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June 30, 2023

By Email

Nunavut Impact Review Board
P.O. Box 1360
Cambridge Bay, NU X0B 0C0

Attention: Emily Koide
Technical Advisor I

Dear Ms. Koide:

**Re: Comments on Agnico Eagle Mines Limited's Meliadine Gold Mine Project
2022 Annual Report
NIRB File No. 11MN034**

In response to your April 26, 2023 correspondence, please accept this letter as Sayisi Dene First Nation and Northlands Denesuline First Nation's comments on Agnico Eagle's Meliadine Gold Mine Project 2022 Annual Report.

Comments on Caribou-Related Matters

Attached at Table 1 to this letter are comments prepared on our behalf by Dan Chranowski, a wildlife biologist at Matrix Solutions. These comments relate primarily on caribou.

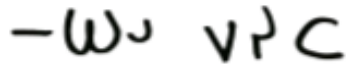
T&C 25: Review of Groundwater Management Plan and Adaptive Management Plan

Under Term and Condition 25, the Proponent is required to consult with Sayisi Dene First Nation and Northlands Denesuline First Nation with respect to the contents of the Groundwater Management Plan and Adaptive Management Plan and any required adaptive management and mitigation measures. Goetz Aust, a hydrogeological engineer at Matrix Solutions, reviewed the Groundwater Management Plan and Adaptive Management Plan, both dated May 2022. Comments were provided to Agnico Eagle and a meeting with Agnico Eagle was held on May 2, 2023. As an outcome of the meeting, Agnico Eagle provided responses and commitments related to the Plans.

Attached to this letter are Sayisi Dene First Nation and Northlands Denesuline First Nation's comments and Agnico Eagle's responses.

If you have any questions about our comments above, please let us know.

Masi cho,

Handwritten signature of Geoff Bussidor in black ink, consisting of stylized letters.

Geoff Bussidor
Chief Negotiator
Sayisi Dene First Nation

Handwritten signature of Benji Denechezhe in black ink, featuring a large circular loop at the beginning.

Benji Denechezhe
Chief Negotiator
Northlands Denesuline First Nation

Table 1: SDFN/NDFN Comments on 2022 AEM Annual Report and Additional Documents (Appendix 16-Reportable Spills; Appendix 18-Mock Scenario Spill Report; Appendix 26 Toolbox Presentations; Appendix 27 TEMMP-1 and 2, including Caribou Behaviour Monitoring, Caribou Remote Camera Study, and Caribou Advisory; Appendix 31-9 Spill Contingency Plan)

List of Acronyms AWAR – All Weather Access Road AEM – Agnico Eagle Mines SDFN/NDFN – Sayisi Dene First Nation/Northlands Denesuline First Nation NIRB – Nunavut Impact Review Board TEMMP - Terrestrial Environment Management and Monitoring Plan/ Terrestrial Environment Management and Mitigation Plan FEIS - Final Environmental Impact Statement KIA - Kivalliq Inuit Association TAG - Terrestrial Advisory Group ECCC – Environment and Climate Change Canada T&C – Terms and Conditions	
Comment Number:	1
Subject/Topic:	Waterline spills and discharges; spill response and training
References:	Annual Report Section 6 Environmental Incident Reporting, Figure 18, Table 19, P.54, P.55, and P. 57 Mock Spill Exercise; Appendix 16 - Reportable Spills - May 8, 2022-Follow-up Spill Report #2022172 Surface Water Runoff; Appendix 18 - Mock Scenario Spill Report; Appendix 31-9 Spill Contingency Plan, Appendix H - GENERAL RESPONSE PROCEDURES FOR SPILLED SALINE WATER-Point 7c- Spills on the AWAR and/or Bypass Road due to Waterline Leak
Comment:	<p>In Figure 18 of the 2022 Annual Report, AEM displays a continual and somewhat alarming increase of reportable and non-reportable spill occurrences from 2019 to 2022 (Figure 18 label incorrectly states 2018). Yet, there is no explanation or conclusions drawn from this trend. On P.56 and P.57, AEM mentions spill prevention training for its staff in 2022, but the trend was evident by 2021 and actions to address this trend should have occurred sooner. In Table 19, P.54 on May 8, 2022, two spills occurred. The saline water spill of 800 L along the haul road has no supporting information in Appendices 16 or 17. This incident is also not colour-coded (e.g., blue colour-coded spills are exceedances, orange are due diligence, etc.). So, under what type of spill category does a white, non-colour coded spill get classified? On P.68 in the Annual Report and in the May 8 follow-up report #2022172 regarding the total suspended solids runoff exceedance, Figures 2 and 3 show the surface water runoff before and after response and in “Corrective Measures” a statement in the second paragraph “water from the upstream area ponded area on site (Figure 2) is being collected via water truck as feasible” is mentioned. This spill is precisely the type of occurrence that SDFN/NDFN expressed concern regarding a potential waterline leak or spill (See Technical Review Comment Number: SDFN-03-November 12, 2020 - Agnico Eagle Mines Limited’s “Saline Effluent Discharge to Marine Environment” Project Proposal, NIRB File No.: 11MN034). Clearly, a treated groundwater spill of this size along the AWAR</p>

	<p>during caribou migration should not be cleaned up “as feasible” but instead be addressed immediately. It is noted that AEM has drafted “Appendix H - GENERAL RESPONSE PROCEDURES FOR SPILLED SALINE WATER - Point 7c - Spills on the AWAR and/or Bypass Road due to Waterline Leak” which seems to address SDFN/NDFN concerns. However, when indicating that a spill will be isolated to prevent caribou access it is not clear how this will be done. Temporary fencing is not mentioned as an isolation mitigation technique and should be considered. In the Spill Contingency Plan, P.28, Tables 7-2 and 7-3 which list response equipment and material stored in emergency mobile trailers and sea-cans, no fencing to exclude wildlife from a spill is listed. Silt-fencing was listed but is not sufficient to exclude wildlife. In addition, the use of wildlife deterrents should be employed during a spill, but are not mentioned. Finally, the “mock spill exercise” described on P.57 in the Annual Report is focused on a marine spill response and appears to be comprehensive in detail. But no mock scenario spill exercise is mentioned for a land-based spill. This type of spill response exercise (including timing of containment and follow-up remediation) must be practiced along the AWAR, By-Pass Road, and the future Discovery Road as well, preferably before waterlines are operational.</p>
Conclusion/Request:	<p>AEM has begun to address SDFN/NDFN concerns about waterline spill impacts on land to migrating caribou and their vulnerable calves. More needs to be done. Revisions should be made to “Appendix H - GENERAL RESPONSE PROCEDURES FOR SPILLED SALINE WATER - Point 7c - Spills on the AWAR and/or Bypass Road due to Waterline Leak” which does not include specific mention of employing fencing and deterrents to exclude caribou from accessing saline waterline discharges. In addition, AEM should ensure annual mock spill exercises for saline water discharges on land and near water along the AWAR, By-Pass Road, and future Discovery Road, be conducted. The objective of this type of mock spill exercise would be to minimize the average response time that would occur for waterline discharges on land along the waterlines next to the AWAR. To minimize response time, spill materials may need to be strategically placed near caribou crossing locations, if not already done.</p>

Comment Number:	2
Subject/Topic:	Wildlife Observations
References:	2022 Annual Report, P.85 and 86; TEMMP Section 9.1
Comment:	There seems to be a lot of information here, but it does not seem to be integrated or used to support impact predictions for wildlife. Perhaps a re-structuring of data collected could make the data more useful.
Conclusion/Request:	Does AEM have any intention of using the wildlife survey and incidental wildlife observation information for any Project objective, additional analysis or to draw any conclusions as indicated in T & C 56?

Comment Number:	3
Subject/Topic:	Caribou advisory maps by week
References:	2022 Appendix 27 - TEMMP-1, Section 12.4 Caribou Advisory, Subsection 12.4.2 Results
Comment:	While Section 12.4 provides information in partial commitment to Term and Condition 56, and Figure 5 and Table 17 are helpful, T & C 56, point ‘c’ specifically states “a detailed presentation and analysis of the distribution relative to Project infrastructure and activities for caribou and other terrestrial mammals observed during surveys and incidental sightings.” SDFN/NDFN interpret this to mean a map would be compiled by AEM of the caribou

	advisory observations during caribou migration. The daily caribou alert maps that are sent to interested parties are helpful, but a summary map (by week) would be more illustrative of caribou distribution in relation to project infrastructure.
Conclusion/Request:	SDFN/NDFN request AEM to produce a summary caribou distribution map (by week) during caribou migration from the caribou alert maps.

Comment Number:	4
Subject/Topic:	Acronym missing
References:	2022 Annual Report, P.88 Birds
Comment:	It is suggested this topic be labelled more specifically as it only refers to falcons and hawks. In addition, the acronym PRISM is mentioned but this acronym is missing in the Abbreviations list.
Conclusion/Request:	Please add PRISM to Abbreviations list

Comment Number:	5
Subject/Topic:	2022 AWAR monthly traffic summary exceeds FEIS traffic predictions
References:	2022 Annual Report, Section 10.3 AWAR, Table 28, P.103; Appendix 27-TEMMP-1, Section 12.4.3 Traffic Data
Comment:	In 2022, actual traffic exceeded the predicted traffic numbers in the FEIS in every other month, except for January, February, and March. There is no discussion or conclusion to explain this discrepancy with the FEIS predictions other than trucking treated saline effluent, even though traffic numbers were less in 2022 than 2021. While Section 12.4.3 Traffic Data provides a bit more details, it is still unclear as to the discrepancy between actual and predictions.
Conclusion/Request:	Please explain if the discrepancy is solely due to AEM not estimating saline groundwater correctly in the FEIS or if additional factors are in play. This is important for SDFN/NDFN to know if this underestimation will be a future concern when the Discovery Road and waterline is built, as it pertains to caribou crossing interactions with vehicles.

Comment Number:	6
Subject/Topic:	New training programs
References:	2022 Annual Report, Section 12. 4 Training Programs, Section 12.4.5 Trainee Programs
Comment:	Trainee programs conducted by AEM are commendable; however, young Indigenous people (Inuit or Dene) would benefit from a Biological Trainee Program to learn to identify native plants and resident birds and mammals and scientific survey techniques and methods. This could encourage some to enter the field of biology and possibly be hired by AEM for bird, mammal, and plant surveys.
Conclusion/Request:	Investigate the implementation of a Biological Trainee Program with the assistance and leadership of elders and biological staff as the surrounding area of the mine would provide numerous opportunities for “hands-on” learning

Comment Number:	7
Subject/Topic:	Clarification on AWAR suspension protocol
References:	Appendix 26, “Toolbox Presentations”, MELIADINE AWAR TRAFFIC SUSPENSION PROTOCOL, Level 3; Panel 7, third bullet down in brackets. After “Crew Change”, first bullet, after semi-colon
Comment:	The third bullet down states that “Fuel delivery from M&T will not go on the AWAR if the site is closed, unless exception by KIA is provided.” From the point

	of view of a person seeing this for the first time, this statement seems to indicate that exceptions will be granted, even during a Level 3 closure. It is suggested this statement be removed or explained with details under which circumstances that an exception would be granted. The first bullet under “Crew Change” is confusing. A suggested adjustment for clarity would be: “flight schedule delays are planned after reviewing the morning AWAR survey results”
Conclusion/Request:	The suggestion to remove the statement or clarify on fuel delivery is a recommendation which stems from reading the information for the first time with the understanding that a Level 3 closure is the highest level of caribou advisory; yet exceptions exist. SDFN/NDFN requests AEM to assess this suggestion and the Toolbox presentation and make the necessary changes for clarity and reinforce the importance of a Level 3 shutdown.

Comment Number:	8
Subject/Topic:	Noise monitoring at levels detected by wildlife
References:	2022 Annual Report - Section 7.6 Noise Monitoring
Comment:	SDFN/NDFN will remind AEM of the need to measure noise at levels of high and low frequencies detected by wildlife and not just noise heard by humans. This is not currently being done and is a gap in knowledge.
Conclusion/Request:	A program to monitor noise using noise monitoring equipment that measure frequencies specific to caribou, should be developed in conjunction with the TAG to gather baseline information and determine if and how caribou are responding to Project noise levels.

Comment Number:	9
Subject/Topic:	Use of one definition for TEMMP
References:	2022 Annual Report, List of Appendices and 2022 TEMMP Report-Title Page; 220620-11MN034-SDFN NDFN Comments on 2021 Annual Report-IA2E-Comment 1
Comment:	In the 2022 Annual Report “List of Appendices”, the reader is referred to Appendix 27 - 2022 Terrestrial Environment Management and Monitoring Plan Report. Yet, the title page of Appendix 27 is titled “Terrestrial Environment Monitoring and Mitigation Program (TEMMP) Annual Report.” In 2021, Appendix 26 was labelled as “Terrestrial Effects Monitoring and Mitigation Program” and this labelling confusion was raised by SDFN/NDFN in Comment 1 of their review of the 2021 Annual Report. AEM clarified that the implementation of the TEMMP requirements and monitoring results is the “Terrestrial Effects Monitoring and Mitigation Program Annual Report” and is referred to as “TEMMP Report.” But in 2022, AEM named Appendix 27 with another new title “Terrestrial Environment Monitoring and Mitigation Program (TEMMP) Annual Report” which creates additional confusion.
Conclusion/Request:	It is recommended that AEM stick to one definition of the acronym “TEMMP” for future clarity.

Comment Number:	10
Subject/Topic:	T & C 74 - To minimize the impact of Project activities on water birds and T & C #75 - To minimize the impact of predatory species on nesting birds are missing from the Concordance Table 1 on Page 4.
References:	Appendix 27 - TEMMP-1; Table 1: Concordance Table with NIRB Project Certificate No. 006 (Amendment 002) Terms and Conditions
Comment:	T & C 74 and T & C 75 have reporting requirements but other than a short description of deterrents used in Section 10 Wildlife Deterrents in TEMMP-1,

	and in the “Wildlife Protection and Response Plan - Version 9” in Section 4.4 Wildlife deterrents there was no discussion about mitigation measures to deter waterbirds from water attenuation ponds or the monitoring of the effectiveness of mitigation measures employed as required in T & C 74. In addition, Section 9.4, Table 13 mentions bird nests detected on the mine site, but no discussion of mitigation measures and monitoring programs to limit the attraction of predators and scavengers to Project facilities. For example, the details of the ECCC monitoring protocols used for the June 11, barn swallow nest are lacking.
Conclusion/Request:	SDFN/NDFN would like to know why T & C 74 and T & C 75 are missing in the TEMMP Concordance Table and provide an update on these activities as per the T & C reporting requirements.

Comment Number:	11
Subject/Topic:	Shutdown of waterlines in the event of a leak or spill
References:	Appendix 31-9; Spill Contingency plan; APPENDIX H - GENERAL RESPONSE PROCEDURES FOR SPILLED SALINE WATER, Page H-3, Point 7c Spills on the AWAR and/or Bypass Road due to Waterline Leak, fifth bullet down
Comment:	It is stated, “To be protective to caribou, any notification from the leak detection system would result in an immediate shutdown of that waterline, when caribou are in the vicinity of the AWAR, until it can be confirmed whether a leak has occurred.” While the leak detection system is very helpful (as mentioned in Section 4 - Prevention and Inspections, P.12 of the Spill Contingency Plan) to allow AEM to be responsive to waterline spills, it seems that if the waterline is shutdown, the leak may be difficult to find. Does the leak detection system allow AEM to pinpoint the leak location before shutting down the waterline? Most pipelines with a leak detection system also have valve shut-off stations at strategic locations along the length of the pipeline to allow for shut down of sections of the pipeline without needing to purge the entire line. Are there plans to install valve stations on the waterline (for example, between the AWAR and the planned Discovery road) and if not, why?
Conclusion/Request:	SDFN/NDFN request AEM to clarify the details of the waterlines leak detection system and potential valve stations as the need to purge a waterline or the inability to shut-down a certain section of the waterline during caribou migration could be problematic to caribou, their calves, and the emergency response team.

Comment Number:	12
Subject/Topic:	Prevention of arctic fox deaths
References:	Appendix 27 - TEMMP-1, Section 9.5 Incidents and Mortalities, Subsection 9.5.2 Results, and Section 9.7 Recommendations
Comment:	Based on Table 14 presented, it seems that the incinerator on the mine site is a “hotspot” for arctic fox occurrences, yet it seems that the only mitigative measure employed is “capture and euthanize.” If deterrent efforts were implemented at the incinerator, approximately 19 of the 37 arctic fox deaths could have been avoided. Arctic fox deaths can be prevented. Remote cameras positioned in various locations near the incinerator could assist in identifying the main areas of access for arctic fox. Electric fencing and fine page wire fencing are also effective measures to deter arctic fox. The “Recommendations” section mentions mitigative measures such as “to avoid mixing food waste with other types of waste, to educate personnel to not feed wildlife, to ensure that all waste containers are sealed, and to ensure that doors of buildings that

	contain waste remain closed.” These measures need a specific staff person assigned to this effort to ensure success in reducing arctic fox mortalities.
Conclusion/Request:	It is recommended that AEM place specific and strategic effort and staffing towards the prevention of arctic fox deaths on the Meliadine mine site.

Comment Number:	13
Subject/Topic:	Caribou crossing relationship to vehicles or road structure
References:	Appendix 27 - TEMMP-1; Section 12.2 Caribou Remote Camera Study, Subsection 12.2.2 Results; Appendix K - Meliadine Caribou Trail Camera Study
Comment:	In Subsection 12.2.2, it might be premature to state that “the lack of a strong relationship between caribou crossing and either vehicles or road structures suggests that existing mitigations for caribou along the AWAR are effective at reducing potential Project effects.” Thirty-four trail cameras that only cover a sub-set of the length of the AWAR are not likely to be able to measure the relationship between mitigations and caribou crossings. A greater number of trail cameras should be installed (especially back-to-back) to measure relative abundance. At the TAG, AEM mentioned that cameras facing south will pick up sun glare. While that may be true, not all days are sunny and the increase of data collected both day and night will increase sample size (thereby reducing the need to pool data) and will allow for reporting of additional metrics such as caribou per kilometre. Cameras placed at the same locations annually allow for comparison but also may be introducing sampling bias. Therefore, back-to-back cameras would give a better representation of what events are occurring in all directions around each camera location. In addition, extra cameras at caribou crossings could allow researchers to better record caribou behaviours in relation to the AWAR at these locations.
Conclusion/Request:	SDFN/NDFN request AEM to enhance the caribou remote camera study by installing more cameras along the AWAR

Comment Number:	14
Subject/Topic:	Monitoring method for sensory disturbance for the preliminary threshold
References:	Appendix 27 - TEMMP-1; Section 12.5 Accuracy of Impact Predictions-Caribou, Table 19 and 220620-11MN034-SDFN NDFN Comments on 2021 Annual Report-IA2E
Comment:	Table 19 indicates that “Caribou Behavior Monitoring” will be used to measure the preliminary threshold of “less than 10% caribou deflections from AWAR”. However, on the August 19, 2022, SDFN/NDFN comments on the 2021 Annual Report, Comment 3, this issue was questioned as the “Caribou Behavior Monitoring” does not have a stated objective of measuring caribou deflections and this was confirmed by AEM by their statements, “The spatial and temporal requirements of detecting deflections necessitate the use of satellite collar data. The text will be modified to reflect that satellite collar data is the primary method that can be used for monitoring deflections.” Apparently, this AEM commitment was not done in Table 19.
Conclusion/Request:	Please re-confirm that statement from the 2021 Annual report response and make corrections to Table 19

Comment Number:	15
Subject/Topic:	How the AWAR may affect caribou movement during migration
References:	Appendix 27 - TEMMP-2; Appendix K - Meliadine Project Caribou Trail Camera Study, 2022, Section 7 Summary, and 220620-11MN034-SDFN NDFN Comments on 2021 Annual Report-IA2E

Comment:	The conclusion: “The highest number of caribou detections events recorded during the three years of this study was recorded in 2022 (150 detections), suggesting no pattern of learned avoidance of the AWARD year to year” is speculation. The caribou trail camera study did not have an objective to measure “learned behavior.” There is no way of knowing that the caribou detected in 2022 are the same caribou that crossed in 2021 or 2020. Caribou not detected because they are missed behind the camera or just outside of the camera detection zone could be exhibiting different behavior that was not detected by this study. There are alternate interpretations for the high number of caribou, such as the natural range of variation.
Conclusion/Request:	SDFN/NDFN refers AEM back to their response to SDFN/NDFN in the August 12, 2022 Comment 4 where Agnico Eagle states “Agnico Eagle was careful not to place too much emphasis on numbers because groups may partially pass behind cameras or beyond trigger distance, and as a result numbers will almost certainly be underestimates. In addition, because the whole road is not covered by the cameras, the information captured by the cameras represent a fraction of the caribou crossing the road.”

Comment Number:	16
Subject/Topic:	Term and Condition 44, Collared Caribou Memorandum
References:	Appendix 35: 2022 Terrestrial Advisory Group (TAG) Annual Report, Section 1, Table 2 Summary of TAG Recommendations and Advice with Follow-up, No. 2022-9
Comment:	As noted in the follow-up column for this item, at this time, SDFN/NDFN do not agree that Term and Condition 44 has been fulfilled/satisfied with respect to 2021 Technical Memorandum entitled “Collared Caribou Meliadine All-Weather Access Road Interactions.” This aspect of Term and Condition 44 may be satisfied once the new analysis by Agnico Eagle is shared and discussed with the TAG, based on updated data and comments discussed between the members of the TAG.
Conclusion/Request:	SDFN/NDFN are hopeful that the new analysis will be available shortly for review and discussion with the TAG.

Agnico Eagle Groundwater Water Management Plan version 8 - May 2022					
(review conducted by: Goetz Aust Principle Hydrogeological Engineer January 30, 2023; updated February 13, 2023)					
		High Level	Deficiencies	Insufficient mitigative measures identified or investigated for exceedences in groundwater inflow volume and quality. Monitoring Plan should include parameters identified in Section 3.3.2.4 Medium-Term Mitigation Measures – Groundwater Monitoring and Grouting	
			Weakness	Report Figure Appendix B Underground Water Management Flow Sheet Diagram is a P&ID (Piping and Instrument Drawing) that is too detailed for the report audience; also noted the P&ID has same author and reviewer. A simplified flow schematic including flow lines (water type), flow measurement and sampling locations would aid the report audience.	
			Potential Concerns	Should groundwater volumes increase or accelerate above anticipated rates, monitoring efforts and reporting/notification may be insufficient to identify the issue early enough. Although modelling may be a useful predictive tool, mine operational changes/practices to mitigate greater inflows need to be considered including accelerating closure of mined areas and delaying opening higher risk areas. Good mine operational practices to limit groundwater inflows must be maintained and/or improved even after water pipeline discharge becomes operational	
Page	Section	Specifics	Review	Comments	AEM Responses
Appendices			report improvement	Leave the P&ID(Piping and Instrument Drawing) in as an Appendix but include a simplified flow and monitoring location schematic as a figure for the report. The schematic should have sufficient detail to show monitoring locations for flow measurements and water sampling points, and type of water (non-contact vs contact) water.	AEM will include in the next Groundwater Management Plan update a simplified schematic of the groundwater management system including sampling locations.
Definitions			report improvement	Consider definition section to elaborate on fresh water, saline contact water, non-contact water definitions	AEM will include in the next Groundwater Management Plan update a definitions section similar to the Water Management Plan to define freshwater, surface contact water, and saline contact water.
iii	TOC		report improvement	prefer to see Figures 1, 2, and 3 with 1 Site Location, 2 Facility, and 3 Underground Schematic of Flow and Monitoring Locations	AEM will consider including in the next Groundwater Management Plan update Figures of the regional mine site location and a layout of the mine site (these figures exist in the parent Water Management Plan). AEM will include in the next Groundwater Management Plan update a simplified schematic of the groundwater management system including sampling locations.
16	3.1.1	pgh 1	general comment	"Linearly decreasing hydraulic conductivity with temperature is assumed" - Is this a conservative assumption and is there a basis for this assumption	AEM will add in the next Groundwater Management Plan update a reference to the source of this information.
17	3.11	pgh3 1)	general comment	"it is likely that greater than expected inflows upon stoping will occur in the cryopeg (300 to 450 m below ground surface)." will there be an expected increase in salinity?	As stated in section 3.4, "Results from the 213 samples collected from 2017 to 2022 indicate stable and consistent concentrations for several parameters and indicate that TDS concentrations are less than predicted at a mean concentration of 53,400 mg/L. ". Therefore, AEM will not include additional specific information to address this.
18	3.2	pgh 4	report improvement	"schematic of the underground dewatering system is provided in Appendix B." - Appendix B contains a P&ID drawing - a better schematic would be more appropriate for the reader	AEM will include a simplified schematic of the groundwater management system including sampling locations.
21	3.3.2.4		Deficiency	3.3.2.4 Medium-Term Mitigation Measures – Groundwater Monitoring and Grouting- mitigation measures identified should be part of overall strategy not just for medium-term - mitigative measures as a whole are weak and investigating potential mine operational changes should be considered - does not include or reference response to upset operationsl conditions (hydraulic line break etc)	AEM will revise in the next Groundwater Management Plan update section 3.3 to improve clarity on the overarching groundwater management strategy and the specific mitigation measures in place to reduce risks associated with groundwater inflows.
21	3.3.2.4	Hydraulic Monitoring	Deficiency	Should include temperature as well as pressure	AEM will in the next Groundwater Management Plan update include information on the thermal monitoring of the groundwater and/or ground as it relates to the underground mine, or will make reference to other documentation including this information.
21	3.3.2.4	Groundwater Quantity and Quality Monitoring	Comment	Ensure sufficient granularity in samples for TDS > 64,000 Updating a flow model is not a mitigative measure per se although it provides for an estimation for future flow. Additional investigation in the model assumptions may identify mine operational mitigative measures to pursue.	AEM will in the next Groundwater Management Plan update address the comment regarding sufficient granularity of samples with TDS concentrations over 64,000 mg/L by including a schematic of sampling locations as noted in the comment responses above. AEM will provide in the next Groundwater Management Plan update information on how updates to the groundwater model serves as a risk mitigation measure, such as through investigations into improving model assumption accuracy.
27	4		Deficiency	Consideration should be given to monitoring pressures and temperatures in the subsurface around the site from existing borehole instrumentation and include the monitoring identified in the medium term mitigative measures.	AEM will include in the next Groundwater Management Plan update mention of pressure and temperature monitoring via borehole instrumentation in section 4.
27	4.1.2	Underground Contact Water	Weakness	"All underground saline contact water sampling locations" not clear on the number and location (suggest including in the schematic figure)	AEM will include in the next Groundwater Management Plan update a simplified schematic of the groundwater management system including sampling locations.

28	4.1.2	pgh1	Recommendation	<p>"This monitoring data will not be reported to the Regulators in the Annual Water License Report but can be provided upon request by the Regulators."</p> <p>- Confirmed exceedances should be reported to the Regulator</p>	Underground contact water quality monitoring data is considered verification monitoring undertaken for operational and water management purposes by AEM. As such, it is not regulated discharge monitoring with water quality criteria specified in the Licence or MDMER.
28	4.1.2	Table 6	Comment	- consideration should be given to including monitoring pressures and temperatures in the subsurface around the site from existing borehole instrumentation	AEM will include in the next Groundwater Management Plan update mention of pressure and temperature monitoring via borehole instrumentation in section 4.
28	4.1.2	Table 6	Deficiency	- unclear regarding number of locations (consider using figures to show location of monitoring), reporting frequency, and notification process	AEM will consider including additional detail on the monitoring locations identified in Table 6. AEM will also include in the next Groundwater Management Plan update a simplified schematic of the groundwater management system including sampling locations.

Adaptive Management Plan for Water Management version 2 May, 2022					
(review conducted by: Goetz Aust Principle Hydrogeological Engineer January 30, 2023; updated February 13, 2023)					
		High Level	Deficiencies	No major deficiencies noted; Mine operational changes should be considered for caution and at risk scenarios. These could include closing mined sections earlier, proceeding in higher flow risk areas later etc.	
			Weakness	Minor; predominately wording	
			Potential Concerns	Should groundwater volumes increase or accelerate above anticipated rates, monitoring efforts and reporting/notification may be insufficient to identify the issue early enough. Although modelling may be a useful predictive tool, mine operational changes/practises to mitigate greater inflows need to be considered. Good mine operational practices to limit groundwater inflows must be maintained and/or improved even after water pipeline discharge becomes operational	
Page	Section	Specifics	Review	Comments	AEM Responses
v	ACRONYMS		report improvement	Include HCS for clarification	AEM will include in the next update of the Adaptive Management Plan HCS in the acronyms list.
	Definitions		report improvement	consider definition section to elaborate on definitions for fresh water, saline contact water, non-contact water and perhaps HCS	AEM will in the next update of the Adaptive Management Plan add a definitions section similar to the Water Management Plan to define freshwater, surface contact water, and saline contact water.
8	1.1	pgh 2	report improvement	"thresholds are exceeded" suggest - thresholds are exceeded or predicted to exceed	AEM will consider use of the suggested wording. It should be noted that specific management actions and mitigation measures are contextual, and may not be feasible until the specific threshold is reached.
10	2.1	last bullet	report improvement	"Future Amendments to Water Licence 2AM-MEL1631 or application for new Water Licences a review and a possible revision of the AMP to ensure Agnico Eagle, continues to minimize or eliminate discharges of surface contact water to Meliadine Lake by discharging surface contact water through the waterlines." This long sentence needs wording structure and spelling improvements for better clarity.	AEM will reword this sentence for improved clarity in the next update of the Adaptive Management Plan.
14	2.1	Table 2 Caution and At Risk	Concern	Caution and At Risk Adaptive Management Levels should include assessing mine operational changes (timing, areas mined etc) for mitigating gw inflows.	AEM will consider ways to improve clarity on how open pit sequence may be modified in response to modelled storage forecasts to allow for additional water storage as described in the Groundwater Management Plan. It should be noted forecast evaluations are high priority actions in response to "Caution" and "At Risk" adaptive management levels in the Adaptive Management Plan. AEM will also consider improving alignment of adaptive management described in the Groundwater Management Plan with that described in the Adaptive Management Plan, and vice versa.
15	2.1	Table 2; At Risk	Concern	"Evaluate possibility of temporary storage of surface contact water in open pits and/or saline ponds." Should consider all mitigative measures including: mine operation changes (timing, areas to be mined or closed, etc) and evaluate temporary storage of surface contact water etc	AEM will consider ways to improve clarity on how open pit sequence may be modified in response to modelled storage forecasts to allow for additional water storage as described in the Groundwater Management Plan. It should be noted forecast evaluations are high priority actions in response to "Caution" and "At Risk" adaptive management levels in the Adaptive Management Plan. AEM will also consider improving alignment of adaptive management described in the Groundwater Management Plan with that described in the Adaptive Management Plan, and vice versa.
16	2.1.2	pgh 1	report improvement	"Models have been developed to predict future annual quantities of saline water (Golder 2020a) and surface contact water (Golder 2020b; SNC 2020) and to be managed" wording	AEM will correct the wording in this sentence in the next update of the Adaptive Management Plan.
16	2.2	general	report improvement	Suggest Piper Diagram to illustrate groundwater composition and sources. Most of this section could be put into an Appendix and the highlights in the text The analyses suggests that a preliminary SSWQO for chloride at the mixing edge was determined to be 75% of the generic long-term CCME guideline (120 mg/L) or 90 mg/L.	AEM will consider moving components of this section to the appendix for improved clarity in the next update of the Adaptive Management Plan. AEM will consider the suggestion of using a piper diagram or other graphical representation of groundwater quality data submitted in the annual report. AEM clarifies that as per the Aquatic Effects Monitoring Program (AEMP) the value of 75% of the generic long-term CCME guideline is used as an action trigger. The Adaptive Management Plan intent is to identify a key response to this trigger as the initiation of a more involved process of defining an SSWQO through CCME derivation procedures.
16	2.2	general	report improvement	"Agnico Eagle believes that an SSWQO for chloride is not required" It is not clear to this reader if the SSWQO for chloride required is for the edge of the mixing zone and the discharge water to Meliadine Lake. Or if should also include the chloride SSWQO to be met for the mixing zone edge and discharge water to Ranklin Inlet. Please clarify.	AEM will clarify in the next update of the Adaptive Management Plan that the SSWQO in this context is the measurement at the edge of mixing zone.
18	2.2	txt and Table 3	report improvement	"composition of chloride 60%..." - numerous similar sentences in txt and in Table 3 refer to composition or ratios of chloride in %. Should be clearly indicated in definitions or in text that the % represents 'chloride mass to the total dissolved solid (TDS) mass' ratio.	AEM will incorporate in the next update of the Adaptive Management Plan wording to clarify the % composition of chloride is with respect to TDS.
28	2.2	Table 3	report improvement	"Composition of chloride in the treated effluent is 60%," clarification: 60% or greater	AEM will correct the wording in this sentence as indicated, in the next update of the Adaptive Management Plan.

28	2.2	Table 3	report improvement	"Identify other sources of site surface water that can be directed to CP1 to reduce chloride proportionality of the TDS" Would suggest that this would trigger an investigation on the source of the proportionality to see if there are other potential issues.	AEM notes that this is indeed the intent of the sentence, as identifying other sources of site surface water as they relate to chloride already implies investigative actions into the source of the chloride proportionality of TDS.
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