

## **Appendix 1**

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### **Meadowbank and Whale Tail Commitments**

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Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
GN	MBK/WT	<p>Agnico Eagle Mines (AEM) Ltd. (2019). Meadowbank Division Terrestrial Ecosystem Management Plan, Version 7. Agnico Eagle Mines (AEM) Limited. (2021). Meadowbank Complex 2020 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2020 Wildlife Monitoring Summary Report. Agnico Eagle Mines (AEM) Limited. (2022). Meadowbank Complex 2021 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report. Environmental Dynamics Inc (EDI). (2022). Mary River Project Terrestrial Environment 2021 Annual Monitoring Report. Government of Nunavut (GN). (2021). Government of Nunavut comments on the 2020 Meadowbank and Whale Tail Project Annual Report. Government of Nunavut (GN). (2017). Final Written Submission for Agnico Eagle Mines' Environmental Impact Statement for the proposed Whale Tail Pit Project. Nunavut Impact Review Board (NIRB). (2017) Final Hearing Report, Agnico Eagle Mines Ltd. Whale Tail Project. NIRB File No. 16MN056. Nunavut Impact Review Board (NIRB). (2006) Project Certificate for the Meadowbank Gold Mine Project. Project Certificate 004. Nunavut Impact Review Board (NIRB). (2020). 2019-2020 Annual Monitoring Report Meadowbank Gold Mine and Whale Tail Pit Projects. Nunavut Impact Review Board (NIRB). (2021). 2020-2021 Annual Monitoring Report Meadowbank Gold Mine and Whale Tail Pit Projects.</p>	<p>Identification of issue: Helicopters are a potential source of disturbance for caribou and other wildlife. In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (AEM 2022), the Proponent has made significant improvements in the monitoring and reporting of Project-related helicopter traffic.</p> <p>However, the GN notes that a majority of reported flights in 2020 and 2021 were below the minimum flight altitudes set in the Project's Terrestrial Ecosystem Management Plan (TEMP) and in Terms and Conditions 61 and 62(f) of Project Certificate No. 004 (NIRB 2006). This includes flights during caribou migration periods. The GN is concerned about the potential impacts of this low-level flying on wildlife and requests that the Proponent provide additional information to demonstrate whether low-level flights were justified or whether there is a compliance issue.</p> <p>Importance to review and supporting rationale: NIRB Project Certificate No. 004 Terms and Conditions 61 and 62(f) state that:  "61. In consultation with EC, Cumberland shall incorporate into the Terrestrial Ecosystem Management Plan and the Air Traffic Management Plan a commitment for aircraft to maintain (whenever possible) a cruising altitude of at least 610 metres during point to point travel when in areas likely to have migratory birds, and 1000 metres vertical and 1500 metres horizontal distance from observed concentrations of migratory birds, and use flight corridors to avoid areas of significant wildlife importance."  and  "62. Cumberland shall develop and implement a noise abatement plan to protect people and wildlife from significant mine activity noise, including blasting, drilling, equipment, vehicles and aircraft. The noise abatement plan will be developed in consultation with Elders, GN, HC, and EC and include:  f) Require (with the exception of take off and approach for landing), a minimum flight altitude of 610 metres above ground when flights to and from the mine site are passing sensitive wildlife and bird areas."  (NIRB 2006)</p> <p>Additionally, the Project's Terrestrial Ecosystem Management Plan (TEMP, AEM 2019) includes the following restrictions for helicopters:  (1) That long-range flights are a minimum of 650 m above ground level, except for take-off and landing;  (2) Short-range flights are a minimum of 300 m above ground level, except for take-off and landings;  (3) Caribou groups of 50 or more animals, and muskoxen of 10 or more animals must be avoided by a minimum of 1,000 m vertically and 1,500 m horizontally;  (4) Flocks of migratory birds must be avoided by 1,100 m vertically and 1,500 m horizontally; and  (5) Harassing wildlife (flying below 300 m) is expressly forbidden unless animals pose an immediate danger to humans.</p> <p>During the NIRB's Review of the Whale Tail Project, the GN noted concerns about the potential for helicopters to disturb wildlife such as caribou (GN 2017, Comment GN-10). Similar concerns were expressed by community members from Baker Lake (e.g., Whale Tail Final Hearing Transcripts, 2019, page 561)</p> <p>In response to these concerns, the Proponent made a commitment to the Government of Nunavut (GN) that:  "The Proponent shall revise the Project's TEMP to include a program to monitor and report helicopter traffic associated with the Whale Tail project (including existing Meadowbank infrastructure) and all associated exploration activities so that the spatial scale and intensity of this activity can be documented. This should include the collection and analysis of GPS track logs for all helicopter flights contracted by the Proponent."  (NIRB 2017, Appendix B, Commitment #20).</p> <p>This commitment was not fulfilled during the 2018 and 2019 reporting years, as evidenced by the absence of relevant revisions to the TEMP and lack of information regarding helicopter traffic in the Proponent's 2018 and 2019 Annual Reports. In 2020, the NIRB directed the Proponent to work with the GN and Terrestrial Advisory Group (TAG) to revise the TEMP to incorporate the requirements of this commitment (NIRB 2020). In the 2020 Wildlife Monitoring and Summary Report (AEM 2021), the Proponent provided information on helicopter traffic. However, as noted by the GN (GN 2021), the limited scope and format of this information was not consistent with the commitment made to the GN and did not reflect input provided by the GN or other members of the TAG. In 2021, the NIRB again noted:  "Further, the NIRB is concerned that helicopter traffic is not being monitored as required and that helicopter traffic is going undocumented, leading to party's inability to verify the Proponent's assertion of infrequent helicopter traffic or determine if any potential impacts to wildlife are occurring. Therefore, Agnico Eagle should work with the GN and the TAG as per Terms and Conditions 27 and 28 of the Whale Tail Project Certificate No. 008 to revise its Terrestrial Ecosystem Management Plan to incorporate the requirements of Commitment # 20."  (NIRB 2021)</p> <p>In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (AEM 2022), the Proponent has significantly improved reporting of helicopter traffic in line with commitment # 20. In 2021, there were 141 days during which helicopters flew for a total of 1,382 hours, with most flights occurring during the summer (AEM 2022, tables 29). However, the GN notes with concern that most of this flight time, including flights during spring and fall caribou migration periods, occurred below the 300 m altitude threshold set in the TEMP; the lowest of all the altitude thresholds in the TEMP and the Projects' Certificates. Reported flights for 2020 were similarly mostly below the 300 m threshold (AEM 2022, table 28). The 300 m altitude threshold is the lowest altitude limit in TEMP and both Project Certificates and is considered the absolute minimum necessary to avoid harassment of wildlife. The report provides a brief discussion to justify why some flights occurred below 300 m stating that:  "Some flights for environmental monitoring require lower altitudes, including flights to visually inspect water quality of the water bodies around bridges and roads, inspection of various mine infrastructure for runoffs, lake water sampling, and raptor surveys. Meteorological conditions and visibility may limit flight altitudes."  (AEM 2022, section 4.5.9)</p> <p>However, the report does not provide information on how many flights occurred below 300 m in 2021 based on these justifications. The GN is concerned about the potential impacts of this low-level flying on wildlife and seeks to determine what proportion of such flights are essential for fulfilling Project regulatory obligations, are justifiable for safety purposes, or reflect poor pilot compliance with the TEMP and Project Terms and Conditions.</p> <p>The GN also notes the Proponent's suggestion in the 2019 Wildlife Monitoring Summary Report that 3 days of helicopter traffic associated with the deployment of caribou satellite collars in the spring of 2018 may have affected the migration of caribou through the Project's regional study area (AEM 2020b, Section 17). Although unsubstantiated by evidence, if the Proponent is concerned about 3 days of helicopter flights affecting caribou migration, the GN questions why the Proponent does not express greater concern about the potential impacts of the hundreds of hours of Project-related low-level flying that occurred over 141 days in 2021. The report does not conduct an analysis to determine if there is a compliance problem or provide recommendations for adaptive management.</p> <p>Other Projects in Nunavut report helicopter traffic in a manner that allows parties to monitor compliance with flight altitude thresholds established to mitigate impacts on wildlife. For example, reporting of the Mary River Project includes a detailed break-down of the proportion of flights occurring below altitude thresholds that occurred with or without justifiable reason (EDI 2022). The same format of reporting should be implemented by the Proponent.</p>	<p>That in future Annual Reports the Proponent report helicopter flights in the same format as presented by Baffinland Iron Mines Ltd. in its 2021 Terrestrial Environment 2021 Annual Monitoring Report for the Mary River Project. This should include a breakdown of the proportion of flights and hours of flying occurring below altitude threshold; separating flights that had a justifiable reason for low-level flying (and noting the reason) versus flights that did not have justification.</p>	<p>Agnico Eagle's understanding from Environmental Dynamics Inc. is that the 2021 annual monitoring report (referenced as EDI 2022 by the GN) for Baffinland Iron Mine is not publicly available at this time. When this report is available Agnico Eagle will review it as to whether a similar assessment can be completed. Note that because it is already July of 2022, it will not be possible to provide the requested information for the entire 2022 monitoring year.</p> <p>Agnico Eagle disagrees with the GN that helicopter use by Agnico Eagle would cause similar disturbance to caribou as helicopters used by the GN for collar deployment by net-gunning. Net-gunning includes a low-level helicopter chasing an individual caribou at close range and trapping the caribou with a net fired from a gun. If captured, the animal is physically restrained by participants (and possibly anaesthetized) while a telemetry collar is fixed around the caribou's neck. Biological samples may be taken at this time by needle or other means. The collared caribou is then released. If the net-gun misses, the chase is either continued on the same caribou or new caribou is located for capture.</p> <p>Individual caribou targeted for collar deployment are located by telemetry of caribou collared during previous years by helicopter. It is reasonable to expect that a previously collared animal might relate the chase and capture experience to the noise or visual cues of a helicopter and respond adversely. Agnico Eagle believes this is a much different experience for the caribou than a helicopter used for mining and exploration, which does not involve chasing or capturing caribou. Several scientific studies show that collaring of animals alters behaviour for up to the first two weeks post-collar deployment (Morellet et al. 2009; Neuman et al. 2011; Dechen Quinn et al. 2012; Northrup et al. 2014; Becciolini et al. 2018). These studies also recommend censoring data immediately following deployment to eliminate adverse behaviour from being included in analyses.</p>	<p>Appendix 47 (Section 4.5.9) of the 2022 Annual Report</p>

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GN	MBK/WT	<p>Agnico Eagle Mines (AEM) Ltd. (2019). Meadowbank Division Terrestrial Ecosystem Management Plan, Version 7. Agnico Eagle Mines (AEM) Limited. (2022). Meadowbank Complex 2021 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report.</p>	<p>Identification of issue: As part of the Project's Terrestrial Ecosystem Management Plan (TEMP), the Proponent is conducting a Blast Monitoring Study to measure vibration levels and over pressures at varying distances from blast sites. One of the objectives of the Study is to estimate the distances over which vibration and noise may be perceptible to wildlife such as caribou and muskoxen. In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (AEM 2022), the Proponent concludes there are no seasonal differences in the way blast over-pressure propagates in the environment. However, the information presented appears to suggest there are seasonal differences. This has importance for informing season-specific blasting mitigation measures such as those contained in the TEMP to reduce disturbance of wildlife.</p> <p>Importance to review and supporting rationale: The 2021 Annual Report states that: "Figure 23 presents a PPL [Peak Pressure Level] versus distance curve estimated based on all blast measurements alongside PPL versus distance curves estimated based on the seasonal breakdown. The curves in Figure 23 do not suggest a seasonal difference in the way PPL propagates into the environment." (AEM 2022, section 9.5)</p> <p>It is unclear whether this conclusion of 'no seasonal difference' is based on a statistical analysis or a subjective review of the curves presented in figure 23. If based on the latter, an alternative conclusion can be reached. For example, visual inspection of figure 23, indicates the Peak Pressure Level (PPL), which characterizes air-blast overpressure, reaches 115 decibels (dB, a published human annoyance threshold cited in the Report) at 0.75 km and 1.5 km during winter and spring blast, respectively. If true, this suggests that sound, at levels known to be annoying to people, propagates twice as far in spring compared to winter. This has important implications for informing blasting distance buffers to mitigate disturbance of wildlife such as spring migrating caribou. The apparent seasonal difference in propagation of blast over-pressure should be further investigated with adequate sample sizes and appropriate statistical analyses.</p>	<p>1. That Proponent clarify whether the conclusion that blasting over-pressure shows no seasonal difference in propagation distance is based on statistical significance. If based on a statistic analysis, please provide the details of the analysis</p> <p>2. That the Proponent clarify how over-pressure propagation will be further investigated to establish adequate statistical power to detect potential seasonal differences that would inform blasting mitigation for wildlife.</p>	<p>1. Figure 23 of the 2021 Annual Report presents a PPL vs. distance curve established through application of regression analysis to all 174 PPL measurements collected between December 20, 2020 and August 6, 2021. Figure 23 also presents the 95% confidence interval for the "all blasts" curve (i.e., the range within which one can be 95% confident that the true relationship between PPL and distance will fall). In addition, Figure 23 presents separate PPL vs. distance curves established through application of regression analysis to the 49 PPL measurements collected during the spring period, the 42 PPL measurements collected during the summer period, the 11 PPL measurements collected during the fall period, and the 72 PPL measurements collected during the winter period.</p> <p>For very small propagation distances (i.e., &lt;100 m), the spring curve is located above the 95% confidence interval established for the "all blasts" curve. However, for propagation distances greater than 100 m, the seasonal curves all lie within the 95% confidence interval established for the "all blasts" curve. Based on this result, it is not possible to identify a statistically significant difference in the way that PPL propagates into the environment. In other words, as noted in the 2021 report, the data collected to date does not suggest a seasonal difference in the way PPL propagates into the environment at distances greater than 100 m. The current blast suspension threshold is 4 km during sensitive seasons when the GST is exceeded (Agnico Eagle 2019), except during calving when the threshold is 5 km. These thresholds are not based on caribou behaviour data in response to blasting. At these thresholds there is no seasonal difference in PPL based on 95% confidence interval overlap.</p> <p>Please note that 95% confidence intervals were also calculated for the individual seasonal curves but, in the interest of clarity, these confidence intervals were not plotted in Figure 23 of the 2021 report. Exceedance outside of the 95% confidence interval would indicate statistical significance (Nakagawa and Cuthill 2007). In response to GN's specific concern about propagation of PPL during the spring and winter periods, Figure 1.2-1 presents PPL vs. distances curves established through application of regression analysis to the 49 PPL measurements collected during the spring period and the 72 PPL measurements collected during the winter period, along with 95% confidence intervals for each curve.</p> <p>For very small propagation distances (i.e., &lt;100 m), the spring curve is located above the 95% confidence interval established for the winter curve and the winter curve is located below the 95% confidence interval established for the spring curve. However, for propagation distances greater than 100 m, the spring curve lies within the 95% confidence interval established for the winter period and the winter curve lies within the 95% confidence interval established for the spring period. This result supports the observation that it is not currently possible to identify a statistically significant difference in the way that PPL propagates into the environment.</p> <p>The observation that data collected to date does not suggest a seasonal difference in the way PPL propagates into the environment does not rule out the possibility of a seasonal difference; however, the present analysis could not identify such a relationship based on the data that is currently available. A statistically significant seasonal difference may emerge with the collection and analysis of more data. As noted below, Agnico Eagle intends to continue to record blast location, charge mass and depth and will continue to analyze this data to establish relationships between PPL, propagation distance, and caribou response.</p> <p>For mitigation design purposes the over-pressure level that leads to a response by caribou is much more informative than the presence of a statistical seasonal effect of PPL propagation.</p> <p>2. Agnico Eagle will continue to monitor blast parameters (blasting charge, depth, coordinates) and caribou behaviour opportunistically to evaluate whether caribou respond to over-pressure (and blast vibration) and determine appropriate mitigation thresholds (e.g., distance buffer).</p>	<p>Appendix 47 (Section 9.0) of the 2022 Annual Report</p>

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GN	MBK/WT	<p>Agnico Eagle Mines (AEM) Ltd. (2019a). Meadowbank Division Terrestrial Ecosystem Management Plan, Version 7. Agnico Eagle Mines (AEM) Ltd. (2019b). Submission to NIRB Final Written Statement Responses Whale Tail Pit – Expansion Project. Agnico Eagle Mines (AEM) Ltd. (2019c). Technical Comment Responses Whale Tail Pit – Expansion Project. Submitted to the Nunavut Impact Review Board. Agnico Eagle Mines (AEM) Limited. (2022). Meadowbank Complex 2021 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report. Berger, J. et al. (2008). Protecting migration corridors: challenges and optimism for Mongolian saiga. <i>PLoS Biology</i> 6(7):e165. doi: 10.1371/journal.pbio.0060165 PMID: 18666827. Berger, J. (2004). The last mile: how to sustain long-distance migration in mammals. <i>Conservation Biology</i> 20(4): 320–331. Boulanger, J., R. Kite, M. Campbell, J. Shaw and D.S. Lee. (2020). Analysis of Caribou Movements Relative to the Meadowbank Mine and Roads During Spring Migration. Government of Nunavut, Department of Environment, Technical Report Series – No.01-2020. 31 July 2020. Bolger, D. et al. (2008). The need for integrative approaches to understand and conserve migratory ungulates. <i>Ecology Letters</i> (2008) 11: 63–77. doi: 10.1111/j.1461-0248.2007.01109.x Committee on the Status of Endangered Wildlife in Canada (COSEWIC). (2016). COSEWIC assessment and status report on the Caribou Rangifer tarandus, Barren ground population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 123 pp. (<a href="http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&amp;n=24F7211B-1">http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&amp;n=24F7211B-1</a>). Government of Nunavut (GN). (2019). Government of Nunavut comments on the 2018 Meadowbank and Whale Tail Project Annual Report. Government of Nunavut (GN). (2020). Government of Nunavut comments on the 2019 Meadowbank and Whale Tail Project Annual Report. Government of Nunavut (GN). (2021). Government of Nunavut comments on the 2020 Meadowbank and Whale Tail Project Annual Report. Nicholson et al. (2016). Modeling Caribou Movements: Seasonal Ranges and Migration Routes of the Central Arctic Herd. <i>PLoS ONE</i> 11: e0150333. doi: 10.1371/journal.pone.0150333 Nunavut Impact Review Board (NIRB). (2019). Nunavut Impact Review Board 2018 – 2019 Annual Monitoring Report for Agnico Eagle Mines Ltd.'s Meadowbank Gold Project [03MN107] &amp; Whale Tail Pit Project [16MN056]. Wilcove DS, Wikelski M. (2008). Going, going, gone: is animal migration disappearing. <i>PLoS Biology</i>. 2008; 6(7):e188. doi:10.1371/journal.pbio.0060188 PMID: 18666834</p>	<p>Identification of issue: During the NIRB's Review of the Whale Tail Pit Project and the Whale Tail Expansion Project (collectively referred to here as the 'Project'), a key concern of parties was the potential for traffic on the Project's roads to disrupt the migration of caribou herds. In response to these concerns, the Proponent adopted a set of caribou protection measures to mitigate potential effects on caribou. These are presented in the Project's Terrestrial Ecosystem Management Plan (TEMP) as a series of caribou decision trees which prescribe specific mitigation measures that will be implemented when caribou are in the vicinity of the Project (AEM 2019a, figures 6-9). A key component of these decision trees is the requirement to automatically close the Project's Whale Tail haul road (HR) or All-weather-access-road (AWAR) to all traffic when caribou above a specific group size threshold (GST) are observed within 1.5 km of a road during either the spring or fall migrations; defined as April 1-May 25th and September 16-December 7th. The commitment to automatically close Project roads during migration periods is a cornerstone of the Project's caribou protection measures and was a key piece of evidence, presented by the Proponent to the parties and NIRB during hearings on the Project, to provide assurances that impacts of caribou would be mitigated. At various times during the NIRB's proceedings, the Proponent has reiterated its commitment to these caribou protection measures in response to concerns expressed by the GN and other parties that they may not be, or were not being, properly implemented. For example: "Agnico Eagle assures all parties that it will fully and consistently implement Caribou Protection Measures (CPMs) specified in the TEMP (Version 7, figure 6 to 9) in response to all observations of caribou, and will provide confirmation of this implementation in its Annual Reports." [emphasis added by reviewer] (AEM 2019b, response to GN Final Written Submission) In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (AEM 2022), the Proponent claims that the caribou decision trees were implemented throughout 2021 according to the TEMP. This led to the full closure of the HR on 12 days during the spring migration and closure of the AWAR on 27- and 21-days during spring and fall migrations, respectively. The GN disputes the Proponent's claim that the decision trees were implemented properly in 2021. A review of the data provided by the Proponent in the Annual Report shows there were numerous days during the spring and fall migrations when Project roads should have been automatically closed to allow passage of caribou but were not (see table 1 below). The GN is also concerned that the Proponent used alternative traffic management measures, such as partial closures or speed restrictions during periods when roads should have been automatically and fully closed. Finally, the Annual Report does not provide information on how long roads remained closed on specific days and what factors (information, consultations, etc.) led to reopening of the roads. This is the fourth consecutive Annual Report (covering the Project's entire life to date) for which the GN has expressed concerns about noncompliance with the Project Certificate due to incomplete/inconsistent application of the TEMP's caribou decision trees (GN 2019, 2020, 2021). These caribou protection measures were submitted as evidence by the Proponent during NIRB's Review of the Project and were integral to intervenors' reviews of the Project's Final Environmental Impact Statement (FEIS). Failure to implement them fully constitutes a breach of trust and undermines the integrity of the environmental assessment process in Nunavut. The GN notes that the NIRB has previously directed the Proponent to properly implement the caribou decision trees, stating for example that: "..... [T]he Proponent should ensure that road closures as a mitigation measure are being applied according to thresholds established in the TEMP and the definitions of essential and non-essential traffic. This information should be included in the 2019 Annual Report." (NIRB 2019) The GN feels that the Proponent is non-compliant with term and condition 28 of the Project Certificate (008) by not fully and consistently implementing the TEMP. The GN urges the NIRB to take immediate action to enforce term and condition 28 of the Project Certificate with respect to these matters. There is growing evidence that migrating caribou are being disrupted by the Project's roads and that the automatic road closures required under the TEMP are able to mitigate this disruption. Importance to review and supporting rationale: The Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (AEM 2022) states that: "The decision trees were used throughout 2021." (Section 2.5) And "Road-related monitoring and mitigation were implemented according to Figures 7 and 8 of the TEMP version 7 (Agnico Eagle 2019)." (Section 3.6.5) The GN disputes these conclusions on several counts as follows: 1) In reviewing the road survey data on caribou observations provided in Appendix A of the Report, it is apparent that there were numerous days during the spring caribou migration when either Whale Tail Haul Road (HR) or the AWAR should have been automatically closed but was not (Table 1 below). On these days, totaling 8 and 8 for the HR and AWAR, respectively, caribou above the group size threshold were observed within 1.5 km of a road. Instead of implementing the automatic road closure required under the TEMP's caribou decision trees, the Proponent's response was to implement a "speed restriction" (AEM 2022, appendix A) on these days; a measure that is not part of the prescribed response in the decision trees. During the fall migration, there were 3 days when roads should have been automatically closed but were not (2 for the AWAR and 1 for the HR). 2) For days in 2021 when Project roads were closed for migrating caribou, the report does not provide enough information for reviewers to assess whether closures were managed according to the requirements of the caribou decision trees. For example, the decision trees indicate that upon closure of a road, the Proponent will "[C]onsult daily with KivIA, GN and HTO to discuss options to re-open roads" (AEM 2019a, figure 7 and 8). The report does not provide information on the duration of closures, nor does it provide information on the consultations that took place amongst the KivIA, GN and HTO that led to reopening. It is unclear, whether the road closure days presented in table 9 of the report represent 24 hr closures or shorter periods. The duration of closure and the factors that led to each reopening must be provided in annual reports in-order for reviewers to assess compliance with the TEMP. In this regard, the GN notes a commitment made by the Proponent during the NIRB's review of the Whale Tail Expansion Project, to provide this type of information (AEM 2019c – Response to GN TRC #4). There is a growing body of evidence that the migration of regional caribou herds is being disrupted by the Project's roads and that road closures are an effective means of mitigating this impact. For example: a) Road survey data for the Project show that a vast majority of migrating caribou are observed on the side of a road facing the on-coming migration. This suggests that caribou movements are being blocked the road and/or its traffic and consequently caribou are concentrating near the road as they attempt to cross it. An example of this is shown in figure 1 using the Proponent's 2019 road survey data for the Whale Tail Haul Road (HR) and AWAR. A similar pattern of caribou distribution is seen in all years for which data are available. (b) In a study of spring migration patterns between 2011 and 2019, Boulanger et al. (2020) found that between 14 and 55% of collared caribou were deflected (i.e., did not cross) by the Project's roads during their migration. Caribou that crossed roads were delayed in crossing and the probability of crossing was significantly higher when a road was closed. (c) Results from the Proponent's remote trigger camera study found that 12 of the 13 caribou road crossing events detected so far have occurred when the Whale Tail Haul Road was closed to traffic (AEM 2022). (d) Examining caribou road crossing events recorded during road surveys conducted by the Proponent in 2021, shows that caribou were approximately 4 times more likely to be seen crossing roads when they were closed (See GN 2021 AR comment – Remote Camera Study). Given this growing body of evidence regarding impacts of the Project's roads on caribou migration, the need to strictly enforce road closure requirements under the Project's TEMP is emphasised. The disruption of migratory routes by human activity is a recognized threat to barren-ground caribou in Canada (COSEWIC, 2016). As noted by Nicholson et al. (2016) in a study of caribou migration routes: "Natural selection has likely favored caribou that follow migration routes that proved successful during previous years. In such cases, young caribou may learn by following older, experienced animals. Such reliance on traditional migration routes might delay or reduce the ability of caribou to adapt to environmental changes... Restoring migration routes after they have been disturbed or fragmented is challenging." As such, if the Project results in the disruption of caribou migratory movements, the restoration of migration behavior may be delayed beyond the life of the Project or may not be restored. This could have significant consequences for the status of affected herds. For example, in reviewing two centuries of historical data on migratory ungulate species across the world, Bolger et al. (2008) found that in many cases the disruption of migration routes by human activities resulted in rapid population collapse. This, and other research findings, highlights the importance of maintaining connectivity in caribou range (Berger, 2004; Berger et al., 2008; Wilcove and Wikelski, 2008).</p>	<ol style="list-style-type: none"> <li>1. That the Proponent explain why Project roads were not automatically closed to traffic on the dates listed in table 1 above, as prescribed under the caribou decision trees.</li> <li>2. That the Proponent explain what is meant by "Speed Restrictions" that were implemented on Project roads on the dates listed in table 1 above and where in the TEMP version 7 this is a prescribed response to the observation of caribou above Group-Size Threshold (GST) and within 1.5 km of a road.</li> <li>3. That the Proponent provide, in all future Annual Reports, details of the duration of road closure for each of the days a Project Road is closed.</li> <li>4. That the Proponent provide, in all future Annual Reports, details on the consultations that took place and the information upon which reopening was based for each of the days a Project Road is closed.</li> <li>5. That the Board direct the Proponent to immediately implement the Project's caribou protection measures fully and consistently, in accordance with the approved TEMP's v. 7 GSTs, Distance Thresholds, and decision trees; including the automatic road closures specified in these decision trees (AEM 2019a, Figures 6 to 10).</li> </ol>	<ol style="list-style-type: none"> <li>1. Agnico Eagle does not agree with the GN that there is a growing body of evidence that the migration of regional caribou herds is being disrupted by the Mine and roads. Agnico Eagle has demonstrated that collared female caribou encountering the Mine and roads during spring migration reach calving areas and at similar timing as collared caribou that do not encounter roads (i.e., reference caribou) (Golder 2020). As well, Golder (2020) showed that collared females encountering the Mine and roads did not have lower calving rates or higher neonate mortality rates as reference caribou. These findings are consistent with Plante et al. (2020), who found no measurable increase in mortality risk for collared Leaf River and George River caribou that interacted with industrial developments. These lines of evidence measuring caribou demography support that local residual changes to migration from developments are within the resilience limits of caribou. In response to point A above that road survey data for the Project show that a vast majority of migrating caribou are observed on the side of a road facing the on-coming migration, this observation is due to the monitoring approach targeting migrating groups as they approach the road. Therefore, observations for the on-coming migrations side of the road will be biased high, and once a group or caribou is observed and counted, they are not counted after crossing. Further, the probability of detection increases as distance to the observers decreases, so the number of detections should be higher closer to the road. The distributions presented in Figure 1 are in line with expected observations for road surveys given the methodology and purpose of the program. Natural factors, such as habitat and topography, that may also be correlated with distance and explain the observed patterns but are not considered. Interpreting these distributions as caribou being blocked from crossing and/or concentrating on the on-coming migration side of the road are not supported by these data. In response to point C and D above concerning caribou crossing roads more frequently during road closures, this is expected given that road closures are triggered by caribou presence within 1.5 km of the Haul Road and AWAR. This observation doesn't indicate that caribou are more or less likely to cross a closed road, rather that caribou in close proximity to roads are more likely to encounter a closed road because the closure was triggered by their proximity to roads. Based on the mitigation measures in place, caribou should be crossing closed roads more frequently than open roads. The requested information in the Table 1.3-1 below. Agnico Eagle would also like to highlight closures which took place outside of migration dates outlined in the TEMP, during the period of August 6th to 15th, as well as December 16th to 31st, which demonstrates Agnico Eagle's commitment to protecting caribou migratory corridor right-of-way, and its variable nature. Furthermore, during the migration seasons outlined in the TEMP, 83.9% of observed caribou were seen during road closures, compared to the committed 75% in regards to TC 30. The full breakdown of percentage of caribou encountering a closed road can be found in Table 1.3-2. 2. "Speed restrictions" should be understood as "speed reduced to 30km/h", as per figure 6-10 of the TEMP. During those dates, road users were capped to 30km/h when travelling in areas where caribou were present. 3. Agnico Eagle will include the duration of the road closures as part of future annual reporting. It is important to note that the information will not be available for the first half of 2022, as data is not recorded in a manner to allow this. Moving forward this will be done. 4. The reason for reopening are already presented in Appendix B of the Wildlife Monitoring Summary Report. Furthermore, Agnico Eagle is looking to include additional context on which roads can be reopened in the next iteration of the TEMP. In future annual report, Agnico Eagle will look to include additional information on the communication and context upon which roads were reopened. 5. N/A</li> </ol>	Appendix 47 (Section 3.0) of the 2022 Annual Report

Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
GN	MBK/WT	Agnico Eagle Mines (AEM) Ltd. (2019). Meadowbank Division Terrestrial Ecosystem Management Plan, Version 7. Agnico Eagle Mines (AEM) Limited. (2022). Meadowbank Complex 2021 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report. Boulanger, J., R. Kite, M. Campbell, J. Shaw and D.S. Lee. (2020). Analysis of Caribou Movements Relative to the Meadowbank Mine and Roads During Spring Migration. Government of Nunavut, Department of Environment, Technical Report Series – No:01-2020. 31 July 2020.	<p>In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report, the Proponent provides an update on the Meadowbank Gold Mine Caribou Behaviour Study (AEM 2020, Appendix L). The main findings of this Study were that caribou close the road responded to disturbances such as traffic, exhibiting behaviors such as increased alertness, trotting or running lasting up to 3 to 6 minutes after exposure. However, the Report does not place these findings in the context of traffic intensity on the Project's roads, in particular the Whale Tail Haul Road (HR). This makes it challenging for reviewers to assess the significance of the Study's findings. Additional analyses are recommended in future Annual Reports.</p> <p>Additionally, walking was the second most common behavior observed during the study. Caribou may walk for a variety of reasons including to seek forage, to migrate or to move away from a disturbance. The study design and subsequent analyses did not attempt to distinguish between these types of walking behaviour and may thus be failing to detect an important response to disturbance. Recommendations on a revised study design are provided.</p> <p>Importance to review and supporting rationale: Significance of the Study's Findings The Caribou Behavior Study found that: "Overall, the results of the statistical analysis provided support for the key hypothesis that caribou tend to respond to disturbances, particularly when they are close to the road. However, the analysis also found that disturbances did not have a detectable effect on caribou behaviour after three to six minutes." (AEM 2022, s17.2.4)</p> <p>This finding should be placed in context with information on the intensity of traffic on Project roads, in particular the HR. This would allow the Proponent and other parties to assess the significance of the Study's findings and potential adaptive management responses. For example, using traffic levels provided in the report (Table 12), and accounting for periods of road closure (Table 9) it can be estimated that there was an average of about 1 vehicle per 7.5 minutes on WTHR during spring migration in 2021. Comparing this to the findings of the behaviour study it can be estimated that at any point on the road, a caribou could be exposed to a disturbance source 8 times per hour. With responses to disturbance lasting 3-6 minutes, an individual caribou could potentially spend as much as 24 to 48 minutes per hour exhibiting disturbance behaviours.</p> <p>These preliminary calculations do not account for variation in traffic intensity on the HR over the course of a 24-hour period, such as peaks in traffic during daylight hours and lows during nighttime if such variation exists. A more detailed analysis of traffic intensity should be provided in future Annual Reports including patterns of traffic intensity within 24-hour periods, while the Project's roads are open. Data collected in gate house logs and from the Proponent's remote trigger camera program can be used in these analyses.</p> <p>Data on Walking Behavior As noted in the report: "In response to comments from the KivA, the behaviour of "walking" was investigated for whether it may be an "alert" behaviour instead of a non-response behaviour, however, disturbances did not statistically affect the proportion of caribou walking....." (AEM 2022, s17.2.3)</p> <p>And "For the analysis, walking data was still kept separate from running or alert behaviours (the previous response behaviours), because the proportion of caribou walking was substantially higher at any given time than the proportion exhibiting alert or running behaviour. Grouping the three "response" behaviours together would risk washing out the potentially higher stress behaviours of alert and running." (AEM 2022, s17.2.2.2)</p> <p>Walking was the second most common behavior observed during the study seemingly comprising approximately 25-33% of observed behaviors (AEM 2022, Appendix L, figure 6.3-2). Caribou may walk for a variety of reasons including to seek forage, to migrate or to move away from a disturbance. The study design was not suited to differentiating amongst these different reasons for walking. Consequently, the Study may be failing to detect an important response to disturbance. Revisions to the study design should be made in-order to further study walking as a potential disturbance response. For example, observers should record the direction of walking so that analyses can consider whether caribou are walking towards, away or parallel to road. Notwithstanding the direction of migration, the latter two orientations may be responses to disturbance, as has been seen in collared caribou (Boulanger et al 2020).</p>	<p>1. That the Proponent provide, in all future Annual Reports, a more detailed analysis of traffic frequency on the Project's roads. This should include the frequency of traffic (vehicle passages/minute) for the Whale Tail Haul Road and All-Weather-Access-Road (AWAR) for spring and fall caribou migration periods covering days when road is in full operation. This should also include daily average, minimum and maximum frequencies, and an analysis of patterns of traffic intensity during the Project's 24-hour daily work cycle.</p> <p>2. The behaviour study's design should be revised to collect data on the direction caribou are walking to distinguish between individuals walking towards, away or parallel to Project roads.</p>	<p>1. Agnico Eagle has a daily traffic log for each road, but the current format of data recorded will make it difficult to have accurate information. It should be noted that because traffic data are only available for one spatial point on the haul road and on the AWAR, the estimate of traffic intensity would have to be extrapolated for the whole road for every day and then redistributed, and may not perfectly reflect the conditions experienced by caribou at that location in that moment. This uncertainty will be a caveat on any conclusions that can be reached on subsequent data analyses. This information will be explored for the 2022 report to determine the approximate traffic intensity for the period in which the behaviour surveys occur.</p> <p>2. Based on the comments from the GN on the 2021 report, a field will be added to indicate the direction of walking in relation to the road for the remainder of the 2022 field season. This will be an important step towards being able to separate "walking" into response and non-response behaviours. With this additional data collection in 2022, the objective will be to separate behaviours into additional classes: walking parallel to road, walking away from road, and walking towards road.</p> <p>For the existing dataset up to 2022, response and non-response walking cannot be reliably separated without making risky assumptions. For example, caribou that were walking at the start of the survey may be responding to unknown disturbances that occurred before the survey started and would be mis-classified as non-response walking. Nevertheless, it is acknowledged that walking should be included in the models in some fashion as it is an important component of response behaviour, as the GN and KIA have both observed. Walking will be included in analyses in the 2022 analysis as a separate response variable, in the same way that it was included for the 2021 report. Additional data collection from 2022 increases the likelihood that a statistical effect of traffic on walking behaviour will be detected, even with the relative noise inherent in the observation of walking behaviours.</p> <p>The inclusion of walking behaviour into estimations of "duration of response" will be also explored in the 2022 analysis. Some workshoping on the best way to do this may be required at a TAG meeting, as caribou walking before a disturbance occurred may continue to walk after the disturbance, but not in response to the disturbance.</p>	Appendix 47 (Appendix I) of the 2022 Annual Report
GN	WT	Agnico Eagle Mines (AEM) Ltd. (2019). Meadowbank Division Terrestrial Ecosystem Management Plan, Version 7. Agnico Eagle Mines (AEM) Limited. (2022). Meadowbank Complex 2021 Annual Report, Appendix 47 – Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report.	<p>Identification of issue: In the Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report, the Proponent provides an update on the results of the Remote Camera Program. This Program is designed to study the road crossing behaviour of caribou by collecting both time lapse and remote triggered images of caribou as they cross the Project's Whale Tail Haul Road (HR). Of note is the result showing that of 12 of the 13 caribou crossing events detected on camera occurred while the road was closed to traffic during the spring migration period. The 12th crossing events occurred during a period of speed restriction on the road.</p> <p>Despite the small sample size, this result provides compelling evidence that caribou are far more likely to cross the HR when it is closed. However, the Report fails to discuss the significance of this finding alongside the growing body of evidence that road closure status significantly affects caribou migration through the Project (See GN 2021 Annual Report comment – Road Closures for Migrating Caribou). Recommendations on adaptive management and/or further investigation of this finding are not made. Additionally, the Report does not utilize other sources of readily available data, within the Report's appendices, to investigate caribou crossing behavior relative to road status (open/closed). For example, in reviewing the road survey data in Appendix A, the GN found that caribou appear to be about 4 times more likely to be observed crossing the HR when it is closed. The GN recommends further analyses of HR road survey data for the period 2019-2022.</p> <p>Importance to review and supporting rationale: Table 46 of the report (AEM 2022) shows that 12 of 13 detected caribou crossings occurred during the spring migration period when the HR road was closed. Considering the HR was closed and open for 12 and 33 days, respectively, during this period (AEM 2022, table 9), this result suggests that caribou strongly avoid crossing the HR when it is open. When the HR was closed, the cameras detected 1 crossing per day. When the HR was open detection rate was 0.03 crossings/day. The Report does not further investigate this important finding using existing data or make recommendations for future investigation. This is a significant deficiency.</p> <p>The Project's road surveys offer another source of data to investigate caribou crossing behaviour relative to road status (open/closed). The Report provides a summary of caribou crossings observed during road surveys in 2021 but does not provide any analysis of crossing data relative to road status (AEM 2022, section 3.6.8). In reviewing the road survey data provided in the Report (Appendix A), the GN finds that caribou appear to be approximately 4 times more likely to cross the HR during their spring migration while the road is closed (Tables 1 and 2). Similar results are apparent for the AWAR (Tables 3 and 4). Although samples sizes are small, these findings warrant further investigation using existing and future data. These results add to a growing body of evidence that an open HR presents a significant barrier to the movement of migrating caribou (see GN comment – Road Closures for Migrating Caribou). The GN urges the Proponent and the NIRB to take further immediate measures to investigate these findings and implement adaptive management to prevent disruption of caribou migratory behaviour.</p>	<p>1. That the Proponent continue the Remote Camera Program and expand the Program through deployment of additional cameras to increase and acquire a large sample of caribou crossing photographic data.</p> <p>2. That the Proponent conduct an analysis of road survey data for the Whale Tail Haul Road for the period 2019 to 2022 looking at observations of caribou crossing relative to road status. Findings of this analysis should be included in the 2022 Annual Report.</p> <p>3. That the Proponent explain what adaptive management response will be implemented to address the findings of the camera program which suggest that migrating caribou cross during periods of road closure and strongly avoid crossing an open Whale Tail Haul Road.</p> <p>4. That NIRB direct the Proponent to implement fully and consistently the existing automatic road closure provisions in the Project's TEMP (AEM 2019). (See GN 2021 AR comment – Road Closures for Migrating Caribou).</p>	<p>1. Agnico Eagle will consider including additional cameras in the monitoring program and will discuss with the TAG at a future meeting.</p> <p>2. Road surveys are not designed to quantify the proportion of observed caribou groups that cross roads, nor are they appropriate for interpreting caribou responses to road mitigation, and should not be used as such. They are designed to quantify caribou group sizes and proximity along the length of the Haul Road and AWAR to inform mitigation actions, such as road closure, in accordance with the TEMP (Version 7, Agnico Eagle 2019). A greater proportion of caribou groups are expected to be observed crossing roads when roads are closed, as GST numbers will be exceeded. The road closure is triggered because caribou groups are closer to either the Haul Road or AWAR. To assess the effectiveness of road closure mitigation would require monitoring caribou crossing frequencies in the presence of different treatments of road closure (i.e., closed versus open). To complete this type of assessment it would be necessary for some caribou groups within 1.5 km that exceed the GST to be exposed to an open road. Further discussion with the TAG is required to explore such a monitoring program.</p> <p>3. Similar to response #2, the higher incidence of crossing events recorded by cameras during road closures is expected and supports that road closures are effective mitigation. Crossing events should be more frequently recorded when the Haul Road is closed. Haul Road closure is triggered because caribou groups are closer to the road. Managing road activity, such as full and partial road closure, is already a form of mitigation implemented by Agnico Eagle. The low number of crossing events when the road is open do not provide support for caribou strongly avoiding roads.</p> <p>4. N/A</p>	Appendix 47 (Section 8.0) of the 2022 Annual Report



Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
DFO	MBK/WT	Appendix 9: Meadowbank and Whale Tail 2021 Annual Geotechnical Inspection – Table 2	Culverts requiring repair maintenance identified in 2019 have not been repaired.	Proponent to provide a plan for repair and/or replacement of damaged and obstructed culverts prioritizing repairs to culverts with potential to affect fish passage and fish and fish habitat.	The culverts identified in 2019 were the culverts on the Whale Tail Project road. During the 2021 inspection it was noted that the culverts were in good condition. In 2019 it was recommended to pay special attention to a number of listed culverts but specific repairs were not required. Golder recommended the following in the 2019 report and it is still the case in the 2021 report "If insufficient capacity to manage runoff is observed at the time of the spring freshet, then it would be recommended to clear the obstructions or repair the culverts. It is also recommended to monitor the erosion progress of culverts # 167 (41 + 843) and # 232 (53 + 928) since there are signs of water flow below the road at these locations. Culvert erosion should be monitored during the spring freshet." Following these recommendations, in 2019, Agnico put into place a culvert inspection program to be carried out by the road crews during the freshet and open water season. This inspection program is still in place and during the 2021 freshet the culverts had sufficient capacity to manage the runoff and no erosion problems were observed. The inspection of the culverts is continuing in 2022 by the road crews and the culverts will be closely inspected once again during the upcoming 2022 annual geotechnical inspection.	Appendix 9 (Section 7.0) of the 2022 Annual Report
CIRNAC	WT	Meadowbank Complex 2021 Annual Report: Section 8.5.3.2; Appendix 13; Whale Tail Expansion Project Final Environmental Impact Statement: Appendix 6H)	<p>Arsenic is the primary contaminant of concern at the Whale Tail site. The Final Environmental Impact Statement (FEIS) for the Whale Tail Expansion Project predicted that arsenic in water collected from the IVR pit during operations would have a maximum concentration of 0.66 mg/L in 2021. In contrast, the Annual Report indicates that the maximum measured arsenic concentration in 2021 within the IVR pit was 5.18 mg/L. The measured concentration is therefore eight times greater than the predicted value and more than 200 times greater than the 0.025 mg/L Site Specific Water Quality Objectives (SSWQO) for arsenic.</p> <p>In addition to some parameters having higher than predicted concentrations, the volume of water requiring management has been higher than predicted in some instances. Notably, the volume of water flowing into the Whale Tail Pit is roughly 50% greater than predicted in the FEIS.</p> <p>Increased concentrations of some parameters (e.g., arsenic) and increased water volumes should, in theory, result in higher contaminant loadings to surface water receivers. While this is effectively managed by AEM during operations, higher loadings during the post-closure phase have the potential to result in adverse impacts to surface water receivers. Nonetheless, CIRNAC notes that AEM's updated water quality predictions (as presented in Appendix 13) are generally similar to those presented in the FEIS for the Expansion Project. Specifically, as illustrated in the following figure, average arsenic concentrations in Mammoth Lake during the postclosure phase are currently predicted to slightly exceed the arsenic SSWQO for several years. That prediction is generally similar to estimates that were presented in the FEIS for the Expansion Project.</p> <p>It is unclear to CIRNAC why the increased arsenic loadings that have been observed during the operational phase (as indicated by pit sump water monitoring data) are not resulting in post-closure water quality predictions that are worse than predicted in the FEIS for the Expansion Project.</p> <p>CIRNAC also notes that AEM continues to indicate that water quality predictions are accurate within one order of magnitude. On this basis, it is CIRNAC's understanding that post-closure arsenic concentrations within Mammoth Lake could be up to ten times higher than currently predicted. Given that current predictions already slightly exceed the SSWQO for arsenic, average post-closure arsenic concentrations in Mammoth Lake could be ten times greater than the SSWQO and still remain within the FEIS predictions.</p> <p>Last, CIRNAC notes that the predictions provided in Appendix 13 to the 2021 Annual Report represent average concentrations within a fully mixed water body. In general, it should be expected that spatial heterogeneity will result in concentrations being higher than average at some locations within the lake (e.g., in the vicinity of the flooded pits and/or passive discharges of seepage from the Waste Rock Storage Facilities (WRSFs). Given the limited "margin of error" between the predicted average concentrations and the SSWQO for arsenic, it is likely that some areas within Mammoth Lake will have arsenic concentrations that are well above the SSWQO. Additional details on this spatial heterogeneity are required.</p>	<p>CIRNAC recommends that AEM address the following in the next iteration of the Whale Tail Interim Closure and Reclamation Plan:</p> <p>a) Clearly indicate which modelling parameters have been adjusted since the last modelling run. In situations where the level of conservatism has reduced relative to FEIS predictions, appropriate justification should be provided</p> <p>b) Future modelling results should explicitly and quantitatively report the range of predicted modelling outcomes based on AEM's assumptions regarding model prediction accuracy (i.e., +/- one order of magnitude). Any required mitigations should be based on a reasonable worst-case scenario. For example, what actions would be required if post-closure arsenic concentrations in Mammoth Lake are at the upper end of the potential prediction range?</p> <p>c) Water quality predictions should clearly indicate the spatial extent of post-closure water quality exceedances within surface water receivers.</p>	<p>a) Agnico agrees with CIRNAC's recommendation to indicate which modelling parameters have been adjusted since the last modelling run and to explain situations where the level of conservatism has reduced relative to FEIS predictions. It should be noted that as per NWB Water License 2AM-WTP1830 Schedule B, Item 9, the complete water quality forecast model is updated yearly, and included in the Annual Report. Therefore, this recommendation will be included in next year water quality forecast model. The Whale Tail Interim Closure and Reclamation Plan refers to the water quality forecast model, but however does not include the modelling process in great details.</p> <p>b) Agnico agrees with CIRNAC's recommendation for the next iteration of the water quality forecast model to explicitly report the range of predicted modelling outcomes based on model prediction accuracy. It will be ensured that the consultant performing the water quality forecast discusses the prediction accuracy of the model within the report as it is possible this may have changed since modelling was first performed.</p> <p>c) Agnico acknowledges CIRNAC's recommendation for the next iteration water quality forecast model to clearly indicate the spatial extent of post-closure water quality exceedances within surface water receivers.</p>	Appendix 13 of the 2022 Annual Report
CIRNAC	MBK	Meadowbank Complex 2021 Annual Report: Section 7.1.1, Appendix 28; Meadowbank Complex 2021 Annual Report: Section 8.5.5.2, Appendix 9 and 15	<p>Issues/Rationale: Proper operation care and maintenance of fuel storage facilities is critical to ensuring potential impacts to the environment are prevented. In this regard, AEM has an extensive program to address tanks, piping and related fuel handling and storage components. For the most part, these components are all within secondary containment designed to ensure that releases to the environment are prevented.</p> <p>AEM notes that monthly inspections of the facilities are conducted that assess tank and piping condition, secondary containment berm structure and integrity, indicators of liner damage, precipitation/runoff accumulation, evidence of tampering or misuse, any structural abnormalities and visible sheens on contact water pools and crush material inside the secondary containment.</p> <p>Review of the 2021 Annual Report indicates that there are ongoing issues with fuel management facilities, such as water management within the various fuel storage facilities and minor to moderate issues related to the integrity of facility civil works for secondary containment as identified in the 2021 geotechnical inspections, and with spills related to fuel storage facility operations including for example exposed and ripped geomembranes, animal burrowing near the south side of tanks 3 and 4, and the ongoing presence of ponded water within secondary containment areas. Some of these issues are outstanding since the 2020 inspection while some are recurring.</p> <p>In addition to physical aspects, in Table 7-2 of the 2021 Annual Report notes that on September 10, 2021, there was an accidental discharge of 280 m3 of water from secondary containment that was potentially contaminated with petroleum hydrocarbons. As indicated in Table 7.2 of the 2021 Annual Report, AEM initiated an internal investigation to assess the accidental discharge.</p>	<p>a) Provide the results of internal investigations into the cause of any spill in future annual reports.</p> <p>b) Carry out a comprehensive root cause review as to why there are year over year repeated observations of secondary containment concerns related to both liner integrity and water ponding within the secondary containment systems.</p> <p>c) Address any findings and recommendations of the root cause review to ensure environmental risks are mitigated through compliance and due diligence.</p>	<p>a) Results from internal investigations for spills are included as part of the follow-up reports that are submitted to the Government of Nunavut Spill Hotline. The reports submitted for spills occurring during 2021 at Meadowbank have been included in Appendix 28 of the 2021 Annual Report.</p> <p>b) Agnico Eagle will carry out a comprehensive assessment of the Baker Lake marshalling facilities secondary containment and will provide the findings in the 2022 Annual Report.</p> <p>c) Agnico Eagle will address any findings from is review.</p>	Section 8.18.2.1 of the 2022 Annual Report
CIRNAC	MBK/WT	AEM Responses to Review Comments on the 2020 Meadowbank and Whale Tail Annual Report, 29 July 2021.; Meadowbank Complex 2021 Annual Report: Section 11.10.1, Table 1-1, Appendix 59 - 2021 Socio-Economic Monitoring Program; NIRB Project Certificate 004 (Amendment 003) Term and Condition 65.; NIRB Project Certificate 006 (Amendment 002) Term and Condition 101	<p>Issue/Rationale: Last year, as part of its review of the 2020 Annual Report, CIRNAC was unable to locate employee origin details beyond the community of origin of Inuit employees by Kivalliq community. CIRNAC recognizes that Project Certificate 004 (Amendment 003) (PC 4), Term and Condition (T&amp;C) 65 for the Meadowbank Gold Mine has a parallel under AEM's Meliadine Gold Mine Project Certificate 006 (Amendment 002) (PC 6), T&amp;C 101, which requires AEM to report on employee origin details. In CIRNAC's review letter that was submitted to the NIRB with respect to AEM's 2020 Annual Report, it recommended that AEM align this aspect of the Meadowbank Complex Annual Report to the same reporting schema practiced for the Meliadine Gold Mine to allow for better understanding of the socio-economic impacts of the Meadowbank Complex, as well as consistency in reporting across AEM's Kivalliq projects.</p> <p>Pursuant to T&amp;C 101 of PC 6, AEM:  ". . . shall include with its annual report to the NIRB a summary of employee origin information as follows:  a)The number of Inuit and non-Inuit employees hired from each of the Kivalliq communities, specifying the number from each.  b)The number of Inuit and non-Inuit employees hired from each of the Kitikmeot and Qikiqtani regions, specifying the number from each.  c)The number of Inuit and non-Inuit employees hired from a southern location or other province/territory outside of Nunavut, specifying the locations and the number from each; and  d)The number of non-Canadian foreign employees hired, specifying the locations and number from each foreign point of hire."</p> <p>In its July 29, 2021 response to comments submitted on the 2020 Annual Report, AEM provided sufficient reference to where the recommended information is provided within its 2020 Socio-Economic Monitoring Report.</p> <p>CIRNAC notes that the 2021 Socio-Economic Monitoring Report does not present similar information on employee origin nor does Section 11.10.3 of the 2021 Annual Report, which is identified as the relevant report section pursuant to Table 1-1, entitled "Meadowbank and Whale Tail List of Reporting Requirements" of the 2021 Annual Report (p. 6). Section 11.10.3 of the 2021 Annual Report provides employee origin information for AEM Inuit employees by community of hire in the Kivalliq Region as well as the broader categories of Kitikmeot, Qikiqtani and outside of Kivalliq. Similarly, Section 1.3 of the 2021 Socio-Economic Monitoring Report presents the origins of employees and contractors by community in the Kivalliq Region. Less detail is provided than what is included in Appendix C of the 2020 Socio-Economic Monitoring Report which aligns with T&amp;C 101 of PC 6.</p>	<p>CIRNAC recommends that future AEM Annual Report submissions include details of employee origin in a manner consistent with the requirements of PC 6 T&amp;C 101 which applies to the Meliadine Gold Mine.</p>	<p>Agnico Eagle agrees to include detailed breakdown of headcount data by employee location, Inuit and non-Inuit status and project for future Annual Report submission. Furthermore, Agnico Eagle will ensure the employment origin data remains consistent with the T&amp;C 101.</p>	Appendix 4 (Section 1) of the 2022 Annual Report

Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
KivIA	MBK/WT	Appendix 47: S 1.7; Terrestrial Advisory Group; Appendix 47: Meadowbank and Whale Tail 2021 Wildlife Monitoring Summary Report (April 2022).	KivIA appreciates that Agnico Eagle has relied on TAG for advice from three virtual meetings in 2021 and that TAG's advice was used in seven sections of the 2021 annual monitoring report (S 1.7, pg 1-6). KivIA, however, suggests that Agnico Eagle should include a table summarizing TAG's contributions as how TAG contributed to refining monitoring and mitigation is not specified in these sections. Although the 2021 Annual Report describes how the Mitigation Audit is to evaluate mitigation (S 1.8, pg 1-6), the evaluation was not included in the report. KivIA recommends that the TAG be involved in evaluating mitigation in preparation for Agnico Eagle's Mitigation Audit, as TAG's purpose includes evaluation of the effectiveness of mitigation measures. KivIA notes uncertainties in evaluating mitigation effectiveness as it is unclear what criteria to use to measure effectiveness. For example, for roads are the criteria for mitigation effectiveness the percentage of caribou encountering the roads when they are closed or the numbers of caribou seen crossing? Agnico Eagle reports that on average 80% and 24% of observed caribou encountered the AWAR and WTHR roads when closed, respectively (S 3.6.6, pg 3-14). The proportion of caribou observed crossing the roads was, however, low in spring (~1,300 for AWAR and 1,000 for WTHR; Table 14 and Figure 7) when the number of caribou encountering the road was high (~13,000 for AWAR and 10,600 for WTHR; Table 10), with roughly 10% of caribou encountering the roads actually observed crossing. Average road crossings were high in December when the percentage of caribou encountering the road was also high but the information is not presented as to the percentage crossing when the roads are closed. TAG's eight purposes (S 1.7) for TAG are comprehensive, which suggests Agnico Eagle has high expectations of TAG contributions. Agnico Eagle also identifies throughout the 2021 annual report future topics to be discussed with TAG. However, given the number of topics, KivIA is concerned that the proposed shift to only in-person meetings has the disadvantage of potentially reducing the frequency of TAG meetings and reducing the number of participants.	1) Provide a summary table of TAG advice in annual reports; 2) Obtain input from TAG on the annual Mitigation Audit; and 3) Allow virtual as well as in-person attendance at TAG meetings	1) Agnico Eagle will include a table of TAG comments and recommendations on the annual wildlife monitoring report and the Terrestrial Ecosystem Management Plan (TEMP). Agnico Eagle has altered mitigation and monitoring based on comments and recommendations by the TAG. Examples include the snow study and its design and caribou behaviour monitoring (including in response to blast over-pressure and vibration). Section 4, of the Terrestrial Advisory Group (TAG) Terms of Reference (Agnico Eagle 2018) outlines that advice from the TAG must be officially designated as such, be clearly written and must be evidence based. To date, the TAG has not provided official advice to Agnico Eagle according to the Terms of Reference. 2) Agnico Eagle welcomes TAG comments on the annual Mitigation Audit. 3) Agnico Eagle has allowed TAG organizations and their support staff to attend by teleconference or virtually and plans to continue this. Agnico Eagle would like for TAG organizations to have at least one representative present at meetings, if possible.	Appendix 47 (Section 17.2) of the 2022 Annual Report
KivIA	MBK/WT	Appendix 46: S 3.6.5, 3.6.7	Use of convoys figures prominently in management of traffic disturbance on caribou (S 3.6.5 – 3.6.7, pg 3-13 – 3-14; TEMP V7: Figs. 6, 8). Details on the occurrence and makeup of the convoys used during road closures were provided, and showed that fuel tankers comprised 56% of the convoyed vehicles during road closures (Table 13, pg 3-17). Convoying of vehicles during caribou migration, especially large trucks, has the potential to deflect or delay caribou crossing during migration depending on number and spacing of convoys. Convoys are often used during road closures (Tables 9, 10, pg 3-14) yet there has been no reporting of the effectiveness of convoying, the duration that it takes the convoys to pass, the spacing between convoy disturbance events, or the duration of time since disturbance that caribou are more likely to cross.	1) Report on the spacing, duration and timing of convoys on both the AWAR and WTHR; 2) Since fuel tankers comprise over half of the vehicles within convoys, develop a strategy to pre-emptively store sufficient fuel to reduce the requirement for fuel tankers to be on the roads during periods of high caribou presence; and 3) in collaboration with the Terrestrial Advisory Group (TAG), design and implement a pilot haul truck convoy program that could test patterns of timing of road closure and convoying to determine whether convoys of vehicles (including and without heavy equipment) both would impact caribou movements and optimal timing between convoys.	1) Agnico Eagle is working with the TAG on a caribou behaviour to convoy pilot project. Further details on convoy information regarding spacing, duration and timing will be added moving forward. 2) Agnico Eagle is in process of obtaining regulatory approval for the installation of a 3.3Ml fuel tank at the Meadowbank Complex. Such a fuel tank would increase fuel autonomy between the Baker Lake Marshalling Facilities and the Meadowbank Complex by an estimated 10 days, when based on 2022 consumption data. 3) Agnico Eagle looks forward to collaborating with the TAG to implement such a pilot program.	Appendix 47 (Section 3.6.7) of the 2022 Annual Report
KivIA	MBK/WT	Appendix 47: S 3.6.8 Caribou Responses to Mitigation, Caribou Crossings; S 11	Road surveys and incidental sightings documented 6,000 caribou crossing the AWAR and WTHR (S 3.6.8, pg 3-20). The number of crossings observed were reported by km post (Table 14), and Figure 7 shows numbers observed by month. However, these data were not presented graphically, and are not related to road closure status, current traffic level, or direction that the caribou crossed. Section 11.1 (integrated caribou monitoring results, Table 54, pg 11-1) stated "The majority of mitigations resulted from observations made during road surveys. A total of 318 caribou observations from road surveys were tied to mitigations (Appendix A)". Thus, it appears that the road surveys are integral for triggering changes in mitigation (broadly summarized in Table 9, S 3.6.6, pg 3-14), but the details are buried in Appendix A (Table A-1) and are not synthesized.	Agnico Eagle should summarize caribou crossings relative to road closure status, convoys, speed restrictions and crossing direction to enable assessment of the effectiveness of the monitoring and mitigation strategies.	Agnico Eagle will include a summary of caribou crossings relative to road closure/open status, convoys, and speed restrictions. The direction of crossing caribou will also be included. Agnico Eagle would like to highlight that the current monitoring programs are generally intended for caribou detection and implementation of mitigation measures, and not for caribou crossing monitoring. Collaboration with the TAG will be required to improve caribou crossing monitoring programs to allow detailed analysis.	Appendix 47 (Section 3.6.6 & 3.6.8) of the 2022 Annual Report
KivIA	WT	Appendix 47: S 7.0 Viewshed surveys; S 3.0 Road surveys; S 11.1 Integrated Results	Agnico Eagle switched to viewshed surveys from height of land (HOL) surveys in February 2020. The 12-13 viewshed locations are supposed to have longer range of view to provide an earlier 'early warning' of caribou approaching the WTHR. However, viewshed surveys provided almost no triggers for changes in mitigation since "no caribou groups exceeding GST were observed on viewshed surveys, therefore no mitigations were implemented directly as a result of these surveys" (S 11.1, Table 54, pg 11-1). It is unclear whether caribou were observed during viewshed surveys that were not detected during road surveys. Viewshed surveys did observed caribou more frequently to the east due to increased surveys in the fall ("upstream" of movement), with average sighting distance 1,050 m (S 7.5, pg 7-3). While the road survey observations were well-mapped, how far out caribou were detected and from which direction during road surveys were not reported (S 3.6.3, pg 3-5). Although these data are presented in spreadsheet form in Appendix A, a synthesis of the road survey data would allow comparison of the effectiveness of viewshed and road surveys.	Agnico Eagle should synthesize the road survey results with respect to distance and direction that observations occurred relative to the viewshed data.	Agnico Eagle will provide a comparison of viewshed and road survey results to the TAG.	Appendix 47 (Section 17.3) of the 2022 Annual Report
KivIA	WT	Appendix 47: S 8.0 Remote camera program	KIA thanks Agnico Eagle for following up on comments from the previous monitoring report and providing the 2019-2021 camera results for the WTHR. Over the 3 years, technical staff adjusted camera positioning to capture both road traffic and caribou interactions with the road (S 8.4.1, pg 8-1); 10 paired cameras were used in 2021. The study only partially met its objectives to monitor caribou behavioural interactions with the WTHR and to adapt traffic mitigation. Only events when caribou were photographed on the road or on either side of the road were considered crossing events, which limited sample size (0 in 2019, 10 in 2020 and 3 in 2021). Presumably sample size was why the results did not include the behaviours, which were to be categorized as interpretations (calm, stressed) rather than behaviour (alert, bedded). The average time between crossing events and previous vehicle, including during road closures, was 23:09 hours, ranging from 2:30 to 85:10 hours. Metrics about detected caribou crossing events are listed in Table 46 (S 8.5, pg 8-9) but it is unclear whether the Time Since Vehicle was based on time-lapse images only or motion triggered images as well (S 8.4.2, pg 8.3). Agnico Eagle concluded that the remote camera program is unlikely to contribute to adaptive management unless more cameras are deployed and they recommended discussion with the TAG (S 8.6, pg 8-9). However, KivIA notes that in contrast, the camera program at the Meliadine AWAR was successful at recording traffic and caribou crossings (2021 Meliadine annual report Appendix 28: 2021 Caribou Trail Camera Study).	KivIA recommends that Agnico Eagle bring forward a revised remote camera program design to TAG using their experience at Meliadine with remote cameras. A major objective of the study should be to document the time since vehicle for successful (and unsuccessful) crossing events.	Agnico Eagle will discuss with the TAG to further review the current camera program, to document additional crossings event	Appendix 47 (Section 8.0) of the 2022 Annual Report
KivIA	MBK/WT	Appendix 47, Appendix L Caribou Behaviour Monitoring	KivIA finds that the behaviour study (Appendix L) combining 2020 and 2021 data largely meets its objectives and contributes to describing impacts on caribou. Although more than half the bouts had between 1 and 6 disturbances (80% of the disturbances in 2020 and 2021 were heavy vehicles), the presentation of the frequency of disturbances could be clarified to summarize the proportion and type of disturbances relative to whether they occurred when the road was closed, open or speed restrictions were in place. Figure 6.3-7 (Appendix L, pg 21) shows a subset of 6 bouts of alert or running caribou, but the Appendix C (in Appendix L) with all bouts and the frequency of disturbances is hard to read. The study showed caribou return to their interrupted activity within 3-6 minutes of a disturbance, which indicates that it is the frequency of disturbances which will largely determine caribou impacts. Sample size and the number of variables reduced detecting statistical significance. Sample size relative to seasons is biased toward spring migration as (Table 6.2-2) 114 surveys were during pre-calving migration compared to only 15 surveys in calving and summer and 5 surveys in fall migration in 2021. Low sample size in fall is a disadvantage as caribou are especially sensitive to interruptions in forage intake. Sample size to examine impacts of convoys was also too small (9 bouts; S 6.3.8, pg 19). The behavioural study is not yet part of the overall monitoring (it is not included in Section 11.1, Integrated monitoring; Table 54, pg 11-2), although it is a TEMP v7 component. The behaviour studies can help assess mitigation effectiveness especially if integrated with road surveys, remote cameras and caribou collars.	1) Agnico Eagle should provide TAG with an estimate of necessary sample size to increase statistical power including detecting caribou responses to convoys and other traffic mitigation strategies. The required sample sizes should guide TAG discussions on assessing mitigation effectiveness. 2) Agnico Eagle should work with TAG to determine how to integrate behaviour monitoring behaviour with collar data and road surveys to address road mitigation effectiveness. Additionally, TAG could advise on how the behaviour study should contribute to establishing a threshold for 'sensory disturbance'.	Following discussions at the TAG in February 2022, for the 2022 field season, a goal of 50 surveys during fall has been put forward, including several more convoy surveys. This represents a substantial shift in the focus from opportunistic surveying, which favours spring surveys (when caribou are more concentrated and easier to survey). Instead, spring surveying in 2022 will be more heavily focused on increasing the number of convoy surveys. Last year, 9 convoys surveys were recorded, with only 4 of them complete enough to include in a statistical analysis. Though it is technically possible, an analysis on a sample size of 4 will not be processed. Following the 2022 field season, convoys will be explored as a variable. Ten complete surveys represent the targeted bare minimum sample size for attempting statistics. It should be noted that the survey goals reflect practical limits on the number of surveys that can be completed by the field technicians in the time available and with the frequency of caribou passing through. An accurate assessment of the number of surveys required to detect a response would require a power analysis, which is something that may be investigated retroactively after the 2022 analysis if detecting caribou responses to convoys remains not possible. Regarding the second comment from the KIA, once the collaring data sharing agreement is completed with the GN, Agnico Eagle looks forward to working with the TAG into merging both programs for further analysis.	Appendix 47 (Appendix 1) of the 2022 Annual Report

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KivIA	WT	Appendix 4; S 3	Section 3 (2022 planned activities) states "Widening of the road to 9.5m was completed in 2018. In 2022, road widening to 15m on specific sections of the Whale Tail Haul Road is planned to ensure safer driving condition for long-haul truck production and all other road users. The planned road sections to be widened are: KM116 to KM131, KM145 to KM154, and KM172 to KM179, however should additional needs be identified, other sections may be widened as well." NIRB Certificate No. 008, Condition 65 states that the Proponent shall consult with the TAG to develop a construction plan for widening the Whale Tail haul Road. In 2018 and 2019 there was much discussion at Terrestrial Advisory Group (TAG) meetings to develop caribou-friendly slopes to the road in specific areas, driven by caribou trails, collar data and IQ. The KivIA cannot recall that further discussions with TAG were held on this topic in 2020 and 2021. In responses to KivIA comments on the 2020 annual report, Agnico Eagle stated that a timeline for road widening has not yet been developed. The Appendix 4 states that widening of much of the haul road is planned for 2022, but the work plan does not provide design details.	As stated in Certificate No. 008, Condition 65, Agnico Eagle should provide a timeline and road designs for the widening of the Whale Tail Haul Road prior to construction.	There are no plans in place for widening the Whale Tail Haul Road to 15m in the near future. Should this change, Agnico Eagle will provide a timeline and road designs to the KivIA prior to construction. In 2022, for operational safety purposes, there are four areas along the Whale Tail Haul Road that were widened to 10m.	Section 3.5.2.3 of the 2022 Annual Report
KivIA	WT	2021 Annual Report; S 8.5.4.2, Agnico Eagle's response to Meadowbank (2AM-MEA1530) and Whale Tail (2AMWTP1830) 2020 Annual Report comments	In regards to phosphorus removal efficiency at the Whale Tail STP, Agnico Eagle commented that they would be switching to Re300 for greater effectivity. However, the 2021 Annual Report refers to refitting the treatment plant with larger lines for greater Alum dosing.	Please confirm if the switch to Re300 chemistry for the Whale Tail STP is still under consideration.	At present, the Whale Tail STP is still using aluminium sulphate for the removal of phosphorus. The rationale for not changing reagents is that the plant was able to make modifications to the system to allow for increased Alum dosing. The plant is still open to switching to Re300 if maximum alum dosing is not effective enough to meet parameters	Section 8.5.4.2 of the 2022 Annual Report
KivIA	WT	2021 Annual Report; S 1.0 Introduction, Pages 1 -3, 32-33, 37-38 (Tables 4 and 5)	There is not a consistent name designation for the Whale Tail Project. For example, this project is reference as the following: Pages 1 to 3: "Amaruq satellite deposit", "Amaruq site", "Whale Tail Pit Project", "Whale Tail Pit site", and the "Whale Tail Project". Pages 32 and 33: "Whale Tail Project", "Amaruq underground project" and "Amaruq open pit". Pages 37 and 38: Figures 4 and 5 both reference the "Whale Tail area".	The NIRB permitting process and any amendments always reference the "Whale Tail Project Certificate No. 008". The KivIA requests that this project be referenced as the "Whale Tail Project" in all future authorizations, annual reports, communication, documents, leases and permits. Any amendments should always refer to this project name as well. Any name(s) associated with an amendment to the NIRB certificate should be secondary to the project name. For example, the amendment related to the further development of the Whale Tail open pit, IVR open pit and Underground operations, which was approved on January 20th, 2020. Although not part of this review it is also recommended that the same approach be used for the NWB Type A Water License No. 2AMWTP1830.	Agnico Eagle acknowledges the KivIA's comment on inconsistent naming designation and will, moving forward, refer to the location as the "Whale Tail Mine" as it is no longer a project being assessed. This convention will be implemented as part of the 2022 Annual Report internal review process to ensure alignment across all stakeholders involved in preparing the report.	2022 Annual Report - All Sections and Appendices
KivIA	MBK	2021 Annual Report; S6.2.11 Stack Testing Activities, pages 119-120; Appendix 52, Summary, page 5.	Summary, page 5: Dioxins and Furans Tests #3 and #4 exceeded the 80 pg/m dry @ 11% O2 with vales of 331.54 pg/m dry @ 11% O2, 452.70 pg/m dry @ 11% O2 and 286.01 pg/m dry @ 11% O2. S6.2.11 Stack Testing Activities, page 119-120: The following was recommended as follow-up to these exceedances: 1) Review of incinerators maintenance works performed in 2021 are ongoing. 2) Review of incinerator designs specifications are currently ongoing along with the review of potential impact from a change in the waste stream. 3) Agnico Eagle also requested external consultant to provide guidance on the potential causes of the exceedance – discussion will take place in April 2022.	The KivIA requests the following information once it becomes available: 1) Results of the review of incinerators maintenance works performed in 2021. 2) Results of the review of incinerator designs specifications. 3) Results of the review on the potential impact from a change in the waste stream. 4) Results of the external consultant's guidance on the potential causes of the exceedance.	Agnico Eagle will provide to KivIA, once available, the conclusions of the investigation for the cause of the exceedances in dioxin and furan levels that occurred during the November 2021 stack tests. Agnico Eagle is looking into the possibility to suspend incinerator operations at the Meadowbank Complex. Suspension of use notifications were provided to NIRB and NWB.	Section 6.2.1.1 and Appendix 50 (Section 8) of the 2022 Annual Report
ECCC	MBK	6.2.1.1 Stack Testing	Stack testing at the Meadowbank incinerator resumed in 2021. Logistical issues truncated testing in September. Stack testing was completed in November; however, results indicated application standards were exceeded for dioxins and furans for two of the tests as well as the overall average.	ECCC requests that the Proponent provide the conclusions, when available, of their investigation for the cause of the exceedances in dioxin and furan levels that occurred during the November 2021 stack tests. ECCC recommends the Proponent provide a targeted time frame for 2022 stack testing. Given that freezing may have been a significant factor for the 2021 tests, ECCC recommends that the Proponent perform 2022 stack testing prior to the onset of freezing conditions.	Agnico Eagle will provide to ECCC, once available, the conclusions of the investigation for the cause of the exceedances in dioxin and furan levels that occurred during the November 2021 stack tests. Agnico Eagle agrees with ECCC's recommendation of conducting the 2022 stack testing prior to freezing conditions and has tentatively scheduled the program for the end of August 2022. At this time, Agnico Eagle is looking into the possibility to suspend incinerator operations at the Meadowbank Complex. Suspension notification were provided to NIRB and NWB.	Section 6.2.1.1 and Appendix 50 (Section 8) of the 2022 Annual Report



Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
ECCC	MBK	Appendix 48 –Wildlife and HHRA Screening Level Risk Assessment Plan – Version 6; Appendix 46 – 2021 Wildlife and Country Foods Screening Level Risk Assessment; Terrestrial Ecosystem Management Plan	<p>The 2021 results of the Wildlife and Country Foods Screening Level Risk Assessment report indicate exceedances (i.e. hazard quotients &gt;1) for the shorebird receptor at the Tailings Storage Facility (TSF). The Proponent changed certain assumptions (e.g. exposure concentration, time-in-area, contribution of benthic invertebrates from the TSF in diet) resulting in a revised characterization of the risks for shorebirds at the TSF to negligible.</p> <p>ECCC is concerned with the changes to these assumptions without more discussion and targeted studies. There is insufficient information about monitoring methods for bird use of the TSF in the TEMP and annual reports to support changes to the time-in-area assumption for shorebirds. ECCC is unable to determine, based on information provided, whether shorebirds are adequately being surveyed at the TSF, using a systematic approach and experienced observers. The more conservative approach is to assume birds are present and use the TSF for the majority of the breeding season and not just for eight days.</p> <p>ECCC does not support the change in the contribution of benthic invertebrates from the TSF to the diet of shorebirds based on the measured average abundance of benthic invertebrates in the 2021 sediment samples (i.e. from 100% to 13%). The more conservative approach is to assume that 100% of the diet of shorebirds is coming from benthic invertebrates at the TSF. Not enough is known about how the availability of prey influences foraging and habitat selection of shorebirds on their breeding grounds.</p>	ECCC recommends that a more conservative approach be used with the time-in-area and contribution of benthic invertebrates from the TSF in diet assumptions of the Wildlife Screening Risk Assessment Plan until targeted studies are conducted to refine site-specific conditions.	<p>According to ECCC's recommendation, Agnico has re-calculated hazard quotients for shorebirds (as represented by Semi-Palmated Sandpiper) who frequent the TSF location using the more conservative exposure assumptions of 1 month time-in-area and 100% of food as benthic invertebrates sourced from the TSF sediment during this time (Table 5.3-1). Agnico has also revised the WLSRA Plan assumptions to align with ECCC's recommendation and has provided this version as a standalone document alongside these responses. The use of average rather than maximum measured concentrations in tailings sediment and water was maintained here, since ECCC did not comment on this revised assumption. Similar to results of the assessment under standard exposure assumptions, hazard quotients for the arsenic, chromium, and cyanide exceeded the target value of 1 (Table 1), indicating a potential for non-negligible risk and a need for further assessment. To more accurately assess risk to shorebirds, Agnico proposes the following approach.</p> <p>Step 1 – Analysis of COPCs in tailings beach sediment and re-calculation of hazard quotients.</p> <p>As indicated in the uncertainty analysis, concentrations of COPCs in TSF solids were measured directly in mill effluent (following the same method used in the FEIS assessment of predicted impacts) rather than tailings beach sediment. This likely represents an overestimate of true exposure concentrations for some parameters (especially cyanide) since degradation over time in the TSF would be anticipated. Agnico proposes to collect and analyze a representative suite of samples of tailings sediment in areas potentially frequented by birds in order to confirm exposure concentrations. Samples will be collected between July - September, 2022, and a report with updated calculations provided to ECCC by December, 2022.</p> <p>Step 2 – Follow-up discussion</p> <p>Pending results of Step 1, Agnico will engage with ECCC to discuss next steps for potential targeted studies into shorebird use of the TSF, as needed. Agnico would aim to implement any follow-up studies determined in consultation with ECCC in spring/summer 2023.</p>	Section 8.19 and Appendix 48 of the 2022 Annual Report
ECCC	MBK	Section 4.4.3.1 Meadowbank Site - Water Quality (report p. 74); Appendix 20 – Meadowbank Predicted Water Quantity & Quality	<p>The comparisons to predicted water quality are presented in Appendix 20 for the various pit sumps and lakes. The tables start at Year 3, which appears to correspond to 2012, and go annually to Year 12, which would then be 2021. On the Year 12 table, measured data is included for 2012 to 2021, with comparisons of the mean and 25th percentile measured values to predicted values. In the various tables provided in Appendix 20, the comparisons for Probable Scenario and Possible Poor end Scenario appear to be done inconsistently between the various tables for the sites. The comparisons are made using different model year predictions (e.g. for the tables for Water Quality Year 12, North Portage uses Year 4 predictions; Goose Island Pit uses Year 3 predictions; Phaser Pit uses Year 10). Similarly, the preceding tables for Water Quality Years 3-11 use variable modeled years for comparison.</p> <p>It is not clear why the predictions were not compared to previously modeled current-year concentrations, nor what actual years the model years correspond to.</p> <p>For example, in the table titled "Vault Pit Sumps Water Quality Year 12" the columns for model comparisons are titled "Probable Scenario Year 10" and "Possible Poor end Scenario Year 10". There is also a footnote stating, "Used year 10 predictions for Vault which represent 3rd year of pit flooding, year 3 for Goose and year 4 for Portage which represent active pit operations as presented in Golder, 2007 - Water Quality Predictions Meadowbank Gold Project Doc No 516. Ver 0". It is not clear in this example, which year the Year 10 predictions for Vault correspond to – perhaps 2019.</p> <p>Comparisons to CCME guidelines and MDMER criteria are provided for measured parameters, using the dissolved fraction for metals. Total fractions (measured) should be compared to these guidelines and criteria, which are based on the total concentrations for metals.</p> <p>Errata: In section 4.4.3.1 of the Annual Report (report p. 74) the description of comparisons for Phaser Pit states that dissolved barium is below the 20% difference with -5% and -17%. This should be cadmium, not barium.</p> <p>Also in section 4.4.3.1 of the Annual Report, Figure 12 is missing 2014 data.</p>	ECCC requests clarification on the timing as to what actual years the Water Quality Years and the Scenario Years correspond to, and the rationale for using the various scenario comparison years chosen rather than the most recent year available for predicted concentrations. ECCC recommends that measured total metals be compared to the CCME guidelines and MDMER criteria. ECCC recommends the Proponent update Figure 12 with the missing 2014 data and update the description of comparisons for Phaser Pit with the correct metal.	<p>The model year prediction in the original water quality forecast does not match the actual Life of Mine (LOM). For example, the Third Portage Pit (Pit E) was modelled to be mined from Predicted Year (PY) 1 to 4 but the actual LOM for this pit is from Actual Year (AY) 1 to 10. Thus, to compare the water quality in the pit sump as of AY5, the values forecast for PY4 was used. In the Model, as of PY5, the pit is undergoing pit filling. A table similar to the one below will be added in next year's report to summarize the difference between the Model Predicted Year and the Actual LOM Year.</p> <p>In addition, it will be investigated if measured total metals can be compared to the CCME guidelines and MDMER criteria for next year's work. Lastly, Figure 12 of the 2021 Annual Report will be updated and the Phaser Pit comparison mentioned above will be corrected. The comments received from ECCC on the water quality forecasting will be addressed in the upcoming 2022 annual report.</p>	Section 4.4.3.1 and Appendix 20 of the 2022 Annual Report
ECCC	MBK	Section 9.1.1.1 Closure: Mine Site; Appendix 12 – Meadowbank Water Management Plan; (Section 3.4 Pit Flooding – Closure Concept; Appendix C. Page 62 Bullet iv.)	<p>Section 3.4 of the Meadowbank Water Management Plan describes the reflooding of the Portage and Goose pits as follows (pdf page 35):</p> <p>The reflooding concept of the Portage and Goose area includes water from tailings deposition activity, passive flooding, water transfers from the pit, water treatment, and active flooding from Third Portage Lake. More details on the treatment strategy including the discharge location and assimilative capacity of the receiver is required to advance the Portage Area flooding concept.</p> <p>In the 2021 Annual Report section 9.1.1.1 (pdf page 527), the Proponent described activities including: "Started environmental studies to assess the assimilative capacity of Third Portage Lake. The results from these studies will help define the allowable annual discharge volume and treated effluent requirements."</p> <p>The modeling update in Appendix C of the Meadowbank Water Management Plan states that "It is important to note that the treated effluent discharge water quality criteria shall need to be assessed based on the assimilative capacity of the receiving water body, Third Portage Lake."</p> <p>The proposed closure strategy is to treat and discharge the water in the pits, prior to capping tailings and reflooding. The approach of defining assimilative capacity implies a "pollute up to" approach, which is not compatible with maintaining the pristine water quality in the lakes.</p> <p>ECCC notes that the closure commitment from the Proponent is to ensure pit water quality either meets background, meets the Canadian Council of Ministers of the Environment (CCME) guidelines for the protection of aquatic life, or meets appropriate site-specific objectives prior to reconnecting the pits to surface waters. Water quality in Third Portage Lake should be held at the same or better standards up to and beyond closure.</p> <p>ECCC acknowledges that a detailed understanding of conditions in Third Portage Lake is needed to develop protective site-specific water quality objectives for closure, noting that these objectives should not be set to incorporate higher loadings and increases in concentrations of contaminants.</p>	ECCC recommends that the work planned for understanding conditions in receiving water bodies be described such that the focus is not on quantifying levels of contaminants that can be discharged, noting that the objective is to maintain baseline or guideline/protective water quality in the lakes.	<p>Agnico acknowledges ECCC's comment and agrees that the main objective of the water quality assessment for Third Portage Lake is to understand the conditions of the lake in order to develop protective site-specific water quality objectives for closure. The assimilative capacity of Third Portage Lake will be assessed with the objective of maintaining baseline or guideline/protective water quality in the lake, rather than quantifying levels of contaminants that could be discharged from a treated effluent.</p>	Appendix 12 (Section 3.4) of the 2022 Annual Report

Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
ECCC	MBK	Appendix 12 – Meadowbank Water Management Plan (Appendix A – 2021 Water Balance Update; Appendix B – Water Management Schematic Flow Sheets)	The first table showing water flows and volumes for Third Portage Lake, Reclaim Tailings Water, and the Mill presents water quantity amounts over time. In 2026, Mill Fresh Water Volumes and Mill Process Water Volumes (pdf page 24-25) are negative, the reason for which is not clear given that these are not water reservoirs with capacity to be withdrawn. The table starting on pdf page 61 includes a column for Tear Drop Lake to SC, but there are no volumes associated with this. It is not clear if these volumes are included in Pit A inputs. The Water Balance Update would benefit from descriptive text in the Appendix to indicate what the highlighted cells and rows signify. Numbering of the tables would be useful. ECCC also notes that the schematics provided in Appendix B were very helpful in showing the planned water management and changes over time. It would also be useful to include the post-reconnection schematic showing flows from Goose Pit and Portage pits and whether the pits are anticipated to be groundwater sinks (recharges).	<ul style="list-style-type: none"> <li>clarification of the 2026 water balance volumes associated with the mill and Tear Drop Lake;</li> <li>clarification of the significance of highlighted cells and rows in the tables; and</li> <li>provision of post-closure flow schematics.</li> </ul>	The negative 2026 water balance volumes associated with the mill are a formula error (which is why they correspond exactly with the monthly camp water volumes) and they should be zero; this will be fixed in the next edition of the water balance. The water balance column for Tear Drop Lake to South Cell has no volumes since this transfer is included with the Central Dike downstream pond inputs which are then sent to Pit A. Highlighted cells in the water balance usually signify volumes that are under discussion or investigation by the water and tailings engineers (for example perhaps the formulas include an error, or the volumes are suspected to be incorrect) and highlighted rows generally signify closure milestones. For the next edition of the water balance the highlighted cells and rows will be explained. Numbering of the tables will also be investigated for the next edition of the water balance; it is a challenge to present such a complex spreadsheet properly and this is something Agnico is working on. Agnico is pleased to hear the schematics provided in Appendix B were very helpful in showing the planned water management and changes over time; post-closure flow schematics can be provided in the next edition of the annual report.	Appendix 12 of the 2022 Annual Report
ECCC	MBK	Appendix 12 – Meadowbank Water Management Plan, Appendix C, Table 2-2: Discharge Criteria and CCME Guidelines for the Parameters Evaluated	Table 2-2 presents the aluminium guideline from CCME dated 1987. In June 2021, the Federal Environmental Quality Guidelines for Aluminium were released; these guidelines incorporate several toxicity modifying factors (Dissolved Organic Carbon [DOC], hardness, and pH) to effectively calculate a site-specific guideline. The Federal Water Quality Guideline (FWQG) equation is valid between hardness 10 and 430 mg/L, pH 6 and 8.7, and DOC 0.08 and 12.3 mg/L. The guideline is available at <a href="https://www.canada.ca/content/dam/eccc/documents/pdf/pded/feqg-aluminium/Federal-environmental-quality-guidelines-aluminium.pdf">https://www.canada.ca/content/dam/eccc/documents/pdf/pded/feqg-aluminium/Federal-environmental-quality-guidelines-aluminium.pdf</a>	ECCC recommends use of the updated FWQG for aluminium.	Agnico will ensure the aluminum guideline is updated for next year's Water Quality Forecasting.	Appendices 12 & 13 of the 2022 Annual Report
ECCC	MBK	Appendix 12 – Meadowbank Water Management Plan, Appendix C, Figure 2-1: Concentrations North and South Cell TSF Reclaim Ponds – Total Cyanide & Metals	The legends on the various figures include a green line for the "Water License Limit" as a useful point of reference for concentrations. However, it is not shown on the graphs for cyanide, arsenic, and lead on Figure 2-1. Figure 2-4 is also missing the water license limit line on the graphs for these parameters. ECCC notes that the plotting of the previous year forecast is useful in providing indication of how closely current concentrations are tracking forecast levels.	ECCC recommends that figures in future report iterations include the water license limit as a reference point on the graphs where missing for cyanide, arsenic and lead.	Agnico will ensure in future report iterations that the water license limit is added to the graphs where it is missing	Appendices 12 & 13 of the 2022 Annual Report
ECCC	MBK	Appendix 12 – Meadowbank Water Management Plan Appendix C (Section 2.7.3 Water Quality Table 2-7: Water Quality in Central Dike D/S Pond for 2020; Section 3.4 Input Parameters; Section 6.2 Recommendations)	The discussion of the water quality results in Table 2-7 suggests that the source of elevated ammonia, chloride, sulphate and fluoride in the Central Dike Downstream Pond could be from pore water in the tailings moving toward the pond. The pits receiving tailings (Goose Pit and Portage Pit E) will similarly have pore water that is high in contaminants. This pore water will be expressed upwards, as tailings are deposited and consolidate. Contaminant loadings from tailings have been reviewed using various approaches. Shake Flask Extraction tests were done in 2021 on ores from Vault, Portage and Whale Tail pits to quantify loadings from leaching of the tailings, to include as model inputs, although this assumed Total Dissolved Solids (TDS), chloride and cyanide were negligible. Mill effluent has been used as an (adjusted) model input and includes ammonia, chloride, sulphate and TDS; however, pit pore water in the tailings has not been explicitly incorporated, and it is not clear to what degree these steps will account for the pore water contributions to the overlying pit waters. The recommendation is made in the Water Quality Forecasting Update (Section 6.2) to regularly monitor pit water quality in Portage and Goose pits, for use in modeling the pit water quality. ECCC notes that if possible, sample collection should be done at various levels in the water column to identify any difference associated with density stratification or upwelling pore water contributions. Note that the title for Table 2-7 should refer to 2021 rather than 2020.	<p>ECCC requests clarification regarding how pore water quality in the pits has been accounted for in the modeling update.</p> <p>ECCC supports the recommendation in Section 6.2 to regularly analyze pit water quality, and recommends that various depths be monitored, including near the tailings/water interface.</p>	Pore water quality in the pits was not explicitly accounted for in the water quality modelling update as this is an item that Agnico has little data on due to the technical difficulties, including safety limitations, of sampling water from areas other than at the waters edge along pit ramps. However, a sampling program planned for summer 2022 will target to sample pit water from various depths within the pits including near the tailings/water interface, according to technical and safety limitations. Tailings pore water sampling is also planned and should be completed during this program. The results of the sampling program will be presented in the 2022 Meadowbank Annual Report.	Appendix 12 of the 2022 Annual Report
ECCC	MBK	Appendix 42 – Meadowbank 2020 Groundwater Monitoring Report, Section 6 – Conclusions; Section 7 – Recommendations	The 2021 Meadowbank Groundwater Monitoring Report notes that seepage from the west wall of Pit-E continues to contain elevated concentrations of arsenic and chloride, and trace levels of cyanide indicating some TSF contributions. Waste rock contact water contributions may also be a factor. Arsenic, calcium, copper, manganese, potassium, sodium and sulphate at MW-16-01 are trending upward and are attributed to reclaim water from the South Cell TSF. There was also elevated copper in the Pit-A East wall seepage, and the source of that is unknown. Section 7 notes that there should be detailed surveys of water levels to document hydraulic gradients influencing the movement of reclaim water, which is contained in various sites (e.g. Pit-A, Pit-E, Goose Pit, Central Dike ST-S-5) noting that the movement of reclaim water across the site will vary as water levels in the in-pit tailings deposition (IPD) pits increase. The recommendation is made to use isotopic signatures of groundwater affected by reclaim water to identify the source of arsenic in Pit-E waste wall seepage samples. It is not clear whether this can be done with analysis of current samples from the wall seepage, or if it will be necessary to collect wall seepage samples in 2022. Given the rising water levels in Pit-A and Pit-E re: safety concerns, the report notes it may not be possible to collect future pit wall seepage samples.	ECCC recommends that the Proponent identify alternative investigations for the source of the elevated arsenic and chloride concentrations at Pit-E Seepage location and copper at Pit-A east if needed wall seepage samples cannot be collected.	In 2022, it will be unlikely that wall seepage samples will be collected for safety reasons. Agnico will collect water for stable isotope analysis, deuterium and oxygen-18, from known locations affected by the movement of the reclaim water as well as from sources that are affected by waste rock only contact water to identify the potential source of contaminants observed in the Pit wall seepage samples. This additional sampling will be performed during the bi-annually sampling to be performed in July and September. Results of this analysis will be reported in the 2022 annual report along with any further recommendations that are to be determined based on the supplemental data.	Appendix 42 of the 2022 Annual Report
ECCC	MBK/WT	Appendix 54 – Meadowbank and Whale Tail Quality Assurance/Quality Control (QA/QC) Plan, Version 7, Table 2-2; Agnico Eagle's response to Meadowbank (2AM-MEA1530) and Whale Tail (2AM-WTP1830) 2020 Annual Report comments (dated Nov. 19, 2021)	In response to ECCC's 2020 Annual Report recommendations to update QA/QC sampling frequencies outlined in Table 2.2, the Proponent has outlined that the numbers of QA/QC samples are above the 10% minimum threshold. However, the frequencies currently listed in Table 2.2 still do not reflect sufficient numbers for mine facilities and groundwater chemistry, nor do they all include trip blanks. The Proponent's response indicates that they are in fact collecting sufficient numbers of samples and of appropriate types (trip/field /duplicate) but ECCC notes that the frequency in Table 2-2 contradicts stated practices.	ECCC recommends that the Proponent update Table 2-2 of the QA/QC Plan to reflect the current practices and confirm that the minimum frequency of 10% is met for groundwater samples and mine facilities samples.	Agnico Eagle will update Table 2-2 of the QA/QC Plan for the 2022 Annual Report to reflect the current practices for duplicate, field blank, and trip blank collection for groundwater and mine facilities sampling. Section 8.5.7 of the 2021 Annual Report includes information on the QA/QC of Meadowbank and Whale Tail mine facilities sampling, for which the minimum frequency of 10% for duplicates, field blanks, and trip blanks was achieved. As outlined in Appendix 42 of the 2021 Annual Report, the QA/QC requirements were met for the Meadowbank groundwater sampling program. The duplicate and trip blank QA/QC requirements were met for the Whale Tail groundwater sampling program, as described in Appendix 43 of the 2021 Annual Report, however the field blank was planned for collection was not completed as result of a large-scale power outage that prematurely ended the field program. Agnico Eagle will include the QA/QC information for groundwater sampling as part of the main document of the 2022 Annual Report.	Appendix 8 of the 2022 Annual Report
CIRNAC	MBK/WT	2021 Annual Report, Sections 7.1.1 and 7.1.2, 10.2, 11.5; Appendix 22 – Meadowbank Mine Waste and Management Plan, Version 12; Appendix 36 – Meadowbank Freshet Action Plan, Version 10; Appendix 37 – Whale Tail Freshet Action Plan, Version 4; Appendix 68 – Whale Tail Water Management OMS, Version 2	<p>Spill Management: In Sections 7.1.1 and 7.1.2 information is provided with respect to the number of non-reportable spills related to Meadowbank and Whale Tail projects and related activities and facilities. Tables 7-3 and 7-5 respectively provide the complete listing of all 196 (48 Meadowbank, 148 Whale Tail) non-reportable spills including their location, cause and clean up action taken. CIRNAC applauds and appreciates the thoroughness of the information provided and would like this information be used to do a forward-looking assessment based on the analysis of the nature, location, type and cause of spills so as to assist in improving education, training, maintenance and operation practices. Such assessment may help reduce both non-reportable and reportable spills going forward.</p> <p>Plan Updates: As per Meadowbank Water License 2AM-MEA1530, Schedule B, Item 21 and Whale Tail Water License 2AM-WTP1830, Schedule B, Item 24, AEM is required to update Plans, Reports and Manuals as needed with an indication of where changes/updates have been made. Each updated management that was submitted with the 2021 Annual Report includes a document control table at the beginning which provides information on the major revisions made during each Plan update. In many cases the revision descriptions are very generic and vague and not very informative. For example, the document control table of the Whale Tail Freshet Action Plan, Version 4 (Appendix 37), indicates that revisions made for Version 4 consisted of a "Comprehensive update from 2021 plan". Such vague comments make it difficult for reviewers to understand what changes were made to the Plan in order to focus their review.</p> <p>Inspection and Compliance Reports: Section 11.5 provides brief information on inspections carried out in 2021. No appendix information is included that provided supporting details by third party reviewers. Provision of such data would provide a complete record and allow for a more fulsome review.</p>	<p>CIRNAC recommends that AEM:</p> <ol style="list-style-type: none"> <li>Assess and summarize non-reportable spills by their nature, location, etc. for the annual report and use that information to improve spill prevention and management.</li> <li>Provide more detailed information in the document control table of each management plan describing the changes that were made to each revision of the Plan or come up with an alternate system to improve the traceability of changes, e.g., tracked or highlighted changes.</li> <li>Provide an appendix that includes Inspection Reports and Responses for any Inspection Requirements.</li> </ol>	<p>Section 7 of the 2022 Annual Report</p> <p>Section 11.5 of the 2022 Annual Report</p>	

Authority	Site	Reference to comments	Regulator's Comment	Regulator's Recommendation	Agnico Eagles Response to Initial Comments	2022 Annual Report Section where comments are addressed
ECCC	MBK	Appendix 22 – Meadowbank Mine Waste Rock and Tailings Management Plan, Version 12, Section 7.1 TSF Cover Design.	In section 7.1, the current design criteria for the cover system design include: <ul style="list-style-type: none"> <li>•For 90% of the TSF surface area, the active layer shall remain within the constructed NAG cover system and the underlying tailings material shall remain frozen for a warm year event with a return period of 1 in 100 years, accounting for the climate change scenario;</li> <li>•In areas where the active layer extends into the tailings material, the thawed layer should be limited to the upper 30 cm of the tailings mass and saturation of the tailings should remain above 85% to limit oxidation of the tailings; and</li> <li>•As an additional method to reduce tailings reactivity, the degree of saturation within the tailings mass should remain above 85%. This will reduce the tailings reactivity should part of the upper region of the tailings mass thaw during a warm year event.</li> </ul> Based on the design criteria above, it is not clear: a)why only 90% of the TSF surface area is covered with non-potentially acid generating (NAG) rock such that the active layer is within the NAG cover, and whether the remaining 10% was left uncovered purposefully given that the tailings below it is not protected from infiltration of water and air; and b)how the proponent intends to keep the saturation of the tailings above 85% at all times as indicated in the second and third bullets above.	ECCC requests clarification on: <ul style="list-style-type: none"> <li>• why only 90% of the TSF surface area are covered with NAG rock whereas 10% are not; and</li> <li>• how the Proponent intends to keep the saturation of the tailings above 85% at all times.</li> </ul>		Appendix 22 (Section 7.1) of the 2022 Annual Report
NIRB	MBK	Meadowbank Project Certificate No. 004 Term and Condition 25	Term and Condition 25 requires that the Proponent employ legal deterrents to deter carnivores and/or raptors at all landfill and waste storage areas. During the site visit, Agnico Eagle stated that wildlife (including muskox, caribou, wolves, and birds) had been observed around the site and along the AWAR. Since 2017, raptors (Peregrine Falcon) have nested at various quarry sites along the AWAR including quarry 22 which had been used previously used as temporary storage for contaminated hydrocarbon soil until the landfarm was developed. Plans are in place to remediate this quarry site but have been delayed due to the active Peregrine Falcon nests at this quarry site. Lack of wildlife deterrence at this site and other areas at the Meadowbank site does not fully meet the requirements of Term and Condition 25 of the amended Project Certificate No. 004.	Alternate methods of bird deterrence may be required to prevent nesting at Quarry 22 in order to continue with remediation at that site		Appendix 18 and Section 3.4.1.2 of the 2022 Annual Report
NIRB	MBK	Meadowbank Project Certificate No. 004 Term and Condition 60	Agnico Eagle stopped work and investigated animal reporting while the NIRB was on site. Discussions occurred regarding the migration and more information will be available in the Agnico Eagle's 2022 annual report.			Appendix 47 of the 2022 Annual Report
NIRB	MBK	Meadowbank Project Certificate No. 004 Term and Condition 74	Term and Condition 74 requires that the Proponent employ environmentally protective techniques to suppress any surface dust. To date, this condition has not been met by the Proponent as dust suppressants have not been employed along the whole AWAR. The only dust suppressants that have been applied to date have been at the mine site, along the access road between the Baker Lake facility and the gatehouse, and along three (3) critical areas at km 10-12, 24-26, and 48-50, as agreed upon with the Baker Lake Hunters and Trappers Organization as well as two (2) additional sites at km 68-70 and 80-84. The Monitoring Officers discussed with Agnico Eagle meeting with the Hamlet of Baker Lake, Baker Lake Hunters and Trappers Organization, and other road users to determine if the current plan used by Agnico Eagle is effective as the community is concerned with the dust due to the lack of dust control.	The NIRB looks forward to an update with Agnico Eagle's 2022 annual report for progress in related to the dust control along the AWAR.		Appendix 50 (Section 1.2) and Section 8.14.1.3 of the 2022 Annual Report
NIRB	WT	Whale Tail Pit Project Certificate No. 008 Term and Condition 2	Term and Condition 2 requires that the Proponent verify commitments to the utilization of dust suppressants along the AWAR. To date, this condition has not been met by the Proponent as dust suppressants have not been employed along the whole AWAR as directed.	Agnico Eagle is encouraged to reach out to the Municipality of Baker Lake along with the Baker Lake Hunters and Trappers Organization to verify if current strategies of dust control to discuss alternatives to applying dust along the whole of the AWAR.		Appendix 50 (Section 1.3) and Section 8.14.1.4 of the 2022 Annual Report
NIRB	WT	Whale Tail Pit Project Certificate No. 008 Term and Condition 32	Term and Condition 32 requires the Proponent to work with parties to ensure that safety barriers, berms, and designed crossings associated with project infrastructure, including the Haul Road, are constructed and operated as necessary to allow for the safe passage of caribou and other terrestrial wildlife. During the site visit it was noted that there are currently no specific caribou/wildlife crossings in place along the Haul-road and that the road has not been sloped in such a way to assist wildlife to easily cross the road.	The NIRB encourages Agnico Eagle to start discussions again now that COVID restrictions have been lifted.		Appendix 47 and Section 8.18.13 of the 2022 Annual Report
NIRB	WT	Whale Tail Pit Project Certificate No. 008 Term and Condition 36 Photo 72 WTHR - KM 132	During the site visit, Agnico Eagle staff note that studies are ongoing to identify raptor nests and the results of the studies would be reported in the next annual report. Agnico Eagle and NIRB Staff identified a new nesting location along the WTHR, no raptor deterrence was conducted for the 2022 year.  A Peregrine Falcon pair were nesting in the communications tower and Agnico Eagle will be following up with the nest through the summer and information will be included in the 2022 Annual Report			Appendix 47 (Section 13.0) of the 2022 Annual Report