



# **AGNICO EAGLE**

## **MELIADINE DIVISION**

Meliadine Mine

Water Licence Amendment

(2AM-MEL1631)

Main Application Document

**JANUARY 2024**

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## EXECUTIVE SUMMARY

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The environmental assessment of the Meliadine Mine, resulting in the issuance of Project Certificate No.006 in 2015 by the Nunavut Impact Review Board (NIRB), included approval of a multi-phase approach to development, including mining of Tiriganiaq deposit using open pit and underground mining methods and mining of the Pump, F Zone, Discovery and Wesmeg deposits using open pit methods. Type A Water Licence 2AM-MEL1631 issued in 2016 was primarily for the Tiriganiaq deposit and associated infrastructure including, process plant, camp, tailings storage facility and waste rock storage facilities.

To support the completion of mining of all deposits permitted at the Meliadine Mine, Agnico Eagle Mines Limited (Agnico Eagle) has identified components included in the 2014 Final Environmental Impact Statement and already approved under Project Certificate No.006 which require licensing under the Type A Water Licence. This is collectively referred to as the Meliadine Mine Water Licence Amendment Application and includes completion of water licensing for open pit mining of F Zone, Wesmeg, Pump, and Discovery deposits; waste rock storage facilities at Pump, F Zone, and Discovery; completion of previously approved 2014 fuel tank farm capacity at the Rankin Inlet fuel farm; an increase of operational water use; completion of contact water infrastructure and dewatering of lakes and pond to support mining at Pump, F Zone, Wesmeg, and Discovery.

While the complete Meliadine Mine plan was approved by NIRB with the issuance of Project Certificate No.006, only certain mine components proceeded to the Type A Water Licence process at that time. It was always planned that the remaining approved 2014 mine components would be brought into the Type A Water Licence at a later date. The Meliadine Mine Water Licence Amendment will now bring NIRB approved components into the Type A Water Licence.

Agnico Eagle has already established monitoring and management programs required to mitigate, monitor, and report on its environmental performance against the regulatory requirements contained within its Meliadine operating authorizations, permits, licenses, and leases consistent with the legal requirements of applicable Acts and Regulations in Nunavut. The accuracy of the environmental impact predictions and the effectiveness of the mitigation measures have been verified through project monitoring and annual reporting, and will continue to be verified through monitoring and annual reporting. If unusual or unforeseen adverse environmental impacts are noticed, adaptive management will be put in place. Through the adaptive management process, the existing Adaptive Management Plan and the existing Environmental Management and Protection Plan, the existing mitigation measures are effective; however, will be adjusted or new mitigation measures implemented if necessary.

The Meliadine Mine Water Licence Amendment is essential to complete the mine life to 2031 and to support the continuation of economic benefits. Approval of this Water Licence Amendment will support the ability of the mine to continue to have positive effects in communities for the full approved mine life, in terms of household incomes and associated access to nutritious food, recreation, education, and resources with which to conduct traditional activities. Similarly, the Water Licence Amendment will

continue support for community programming and educational initiatives, as well as IIBA royalties and commitments.

Since operations of the Meliadine Mine began, Agnico Eagle has had continuous ongoing public engagement by meeting with the community and local stakeholders within the region, regulatory agencies, and local employees. This has allowed a better general understanding of the rights, interests, values, aspirations, and concerns of the potentially affected stakeholders, with particular reference to Rankin Inlet. Through this continued engagement, Agnico Eagle has developed an operational culture that recognizes and respects these relevant interests in the planning and executing processes.

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## ACRONYMS

Acronym	Definition
Agnico Eagle	Agnico Eagle Mines Limited
ARD	Acid Rock Drainage
AWAR	All Weather Access Road
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
EWTP	Effluent Water Treatment Plant
FEIS	Final Environmental Impact Statement
2014 FEIS	2014 Final Environmental Impact Statement; when referring to the original NIRB Application submitted in 2014 for the Meliadine Mine
2020 FEIS Addendum	2020 Final Environmental Impact Statement Addendum; when referring to the addendum submitted in 2020 for the waterline
GN	Government of Nunavut
ICRP	Interim Closure and Reclamation Plan
IIBA	Inuit Impact and Benefit Agreement
IQ	Inuit Qaujimaningit and Inuit Qaujimajatuqangit
KivIA	Kivalliq Inuit Association
LOM	Life of Mine
MDMER	Metal and Diamond Mining Effluent Regulations
Meliadine Mine site	Meliadine Gold mine site (site of the Meliadine Gold Project)
ML	Metal Leaching
NIRB	Nunavut Impact Review Board
NPAG	Non-Potentially Acid Generating
NPC	Nunavut Planning Commission
NTI	Nunavut Tunngavik Incorporated
NWB	Nunavut Water Board
PAG	Potentially Acid Generating
Project Certificate No.006	NIRB Project Certificate [No.:006] Amendment 001 (February 26, 2019) and Amendment 002 (March 2, 2022)
SETP-WTC	Saline Effluent Treatment Plant
STP	Sewage Treatment Plant
2-D	Two-dimensional
3-D	Three-dimensional
T&C ##	Term and Condition Number ## (from NIRB Project Certificate [No.:006])
TDS	Total Dissolved Solids
TK	Traditional Knowledge
TSF	Tailings Storage Facility

Acronym	Definition
TSS	Total Suspended Solids
Water Licence	Type A Water Licence 2AM-MEL1631
WRSF	Waste Rock Storage Facility

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## 1 MELIADINE MINE WATER LICENCE AMENDMENT

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### 1.1 Introduction

Agnico Eagle Mines Limited (Agnico Eagle) is operating the Meliadine Mine, located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Figure 1.1-1 presents the Meliadine Mine location and leases; Figure 1.1-2 presents the Meliadine Mine location and claim blocks.

On October 10, 2014, the Nunavut Impact Review Board (NIRB) provided the Minister with the Final Hearing Report and recommended Terms and Conditions for the Meliadine Project. The Minister accepted the NIRB's recommendation on January 27, 2015 and Project Certificate No.006 was issued on February 26, 2015. This included the approval of the Tiriganiaq deposit and the F Zone, Wesmeg, Pump, and Discovery deposits of the Meliadine Mine and the associated infrastructure.

On May 19, 2016, the Minister approved the Type A Water Licence 2AM-MEL to begin construction and operation of the Meliadine Mine. At that time, Agnico Eagle only applied for the Type A Water Licence required to proceed with the Tiriganiaq deposit. As indicated at that time, future water licence amendments would be required to proceed with outstanding activities and infrastructure included in the 2014 FEIS.

Since the Project Certificate was issued, the Meliadine Mine has been subject to three reconsiderations by NIRB. On February 26, 2019 the NIRB provided a positive decision to amend the Project Certificate to include discharge of saline effluent to the marine environment via diffuser at Itivia Harbour and to convey via truck saline effluent along the All Weather Access Road (AWAR) to Itivia Harbour (i.e., Melvin Bay). On January 31, 2022 the Minister provided a positive decision to amend the Project Certificate to include the conveyance of saline effluent via a waterline along the AWAR (instead of via truck), to accommodate an increased volume of discharge at Itivia Harbour. During 2022 and 2023, the NIRB carried out a reconsideration of the Project Certificate triggered by the Meliadine Extension application but the application was withdrawn by Agnico Eagle on December 19, 2023 following a negative NIRB recommendation.

Since the Type A Water Licence was issued, the Type A Water Licence was subject to two amendment applications by Agnico Eagle. On June 23, 2021, the Minister approved the Type A Water Licence 2AM-MEL1631 Amendment which included updated total dissolved solids (TDS) thresholds to Meliadine Lake, increase of annual freshwater consumption, additional laydown area, additional landfarm, updated waste management strategy, construction of access roads, and an updated Interim Closure and Reclamation Plan (ICRP). During 2023, the NWB considered Type A Water Licence amendments triggered by the Meliadine Extension Application, but the application was withdrawn by Agnico Eagle on December 19, 2023 following a negative NIRB recommendation. The scope of the Meliadine Extension Application water licence amendment included the 2014 FEIS components included in this Meliadine Water Licence Amendment Application.

With the withdrawal of the Meliadine Extension Application, to support the completion of mining of all deposits permitted at the Meliadine Mine (Tiriganiaq, Wesmeg/Wesmeg North, Pump, F Zone, and Discovery), Agnico Eagle has identified that the following components included in the 2014 FEIS and already approved under Project Certificate No. 006 still require licensing under the Type A Water Licence (collectively referred to as the Meliadine Mine Water Licence Amendment):

- temporary ore stockpiles (three facilities located near Pump, F Zone, and Discovery)
- Tailings Storage Facility capacity to 20.6 m<sup>3</sup>
- waste rock storage facilities (WRSF6 & WRSF7, WRSF9)
- fuel storage at Rankin Inlet from 37.5 million litres (ML) to 80 ML
- annual operational water use limits from 742,000 m<sup>3</sup>/yr to 1,100,296 m<sup>3</sup>/yr
- Saline Pond (SP6)
- contact water infrastructure for Pump, Wesmeg, F Zone, and Discovery
- Dewatering of the Lakes/Ponds to support mining at Pump, Wesmeg, F Zone and Discovery

Agnico Eagle reiterates it is not modifying approved facilities and the activities and infrastructure being added to the Water Licence - all are within the FEIS as originally proposed in 2014 and approved in our Project Certificate No.006 in 2015.

In support of the Meliadine Mine Water Licence Amendment, Agnico Eagle has provided this stand-alone document to guide the review process. The Main Application Document has been developed to conform with the Supplemental Information Guideline (SIG; Appendix A) issued by the NWB.

**Meliadine Project**  
Project Description - Leases

Date: 10/6/2021  
Map Number: MEL-005  
Coordinate System: NAD 1983 UTM Zone 15N  
Projection: Transverse Mercator  
Datum: North American 1983

**Legend:**

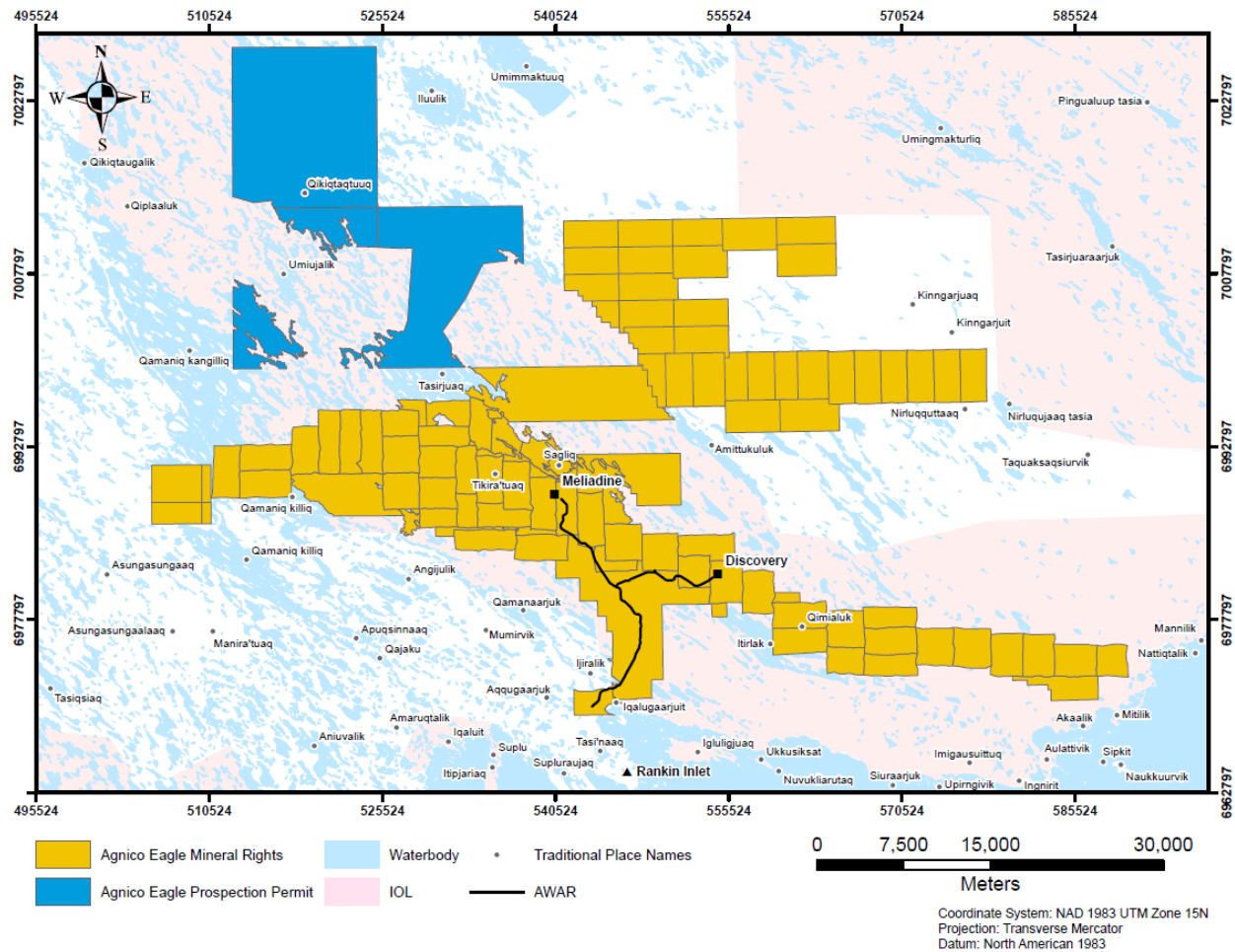
- ▲ Itivia Laydown
- Traditional Place Names
- Bypass Road
- AWAR
- Municipal Road
- Meliadine Claim Blocks
- Production Lease
- Municipal Boundary
- Nunavut Airport Boundary
- Inuit Owned Lands**
  - Surface
  - Surface-Subsurface
  - Territorial Park

**Map Labels:** Meliadine Lake, Inilik Lake, Amittukuk, Sagliq, Tikira'tuaq, Discovery, Qarnuutaq, Mumivik, Iqalugaarjuup Nunanga Territorial Park, Ijiralik, Aqqugaarjuk, Iqaluit, Suplu, Itipjariaq, Supluraajaa, Rankin Inlet, Kangiqiqliq, Igluligjuaq, Ukkusiksat, Puijaagtuqsuvik.

**Scale:** 0 2 4 6 Km  
1:150,000



Figure 1.1-2: Site Location and Claim Blocks



### 1.1.1 Background

During 2023, the NWB carried out a reconsideration of the Meliadine Extension application but the application was withdrawn by Agnico Eagle on December 19, 2023 following a negative NIRB recommendation.

As the NWB will recall, the Meliadine Extension Water Licence Amendment included new components included in the Meliadine Extension Addendum, as well as components already approved in the 2014 FEIS (Project Certificate No.006), but not yet included in the existing 2AM-MEL1631 Water Licence.

This Application has removed all new components associated with the Meliadine Extension Addendum, but continues to include the already approved 2014 FEIS components.

As the approved 2014 FEIS components (Project Certificate No.006) were all included in the Meliadine Extension Water Licence Amendment application, information requests and technical comments on these

topics have already been provided by the participants in the NWB process and resolution has been reached on many of these items.

NWB staff advised that given that the 2014 FEIS water licence items included in this Application were already considered as part of the NWB Meliadine Extension Application process, it is proper for Agnico Eagle to rely on that record as part of this Application. Accordingly, for the convenience of NWB and reviewers, Agnico Eagle has reviewed the technical comments and responses in the Meliadine Extension NWB process and brought the relevant items forward into this Application, so that the NWB is aware of all relevant discussions and resolution on these items to date. See Appendix G, Tables G-1 and G-2 which present the technical comments that are resolved and ongoing commitments or technical comments still relevant to the application, respectfully.

## **1.2 Scope of Meliadine Mine Water Licence Amendment Components and Activities**

Table 1.2-1 provides a summary of Meliadine Mine Water Licence Amendment components as a comparison to the current 2AM-MEL1631 Water Licence. Figure 1.2-1 provides an overview of the Meliadine Water Licence Amendment site layout.



**Table 1.2-1: Definition of Scope**

	<b>Water Licence 2AM-MEL1631</b>	<b>Meliadine Mine Water Licence Amendment</b>
Location / Land Tenure	The Meliadine Mine is located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Claim block is presented in Figures 1.1-1 and 1.1-2.	No change.
Life of Mine	Projected mine operations until 2031.	No change.
Site Access	Meliadine Mine is accessed by the All Weather Access Road (AWAR) and bypass road, and marine barging where applicable.  Use Rankin Inlet's airstrip for transportation of "fly-in/fly-out" employees.	No change.
Rankin Inlet Infrastructure – Fuel Storage, Port Facility, Laydown	A spud barge (floating dock) to serve as a dock for offloading containers, materials, and equipment from barges.  A laydown yard area (14 hectares) to store incoming and outgoing containers, materials, and equipment pending truck delivery to the Mine site by road.  A fuel storage area to store up to 37.5 ML	No changes to infrastructure or laydown area.  Completion of previously approved 2014 fuel tank farm capacity to store up to 80 million litres of diesel fuel.
Domestic Waste Management	On-site facilities include: a landfarm; a landfill in WRSF1; 2 incinerators	No change.
Hazardous Waste Management	Material is segregated at site and shipped to an approved disposal location in the south.	No change.
Mine Infrastructure	Open pit mining assessed and approved for: Tiriganiaq.  Underground mining assessed and approved for: Tiriganiaq.  Phase 1 included the assessment of access roads to Discovery, Pump, F Zone, and Wes-Normeg deposits; and was included with the 2021 Water Licence Amendment as the access roads are within the previously assessed footprint of the FEIS.	Completion of water licensing for open pit mining at Wesmeg, Pump, F Zone, and Discovery.
Tailings	Dry stack tailings was approved as part of the 2015 Water Licence at 10.9 MT to TSF (15.4 MT total [TSF + underground])	No change to tailings management method.  Completion of water licensing for capacity to 20.6 Mm <sup>3</sup> as per approved 2014 FEIS and approved Project Certificate No.006.

	Water Licence 2AM-MEL1631	Meliadine Mine Water Licence Amendment
Ore Stockpile	Ore pads located near the crusher to temporarily store ore before being fed to the mill.	Ore will be stockpiled in a series of temporary stockpiles located by Pump, F Zone, and Discovery. Ore will then be brought to the approved ore stockpiles located near the crusher.
Waste Rock	<p>Waste rock and overburden generated will be placed in one of five Waste Rock Storage Facilities (WRSFs) assessed:</p> <ul style="list-style-type: none"> <li>• B7 WRSF (East, South and West) located in a U-shape around the Tailings Storage Facility, north of the Tiriganiaq deposit (WRSF1 and WRSF2 as approved under Water Licence 2AM-MEL1631).</li> <li>• WRSF3 approved under Water Licence 2AM-MEL1631 and located east of Tiriganiaq Pit 2.</li> <li>• B4 WRSF located west of the Wesmeg and Pump deposits.</li> <li>• A45 WRSF located south of the F Zone deposit.</li> <li>• The Discovery WRSF located east of the Discovery deposit. NPAG cover will be placed should monitoring during operations shows that waste rock contains PAG material.</li> </ul>	<p>Waste rock and overburden generated from open pit activities will continue to be placed in one of the WRSFs as originally assessed, and have been optimized to reduce the size. The WRSFs are:</p> <ul style="list-style-type: none"> <li>• WRSF1</li> <li>• WRSF3</li> <li>• WRSF6 (Pump)</li> <li>• WRSF7 (F Zone)</li> <li>• WRSF9 (Discovery)</li> </ul>
Freshwater	<p>Freshwater sourced from Meliadine Lake.</p> <p>Annual consumption is 742,000 m<sup>3</sup>/year for operations</p>	<p>No change to sources of water used.</p> <p>Increase to freshwater consumption requirement, which is below the 2014 FEIS assessment value.</p>
Water Management	<p><b>Infrastructures:</b></p> <p>Water management structures will be built (e.g., dikes/berms, and diversion channels) as needed to manage water from areas within the mine site. Surface contact water and saline water are managed separately.</p> <p><b>Contact Water and Saline Water:</b></p> <p>Contact water originating from developed areas (e.g., pits, WRSF, TSF) will be intercepted and conveyed to the various collection ponds for temporary storage. All contact water will eventually be conveyed to Collection Pond 1 (CP1).</p> <p>Contact water collected within CP1 will be used to satisfy mill process water make-up requirements, with any excess water treated using the Effluent Water Treatment Plant, if required, and discharged to Meliadine Lake.</p>	<p><b>Infrastructures:</b></p> <p>Additional water management structures will be built as needed to manage water from the new permitted mining areas.</p> <p><b>Surface Contact and Saline Water:</b></p> <p>No change to overall water management strategy. Surface contact water and saline water from the Tiriganiaq underground mine will continue to be separated. Water management at site will continue to be optimized by using the waterline to minimize discharge to Meliadine Lake. Water collected at the Discovery site will be conveyed via truck to the SETP-WTC. All saline water will be treated and discharged into the receiving environment (Itivia Harbour) using the approved waterline.</p> <p>Addition of saline pond SP6.</p>

	Water Licence 2AM-MEL1631	Meliadine Mine Water Licence Amendment
	<p>Use of saline ponds to collect underground water. After treatment, water is conveyed to Itivia Harbour for discharge into the receiving environment.</p> <p><b>Treatment:</b> Effluent Water Treatment Plant (TSS), Sewage Treatment Plant (BOD, TSS, bacteria), Saline Effluent Treatment Plant (TSS, ammonia) and Reverse Osmosis (TDS) Plant are used to treat water.</p>	<p>Per Amendment No. 002 to Project Certificate No.006, saline water will be conveyed to the SETP-WTC, where it will be treated and discharged to the receiving environment (Itivia Harbour).</p>
On-site Fuel	<p>Current fuel tanks on site:</p> <ul style="list-style-type: none"> <li>One 6 ML tank, one 3 ML tank and a number of storage tanks with capacities varying between 1,000 and 250,000 L.</li> </ul> <p>Total diesel fuel storage capacity is in the range of 9.7 ML.</p>	No change.
Closure	<p>Reclamation work begins as soon as an area's operation is complete. Most removal or demolition of buildings and infrastructure will occur at the end of operations phase, though, and would be done in the first two years of decommissioning. Reclamation work should be completed within 3 to 4 years of the closure. The filling of open pits with water would extend for several years.</p>	No change.
Camp	Average of 680 with a max of 800.	No change; remain at 800.

Figure 1.2-1: Meliadine Mine Water Licence Amendment General Site Plan

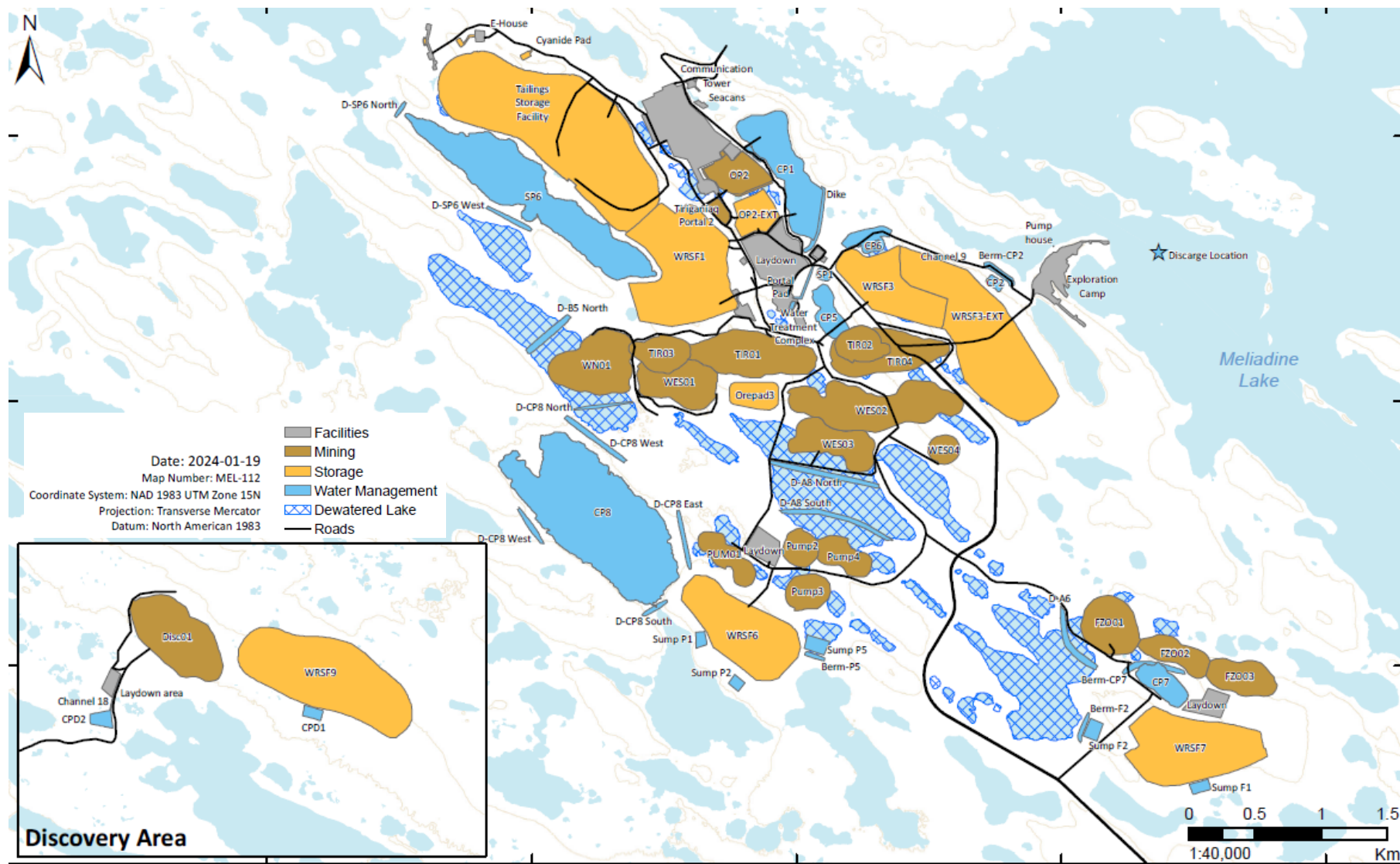
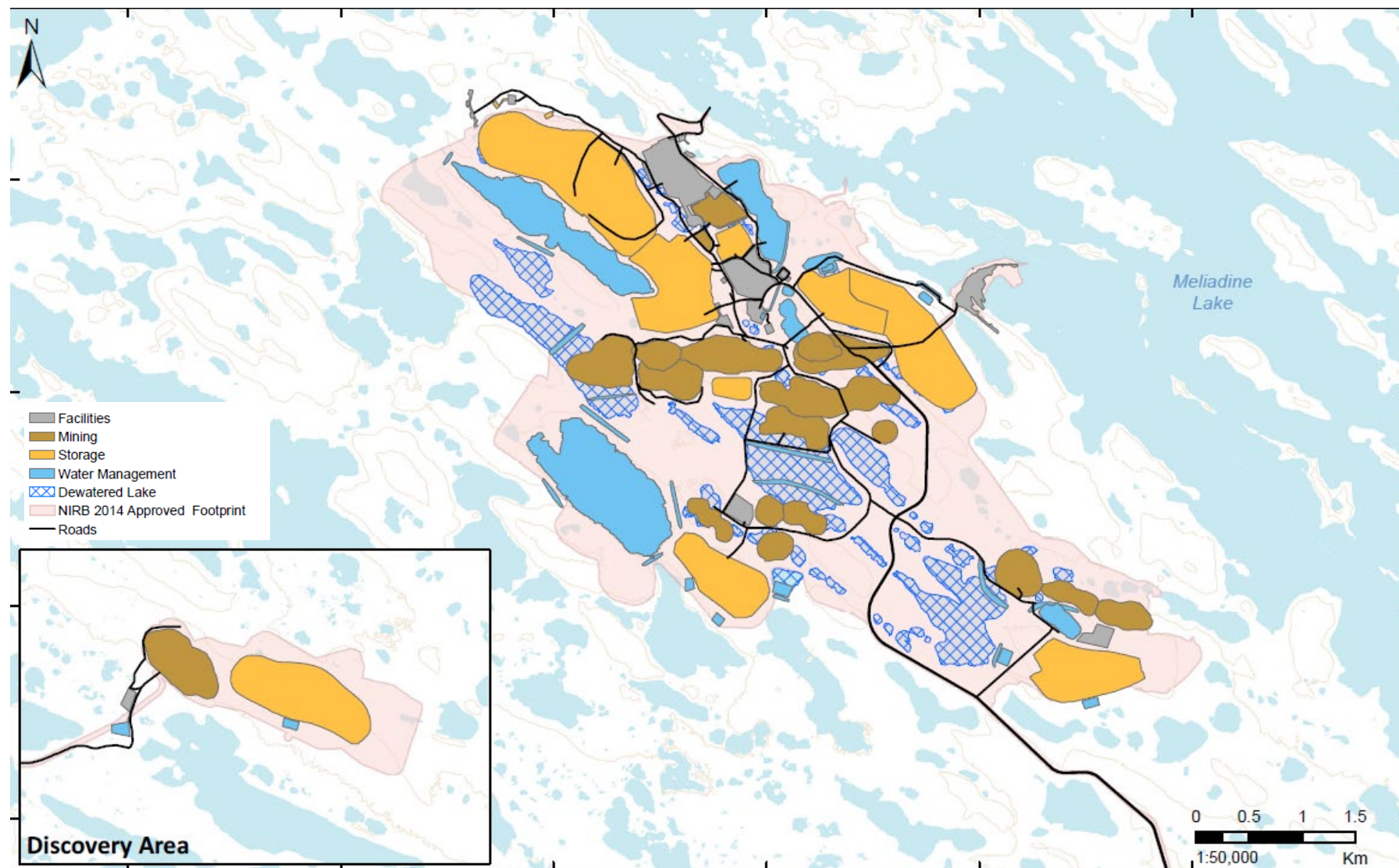




Figure 1.2-2: Meliadine Mine Water Licence Amendment Site Layout in Relation to the NIRB 2014 Approved Footprint



### 1.3 The Proponent

The Meliadine property is owned and managed by Agnico Eagle (NYSE: AEM, TSX: AEM), a Canadian publicly traded mining company listed on the Toronto and New York Stock Exchange, trading symbol AEM, with the head office in Toronto, Ontario.

Agnico Eagle is a long-established senior gold mining company and is the largest gold producer in Canada and third largest globally with 75% of its gold production in Canada. Agnico Eagle and Kirkland Lake Gold Ltd. successfully completed a merger of equals in February 2022 which has diversified operations in regions with high geologic potential. Agnico Eagle has 12 mines in five regions and four countries, with seven operating mines in Canada. In Canada, Agnico Eagle operates the Meadowbank Complex, Meliadine, Hope Bay, LaRonde Complex, Goldex, Detour, and Macassa mines and has 50% of ownership in the Canadian Malartic Mine.

A list of officers for the company is provided in Block 22 of the Application Form. A summary of Agnico Eagle's 2022 annual report is available on-line ([here](#)) and more information about the company can be found [here](#).

### 1.4 Sustainable Development, the Precautionary Principle, and Adaptive Management

#### 1.4.1 Sustainable Development

Agnico Eagle is committed to creating value for their shareholders by operating in a safe, socially, and environmentally responsible manner, while contributing to the prosperity of our employees, their families, and the communities in which we operate. This is imbedded into the four fundamental values that make up the keystones of [Agnico Eagle's Sustainable Development Policy](#): Operate a Safe and Healthy Workplace, Protect the Environment, and treat Employees and Communities with Respect.

#### 1.4.2 Adaptive Management

Agnico Eagle uses adaptive management as part of the precautionary approach. Adaptive management is a part of decision-making processes, including those around environmental effects. Agnico Eagle's approach can be summarized as follows:

- Priority 1 – Collect the scientific data required to allow scientific consensus to be achieved and consult with local stakeholders to incorporate Inuit Qaujimaningit and Inuit Qaujimajatuqangit (IQ), Traditional Knowledge (TK), and Community Knowledge collected into our data to help reach consensus.
- Priority 2 – Design all facilities and activities with adaptive management in mind. In cases where uncertainty remains, Agnico Eagle has looked for applicable data from similar settings elsewhere so that others' experiences can be brought into consideration. Agnico Eagle has also built in appropriate safety factors in the design of the facility or in the proposed action. In each case, Agnico Eagle has incorporated flexibility so that the activity or design can be actively adapted to accommodate possible future change.

- Priority 3 – Design and implement monitoring programs to address all areas of uncertainty so that data are being generated to a) allow for scientific consensus to be achieved, and b) to allow activities where some uncertainty exists to be adaptively managed in a timely manner.

As a result of Agnico Eagle’s Amendment to the Water Licence (Agnico Eagle 2020b) and addendum to Project Certificate (Agnico Eagle 2020a) an Adaptive Management Plan for water management at Meliadine was created based on the priorities above. The primary objective of the Adaptive Management Plan is to document specific management actions and mitigation measures to be taken when specified thresholds are exceeded. Mitigation measures may include special studies, operational changes, revised or new water and waste management systems, new or expanded conveyance systems, structures and/or facilities, or implementing mitigation activities to prevent, stabilize or reverse a change in environmental conditions or to otherwise protect the receiving environment. The Adaptive Management Plan was developed in collaboration and with inputs from Kivalliq Inuit Association (KivIA), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), and Environment and Climate Change Canada (ECCC).

#### **1.4.3 Regional Context**

The Meliadine Mine falls within the boundaries of the Keewatin Regional Land Use Plan (NPC 2000) administered by the NPC (see Figure 1.1-1). The Meliadine Mine has received positive conformity determinations in June 2011 (Meliadine Mine proposal), January 2018 (saline discharge proposal), March 2020 (waterline proposal), and January 2024 for Meliadine Water Licence Amendment (Appendix B). All activities for the Meliadine Mine Water Licence Amendment Application are within the same approved area.

#### **1.4.4 Land Tenure**

The Meliadine Mine is primarily situated on Inuit Owned Lands (see Figure 1.1-1) and administered by the KivIA (surface rights) on behalf of the Inuit Beneficiaries as designated under the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

The southern portion of the AWAR (i.e., South of the Char River bridge), the Rankin Inlet Bypass Road, and the Rankin Inlet Infrastructure – Fuel Storage, Port Facility, Laydown are located on Commissioner’s Lands (managed by either the Government of Nunavut [GN] Departments of Community and Government Services or Nunavut Airports).

#### **1.4.5 Regulatory Regime**

The Meliadine Mine is located within the Nunavut Territory and is subject to the regulatory approvals established under the applicable laws and regulations of Canada and Nunavut. Agnico Eagle will adhere to the existing conditions and/or mitigations outlined by regulatory agencies or applicable licence requirements as presented in Table 1.4-1.

**Table 1.4-1: Permits and Licenses for Meliadine Mine**

Ownership	Lease / Licence / Permit	Purpose
KivIA	KVPL11D01	Production Lease
KivIA	KVCA07Q08	Quarry Permit (on-site)
KivIA	KVCA11Q01	Quarry Permit (along AWAR)
KivIA	KVRW11F02	Road Lease
Nunavut Airports	LE-03-320-0036	Itivia Laydown Area
Nunavut Airports	102893	Bypass Road Lease
GN-CGS	L-51808T	Bypass Road
GN-CGS	L-51809T	AWAR
GN	Authorization letter	Waterline routing at Apache Pass
CIRNAC	55K/16-42-2	Diffuser Lease (amendment pending)
Transport Canada	2019-600003	Placement of the diffuser
NWB	2BB-MEL1424	Bulk Sampling and Exploration Drilling (expires July 21, 2024 and the renewal is currently before the NWB)
NWB	2AM-MEL1631	Mining (expires March 31, 2031)
NIRB	Project Certificate No. 006	No expiry

While the existing authorizations will continue in effect for the Meliadine Mine, Agnico Eagle anticipates it will need the following amendments or new approvals for Meliadine Water Licence Amendment activities:

- New Fisheries and Oceans' (DFO) Authorization for dewatering activities approved in the 2014 FEIS. Discussions have already been initiated with DFO.
- Metal and Diamond Mining Effluent Regulations (MDMER) Schedule 2 Listing. Note this watershed was included in the 2014 FEIS and therefore was already fully assessed by NIRB. Discussions regarding the Schedule 2 process are underway with ECCC.

### **1.5 Compliance Assessment to Type A Water Licence 2AM-MEL1631**

Agnico Eagle complies with all items of the approved Type A Water Licence 2AM-MEL1631 and has not identified any non-compliances to the current Licence.

Section 10.2 of the 2022 Annual Report (Agnico Eagle 2023a) provides a summary of inspections and site visits by regulators, as well as any follow-up information provided as an outcome of the inspection, where applicable.

### **1.6 Analysis of Need and Purpose of Meliadine Mine Water Licence Amendment**

As presented in the 2014 FEIS, the Kivalliq region of Nunavut offers limited, and usually seasonal, employment opportunities. The population is predominately young with a high level of unemployment. Elders have stated that the young must find jobs in the wage economy as they will not be able to live off



the land as Inuit did in the past. Many of the policies and strategies for Nunavut speak to self-reliance and improved quality of life as drivers for economic development that requires both the protection and use of renewable resources balanced with the development of non-renewable resources.

Construction of the Meliadine Mine commenced in 2016 and commercial production began in 2019. Agnico Eagle will continue to apply the lessons learned through operations.

As noted above, while the 2014 FEIS was approved with the issuance of Project Certificate No.006 in 2015, some components of the 2014 FEIS are not yet included in the Type A Water Licence. The Water Licence Amendment Application is required to complete the operational water licensing of the Meliadine Mine as approved by Project Certificate No.006. Without the Water Licence Amendment, the mine life of Meliadine would be shorter than approved by the Project Certificate. Continuing Meliadine Mine operations will support the vision and contribute to the goals of persons enrolled under the Nunavut Agreement (Inuit as expressed by Nunavut Tunngavik Incorporated [NTI] and KivIA). Benefits will accrue to Kivalliq Inuit from the Inuit Impact and Benefit Agreement (IIBA), employment and business opportunities – without the Water Licence Amendment, the benefits would be lost. Continuation of mining will ensure employment stability and continued business opportunities as envisioned by the 2014 FEIS. Skills learned will continue to be used.

Agnico Eagle will continue exploration activities with the objective to extend the life of mine (LOM) beyond 2031. Inuit employment opportunities will be maximized throughout the LOM.

### **1.7 Consultation and Engagement**

Since Agnico Eagle acquired the Meliadine Project in July 2010 from Comaplex Mineral Corporation, Agnico Eagle has actively engaged and consulted stakeholders throughout the Kivalliq region and adjacent jurisdictions.

Community information sessions and consultations made possible through in-person meetings have long been the standard for Agnico Eagle Nunavut's project development and operations teams.

Agnico Eagle hosts various public meetings, focus groups, and meetings with stakeholders to provide the communities with information on the Meliadine Mine and answer their questions, and identify their concerns and feedback with regards to the Mine. The list of meetings and comments and questions received for community and stakeholder engagement since the Meliadine Mine commenced operations are provided in Appendix C. This is generally reported to the NWB as part of Agnico Eagle's annual reporting.

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## 2 MELIADINE MINE WATER LICENCE AMENDMENT COMPONENTS AND ACTIVITIES

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### 2.1 Water Licence Amendment Design

The Meliadine Mine Water Licence Amendment consists of supporting the completion of mining of all deposits permitted at the Meliadine Mine (Tiriganiaq, Wesmeg/Wesmeg North, Pump, F Zone, and Discovery). Agnico Eagle has identified that the following components included in the 2014 FEIS and already approved under Project Certificate No.006 which require licensing under the Water Licence:

- temporary ore stockpiles (three facilities located near Pump, F Zone, and Discovery)
- Tailings Storage Facility capacity to 20.6 m<sup>3</sup>
- waste rock storage facilities (WRSF6 & WRSF7, WRSF9)
- fuel storage at Rankin Inlet from 37.5 ML to 80 ML
- annual operational water use limits from 742,000 m<sup>3</sup>/yr to 1,100,296 m<sup>3</sup>/yr
- Saline Pond (SP6)
- contact water infrastructure for Pump, Wesmeg, F Zone, and Discovery
- Dewatering of the Lakes/Ponds to support mining at Pump, Wesmeg, F Zone, and Discovery

Updates to the mine plan triggers inclusion of water and waste management infrastructures, which will be reviewed as part of the Water Licence Amendment process. As part of Meliadine Mine, Agnico Eagle will continue to conduct design studies with both the cold northern climate and remote location as the principal engineering considerations for successful design, construction, and operations.

In designing the activities, Agnico Eagle has worked to optimize the overall footprint of its proposed operation and its associated facilities. Design considerations are provided in Appendix D, including the following:

- Design for Water Management Infrastructures for Operation Phase, Meliadine Mine (Appendix D-1)
- Stability Analyses for the Proposed Tailings Storage Facility, Meliadine Mine Water Licence Amendment (Appendix D-2)

The most current concepts have been selected for design and are an extension of current practices (i.e., mining, processing, and effluent treatment). The technologies are considered state-of-the-art, and the Meliadine project team have adapted to difficult climatic conditions and have designed infrastructure accordingly and used up-to-date technology to solve problems.

Agnico Eagle intends to continue using familiar, proven approaches seen at many mining operations in production today and will be continually addressing problems using proven newest technologies to improve mining efficiency, production efficiency, reduce fuel consumption, and ultimately reduce emissions.

Additional technical studies to support the Water Licence Amendment are provided in Appendix E, including the following:

- E-1: Spring 2021 Geotechnical Site Investigation
- E-2: Thermal Modelling of Meliadine Discovery WRSF
- E-3: Meliadine Mine – 2022 Thermal Assessment
- E-4: Updated Summary of Hydrogeology Existing Conditions Meliadine Mine
- E-5: Westbay Monitoring Well System M20-3071, 2021 Groundwater Program Meliadine Mine
- E-6: Updated Hydrogeology Modelling Meliadine Mine
- E-7: Meliadine Project – Predicted Groundwater-Surface Water Interaction at Post Closure Versus Existing Conditions

The Water Balance and Water Quality Model Technical Report to support the Water Licence Amendment is provided in Appendix E of the Water Management Plan (Appendix F-21).

## 2.2 Meliadine Phases

Components of the Water Licence Amendment Application will need to commence construction in the second half of 2024 upon reception of approvals. The mine development sequence and LOM summary are presented in Table 2.2-1 and Table 2.2-2.

The Meliadine Mine LOM (i.e., operation phase) is scheduled to be completed in 2031. Agnico Eagle will continue exploration activities with the objective to extend mine life beyond 2031.

Closure strategies remain unchanged. Closure will occur of a 7 year period as pits are being re-flooded, from 2032 to 2038. Most removal or demolition of buildings and infrastructure will occur at the end of the operation phase, and would be done in the first two years of decommissioning. Reclamation work should be completed within 3 to 4 years of the closure. The filling of open pits with water would extend until the end of the closure phase. During closure, all saline water will be pumped to the underground and surface contact water, as well as local runoff and precipitation will be stored in the pits to enhance reflooding activities. Active reflooding will be conducted with water to be pumped from Meliadine Lake. There will be no discharge into Meliadine Lake or to Itivia Harbour during this phase.

Post-closure will be initiated when flooded pits are reconnected to the surrounding environment and will last 10 years, from 2039 to 2048. For additional details regarding closure and post-closure, please refer to the Interim Closure and Reclamation Plan (Appendix F-12).

Table 2.2-1: Meliadine Mine Development Sequence

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032-2038	2039-2048
<b>Approved Mining</b>														
Tiriganiaq Deposit														
<b>Construction</b>														
Infrastructure														
Dewatering & Fish out														
<b>Mining</b>														
Tiriganiaq Deposit Open Pit														
Tiriganiaq Underground														
Wesmeg Deposit Open Pit														
Pump Deposit Open Pit														
F Zone Deposit Open Pit														
Discovery Deposit Open Pit														
<b>Monitoring</b>														
Closure														
Post-Closure														

Table 2.2-2: Life of Mine Summary for All Deposits

Year	Total Ore Open Pit	Total Waste Rock Open Pit	Total Ore Underground	Total Waste Rock Underground	Total Tailings Stored in TSF	Total Overburden
	(t)	(t)	(t)	(t)	(t)	(t)
2019*	-	236,219	1,108,666	482,736	862,814	411,684
2020*	109,392	3,395,398	1,293,507	608,134	1,092,253	1,354,831
2021*	514,930	4,428,776	1,445,614	653,096	1,363,855	2,218,888
2022*	432,859	2,942,941	1,345,975	682,237	1,311,413	1,828,976
2023**	366,731	3,358,879	1,358,913	760,507	1,430,506	2,223,091
2024	412,593	5,135,734	1,362,793	859,045	1,388,099	460,672
2025	1,409,472	4,689,776	2,469,785	965,651	2,957,461	1,410,658
2026	1,907,428	6,143,563	2,469,785	965,651	2,955,365	2,225,166
2027	637,953	4,478,837	2,469,785	965,651	2,956,924	2,024,317
2028	777,060	8,989,100	2,479,291	968,297	2,958,353	2,227,528
2029	1,914,094	47,219,228	2,469,785	965,651	2,947,036	10,084,556
2030	1,227,644	50,109,124	2,469,785	965,651	2,958,304	8,041,950
2031	2,602,695	27,707,589	2,469,785	965,651	2,943,925	26,108
<b>Total (t)</b>	<b>12,312,849</b>	<b>168,835,164</b>	<b>25,213,469</b>	<b>10,807,960</b>	<b>28,126,308</b>	<b>34,538,425</b>
<b>Total (Mt)</b>	<b>12.3</b>	<b>168.8</b>	<b>25.2</b>	<b>10.8</b>	<b>28.1</b>	<b>34.5</b>
<b>2014 FEIS</b>	<b>27</b>	<b>373.3</b>	<b>11.1</b>	<b>5.3</b>	<b>37.8</b>	<b>57</b>
<b>Total (Mt)</b>						

\* End of year total mined values

\*\* Preliminary Estimate

## 2.3 Detailed Description

The facilities already included in the scope of permit under Water Licence 2AM-MEL1631 include: a power plant, mill, camp, heli-pad, maintenance shop, laydown areas, Meliadine and Rankin Inlet tank farm, WRSFs, Tailings Storage Facility (TSF), an ore stockpile, landfill, incinerator, landfarm, emulsion plant, a potable water and sewage collection and treatment system, contact and saline treatment system, water intake, diffuser, quarries and borrow pits, AWAR and bypass road, access roads, water management infrastructure (e.g., saline and contact water collection ponds, channels, dikes, berms, jetties, pump systems and pipelines, and culverts), and Tiriganiaq open pits and underground.

### 2.3.1 Ore Deposits and Mining

The mining methods used for the open pits and Tiriganiaq underground mine will follow similar approved extraction methods which consist of a conventional truck/shovel method for the open pits, and long hole mining with some mechanized cut and fill in flat areas for underground. The configuration will be a mix of transverse and longitudinal stoping. Scoop and truck equipment will be used to extract material which will be transported the ore stockpiles. Stopes will be backfilled with rock fill, cemented rock fill and/or paste

fill.

### **2.3.2 Ore Stockpile Facilities**

In the 2015 application for the Type A Water Licence, the locations of the proposed ore storage facilities were close to the Industrial Pad and primary crusher, with three smaller ore storage pads proposed instead of two large pads as proposed in the 2014 FEIS. Multiple changes were made to the configuration of various infrastructures within the Industrial Pad footprint since the 2015 application. As the general location of OP2 did not change, it was decided during detailed design of the facility to expand this originally planned footprint to incorporate the available remaining footprint of the previously planned OP1 and maximize the storage space next to the crusher during detailed design. This area will continue to be used.

For this Water Licence Amendment Application, there will be new temporary ore stockpiles adjacent to the pits at Pump, F Zone, and Discovery. The stockpiles are being added to facilitate ore handling and increases productivity of mine fleet which allows for more efficient equipment to transport the ore on a long distance (e.g., specific site to mill). The ore will either be transported directly to the Approved mill and crusher for processing or will be temporally stockpiled at OP2. Contact water from the stockpiled ore material will be captured and redirected to the proper Collection Ponds.

Agnico Eagle will continue to adhere to management practices in accordance with the Ore Storage Management Plan (Appendix F-16).

### **2.3.3 Tailings Management**

Agnico Eagle would continue monitoring the mine operations, water use and water quality in accordance with Water Licence 2AM-MEL1631 requirements as previously approved by NWB. Appendix D-2 provides the stability analysis of the TSF.

### **2.3.4 Overburden and Waste Rock Management**

Waste rock and overburden generated from open pits activities will be placed in one of the following WRSF that were assessed in 2014 FEIS:

- WRSF1
- WRSF3
- WRSF6
- WRSF7
- WRSF9

The WRSFs will be designed and operated to minimize the impact on the environment and considering geotechnical stability and geochemical considerations. The material will be generally transported by truck and end-dumped, following a sequence developed for the operation. Waste rock and overburden will be managed within the same area.

The Discovery WRSF contains rock with potential for acid generation or potential to leach metals and will require a thermal cover to reduce potential impacts on the environment. Although not required for the management of metal leaching and acid rock drainage (ARD) potential, waste rock and overburden will be disposed on land and in a manner that encourages total freezing. Based on experience, it is expected that the material will freeze within two years of placement, but this needs to be confirmed with thermal analyses. Several thermistors will be placed during operation to confirm the rate of freezing for the various material cells and modify the management if required.

Agnico Eagle will continue to adhere to management practices outlined in the Mine Waste Management Plan (Appendix F-15).

### **2.3.5 Water Management**

The water management concept has not changed and is consistent with 2014 FEIS approved approaches. The water management strategy is anticipated based on the current state of the Meliadine Mine and amendments.

The general water management strategy continues to limit surface flow entering the mine footprint and restrict uncontrolled surface contact water releases from the mine footprint to the environment to limit impacts on the receiving environment. In developing the water management plan, the following guiding principles were followed:

- segregate water as much as possible (non-contact, contact, and saline water);
- control and minimize contact water through diversion and containment;
- minimize or eliminate surface contact water discharges to Meliadine Lake;
- avoid placing collection ponds within overburden, site collection ponds within bedrock, or in lakes;
- minimize freshwater consumption by recycling and reusing the contact and process water wherever feasible; and
- meet reasonable discharge criteria before any site contact water is released to the receiving environment.

Please refer to the updated Water Management Plan (Appendix F-21), Groundwater Management Plan (provided as an appendix to Appendix F-21), and Adaptive Management Plan (Appendix F-1) for additional details.

#### **2.3.5.1 Water Management Infrastructure**

Infrastructures to be built at Wesmeg, F Zone, Pump, and Discovery will include contact water collection ponds, dikes, berms, culverts, channels, and sumps. For further information refer to the Design for Water Management Infrastructure (Appendix D-1) and the updated Water Management Plan found in Appendix F-21.

### 2.3.6 Water Supply & Water Treatment Facilities

#### 2.3.6.1 Water Supply

Meliadine Lake will continue to be the intake for freshwater use. Freshwater for dust suppression will continue to be sourced from small lakes and ponds proximal to the road and/or to Meliadine River.

The current Water Licence annual consumption is 742,000 m<sup>3</sup>/year for operations.

Table 2.3-1 provides the updated freshwater consumption needs. Agnico Eagle is requesting an increase to a total of 1,100,296 m<sup>3</sup>/year for operations of freshwater consumption.

In the 2014 FEIS, the total freshwater needs was assessed at 2,168,100 m<sup>3</sup>/year. Based on this, the additional freshwater volume requested for the Meliadine Water Licence Amendment is still below the range that was assessed in the 2014 FEIS.

**Table 2.3-1: Operations Freshwater Consumption Needs**

Items	2014 FEIS		Water Licence	Meliadine Mine Water Licence Amendment
	provided in m <sup>3</sup> /h	converted to m <sup>3</sup> /yr	m <sup>3</sup> /yr	m <sup>3</sup> /yr
Camp Use	5.67	49,669	50,000	73,000
Truck Shop-Washbay	8.5	74,460	9,636	365
Paste Plant	5.5	48,180	105,120	157,000
Mill	107.2	939,072	424,860	652,000
Drilling Water	N/A	N/A	1,460	730
Dust Control	18	45,000	24,168	24,168
Emulsion Plant	1.6	14,016	1,520	1,950
Underground Washbay	50	438,000	2,200	2,200
Discovery Installation				5,500
Pit Production	1.5	12,000	N/A	
Sub-total	198	1,620,397	618,964	916,913
Contingency	25%		20%	20%
<b>Total</b>	<b>247.5</b>	<b>2,168,100</b>	<b>742,757<sup>(a)</sup></b>	<b>1,100,296</b>

(a) Type A Water Licence 2AM-1631 Amendment approval was rounded to 742,000 m<sup>3</sup>/year.

#### 2.3.6.2 Water Treatment

Contact water will be treated for total suspended solids (TSS) in the Effluent Water Treatment Plant (EWTP) if required and discharged into Meliadine Lake.

Saline water will be treated for ammonia (NH<sub>3</sub>) and TSS if required in the Saline Effluent Treatment Plant (SETP-WTC). A pre-treatment plant could be installed to complement the Saline Effluent Treatment Plant if required. Treated water will be conveyed via waterline and discharged at Itivia Harbour through a



diffuser. Discharge will be done in accordance with MDMER applicable limits.

A Reverse Osmosis Plant is also in place to treat TDS from CP5. As per the Adaptive Management Plan, normal operation consists of discharging water from CP5 to Itivia Harbour with the waterline. If concentration are above TDS discharge criteria in Meliadine Lake and the waterline is not available, Reverse Osmosis Plant could be used.

Sewage water will be treated in the Sewage Treatment Plant (STP) for Biological Oxygen Demand, TSS and bacteria.

For Discovery, contact water will be conveyed via truck along the Discovery Road to the main site and managed accordingly.

### **2.3.7 Lakes and Ponds Dewatering, Fishout, and Reflooding**

Agnico Eagle will complete the fishout and dewatering of some ponds and lakes within the mine's footprint. This activity will require DFO authorization and/or MDMER Schedule 2 listing. In February 2022, Agnico Eagle initiated the Schedule 2 process with ECCC by submitting the Assessment of Alternatives for Mine Waste Disposal and continues to work through the process with ECCC. Agnico Eagle has also initiated discussions with DFO on fish offsetting for the Meliadine Mine Water Licence Amendment. As part of the 2014 FEIS, 77 lakes and ponds were to be impacted. A total of 33 of these were reviewed and included in DFO's 2015 Letter of Advice (DFO 2015).

Since the 2014 FEIS and DFO's 2015 Letter of Advice, the *Fisheries Act* was amended to include protection of small-bodied fish and their habitat in addition to protection of large-bodied fish and their habitat. As such, a request for review including waterbodies not already approved by the 2015 Letter of Advice will be submitted to DFO (Table 2.3-2) and waterbodies will be included in the regulatory amendment application to MDMER Schedule 2 (Table 2.3-2). Please refer to the Fish Offsetting Plan (Appendix F-22) for additional details.

**Table 2.3-2: Fish and Fish Habitat Lost through Project Infrastructure (Section 35)**

A Watershed		B Watershed		J Watershed	
Waterbody	Watercourse	Waterbody	Watercourse	Waterbody	Watercourse
A1	A1-A2	B5	B2-B4	J4	J4-J3
A2	A2-A3	B6	B5-B31	J5	
A2A	A3-A4	B19	B30-B31	J6	
A3	A4-A5	B22	B31-B32	J7	
A4	A5-A19	B30	B5-B33		
A5	A6-A7	B31	B5-B34		
A6	A6-A31	B32	B6-B30		
A7	A6-A44	B34	B36-B37		
A8	A7-A8	B36	B37-B38		
A19	A19-A20	B37	B4-B5		
A30	A50-A51	B38	B4-B22		
A31	A51-A52	B39	B4-B36		
A32	A5-A50	B59	B4-B39		
A33	A6-A50	B60	B4-B45		
A34	A49-A45	B61	B6-B7		
A35	A31-A32	B62	B7-B25		
A37	A6-A30	B63	B59-B60		
A44	A44-A45		B59-B62		
A45	A33-A34		B60-B61		
A49	A8-A37				
A50					
A51					
A53					

**Table 2.3-3: Fish and Fish Habitat Lost by Deposit of Mine Waste (Section 36)**

A Watershed		B Watershed		J Watershed	
Waterbody	Watercourse	Waterbody	Watercourse	Waterbody	Watercourse
A52	A52 Tributaries	B4	B7-B28a-B28	J2	J3-J2-J8
		B7		J3	J1-J8
		B25		J8	
		B28			
		B28a			

Following completion of mining, pits and underground will be flooded by a combination of natural runoff and contact water from the site. Flooding will commence at the beginning of closure.

During the closure and post-closure phases, the water management infrastructure will be decommissioned when the water quality monitoring results meet discharge criteria to allow water to passively flow to the natural environment.

### **2.3.8 Rankin Inlet Infrastructure – Fuel Storage, Port Facility, Laydown Area, and Marine Discharge**

There are no proposed changes for the Rankin Inlet Infrastructure. Containers, materials and equipment from barges will continue to be offloaded at the beach. A laydown yard area will continue to store incoming and outgoing containers, materials, and equipment pending truck delivery to the Meliadine Mine site by road.

The Meliadine Mine Water Licence Amendment will increase fuel storage to the approved assessed value of 80 ML.

Agnico Eagle will continue to adhere with the management practices outlined in the Spill Contingency Plan and the Itivia Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan (Appendix F-20 and Appendix F-11, respectively), and the Oil Pollution Emergency Plan.

Agnico Eagle completed an assessment to discharge to Itivia Harbour at 6,000 to 12,000 m<sup>3</sup>/day, and as an alternative, up to 20,000 m<sup>3</sup>/day in the 2020 FEIS Addendum (Agnico Eagle 2020a) and was approved by the Minister and is included in Project Certificate No.006, Amendment 002. This included a discharge of a blend of saline and surface contact water. There are no proposed changes to the discharge of water at Itivia Harbour and it is consistent with Term and Condition 25 per Project Certificate Amendment 002. Please refer to the Adaptive Management Plan for further details (Appendix F-1). In addition, Agnico Eagle will continue to adhere to the management practices outlined in the Ocean Discharge Monitoring Plan.

### **2.3.9 Waste (Domestic and Hazardous) Management**

#### **2.3.9.1 Landfill**

Construction debris and domestic non-hazardous waste generated on-site will continue to be disposed of in the landfill located in WRSF1, as approved under the Water Licence and no changes are anticipated. Agnico Eagle will continue to adhere to management practices in accordance with the Landfill and Waste Management Plan (Appendix F-14).

#### **2.3.9.2 Hazardous Waste**

Agnico Eagle does not propose changes to the approved handling and disposal of hazardous waste. Hazardous material is segregated at site and will continue to be shipped to an approved disposal location in the south. Hazardous management will be implemented in accordance with the approved Hazardous Material Management Plan (Appendix F-9).

**2.3.9.3 Incineration**

Agnico Eagle does not propose changes to the two approved incinerators under the Water Licence. Agnico Eagle will continue to adhere to management practices in accordance with the Incineration and Composter Waste Management Plan (Appendix F-10).

**2.3.9.4 Landfarm**

Agnico Eagle does not propose changes to the approved landfarm and will continue to adhere to the Landfarm Management Plan (Appendix F-13).

**2.3.10 Site Access, Access Roads, and Associated Water Crossings**

The AWAR and bypass road will continue to provide year-round access to the Meliadine Mine and no changes are proposed. The Rankin Inlet airstrip will continue to be used to transport workers and cargo.

The 2014 FEIS assessment included the evaluation of access roads to Discovery, Pump, F Zone, and Wesmeg deposits; however, these access roads were not constructed as only the Tiriganiaq deposit was advanced per the Type A Water Licence 2AM-MEL1631. Subsequently in August 2020, the Type A Water Licence Amendment (Agnico Eagle 2020b) included the construction of the access roads to Discovery, Pump, F Zone, and Wesmeg deposits as they are within the previously assessed footprint of the 2014 FEIS (Agnico Eagle 2014). This Minister approved this amendment on June 23, 2021. There are no changes proposed to these access roads as part of Meliadine Mine Water Licence Amendment.

Agnico Eagle will continue to adhere to the management practices outlined in the Roads Management Plan (Appendix F-19).

**2.3.11 Fuel and Explosives Facilities****2.3.11.1 On-site**

Agnico Eagle does not propose changes to the current on-site fuel storage under the Water Licence.

From Rankin Inlet, fuel will continue to be transported on a year-round basis by highway class tanker trucks to the Meliadine site via the bypass road and AWAR.

Agnico Eagle will continue to adhere to the management practices outlined in the Spill Contingency Plan and the Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan (Appendix F-20 and Appendix F-6, respectively).

**2.3.11.2 Explosives Production and Storage Sites**

The total quantity of explosives needed is estimated at about 12,000 tons of emulsion per year (full production years) and there is no change with Meliadine Water Licence Amendment.

The existing emulsion plant and storage magazine located near the Meliadine Mine will be maintained. All explosives will be shipped to the Meliadine Mine site by the annual sealift and will be packaged and

transported in accordance with Canadian regulations for the transport and storage of explosives. Wastewater generated by the emulsion plant will be re-used within the plant when feasible and any excess used water will be evaporated (remaining solids will be disposed in the same manner as unusable emulsion). Any unusable emulsion waste will be taken to the mine blast patterns for disposal down the boreholes.

Agnico Eagle will continue to adhere to explosive management and blasting practices outlined in the Ammonia Management Plan (Appendix F-2).

#### **2.3.12 Maintenance, Warehouse, Laydown**

There are no changes proposed for Meliadine Mine Water Licence Amendment activities. Primary maintenance will occur using existing infrastructure at Meliadine Mine. The vehicle wash bay is equipped with an oil/water separation unit to allow residual hydrocarbons to be removed from the dirty wash water generated by washing of the vehicles.

In addition, there are no changes proposed for the warehouse, which is designed to store small and medium-sized maintenance spares for the process plant, mine equipment, and plant support vehicles and equipment, including related consumables. A separate contained area inside the warehouse will be dedicated to the storage of special lubricants and greases. Large-sized process equipment spares will be stored in a dedicated laydown area on the east side of the process plant. The warehouse is also an open space area where numerous sea cans are stored.

### **2.4 Potential Future Developments**

As the NWB is aware, in 2022 Agnico Eagle applied to NIRB for an eleven-year extension to the Meliadine Mine, which was withdrawn on December 19, 2023. Agnico Eagle is not ruling out the potential future submission of a new application regarding a Meliadine extension project, in due time and should conditions be suitable.

### **2.5 Alternatives to Meliadine Mine**

Agnico Eagle is not seeking to permit any alternatives in this Water Licence Amendment application. As noted above, the requested Amendment aligns with the completion of water licensing required to carry out the activities already approved in the 2014 FEIS.

#### **2.5.1 Project No-Go Decision**

The Meliadine Mine Water Licence Amendment is the completion of the water licensing of the Meliadine Mine as already approved by the Project Certificate. There are no project changes proposed as part of the Amendment and therefore there is no “Project No Go” decision to be made as the Meliadine Mine has already commenced.

### 3 MITIGATION, MANAGEMENT, AND MONITORING PLANS

Table 3.1-1 provides a list of mitigation, monitoring, and management plans (i.e., operational plans) already in place for the Meliadine Mine which Agnico Eagle has updated to support the Meliadine Mine Water Licence Amendment.

**Table 3.1-1: List of Monitoring, Mitigation, and Management Plans for the Meliadine Mine Water Licence Amendment**

Management Plan Title for Meliadine Mine Water Licence Amendment	Current Plan Version	Application Appendix Reference
Adaptive Management Plan-v3_NWB	May 2022, v2	F-1
Ammonia Management Plan-v5_NWB	March 2023, v4	F-2
Aquatic Effects Monitoring Program Design Plan-v3_NWB	June 2016, v1	F-3
ARD-ML Testing Plan-v1_NWB	n/a	F-4
Borrow Pits and Quarries Management Plan-v7_NWB	March 2018, v6	F-5
Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan-v2_NWB	August 2019, v1	F-6
Dust Management Plan-v7_NWB	June 2020, v6	F-7
Environmental Management Protection Plan-v10_NWB	March 2019, v9	F-8
Hazardous Materials Management Plan-v6_NWB	January 2019, v5	F-9
Incineration Management Plan-v8_NWB	April 2022, v7	F-10
Itivia Bulk Fuel Storage Facility Management Plan-v2b_NWB	August 2021, v1	F-11
Interim Closure and Reclamation Plan 2024	2020	F-12
Landfarm Management Plan-v5_NWB	April 2022, v4	F-13
Landfill and Waste Management Plan-v9_NWB	April 2022, v8	F-14
Mine Waste Management Plan-v11_NWB	March 2023, v10	F-15
Ore Storage Management Plan-v6_NWB	March 2023, v5	F-16
Quality Assurance / Quality Control-v5_NWB	April 2022, v4	F-17
Risk Management and Emergency Response Plan includes Accident and Malfunctions-v5_NWB	April 2015, v4	F-18
Roads Management Plan-v9_NWB	December 2019, v8	F-19
Spill Contingency Plan-v14b_NWB	March 2023, v13	F-20
Water Management Plan-v14_NWB	March 2023, v13	F-21
Groundwater Management Plan-v10_NWB <sup>(b)</sup>	March 2023, v9	
Freshet Action Plan-v9_NWB <sup>(b)</sup>	March 2023, v8	
Sediment and Erosion Management Plan-v4_NWB <sup>(b)</sup>	March 2021, v3	
Water Quality and Flow Monitoring Plan-v3_NWB <sup>(b)</sup>	March 2020, v2	
Final Fish Offsetting Plan-v3_NWB	2014	F-22

(a) Currently there is no approved ARD-ML Testing Plan, as v1\_NWB was developed to support Meliadine Mine Water Licence Amendment Application.

(b) Plan is an appendix to the Water Management Plan.

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## 4 REFERENCES

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Agnico Eagle (Agnico Eagle Mines Limited). 2014. Final Environmental Impact Statement (FEIS) - Meliadine Gold Project, Nunavut from: [ftp://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/11MN034-Agnico Eagle%20MELIADINE/2-REVIEW/09-FINAL%20EIS/FEIS](ftp://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/11MN034-Agnico%20MELIADINE/2-REVIEW/09-FINAL%20EIS/FEIS).

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Agnico Eagle. 2020b. Meliadine Gold Mine – Type A Water Licence 2AM-MEL1631 Amendment. Submitted to Nunavut Water Board. August 2020.

Agnico Eagle. 2023a. Meliadine Gold Mine 2022 Annual Report. April 2023.

DFO (Fisheries and Oceans Canada). 2015. Summary of Discussions and Review of Fisheries Screening Assessment and Offsetting Plan – Meliadine Gold Project v. June 2015. File 11-HCAA-CA7-00014. November 27, 2015.

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