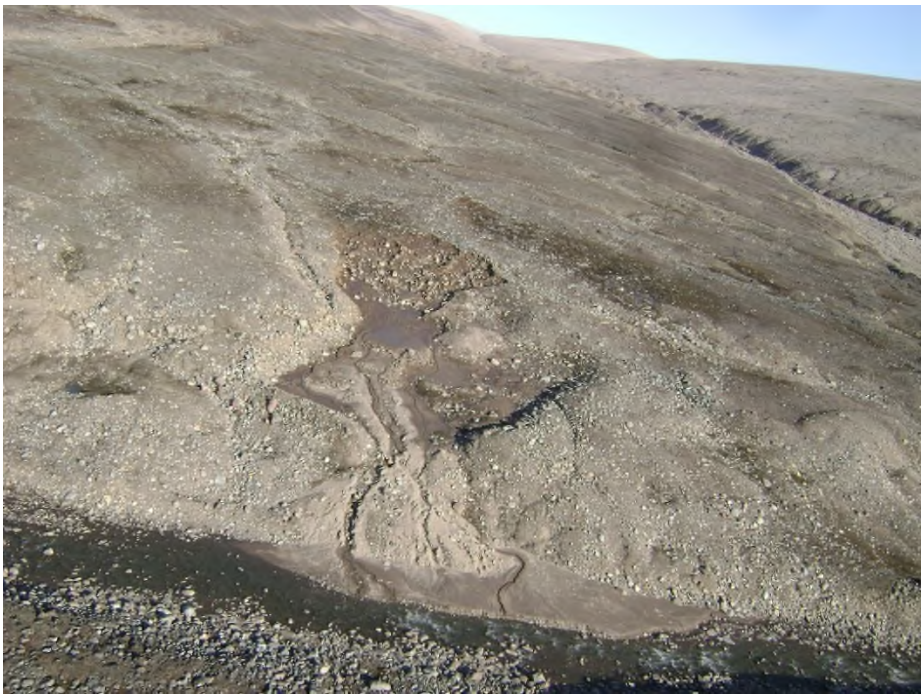

Photo 44 (2722):
Another natural instability feature (active layer detachment side) on the headwaters of the Mary River 16 km east-northeast of the mine. Note sedimentaion into the river that lead to turbidity being observed in the river near the mine

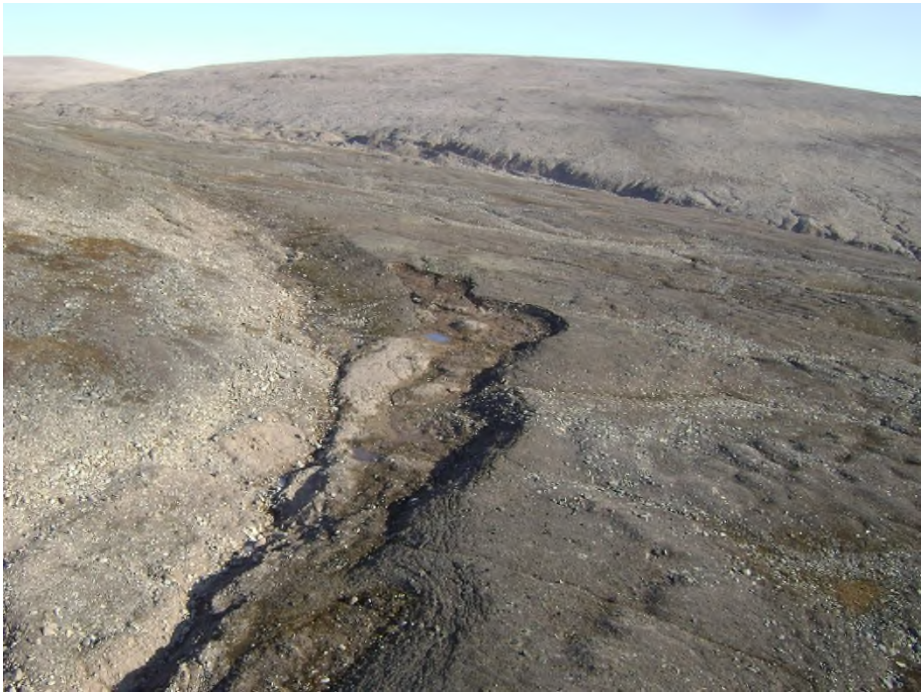

Photo 45 (2724):
More natural instability features (active layer detachment sides) uphill from the location shown in Photo 44 on the headwaters of the Mary River 16 km east-northeast of the mine.

Photo 46 (2014 photo):
Photo of a natural collapse feature in undisturbed terrain. The photo celarly shows the active layer (light colour silty granular material), overlying frozen (darker material), overlying a massive ice body. Natural material over the ice is approxiamtely 3.0 m thick. See Photo 48 taken in 2019 at the same location.

Photo 47 (2638):
2019 Aerial photo of the natural collapse feature shown in Photo 46. The size of the collapse feature has increased dramatically with extensive meltout of the massive ice. What can be learned from the photo is that terrain with this type of surface expression (“gummie worm”) is likely indicative of deposits of massive ice. This type of terrain is particularly prevalent in the area where the railway deviates to the south of the Tote Road.

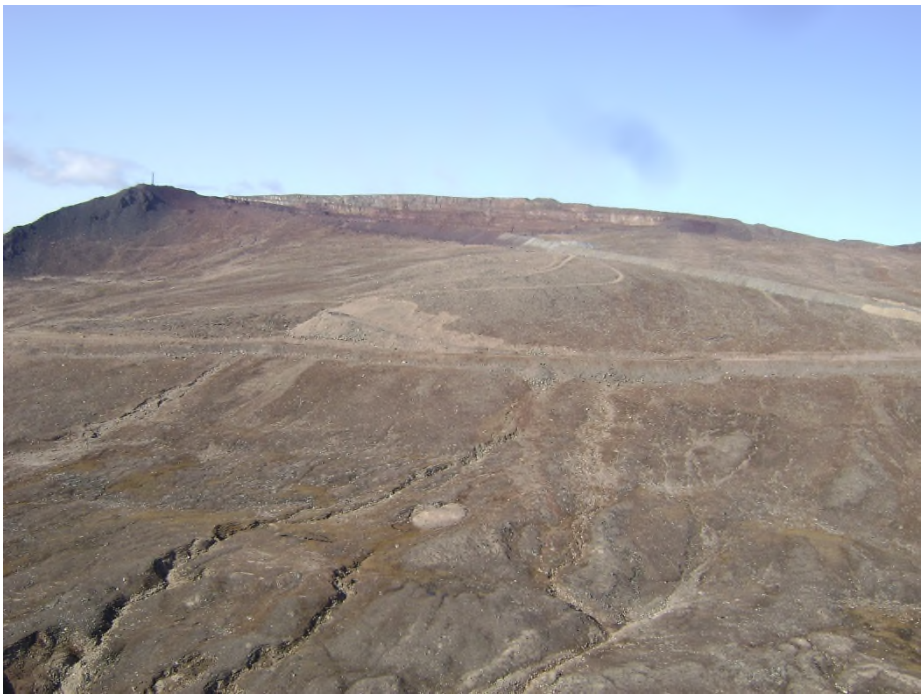

Photo 48 (2650):
Erosion channels downslope of the main mine haul road from the open pit.

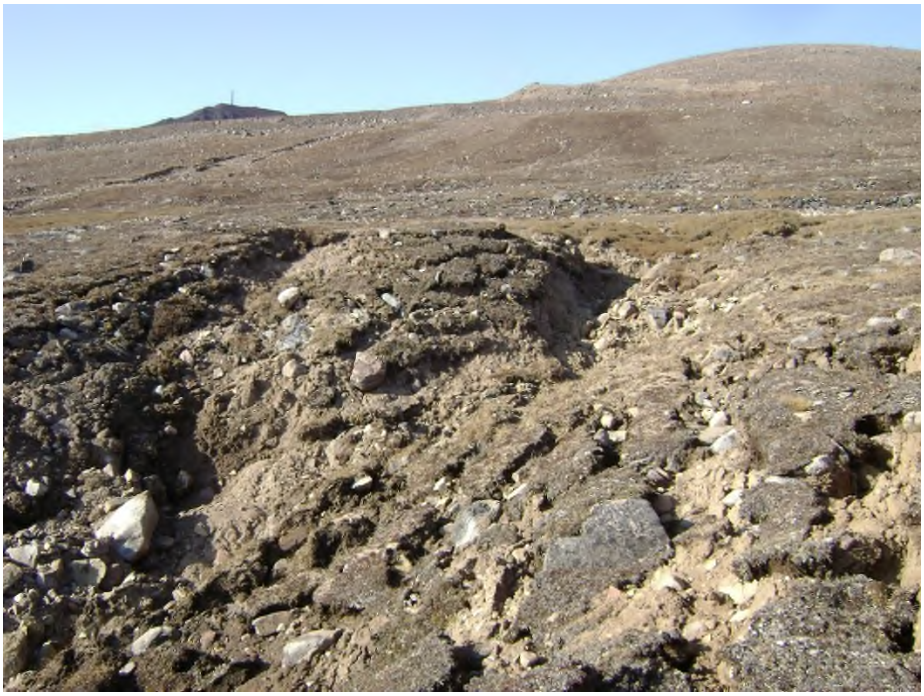

Photo 49 (2652):
Close-up of some of the erosion channels downslope of the main mine haul road from the open pit.

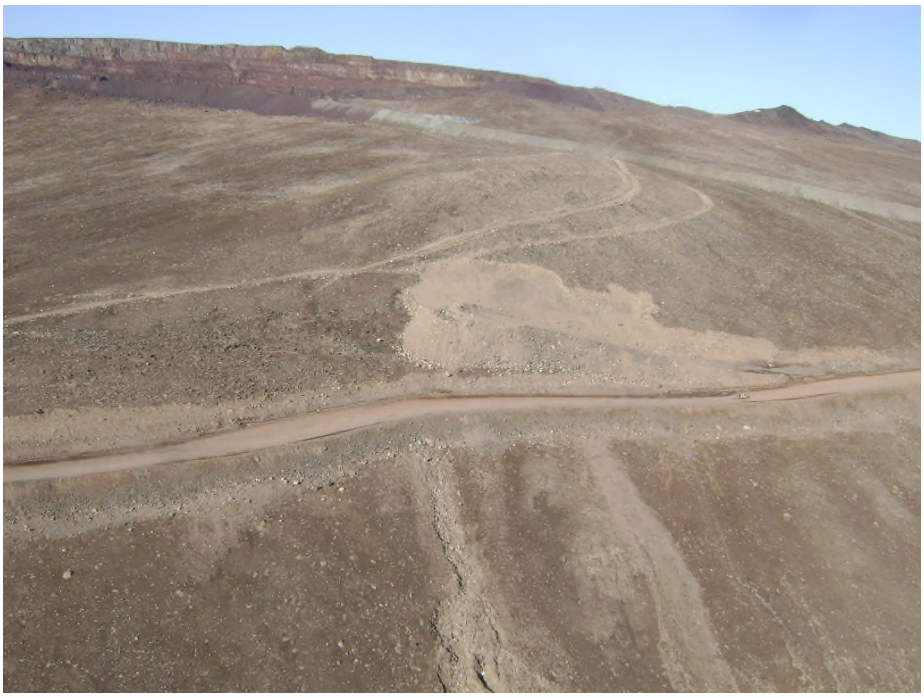

Photo 50 (2643):
Additional erosion channels downslope of the main mine haul road from the open pit.

APPENDIX A

TETRA TECH'S LIMITATIONS ON USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

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Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.15 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

1.16 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

1.17 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

Baffinland

Attachment 2

Execution Plan for Tote Road Remedial Action

Baffinland

Table 1 - Execution Plan for Tote Road Remedial Measures

Site WP No. 2009	Km Post	Priority	Ground Photos	Aerial Oblique Photos	2019 Comments	Proposed Timeline for Execution	Notes for Execution
14	89.8	**A++++**	2655, 2656	2597	QIA -Noted road stability issues. Instability is very evident, water is very deep and the embankment side slope on the right side of the road is very steep and shows cracking on the shoulder and side slope. Stabilization should be undertaken as soon as possible (see Section 4.0)	Q2/Q3 2020	Materials stockpiled within 100 meters from erosion stabilization work completed at km 90 area in 2017
	89.3	**A**				Q2/Q3 2020	Planned in coordination with km 89.8 works
22	72.4	**A++++**	2653	2555	QIA - noted issues at KM 72.3 and the uphill (left) borrow pit appears to be a source of sediment. Continued settlement and slope instability, and road maintenance noted that the left side of the road collapsed into the pond on left side earlier this year. Further work is needed as soon as possible to curtail further thawing and potential road collapse (see Section 4.0 for suggested repair). Filling in the pits will lessen the potential for sediment release if some check dams and armouring (rip rap) is also applied to the left of the road below the borrow pit.	Q3 2020	Sourcing materials from KM76 old road alignments, KM74 old road alignments - complete decomissioning and reclaim of these old road segments.
29	63.7	**A++++**	2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664	2558, 2559, 2560, 2595,2596	This series of pits has gotten worse, recommendations from 2014 reamin appropriate. See Section 4.0 in the report for additional details.	Q3/Q4 2020	Area to be properly assesed, but preliminary plans are to level areas and pull material from slopes back into pits, create even terrain that will not trap water.
32	56.9R	**A++++**	2668, 2669, 2670, 2671, 2672, 2673, 2674	2562, 2592	There has been significant road realignment at this location. Water is ponding along portions of the new road and cracking is noted on the shoulders and side slopes of the new road. The old road is now very unstable and side slopes are failing in many locations. Water must be pushed back from the edge by placing additional fill on the side slopes of the new road embankment to enhance stability. Of significant concern is the fact that the water currently ponding along the new road is only drained away by a culvert in the old road	Q3/Q4 2020	Preliminary plans to decomission old road segment, utilizing materials to create even and sustainable slopes.
37	52.2	**A**		2563, 2591	QIA noted that the road appeared to have been raised at this location. Actually the road was significantly realigned to improve grades and is now located at a lower elevation and borrow pit 37 is now well away from the new road. Therefore the stability of the old road is not of significant concern, The thaw degradation that was noted to be ongoing is still happening in the pit and there is the potential for sediment laden water to be released from the old pit. The priority has been downgraded to reflect the lessened safety issue but is still rated A because of the potential sediment issue. Regrade pit surface, assess potential water release locations and armour outflow and install check dams as required to control sediment release.	Q3 2020	Reclaim blasted sand piles from road alignment work that was done in 2015/2016, as well additional materials from old decomissioned road in same area.
40	51.2	**A+**	2701, 2702		Thaw is ongoing and pit is deepening, steepening the side slope. Drainage out of the pit flows to the south towards the lake (Photo 2702). There is some thermal degradation happening in the natural drainage probably due to increased water flow in the spring. Ideally this pit would benefit from being backfilled as this would arrest thaw, improve embankment stability and reduce spring flows.	Q3/Q4 2020	Preliminary plans to pull slopes on back hill, level area and provide drainage that does not trap surface water

Baffinland

Table 1 - Execution Plan for Tote Road Remedial Measures

Site WP No. 2009	Km Post	Priority	Ground Photos	Aerial Oblique Photos	2019 Comments	Proposed Timeline for Execution	Notes for Execution
	49.0	A+	2698, 2699, 2700		QIA - noted ponding and road instability. There is a cut that was made to improve grade and a communications tower is situated on the top of the terrace on the west side of the road. There is ponding on the east side of the road. An ice wedge can be seen to be degrading on the terrace and is very evident on thee cut slope on the west side of he road (Photos 2698 and 2699). Material should be placed over the degrading ice wedge both on the terrace and on the cut slope. The ditch (Photo 2700) to the south of the wedge is unstable as is the side of the road, suggest some regrading and slope flattening to help improve stability. Close monitoring of the road should be undertaken and if any dips are noted at the ice wedge locations further remediation may be required.	Q3 2020	Materials on east side of roadway from old road alignment to be utilized.
61B	29.1	A++++	2693, 2694, 2695, 2696		QIA noted water accumulation and stability issues at KM 29.4 but the pit with issues is located at 29.1 on the Figure (assumed to be the area of concern). As noted in 2014 this entire pit should be backfilled with imported material after removing as much water as possible. See Section 4.0 for further information	Q3 2020	Excavator to slope high steep hills and utilize materials for fill at bottom. Will also reduce/eliminate the hill slope degredation from the steepness left behind from previous construction in the past.
68	21.9R	A++++	2691, 2692		QIA noted water accumulation and road instability at this location. Pits should be backfilled and graded as noted in 2014 to cause the permafrost to aggrade and enhance the stability of the embankment side slopes. See Section 4.0 for more information	Q3 2020	Excavator to slope high steep hills and utilize materials for fill at bottom. Will also reduce/eliminate the hill slope degredation from the steepness left behind from previous construction in the past.
71	20.7R	A++++	2543, 2544, 2545	2571	Pit remains similar to 2014 and settlement and instability of the road side slope is evident. Filling of the pit as soon as possible is still recommended to improve safety . See Section 4.0 for further detail	Q3 2020	Material fill estimated at 3000 m3, planned to source from decommisioned road at km 23.5
72	19.8L	A++++	2540, 2541, 2542	2572, 2587	Photos 2541 and 2542 show instability on the side slopes and observed conditions and suggested stabilization measures remain as indicated in 2014. See Section 4.0 for further information.	Q3 2020	Material fill estimated at 20,000 m3 - plan to source from decommisionsed section of old road at km 23.5
74	16.9L&R	A			More water is ponding in the pits than noticed in 2014 and there is concern that rate of thaw will increase potentially leading to embanknt instability but road currently appears stable. Determine if it is feasible to darin water from pit to reduce potential for increased thaw. Otherwise monitor closely to evaluate road stability.	Q3 2020	Materials sourced from KM13 old road alignment construction stockpile.
75	15.0R	A		2574, 2586	More ponded water and there is a short section at the south end of the pit where there is a very steep side slope and considerable drop from the edge of the road down into the water. Pond should be drained and the area where water is ponding should be backfilled.	Q3 2020	Material sourcing from Milne Inlet strippings, Q1 quarry, KM13 road alignment leftover materials
80	9.7L	A	2539	2576	See 2014 recommendations for stabilization. Also consider adding a toe berm to the left side of the road or at a minimum flatten the side slope near the natural pond to stabilize embankment on that side (east side).	Q2/Q3 2020	Sloping and shaping work to be planned when areas are not frozen and materials can be manipulated. Should not require additional materials.
83	7.7L&R	A++++		2578, 2584	Thaw has continued and instability is more prominent on the sides of the road. The priority has therefore been increased to A++++ and therefore reclamation as per the 2009 recommendation should commence as soon as possible. See Section 4.0 for further details.	Q1 2020	ROQ bulk fill planned for Q1 2020, hill sloping and final fills with finer materials planned for Q2/Q3 2020 when materials are not frozen, additional materials will be sourced from Milne Inlet Hatch stripping piles

Baffinland

Table 1 - Execution Plan for Tote Road Remedial Measures

Site WP No. 2009	Km Post	Priority	Ground Photos	Aerial Oblique Photos	2019 Comments	Proposed Timeline for Execution	Notes for Execution
83A	7.2	**A++++**	2531, 2535, 2536, 2537, 2538	2578, 2584	QIA noted that the road was surrounded by water at nearly the elevation of the road and noted that there appeared to be degradation of permafrost. Indeed, ongoing permafrost degradation is ongoing in the pit. The road appears much less stable in 2019 and the water levels have risen in the pits, leading to road instability due to thaw. This pit needs to be filled on both sides of the road after removing as much water as possible. Filling the pits a regrading will hopefully lead to aggradation of permafrost and enhance the stability of the road much worse. See Section 4.0 for further discussion.	Q4 2019	Bulk fill comenced late November 2019 with ROQ from Q1 quarry, continued work to completion to be done in Q2/Q3 2020 due to inavailability of finer materials being frozen and inaccessible. Estimated 15,000 m3 of overburden material required.

Baffinland

Attachment 3

KM 7.2 Remedial Works

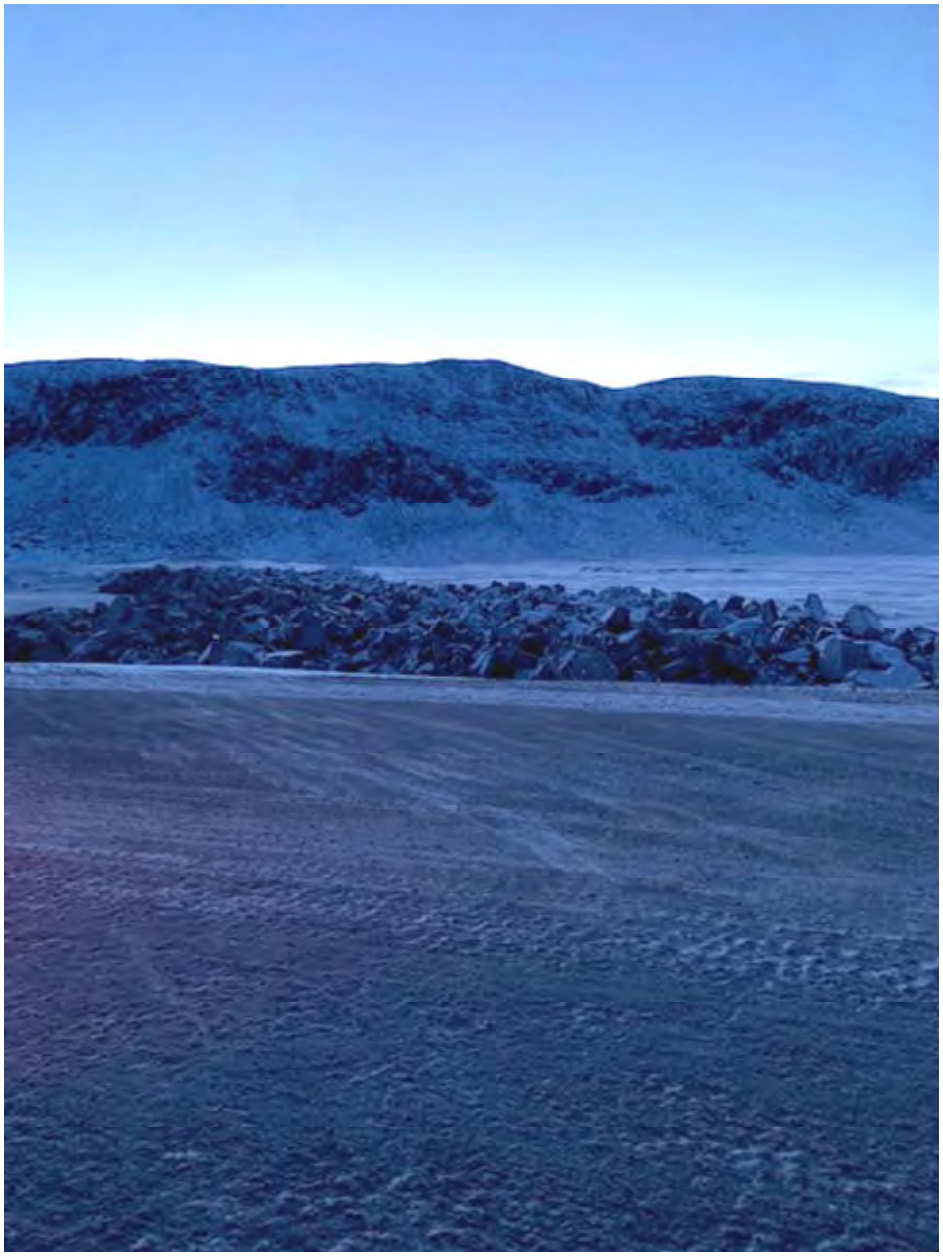

Figure 1 – Bulk filling with run of quarry (ROQ) material, placed at KM7.2 Borrow