AGNICO EAGLE
HOPE BAY

April 27, 2021

Ali Shaikh
Technical Advisor
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0

Sent via Email: licensing@nwb-oen.ca; ali.shaikh@nwb-oen.ca

Re: 2020 Annual Geotechnical Inspection for the Boston Exploration Site

Dear Mr. Shaikh,

In accordance with Part D, Item 13 of Type B Water Licence 2BB-BOS1727, please see Attachment #1 to this correspondence for the results of the Hope Bay Project 2020 Annual Geotechnical Inspection (AGI) of Boston surface infrastructure and earthworks, conducted by SRK Consulting (Canada) Inc. TMAC Resources Inc. (TMAC) is pleased to present responses to recommendations made during the AGI for Boston in Attachment #2.

A hardcopy of this letter and TMAC responses to recommendations will be sent to you separately.

Should you have any further questions please feel free to contact me at oliver.curran@agnicoeagle.com

Sincerely,

Oliver Curran
Senior Advisor Environment and Permitting, Western Nunavut

Cc:
Licensing (NWB)
John Roesch (KIA)
Sarah Warnock (TMAC)

Attachments:
Attachment 1 - 2019 Annual Geotechnical Inspection Letter for Boston (SRK, 2020)
Attachment 2 - Recommendations and TMAC Responses – Boston (TMAC, 2020)

Attachment 1

2020 Annual Geotechnical Inspection Letter for Boston (SRK, 2021)

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April 1, 2021

Senior Advisor, Environment & Permitting, Western Nunavut
Agnico Eagle Mines Limited
145 King St. East, Suite 400
Toronto, Ontario
M5C 2Y7

Attention **Oliver Curran, MSc, Senior Advisor, Environment & Permitting**

Subject **Boston Advanced Exploration Project – 2020 Annual Geotechnical Inspection**

Project 1CT022.057

Dear Oliver,

TMAC Resources Inc. contracted SRK Consulting (Canada) Inc. to conduct a geotechnical site inspection on their Boston Advanced Exploration Project in Nunavut. Note that on February 2, 2021 TMAC was purchased by Agnico Eagle Mines (AEM); TMAC continues to exist as a legal entity and is now a wholly owned subsidiary of AEM. All rights, obligations, liabilities of TMAC continue to reside with TMAC until or if an amalgamation with Agnico occurs. For the purposes of this letter, all past, current, and forward looking recommendations regarding the two entities will refer to TMAC or Hope Bay, unless explicitly requiring reference to AEM. All recommendations are intended for TMAC, AEM and the Hope Bay mine personnel as the responsible parties managing the Boston site and should be interpreted as such in this document.

The Boston site has been intermittently used since its construction in 1993. The camp was temporarily closed and placed under Care and Maintenance (C&M) in November 2011. In 2017 and again in 2019, the camp was re-opened for single summer seasons of exploration activities. In 2020 very limited activity resulted around the Boston area, beyond some ongoing clean-up, monitoring and remediation activities. This geotechnical inspection is an annual requirement in response to Part D, Item 13 of TMAC's Water Licence 2BB BOS1217 issued by the Nunavut Water Board (NWB) on July 26, 2017.

Following the 2015 annual geotechnical inspection (AGI), SRK recommended that TMAC adopt a Surface Infrastructure Geotechnical Monitoring Program (SIGMP), followed by an annual audit style geotechnical inspection as documented in the 2016 AGI report. In 2018, TMAC however decided to revert to the pre 2016 approach of a comprehensive AGI. This comprehensive AGI approach was again carried out in 2020, which is the subject of this letter.

The 2020 walkover geotechnical site inspection and aerial reconnaissance of the site (via helicopter) was carried out by SRK Senior Consultant John Kurylo, MSc, PEng on August 18, 2020. John was accompanied by Kyle Conway, On-Site Environmental Superintendent with TMAC at the time. Formal geotechnical inspections of the Boston Camp have been carried out annually since 2007, and those reports are filed on the Nunavut Water Board (NWB) public registry. All previous inspections have been conducted by SRK. This letter presents the findings of the 2020 geotechnical inspection.

Beyond the ongoing thermal erosion issues manifested on and around the Boston airstrip, the 2020 AGI generally showed no appreciable differences to the conditions noted in the 2017 to 2019 AGIs. Minor clean up activities were noted to have occurred around the Boston site and some additional drill hole remediation was completed by TMAC in 2020.

Pronounced shoulder tension cracking at the airstrip is a historic and ongoing observation that has been noted in previous years' inspections (example 2018 and 2019 inspections). Due to the lack of availability of equipment and material at Boston, ongoing observation and monitoring of the airstrip has been recommended previously and is suggested to continue. TMAC did implement additional monitoring in 2020 and new monitoring tracking figures have been generated as part of this 2020 AGI (presented as Figures 1 and 2).

The shoulder tension cracking in areas extends 3+ m inwards / onto the runway. At the surface some of these cracks are on the order of approximately 120+ mm wide at surface. Based on inspection of the surrounding area many of these cracks can be seen to be associated with permafrost disturbance from historic drilling activities or associated with seasonal surface water flow ponding against the airstrip edges. Based on the layout of the airstrip and prior exploration history, these cracks and depressions are expected. These cracks form because of permafrost thaw associated with the airstrip rockfill placed directly onto the tundra, thereby deepening the active layer along the shoulder where the fill is thin. An additional cause of these tension cracking, and as noted above, include surface water annually ponding in the summer months against the airstrip. Some of this ponding can be associated with areas where historic exploration drilling has disturbed the permafrost. Based on visual observation around the Boston site, massive ice is expected around this area. In some cases, over 20 years of thermal degradation has led to slight topographic lows which allows for additional surface water to pond and have resulted in some settlement at the airstrip shoulders. The finer crush material placed on the top airstrip running surface (finer as in higher percentage of finer gradation material than the bulk rockfill base) helps to further accentuate this cracking.

There is some undulation on the top airstrip surface, but generally beyond the affected airstrip shoulders, the central part of the runway appears relatively smooth (or at least with large rounded undulations). No new significant depressions in the central surface were noted (beyond what was noted in 2019). The condition of the runway was noted in the 2018 and 2019 inspections (and is the case again in 2020) to be sufficiently compromised that aircraft operators should conduct an inspection of the runway prior to using it to satisfy themselves that they can operate aircraft safely. This recommendation is still relevant. SRK was informed that prior to use in 2020, the Boston airstrip was assessed by Summit Air pilots for use. Additional inspections will be required each season / year before use. TMAC has outlined that this annual assessment is planned to continue prior to use each

season. Based on recommendations by the aircraft operators, TMAC may have to carry out some airstrip maintenance, likely in the form of regrading of the runway surface.

In 2020 some additional monitoring activities were carried out (as suggested in the 2019 AGI) at the Boston Airstrip. This included:

- Aerial imagery (taken by UAV /drone) are in the summer months.
  - This information is summarized in Figure 1 and 2 and will be used to assist to better evaluate changes related to permafrost degradation over time.
  - In the summer of 2021, an addition set of drone images should be taken so that these can be compared to the 2020 images.
- In the worse area where extensive cracking has been noted by the shoulders of the runway, steel rebar pins (painted orange) were installed / driven into the ground by hand. This was done to set up reference points for measuring the lateral impact of permafrost degradation on the airstrip surface.
  - The staked positions located off the airstrip serve as reference points for measuring the lateral impact of permafrost degradation on the airstrip surface.
  - Photographs 1 to 3 below show these installed fixed survey monitoring pins

Photographs 1, 2 and 3: Fix survey monitoring pins installed in June 2020.

  - The initial tension crack monitoring measurements are presented in Table 1 below:

Table 1. Boston Airstrip – Larger Tension Crack Monitoring

Date	North	South	Comments
24-Jun-20	4.85	5.25	Distance between posts measured in meters
29-Aug-20	4.85	5.255	

The other notable feature at the Boston site is an erosion gulley noted along the western slope of the camp leading towards Aimaokatalok Lake. Historically water has been discharged in this area causing the original gulley. In 2018 this gulley was noted to be increasing in size because of thermal erosion, as evidenced from the fresh scarp cuts. Some of this erosion and rapid thermal erosion (as further noted by cracking along the edges of the fresh scarp cuts) appears to have been exacerbated by concentration of surface water flows in and around the topographic lows created by the ongoing permafrost degradation. This was most apparent in areas where massive ice is expected in the slope permafrost.

In 2018 and again in 2019 TMAC has made efforts to do some interim remediation of this area (based on available construction material and equipment). Specifically silt fencing was installed downstream of the area to avoid sediment loads from entering Aimaokatalok Lake, and also coconut matting was placed over the erosional feature to assist with slowing the rate of thermal erosion. Additional thermal erosion at this location is expected but the preliminary remediation activities have slowed down thermal degradation rates and impacts from this area. When construction of the Phase 2 Boston mine commences, this erosional gully area will still have to be permanently remediated. Meanwhile the area must be continued to be monitored carefully (visually in summer months when site staff are at Boston), and if the erosion progresses further / extensively alternate remediation plans may be required.

At the Boston Tank Farm cracking in the overline crush material surface was still noted, also noted in 2019. Since the 2018 inspection, some additional fill has been placed on the downstream berm slope. This is a positive improvement however, additional fill and proper compaction of grading of the existing fill is still suggest to be completed if equipment capable of doing this work is ever mobilized or in this area (such as an excavator). SRK reviewed the original EBA Engineering Consultants Ltd, ‘Fuel Tank Farm Construction As-built Report, Boston Property, Nunavut, Project No. 0101-00-14839.002’ report, dated May 2001 in combination with the site inspection observations. This was used to generate the operational and additional remediation suggestions provided in Table 2. Overall TMAC has outlined that they limit the use of equipment or placement of any materials on top of the containment berms and plan to continue this practice. Seasonal dewatering activities, within the bunded area, were also outlined to SRK to be planned to continue, as required.

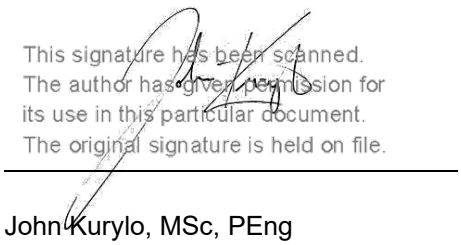
Table 2 below summarizes the overall recommendations stemming from the 2020 AGI completed for Boston Advanced Exploration site.

Table 2. Summary of Recommendations – Boston Advanced Exploration Project 2020 AGI

Observation	Recommendation
Extensive shoulder tension cracks and depressions along most of the runway shoulders caused by permafrost thaw of underlying foundation. *Note: This is a historic and ongoing observation that has also been noted in previous years' inspections. Due to the lack of availability of equipment and material at Boston, ongoing observation has been recommended. In 2020 more formal monitoring protocols were implemented on site.*	▪ Prior to landing any aircraft on the runway, the aircraft operators should conduct their own assessment of the runway conditions (in terms of functionality) and make recommendations for maintenance. ▪ Permafrost degradation at the Boston airstrip is suggested to continue to be visually monitored each year during the annual geotechnical inspection. Ground level photographs, measurements, and aerial drone imagery should again be collected in 2021 to assist with ongoing monitoring. – Note that in 2020 the following positive monitoring improvements were completed: – Ground level photographs collected from similar locations and view directions for comparison with the observations made in 2019. – Steel rebar pins (painted orange) were installed in a couple locations along the shoulders of the airstrip and initial measurements taken. Reference points used to help with measuring the lateral impact of permafrost degradation on the airstrip surface. – Aerial imagery taken by UAV (drone) were completed in 2020. Observations of the main areas of ongoing tension cracking (associated primary with permafrost degradation) are presented in Figure 1 and 2. Images will be used to assist better evaluation of changes related to permafrost degradation over time. – Overall based on 2020 inspection permafrost thaw is ongoing but at a slow rate, with similar size cracking and depressions noted in 2019. The above monitoring will allow for more accurate monitoring of these cracks and permafrost degradation in the coming year.
Ongoing progressive thermal erosion of existing erosion gulley west of the camp, upstream of Aimaokatalok Lake. *Note: This is a historic and ongoing observation that has also been noted in previous years' inspections. In 2019 work was done by TMAC to install silt fence downstream of the erosion gully to minimize the risk of sediment release to Aimaokalaok Lake. In addition, coconut matting was placed over the area to help limit potential for further erosion and to help slow permafrost degradation.*	▪ Continue to monitor area carefully and implement permanent remediation if damage becomes excessive. Remediation may be deferred until Phase 2 Boston mining commences. – Thermal erosion observed adjacent to Aimaokatalok Lake should continue to be visually monitored each year during the annual geotechnical inspection. – As part of the 2020 inspection, ground level photographs were collected with observations and notes. Ongoing permafrost degradation appears to be going on at this location, but the rates have notably slowed since the coconut matting was placed over this area. – Future remediation of this area should consider backfilling this depression with fine backfill material to create a positive surface expression. This will help to reduce concentrated flow through / over this area and provide some additional thermal protection to the underlying permafrost. The area would then be suggested to be again covered by additional coconut matting (post backfilling).
At the Boston Tank Farm, both the north and eastern berm was noted to have extensive cracking. This is expected to not be deep seated stability induced, but instead liner induced (material sliding on liner interface).	▪ No equipment should travel in the bunded area or rest on the top of the berms (would include generators of larger pump loads resting on the top of the berms). This likely means that fuel would need to be pumped into the tanks in the bunded area from outside. ▪ This facility should be managed dry / water should be removed from within the bunded area. If any ponded water still exists within the bunded area then it should be removed. Specifically, this water must all be removed before the tanks are to be filled to any extent. This is required to ensure more containment area is available and sufficient capacity is available if there is a leak or spill. Also, this will allow for

Observation	Recommendation
In 2020 (since the 2019 inspection) some additional fill has been placed on the downstream berm slope. This is a positive improvement however additional fill and proper compaction of grading of the existing fill is still suggest to be completed if equipment capable of doing this work is ever mobilized or in this area (such as an excavator).	any potential leaks to be identified earlier (as they will be more visually apparent if they exist). ▪ Some additional fill appears to have been placed on the downstream east berm since the last inspection in 2019. This is a positive improvement. This noted, additional fill should still be placed on the downstream east berm to lessen this still over-steepened slope. This is specifically important if the tanks in that old bunded area are every fully filled again (and not just taken out / decommissioned). At a minimum visual inspection should be done on this downstream slope if these tanks are every filled, decommissioned or equipment brought to the area to remove these tanks (which would impose equipment loads onto the berms of the bunded area). To best help with visual observations the areas of the primary cracking should be marked annually (such as with spray paint that can be reapplied each summer) to help site staff monitoring these crack (specifically important if any work is performed in or around this area).

Regards,
SRK Consulting (Canada) Inc.

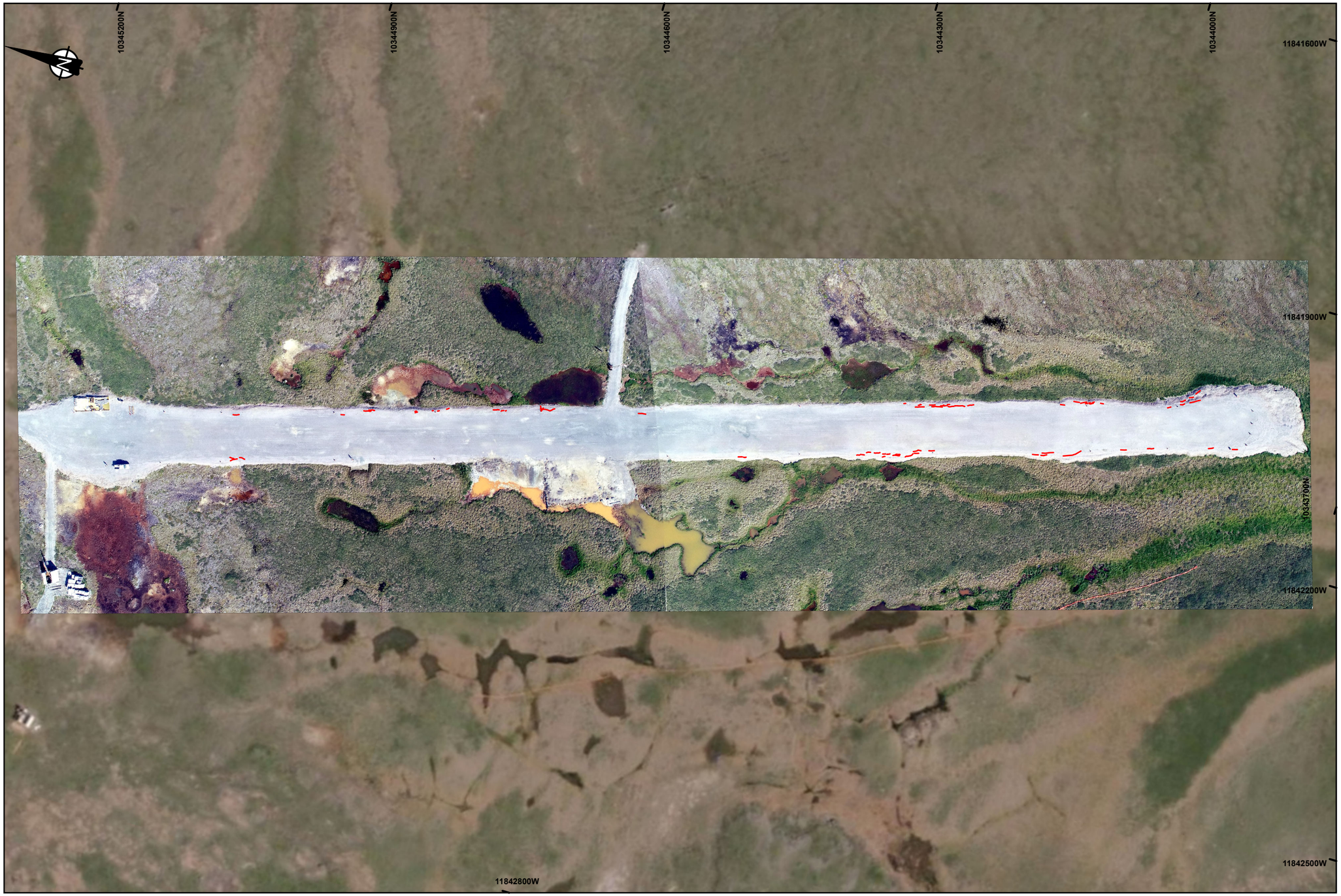


John Kurylo, MSc, PEng
Senior Consultant (Geotechnical)

Attachments:

Figures 1 & 2 – Boston Airstrip – Aerial Imagery and 2020 Monitoring

Figures



LEGEND

Boston Airstrip Tension Cracks

NOTES

REFERENCES

NAD 1983 UTM Zone 13N.
Drone imagery captured in 2020.
Background imagery sourced from ESRI Basemap.

0 25 50 75
Meters

srk consulting

SRK JOB NO: 1CT022.057

FILENAME: 1CT022_057_Boston_Airstrip_Monitoring

AGNICO EAGLE

Hope Bay

Boston Airstrip Monitoring

Boston Airstrip
Aerial Image & 2020 Monitoring

Date:	Approved:	Figure:
Feb 2021	CS/JBK	**01**

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10344600N
10344300N
10344000N
11841600W
11841900W
10343700N
11842200W
11842500W
11842800W

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LEGEND

Boston Airstrip Tension Cracks

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srk consulting

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FILENAME: 1CT022_057_Boston_Airstrip_Monitoring

AGNICO EAGLE

Hope Bay

Boston Airstrip Monitoring

Boston Airstrip 2020 Monitoring (areas of greatest interest)

Date:	Approved:	Figure:
Feb 2021	CS/JBK	02

Attachment 2

Recommendations and TMAC Responses – Boston (TMAC, 2021)

Table TMAC Response to Recommendations

Observation	Recommendation	TMAC RESPONSE
Extensive shoulder tension cracks and depressions along most of the runway shoulders caused by permafrost thaw of underlying foundation. *Note: This is a historic and ongoing observation that has also been noted in previous years' inspections. Due to the lack of availability of equipment and material at Boston, ongoing observation has been recommended. In 2020 more formal monitoring protocols were implemented on site.*	▪ Prior to landing any aircraft on the runway, the aircraft operators should conduct their own assessment of the runway conditions (in terms of functionality) and make recommendations for maintenance. ▪ Permafrost degradation at the Boston airstrip is suggested to continue to be visually monitored each year during the annual geotechnical inspection. Ground level photographs, measurements, and aerial drone imagery should again be collected in 2021 to assist with ongoing monitoring. – Note that in 2020 the following positive monitoring improvements were completed: – Ground level photographs collected from similar locations and view directions for comparison with the observations made in 2019. – Steel rebar pins (painted orange) were installed in a couple locations along the shoulders of the airstrip and initial measurements taken. Reference points used to help with measuring the lateral impact of permafrost degradation on the airstrip surface. – Aerial imagery taken by UAV (drone) were completed in 2020. Observations of the main areas of ongoing tension cracking (associated primary with permafrost degradation) are presented in Figure 1 and 2. Images will be used to assist better evaluation of changes related to permafrost degradation over time. – Overall based on 2020 inspection permafrost thaw is ongoing but at a slow rate, with similar size cracking and depressions noted in 2019. The above monitoring will allow for more accurate monitoring of these cracks and permafrost degradation in the coming year.	The airstrip will continue to be assessed by aircraft operators prior to landing aircraft on the Boston airstrip. TMAC will continue to carry out the recommended monitoring.

Observation	Recommendation	TMAC RESPONSE
Ongoing progressive thermal erosion of existing erosion gulley west of the camp, upstream of Aimaokatalok Lake. *Note: This is a historic and ongoing observation that has also been noted in previous years' inspections. In 2019 work was done by TMAC to install silt fence downstream of the erosion gully to minimize the risk of sediment release to Aimaokalaok Lake. In addition, coconut matting was placed over the area to help limit potential for further erosion and to help slow permafrost degradation.*	▪ Continue to monitor area carefully and implement permanent remediation if damage becomes excessive. Remediation may be deferred until Phase 2 Boston mining commences. – Thermal erosion observed adjacent to Aimaokatalok Lake should continue to be visually monitored each year during the annual geotechnical inspection. – As part of the 2020 inspection, ground level photographs were collected with observations and notes. Ongoing permafrost degradation appears to be going on at this location, but the rates have notably slowed since the coconut matting was placed over this area. – Future remediation of this area should consider backfilling this depression with fine backfill material to create a positive surface expression. This will help to reduce concentrated flow through / over this area and provide some additional thermal protection to the underlying permafrost. The area would then be suggested to be again covered by additional coconut matting (post backfilling).	TMAC will continue with the recommended monitoring.
At the Boston Tank Farm, both the north and eastern berm was noted to have extensive cracking. This is expected to not be deep seated stability induced, but instead liner induced (material sliding on liner interface). *In 2020 (since the 2019 inspection) some additional fill has been placed on the downstream berm slope. This is a positive improvement however additional fill and proper compaction of grading of the existing fill is still suggest to be completed if equipment capable of doing*	▪ No equipment should travel in the bunded area or rest on the top of the berms (would include generators of larger pump loads resting on the top of the berms). This likely means that fuel would need to be pumped into the tanks in the bunded area from outside. ▪ This facility should be managed dry / water should be removed from within the bunded area. If any ponded water still exists within the bunded area then it should be removed. Specifically, this water must all be removed before the tanks are to be filled to any extent. This is required to ensure more containment area is available and sufficient capacity is available if there is a leak or spill. Also, this will allow for any potential leaks to be identified earlier (as they will be more visually apparent if they exist). ▪ Some additional fill appears to have been placed on the downstream east berm since the last inspection in 2019. This is a positive improvement. This noted, additional fill	▪ TMAC limits the use of equipment or placement of any materials on top of containment berms. TMAC will continue with this practice. ▪ TMAC conducts seasonal dewatering activities at the Boston Tank farm as required. TMAC will continue with this practice. ▪ Additional material will be placed on the downstream east berm prior to filling the fuel tanks and the recommended monitoring program will be implemented.

Observation	Recommendation	TMAC RESPONSE
this work is ever mobilized or in this area (such as an excavator).	should still be placed on the downstream east berm to lessen this still over-steepened slope. This is specifically important if the tanks in that old bunded area are every fully filled again (and not just taken out / decommissioned). At a minimum visual inspection should be done on this downstream slope if these tanks are every filled, decommissioned or equipment brought to the area to remove these tanks (which would impose equipment loads onto the berms of the bunded area). To best help with visual observations the areas of the primary cracking should be marked annually (such as with spray paint that can be reapplied each summer) to help site staff monitoring these crack (specifically important if any work is performed in or around this area).	