Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

Water Resources
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

INAC reference
CIDM# 1213116

NWB reference
#2AM-WTP----

March 19, 2018

Via email to: licensing@nwb-oen.ca

Karen Kharatyan
A/Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Mr. Kharatyan:

RE: 2AM-WTP---- – Agnico Eagle Mines Ltd. – Whale Tail Pit Project – Final Submission

Indigenous and Northern Affairs Canada (INAC) has reviewed all information submitted and exchanged to the Nunavut Water Board (NWB) regarding the above-mentioned water licence since the final hearing and is submitting comments via email as requested by the NWB.

The attached comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at (819) 953-8988 or email at ian.parsons@aandc-aadnc.gc.ca for further comments or any questions.

Sincerely,

Ian Parsons, B.Sc.
Manager, Water Resources

Results of Review

INAC has broken its review into three parts based on document exchange with the proponent through the NWB.

i) Final submission responses by Agnico-Eagle Mines Ltd. Dated February 6, 2018
ii) Agnico Eagle Responses to Draft Licence Framework, dated February 23, 2018
iii) Summary of INAC's final Submission to NWB dated February 13, 2018 and outcome of NIRB's Project Certificate Workshop as it applies to dates and deliverables.

In Part i) of this review INAC will outline its initial issue/comment along with AEM response contained in the February 6, 2018 submission to the NWB and then INAC will give a rebuttal to AEM response.

i) Final submission responses by Agnico-Eagle Mines Ltd. Dated February 6, 2018.

INAC Comment #1

1a) WRSF Seepage Management: To manage the low probability but high consequent scenario of water quality from the WRSF being above set criteria as proposed by the applicant at closure and post closure, INAC recommends i) that the waste rock management plan be revised and updated to include more frequent waste rock sampling to provide improved confidence that cover contamination is not occurring, and ii) the monitoring plan for the WRSF and associated attenuation pond be updated to include WRSF seepage monitoring criteria that must be met before AEM considers breaching the dike/dam of the associated attenuation pond. This criteria in addition to specifying acceptable water quality, would include required number of acceptable sampling events that would be necessary to confirm that stable seepage had been attained and over a specified time frame (this may also include increased sampling events during certain times of year e.g., spring freshet or fall when metal concentrations are expected to be higher).

1b) Conduct Hydrodynamic Modelling of Seepage Discharges: INAC recommends that the Applicant conduct detailed hydrodynamic modelling to evaluate the mixing of WRSF seepage discharges to Mammoth Lake during the post-closure phase of the project. The modelling should evaluate a range of potential seepage discharge scenarios (clean/contaminated cover, increased active zone depth, etc.). Any results from the

modelling should be incorporated into the appropriate monitoring plan for review and approval. The results of the additional studies should be submitted for review prior pit construction.

1c) Incremental Security: Due to a number of uncertainties surrounding water quality INAC's security estimate has taken into account the potential for long-term treatment. If in the future, monitoring indicates no exceedances then the applicant can ask for a reduction in security.

AEM Response #1

1a) Agnico Eagle agrees with INAC's recommendations. Agnico Eagle proposes that specifics to modelling updates, waste rock monitoring frequency, sampling locations, water quality triggers and reporting frequency be detailed in revisions to the Management Plans that will be submitted 60 days prior to operations. The Waste Rock Storage Facility Management Plan (Agnico Eagle 2017), will include details of the steps involved in waste rock management planning to segregate and store waste rock in its correct location outlined in Golder (2017). Additionally, sampling may include, but not limited to, the following:

- Periodic inspection and sampling of waste rock targeted for use as cover material to verify and document the composition of the material
- Periodic inspection and sampling of the south wall and north wall ultramafic rock to verify and document total and leachable arsenic content
- Water quality monitoring at specified locations and frequency to document waste rock contact water quality. This may include accelerated leaching tests field studies to augment data collection given the dry site climate
- Continued studies on the composition and leachability of ultramafic rock. This material will continue to be studied during operation in order to verify model input parameters and inform closure planning
- Thermistor installation and data collection from existing and new instrumentation to be installed as the waste rock pile is built

The updated Management Plans will be submitted 60 days prior to operations.

1b) Agnico Eagle agrees with INACs recommendation to conduct detailed hydrodynamic modelling of the WRSF contact water mixing into Mammoth Lake post-closure to evaluate the effects on water quality in Mammoth Lake. This will be completed for scenarios of cover contamination with north wall ultramafic rock previously considered (Golder 2017) and for active layer depth ranges observed at Meadowbank WRSF.

Results of this model will inform future closure and post closure water management planning which will be incorporated into the appropriate Monitoring Plans to be submitted 60 days prior to operations.

1c) Agnico Eagle agrees with INAC's recommendation and will work with INAC/KivIA to finalize the security estimate to take into account potential for long-term treatment and associated monitoring. Agnico Eagle acknowledges that long-term monitoring is a component of security and Agnico Eagle proposes that reductions in monitoring requirements may be possible based on actual on-site monitoring data. Agnico Eagle will work cooperatively with INAC and the KivIA to develop a framework for reductions in monitoring requirements and the associated security amounts that may be applied by the NWB to reduce security requirements. Agnico Eagle proposes to submit the framework as an exhibit at the Final Hearing for consideration by the NWB and all parties. Agnico Eagle anticipates the NWB will consider terms and conditions within the body of the licence (i.e., schedules to the licence) to allow implementation of this framework without requiring a Type A hearing.

Agnico Eagle's Proposed Terms and Conditions:

1. *Conduct detailed hydrodynamic modelling of the WRSF contact water mixing into Mammoth Lake post closure. Modelling will include scenarios of cover contamination with north wall ultramafic rock previously considered (Golder 2017) and for active layer depth ranges observed at Meadowbank WRSF*
2. *Update the Waste Rock Storage Facility Management Plan (EIS Volume 8, Appendix 8 A.1)details of the steps involved in waste rock management planning to segregate and store waste rock in its correct location outlined in Golder (2017) adapted to Whale Tail open pit and WRSF and additional sampling and monitoring plans*
3. *Updated Monitoring and Management Plans will be submitted 60 days prior to operations*
4. *Finalize the security estimate to take into account potential for long- term treatment and establish a mechanism to progressively reduce the security to be approved by relevant parties*

INAC Final Response #1

INAC is satisfied with Agnico Eagle's response and commitment to undertake additional modelling to further identify the risk. INAC would like to reiterate that all associated management plans will need to be updated/revised and approved.

Agnico Eagle has also indicated that they are committed to submitting these management plans 60 days prior to operations. However, Table 1 indicates that the applicable management plans will be provided 4 months prior to operations. INAC recommends that all applicable management plans be submitted 4 months prior to operations.

INAC Comment #2

2a) Revised Thermal Modelling: The thermal modelling should be calibrated and re-run using ground temperature monitoring data from the Meadowbank site. The findings of the revised thermal modelling should be submitted for review and should inform the detailed WRSF cover designs as part of the final closure plan.

2b) Final WRSF Cover Designs: The Applicant's commitment #34 indicated they would use the results of the thermal modelling exercise to support the final design of the WRSF, including that of the proposed cover and that the revised designs would be submitted prior to the final hearing. INAC notes that the 3.8m recommended cover thickness determined by the thermal modelling falls within the 2-4 m range originally specified by the Applicant and, on that basis, a revised final cover design is not required by INAC prior to the final hearing. However, INAC still recommends that the applicant continue to provide constant updates to the modelling to be able to provide more accuracy and confidence in the Final WRSF cover design. The WRSF cover design should make up part of the final closure plan and thus be submitted to the NWB 12 months prior to closure.

2c) Incremental Security: Due to a number of uncertainties surrounding the performance of the WRSF, our security estimate has taken into account for mitigation measures, such as long-term water treatment. If in the future, monitoring indicates no exceedances then the applicant can ask for a reduction in security.

Agnico Eagle Response #2

2a) It is understood that INAC is referring to the use of thermal monitoring data from the Meadowbank WRSF (rather than Meadowbank native ground temperature) to calibrate the model. Meadowbank operation installed 14 thermistor strings between 2013 and 2015 at different locations at Portage RSF (Figure 1). Among these strings, 4 were installed in November 2013 (RSF-3 to RSF-6) and 10 in October 2015 (RSF-7 to RSF-16). Considering that on an annual basis the active layer reaches its maximum depth in October, the strings installed in 2013 provide 3 years of readings on the active layer behavior and the temperature of the waste rock pile while the strings installed in 2015 provide only 1 year of data which may not represent stable temperature conditions within the pile. The 2015 thermistor strings is where an active layer depth greater than 4 m is documented. However, the data collected from these strings are not considered to reliably represent the equilibrium temperature conditions for the entire pile for the purpose of modelling and calibration given that their installation is too recent and the temperature profile provided may not yet be stabilized. Among the 4 thermistors installed in 2013, 2 of them (RSF-4 and RSF-5) are located in the middle of the Portage RSF and can be used for calibration of a 1D model. As these 2 strings show a

maximum active layer depth of 4 m, Agnico Eagle considers that all the conclusions and recommendations presented as part of the commitment 39 are still appropriate.

2b) Agnico Eagle agrees with the recommendation to update the model to provide more accuracy and confidence in the Final WRSF cover design and to this end, proposes to update the model with stabilized thermistor data obtained from the Meadowbank WRSF in the fall of 2017 after 2 full years of data collection from the strings installed in 2015. Agnico Eagle agrees with the recommendation to include the WRSF cover design as part of closure.

2c) Same as above 1c Response

INAC Final Response #2

INAC is satisfied with Agnico Eagle's response and commitment to undertake additional modelling to further identify the risk. INAC would like to reiterate that all associated management plans will need to be updated/revised and approved.

INAC Comment #3

3a) Perform Hydrogeological Characterization Studies: INAC recommends that additional hydrogeological characterization studies be performed to address uncertainties and to validate the Applicant's current conclusions regarding hydraulic gradients and arsenic diffusion potential. INAC has looked at the proposed schedule of activities at Whale Tail and interprets there to be enough time during the 2018 field season to undertake these studies prior to the dewatering of Whale Tail Lake and the development of the pit. The studies will serve as an important pre-development baseline and will help to address current uncertainties regarding water quality in the back-flooded pit/lake.

3b) Evaluate Meromixis: If the additional hydrogeological characterization studies indicate that future metals levels are of potential concern, then the importance of establishing a stable stratified pit would be amplified. In that case, the Applicant should undertake a detailed quantitative analysis confirming that stable meromictic conditions will occur within the flooded pit. The analysis should include modelling that demonstrates meromixis will remain stable under a range of conditions (groundwater discharge, high wind, pit wall failure, etc.).

3c) Monitoring Plan: To supplement the monitoring plans already submitted by the Applicant, INAC recommends that a revised and updated monitoring plan for the flooded pit of the Whale Tail Project be submitted to the NWB for review and approval prior to construction. The updated plan would include specified criteria that must be met before the flooded pit is considered to be effectively closed and any breaching of

dams/dikes to be considered. In addition to specifying acceptable water quality, the criteria would include a required number of acceptable sampling events that would be necessary to confirm that stable conditions had been attained (this may include increased sampling events during certain times of year, etc).

Agnico Eagle Reponse #3

3a-c) Agnico Eagle agrees with INACs recommendation to conduct detailed hydrogeological characterization studies to evaluate the hydraulic gradients and further assess the potential for arsenic diffusion of the pit walls. Data will be collected during construction and operation to verify inputs to water quality modelling. The results will inform hydrogeological modelling and will be conducted to inform future closure and post-closure water quality predictions. Should results of the hydrogeological modelling suggest that arsenic diffusion may result in elevated concentrations in the flooded pit in post-closure, then hydrodynamic modelling of the flooded pit lake will be performed to assess the occurrence and stability of meromixis. Of note is that the current open pit lake model considers fully mixed conditions within the open pit and within the above North Whale Tail Lake. Fully mixed conditions assume that constituent concentrations are equally distributed in the water body and thus, represent worst case concentrations at the open pit and North Whale Tail Lake surfaces than would occur if stable meromixis was to develop.

Agnico Eagle believes that the information that has been provided to INAC and NIRB is sufficient to assess the impacts of the Whale Tail Pit Project on the environment and to make a determination on the Project.

Agnico Eagle proposes that specifics to modelling and monitoring the hydrogeology be included in updated Management Plans to be submitted 60 days prior to construction.

Agnico Eagle's Proposed Terms and Conditions:

1. *The Proponent shall conduct a hydrogeological characterization study plan to validate hydraulic gradients and verify the potential for arsenic diffusion from submerged Whale Tail pit walls. The results of the hydrogeological studies shall be provided for review on an annual basis.*
2. *If warranted, the pit design shall be revised and/or appropriate mitigation measures should be developed to incorporate the results from the additional studies. The Proponent shall report the results of the hydrogeological characterization and their implications to the pit design and relevant management plans for review prior to pit construction.*
3. *Should results of modelling suggest that arsenic diffusion may result in elevated concentrations in the flooded pit post closure, the Proponent shall perform detailed hydrodynamic modelling of the flooded pit lake prior to closure to evaluate meromixis and flooded pit lake water quality. The results of modelling shall be provided for review prior to pit closure.*

INAC Final Response #3

INAC is satisfied with Agnico Eagle's response and commitment to undertake additional modelling to further identify the risk. INAC would like to reiterate that all associated management plans will need to be updated/revised and approved.

INAC would also like to highlight Agnico Eagles commitment to conduct field work to further define the hydrogeological characterization. The results of this field work and characterization are to be submitted to the board 4 months prior to operations which correspond to pit development (Sept 14 meeting minutes – Exhibit 50 NIRB hearing and Exhibit 10 NWB hearing).

ii) Agnico Eagle Responses to Draft Licence Framework, dated February 23, 2018

INAC Comment #4 (Corresponds to Comment and Agnico Eagle response 1.1 under Indigenous and Northern Affairs heading in Agnico Eagle submission to NWB dated February 23, 2018)

INAC would recommend that the Water License do not allow for irreversible activities to be undertaken (e.g. excavation of the pit) before Agnico Eagle provides feasible tested management plans that do not require long term treatment.

To achieve this, INAC recommends that the NWB include in the Water Licence terms and conditions with a view to:

- Update management plans which the NWB deem relevant to the arsenic concerns;
- Require that the Proponent submit a reviewed version of these management plans that incorporate the additional studies and modelling;
- Require approval of these revised management plans by the NWB before excavation of the pit and any other irreversible activities are undertaken.

AEM Response #4

Agnico Eagle appreciates INACs comment and agrees with the recommendations. Table 1 outlines the timeline for updated modelling, management plans and operation of the quarry and pit which was discussed with INAC and their consultants during the September 14, 2017 meeting. Agnico Eagle is committed to hosting a series of

workshops with INAC, KIA and NWB to review the modelling results and management plans.

Table 1 is attached at the end of this document for ease of reading as it is referenced by Agnico Eagle in a number of responses.

INAC Final Response #4

INAC is satisfied with this result as long as these timelines and earlier commitments (NIRB final hearing exhibit 50 and NWB exhibit 10 outline these timelines) are adhered to and INAC and other intervenors are given an adequate amount of time to review the additional studies and modelling and any applicable updated and revised management plans. INAC would like to re-iterate that updated management plans are expected to be substantiated by field data from the requested additional studies.

INAC Comment #5 (Corresponds to comment and AEM response 1.5 under Indigenous and Northern Affairs heading in AEM submission to NWB dated February 23, 2018)

Part C Item 3 – This item should also provide for amendments to the security on application by INAC or the Regional Inuit Association.

AEM Response #5

Agnico Eagle agrees with INAC's recommendation for Part C Item 3 and suggests the following:

> The Licensee may, at any time, submit to the Board for consideration and approval, a request to change and/or amend the amount of security outlined in Part C, Item 1. The submission shall include supporting evidence to justify the request, and the Minister and the Kivalliq Inuit Association will be consulted by the Board during the Board's consideration of this request.

INAC Final Response #5

This does not satisfy INAC's earlier comment and recommendation where INAC recommends that Part C Item 3 of an approved water licence for Whale Tail should provide wording that allows for amendments to security be applied for or requested by

both INAC or the Regional Inuit Association (Land Owner) and that these requests be taken into consideration by the NWB.

INAC Comment #6 (Corresponds to INAC Comment 1.7 and1.7.1-1.7.3 and AEM response 1.7.1-1.7.3 under Indigenous and Northern Affairs heading in AEM submission to NWB dated February 23, 2018)

6a) The term and condition proposed does not fully reflect the commitment made by the proponent in terms of content and timing. As well, the term and condition makes reference to commitments relating to the proposed pit-lake but does not mention commitments relating to Waster Rock Storage Facility (WRSF) seepage water and the associated risk to Mammoth Lake. INAC recommends that this term and condition be expanded to fully reflect the analysis and modelling requirements, risk analysis, contingency planning, and management plan updates as committed to by the proponent during the September 14, 2017 meeting with INAC (Exhibit 50 during the NIRB process and Exhibit 10 during the NWB hearing) to address both the WRSF seepage management and pit-lake water quality concerns. Further, the term and condition should reflect the temporal commitments made by the proponent that hydrodynamic modeling and hydrogeological characterisation studies be completed prior to the initiation of excavation of the deposit and construction of the WRSF. Finally, INAC is of the opinion the timeline proposed for updating management plans every two years following operation is inappropriate giving the short operational life of the mine. INAC recommends the updates should be completed every 12 months.

6b) Further, Agnico Eagle must develop feasible tested management plans that demonstrate a) the waste rock storage facility will work as designed (no arsenic seeps above acceptable levels) b) the pit lake is a recharge zone and meromixis will stratify the pit, in the event there is elevated arsenic above acceptable levels in the pit lake water and c) long-term treatment is not needed.

INAC recommends the waste rock storage facility and other applicable management plans, when updated, should include, but not limited to:

- Additional hydrodynamic modelling of the waste rock storage facility that characterize downstream impacts under different cover scenarios;
- Monitoring program that verifies if predictions are realized and helps inform an adaptive management strategy if necessary;
- To go along with the monitoring program; continual thermal modelling of the waste rock storage facility that reduces uncertainty surrounding cover

thickness and the likelihood that PAG materials will not be completely encapsulated with permafrost, incorporating data obtained from Meadowbank would also be appropriate here, as Meadowbank facilities would have gathered more data over a longer time period; and

- These management plans are to include a section describing/detailing mitigation measures (adaptive management program) that can mitigate and manage a scenario in which seepage water does contain elevated levels of arsenic that is both feasible and can be conducted over a reasonable time frame (not over the very long term).

6c) INAC recommends the Whale Tail Pit and other applicable management plans when updated should include, but not limited to:

- Hydrogeological modelling and characterization of the pit that reduces uncertainty surrounding the possibility of elevated arsenic concentrations in the pit fill water
- Models of Water Quality in pit lake
- The plan should define (confirms) the pits flow gradients. The applicant needs to provide confidence that there are no discharge flow gradients in the pit and specifically within the ultramafic areas of the pit. If this is the case then there could possibly be a problem with elevated arsenic concentrations
- The plan should include confirmation if stratification will occur in the pit lake and weather that stratification is stable and will contain elevated arsenic water below the thermocline (within the lower strata);
- Monitoring program that verifies predictions and helps inform an adaptive management strategy if necessary; and
- These management plans are to include a section describing/detailing mitigation measures (adaptive management program) that can mitigate and manage a scenario in which fill water does contain elevated levels of arsenic that is both feasible and can be conducted over a reasonable time frame (not over the very long term).

Agnico Eagle Reponse #6

6a) Agnico Eagle agrees with INAC's recommendation and as Per Part E Item 5, will commit to updating the Water quality model and water management plan every 12 months.

6b) Agnico Eagle agrees with INAC's recommendation and will integrate these components into the management plans.

6c) Agnico Eagle agrees with INAC's recommendation and will integrate these components into the updated management plans.

INAC Final Response #6

INAC is satisfied with this response and looks forward to receiving the information for review within the committed timelines.

INAC Comment #7 (Comment 7 corresponds to INAC comment # 1.9 and AEM response 1.9 under Indigenous and Northern Affairs heading in AEM submission to NWB dated February 23, 2018)

Schedule B – General Conditions – The schedule should be developed to include the sampling/testing of waste rock for ARD/ML potential, as well as elsewhere as appropriate. Any schedule relating to monitoring and/or monitoring program should be submitted to the board for review and approval as frequency and nature of sampling will be very important to the project in providing confidence or not to the assumptions stated by the applicant.

Agnico Eagle Response #7

Agnico Eagle agrees with INAC's recommendation and will integrate these components into the updated management plans.

INAC Final Comment #7

INAC is satisfied with this response and looks forward to reviewing the updated management plans.

INAC Comment #8 (Comment 8 corresponds to INAC comment Attachment A under Indigenous and Northern Affairs heading in AEM submission to NWB dated February 23, 2018)

Attachment A – Second commitment regarding meromixis – This timeline should be 4 months prior to operations. Since this commitment was made during a meeting held September 14, 2017 and was presented at NIRB final hearing as exhibit 50 and NWB public hearing as exhibit 10.

AEM Response #8

Agnico Eagle agrees with INAC's recommendation. As presented in Table 1 response 1.1 Agnico Eagle will submit an updated version of the management plans 60 days prior to operation of Quarry 2 and again, update modelling and revise the management plans for submission to INAC, KIA and NWB 4 months prior to operations.

INAC Final Comment #8

INAC is satisfied with this response, however, requests that Agnico Eagle clarify there definition of operations. In the statement above it can be inferred that the operation of quarry 2 is outside the scope of what the applicant considers operation, given that the timelines described do not align.

iii) Summary of this final Submission (Coordinated Process).

INAC would like to reiterate that it does not consider long-term treatment to be an acceptable approach as a mitigation measure for the potential for high arsenic concentration levels.

INAC's assessment of the current available information still identifies the potential risk of elevated arsenic concentrations that could occur. INAC would like to ensure that all parties are informed of the potential risks associated with the construction of the waste rock storage facility and whale tail pit.

Agnico Eagle has committed to do additional studies that will further characterize the potential risks. These studies are critical and must be completed to allow parties to better understand the risks, but also provide Agnico Eagle with the necessary information to develop management plans that have been substantiated by field data and do not rely on long-term water treatment.

As we have seen through Agnico Eagle's last two submissions to the NWB dated February 6 and 23 they have committed to providing all required results from their

follow-up studies within the committed timelines in order for further review be undertaken before operations commence.

INAC looks forward to the review of all applicable documentation (i.e. management plans) in this water licence process.

INAC would like clarification on inconsistencies with the commitment dates and Table 1:

a.) Table 1 submitted by Agnico Eagle in their February 23, 2018 submission to the NWB lists a number of tasks (1-4) to be finished by March 15, 2018. INAC would like clarification on this end date as some of these tasks require the 2018 field season for data.
b.) Agnico Eagle states in their document about hosting a series of Workshops on March 30, 2018. However, in the Table 1 the date is May, 2018
c.) Item iii) under update management plans in Table 1 seems to be incomplete as it ends with “and management of”.

Over the course of this coordinated review process INAC has seen many commitment dates on many different deliverables (Exhibit 10 – NWB process and Exhibit 50 NIRB process). INAC has also seen that a lot of management plans will be reviewed and assessed after water licence approval, if approved.

INAC would like to avoid any confusion on deliverables and see committed timelines for all documentation be clearly identified.

Table 1 – Tasks and Timeline to address INACs concerns related to Arsenic concentrations within the reflooded Whale Tail Lake.

Task	Start Date	Finish Date	Note
Model- Pit Wall Arsenic Diffusion modelling	December 1, 2017	March 15, 2018	As per exhibit 50 and Attachment A in Draft Type A Licence framework.
Conduct a hydrogeological characterization study to validate the hydraulic gradient and potential arsenic diffusion	December 1, 2017	March 15, 2018	As per exhibit 50 and Attachment A in Draft Type A Licence framework.
Evaluation of the evolution of permafrost under the flooded pit, in response to the creation of a pit lake	December 1, 2017	March 15, 2018	As per exhibit 50 and Attachment A in Draft Type A Licence framework.
Hydrodynamic modelling of flooded Whale Tail Pit Lake post closure Arsenic concentrations within the flooded Whale Tail Pit Lake	December 1, 2017	March 15, 2018	As per exhibit 50 and Attachment A in Draft Type A Licence framework.
Host a workshop with KIA, INAC, ECCC and NWB	May, 2018		
Update Management Plans – i) Whale Tail Pit - Water Quality Monitoring and Flow Monitoring Plan to include: include specific WRSF and Pit sump water quality triggers (20% change) during operations; if trigger is exceeded, pit design revised and mitigation options will be reviewed. ii) ARD and Metal Leaching Plan to include laboratory leach testing and triggers for adaptive management related to leach testing. iii) Whale Tail Pit - Waste Rock Storage Facility	March 15, 2018	April 15, 2018	60 days prior to operation of Quarry 2 (if required) and prior to the construction of the Waste Rock Storage Facility Berm.

Management Plan detailing the steps involved in waste rock segregation; include location of thermistor and management of			
Conduct additional laboratory leach testing	May 15, 2018	October 15, 2018	As per exhibit 50 and Attachment A in Draft Type A Licence framework.
Operation of Quarry 2 (if required)	May 15, 2018	February 15, 2019	Note: Receipt of Licence expected on May 16, 2018.
Waste Rock Storage Facility Berm Construction	June 15, 2018	February 15, 2019	Note: Receipt of Licence on May 16, 2018. Following a 30 day notice of berm construction, operation will begin
Host a workshop with INAC, KIA and NWB to review updated geochemistry, hydrogeological characterization, hydrodynamic model results, mitigation strategies and management plan updates	October 2018		Intended to review updated management plans and findings;
Submit updated draft management plans to INAC, KIA and NWB	February 1st, 2019		As per exhibit 50, plans will be submitted at least 4 months prior to operations in Q3 2019.
Annual Reporting: Submit updated geochemistry, hydrogeological characterization, hydrodynamic model and updated management plans with new information taken in 2018/2019	January	March 31st, 2019	As per Licence requirements
Whale Tail Pit pre-stripping		Q1 2019	As early as February 2019
Whale Tail Pit operations		Q3 2019	Target date is July 2019

Regards,

Ian Parsons, B.Sc
Manager Water Resources