

Meliadine Extension
Water Licence 2AM-MEL1631
Amendment
Main Application Document

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EXECUTIVE SUMMARY

Agnico Eagle is proposing an extension (referred to as the Meliadine Extension) to the approved Meliadine Mine located approximately 25 kilometres north of Rankin Inlet, and 80 kilometres southwest of Chesterfield Inlet in the Kivalliq region of Nunavut. Nunavut Impact Review Board (NIRB) Project Certificate No.006 was issued in 2015 and the environmental assessment of the Meliadine Mine, resulting in the issuance of Project Certificate No.006 in 2015, 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.

The Meliadine Extension proposes to include open pit mining of F Zone, Wesmeg, Pump, and Discovery deposits and the associated infrastructure, underground mining and associated saline water management infrastructures at the Pump, F Zone, and Discovery deposits, development of a portal and associated infrastructures in the Tiriganiaq-Wolf mining area, construction and operation of a windfarm, and use of additional borrow pits and quarries. Approved infrastructure, such as the camp, mill, water management infrastructures, power plant, tailings storage facility, All-weather Access Road, freshwater intakes and treatment plants would continue to be used. No changes are proposed to the Rankin Inlet facilities. The life of the mine would be extended by an additional 11 years until 2043, closure will occur from 2044 to 2050, and post-closure from 2051 to 2060. As alternatives for the future, Agnico Eagle is also seeking approval for in-pit deposition of waste rock and tailings in exhausted open pits.

Since 2015, Agnico Eagle has continued to collect baseline and existing conditions data, which has been incorporated into the updated environmental assessment to identify and assess potential environmental and social effects resulting from the Meliadine Extension activities. Data collection included physical environment (e.g., terrain and soils, permafrost, geochemistry, noise, and surface water quantity and quality, marine water quality), biological environment (e.g., vegetation, terrestrial wildlife, birds and bird habitat, and fish and other aquatic organisms, and marine wildlife), and the socio-economic environment (e.g., Inuit Qaujimaningit, archaeology, and socio-economics). The results of the environmental assessment found that with mitigation, the Meliadine Extension will not cause long-term significant negative effects resulting from proposed construction, operations, and closure.

Agnico Eagle has developed 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 will be verified through monitoring and annual reporting. If unusual or unforeseen adverse environmental impacts are noticed, corrective action 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



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will be adjusted or new mitigation measures implemented if necessary.

The Meliadine Extension represents the continuation of economic benefits into years beyond the end of mining of the existing life of mine. The economic effects of the Meliadine Extension are substantial and are expected to be of significant benefit to the territory. The Meliadine Extension is expected to generate 205 new employment opportunities during the peak year of operation incremental to those created by the existing life of mine, and extend employment and incomes until 2043. The Meliadine Extension will continue to have positive effects in communities for an extended period, in terms of household incomes and associated access to nutritious food, recreation, education, and resources with which to conduct traditional activities. Similarly, the Meliadine Extension will continue support for community programming and educational initiatives, as well as IIBAs royalties and commitments.

Since operations of the Meliadine Mine began, Agnico Eagle has continued public consultation by annually meeting with the community and local stakeholders within the Kivalliq 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 consultation, Agnico Eagle has developed an operational culture that recognizes and respects these relevant interests in the planning and executing processes. Agnico Eagle has consulted with local stakeholders and regulators regarding ongoing operations of the Meliadine mine, as well as proposed Meliadine Extension. Consultation and regulatory engagement discussions were also considered as part of the alternatives assessment.

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 - F-21: Water Management Plan (includes Water Balance and Water Quality Model Update)
 - F-22: Fish Habitat Offsetting Plan



ACRONYMS

Acronym	Definition
Agnico Eagle	Agnico Eagle Mines Limited
ARD	Acid Rock Drainage
AWAR	All Weather Access Road
CIRNA	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 Application submitted in 2014 for the Meliadine Mine
2018 FEIS Addendum	2018 Final Environmental Impact Statement Addendum; when referring to the Addendum submitted in 2018 to truck saline effluent for discharge to sea
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
MAA	Multiple Accounts Analysis
MDMER	Metal and Diamond Mining Effluent Regulations
Meliadine Extension	Part of the Approved 2014 FEIS
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
NuPPAA	Nunavut Planning and Project Assessment Act
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



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

1 MELIAIDNE EXTENSION WATER LICENCE AMENDMENT

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.

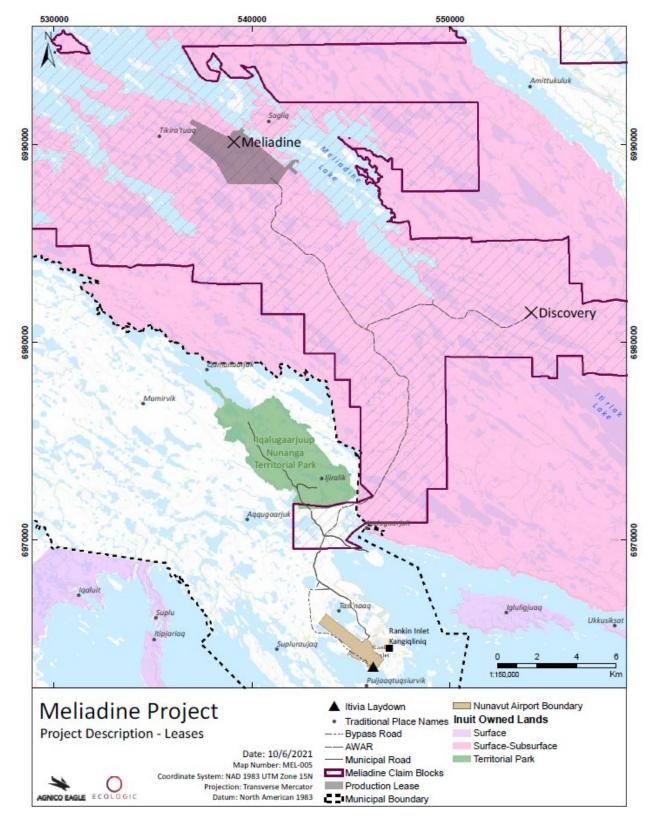
On May 19, 2016, the Minister approved the Type A Water Licence 2AM-MEL to begin construction and operation of the Meliadine Mine. At that time, Agnico Eagle only applied for the Type A Water Licence required to proceed with the Tiriganiaq deposit. As indicated at that time, amendments would be required to proceed with the other deposits.

Since the Project Certificate was issued, the Meliadine Mine has been subject to two 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.

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).

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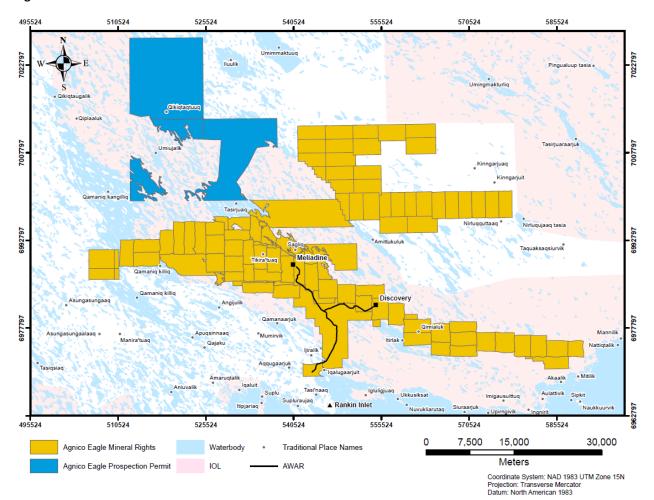
Figure 1.1-1: Site Location and Land Use Boundaries





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Figure 1.1-2: Site Location and Claim Blocks



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At this time, Agnico Eagle is seeking approvals and permits required to proceed with mining of the deposits that were not included in the original Water Licence Application and associated infrastructure and activities. Based on additional geological investigations conducted, lessons learned since the Nunavut Water Board (NWB) approval in 2016 and the Water Licence Amendment approval in 2020, and to continue developing the Meliadine Mine in a sustainable way, Agnico Eagle is seeking approval to add the following activities (collectively referred to as Meliadine Extension):

- open pit mining of F Zone, Wesmeg, Pump, and Discovery deposits and associated infrastructure;
- underground mining and associated saline water management infrastructures at the Pump, F Zone, and Discovery;
- development of a portal and associated infrastructures in the Tiriganiaq-Wolf area to improve access to and expand the existing Tiriganiaq underground mine;
- construction and operation of a windfarm;
- construction of access roads;
- use of additional borrow pits and quarries to replace depleted sources and build roads to the windfarm, Tiriganiaq-Wolf portal, Discovery, and other deposits;
- extension of the operation phase (i.e., mine life) by 11 years to 2043; and
- alternative for the future to use exhausted open pits to store tailings and waste rock.

As an extension to the existing operations at Meliadine Mine, Meliadine Extension is subject to an Environmental Assessment reconsideration with the NIRB as established by the *Nunavut Planning and Project Assessment Act* and the Water Licence authorities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. Agnico Eagle requests the NWB amend Water Licence 2AM-MEL1631 where appropriate to include mining of the extension components and associated infrastructure to account for the Meliadine Extension.

As mentioned previously, the vast majority of the components of the Meliadine Extension were previously assessed (2014) and approved (2015) by the NIRB. Monitoring required for the Meliadine Extension can continue to be addressed under the existing and robust monitoring and management plans described in the Type A Water Licence.

In support of the NWB 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.

Agnico Eagle notes that there have been several nomenclature updates for the Water Licence Amendment Application to correspond with the current practice of naming infrastructure on-site, as well as to have a sequential sequencing of infrastructures. Table 1.1-1 provides a summary of nomenclature updates applied throughout this Application.



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Table 1.1-1: Nomenclature Updates for Type A 2AM-MEL1631 Amendment

Current Nomenclature 2022 FEIS Addendum	New Nomenclature Type A 2AM-MEL1631 Amendment	Current Nomenclature 2022 FEIS Addendum	New Nomenclature Type A 2AM-MEL1631 Amendment
WRSF		Wesmeg	
WRSF1_Ext	WRSF1	D-B7 North	D-SP6 North
WRSF3_Ext	WRSF3	D-B7 West	D-SP6 West
WRSF9 ^(a)	WRSF8 and WRSF9	D-B4 North	D-CP8 North
Local Contact and Saline Po	onds	D-B4 West	D-CP8 West
B4	CP8	D-B4 South	D-CP8 South
В7	SP6	D-B4 East	D-CP8 East
Pump		SPD	SPD1
P5 Thermal Berm	Berm-P5	Berm D1	Berm-D1
Channel P1	Channel 11	CP11	CPD1
Channel P2	Channel 12	CP12	CPD2
Channel P3	Channel 13	CP12 Thermal Berm	Berm-CPD2
F Zone		Channel D1	Channel 17
CP10	CP7	Channel D2	Channel 18
CP10 Thermal Berm	Berm-CP7	Channel D3	Channel 19
F2 Thermal Berm	Berm-F2	Channel D4	Channel 20
Channel F1	Channel 14	Channel D5	Channel 21
Channel F2	Channel 15	Tiriganiaq-Wolf	
Channel F3	Channel 16	SPW	SP5
	•	SPW Thermal Berm	Berm-SP5

(a) Refer to Section 2.3.4 for further details.

1.2 Scope of Meliadine Extension Components and Activities

Table 1.2-1 provides a summary of Meliadine Extension components as a comparison to the approved 2014 FEIS and the 2018 and 2020 FEIS Addenda. Figure 1.2-1 and Figure 1.2-2 provides an overview of the Meliadine Extension site layout for the main site and Discovery deposit, respectfully. Figure 1.2-3 presents the general path of the waterline from the Discovery deposit to the saline water pond (SP6). The exact routing would be further refined and evaluated through the detailed design phase.

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Table 1.2-1: Definition of Scope

	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
Permits and	NIRB Project Certificate No.006, approval received in 2015	Reconsideration Project Certificate No.006 (anticipated – to be
Approvals	NIRB Project Certificate No.006, Amendment 001	determined by NIRB)
	NIRB Project Certificate No.006, Amendment 002	Amendment NWB Type A Water Licence 2AM-MEL1631
	NWB Type A Water Licence 2AM-MEL1631	Amendment to KivlA Production Lease KVPL11D01
	NWB Type A Water Licence 2AM-MEL1631 Emergency Amendment	Amendment to KivlA Quarry Permit KVCA07Q08
	NWB Type A Water Licence 2AM-MEL1631 Amendment 001	Amendment to KivlA Quarry Permit KVCA11Q01
	KivlA Production Lease KVPL11D01	DFO Authorization
	KivlA Quarry Permit KVCA07Q08	Schedule 2
	KivlA Quarry Permit KVCA11Q01	
	KivIA Road Lease KVRW11F02	
	Nunavut Airports Laydown Area Lease LE-03-320-0036	
	Nunavut Airports Bypass Road Lease 102893	
	GN-CGS Bypass Road Lease L-51808T	
	GN-CGS AWAR Road Lease L-51809T	
	CIRNAC Diffuser Lease 55K/16-42-2 Amendment (pending approval)	
	DFO Letter of Advice 11-HCAA-CA7-00014	
	Hamlet Development Permit for construction of saline effluent water pipeline	
	Nunavut Airports Letter of Authorization	
	Transport Canada (2019-600003) Approval under the Canadian Navigable	
	Waters Act (CNWA), for the placement of the diffusor	
	GN Authorization Letter for waterline routing at Apache Pass	
Inuit Agreements	Inuit Impact and Benefit Agreement	Subject to discussions with KivIA
Location / Land	The Meliadine Mine is located approximately 25 km north of Rankin Inlet, and	No change.
Tenure	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.	
Life of Mine	The Meliadine Mine resources will be extracted over an approximate 13-year	Extension activities will extend the Life of Mine by 11 years and postpone
	period from 2019 to 2032.	mine closure to 2043 instead of 2032.
		In total, the Meliadine Life of Mine will be 24 years.

	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
Site Access	Meliadine Mine is accessed by the All Weather Access Road (AWAR) and bypass road, and marine barging where applicable.	No change.
	Use Rankin Inlet's airstrip for transportation of "fly-in/fly-out" employees.	
Rankin Inlet Infrastructure – Fuel Storage, Port	A spud barge (floating dock) to serve as a dock for offloading containers, materials, and equipment from barges.	No changes to infrastructure or laydown area.
Facility, Laydown	A fuel tank farm to store up to 80 million litres of diesel fuel in 8 x 10-million litre tanks.	Increase of fuel tank farm to store up to 80 million litres of diesel fuel in 8 x 10-million litre tanks.
	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 saline effluent diffuser to allow discharge at Itivia Harbour.	
Domestic Waste Management	On-site facilities include: landfill incorporated within waste rock storage facility, incinerator, landfarms	New: Addition of landfarms at the Wesmeg and Discovery deposits. Change in soil reclamation criteria for landfarm soil. Inclusion of a landfill at the Discovery deposit located within the WRSF. Inclusion of a second smaller capacity incinerator to accommodate increased number of workers and support during planned maintenance on the primary incinerator. Addition of a composter to divert away organic matter from the incinerator.
Hazardous Waste Management	Material is segregated at site and shipped to an approved disposal location in the south.	No change.
Power	Power plant is diesel-fuel generated.	No change to power plant.
		New: Construction of a windfarm composed of 11 turbines. The purpose is to provide general power, reduce reliance on diesel fuel, and reduce Greenhouse Gas emissions. This will provide a sustainable, longterm, "green" energy supply to the Life of Mine during operations and closure.

	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
Mine Infrastructure	Open pit mining assessed (NIRB): Tiriganiaq, Wesmeg, Pump, F Zone, and Discovery. Although all five pits were assessed, only Tiriganiaq has advanced mining activity. Underground mining assessed: Tiriganiaq.	New: Open pit mining at Wesmeg, Pump, F Zone, and Discovery. Extension of existing deposit; Tiriganiaq-Wolf (underground mining). Underground mining at Pump, F Zone, and Discovery.
	Phase 1 included the assessment of access roads to Discovery, Pump, F Zone, and Wes-Normeg deposits; and was included with the Type A Water Licence Amendment as the access roads are within the previously assessed footprint of the FEIS.	No change except for additional small (i.e., approx. 10 km) access roads to the Tiriganiaq-Wolf area and to the windfarm.
Ore Processing	Ore processing, handling, treatment, and disposal will continue at the Meliadine Mill and tailings will be stored in the footprint of the existing approved Tailings Storage Facility. Operations for the approved Tailings Storage Facility is addressed under Type A Water Licence 2AM-MEL1631.	No change.
	Mill rate of approximately 8,500 tonnes per day.	No change.
Tailings	Final tailings will be transported directly to an impoundment area as a pumped slurry through a pipeline. Although slurry was assessed in the original application (FEIS 2014), the Type A Water Licence issued in 2016 includes dry stack tailings.	No change to tailings management method. Note the dry stack Tailings Storage Facility area envisioned for Meliadine Extension will likely be smaller than slurry Tailings Storage Facility considered in the original application.
		New alternative: Use of pits to store tailings as an option/alternative to the current waste management strategy.
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 adjacent to the pits and underground portals. Ore will then be brought to the approved ore stockpiles located near the crusher.

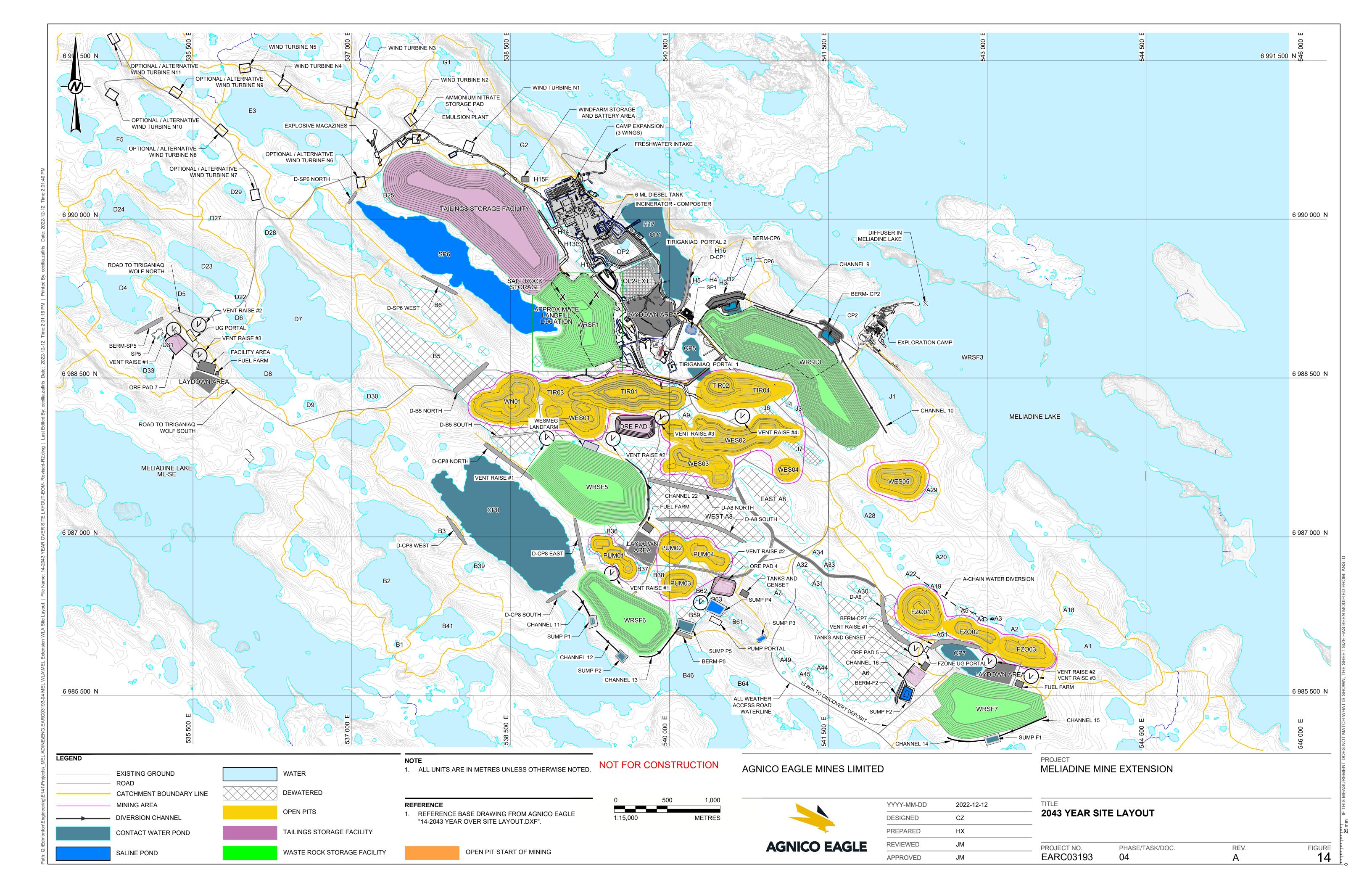
	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
Waste Rock	 Waste rock and overburden generated will be placed in one of five Waste Rock Storage Facilities (WRSFs) assessed: B7 WRSF (East, South and West) located in a U-shape around the Tailings Storage Facility, north of the Tiriganiaq deposit (WRSF1 and WRSF2 as approved under Water Licence 2AM-MEL1631). WRSF3 approved under Water Licence 2AM-MEL1631 and located east of Tiriganiaq Pit 2. B4 WRSF located west of the Wesmeg and Pump deposits. A45 WRSF located south of the F Zone deposit. 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. 	Waste rock and overburden generated from open pit activities will be placed in one of the WRSFs as originally assessed. Overall, it is anticipated the total WRSF surface area will be half the size of the original application. The WRSFS are: • WRSF1 • WRSF3 • WRSF5 • WRSF6 • WRSF7 • WRSF8 • WRSF9 New: • Underground waste rock will be temporarily stored in salt waste rock piles before being brought back underground when stoping is completed. F Zone, Pump, Tiriganiaq-Wolf, and Discovery will have associated temporary salt rock piles.
		New alternative: Use of open pits to store waste rock as an option/alternative to the current waste management strategy.
Freshwater	Freshwater sourced from Meliadine Lake.	No change to sources of water used.
	Freshwater for dust suppression sourced from small lakes and ponds close to the road and/or Meliadine River.	New: Increase to freshwater consumption requirement.
	Freshwater needs assessed at 2,168,100 m³/year (including a 25% contingency).	
Water Management	Infrastructures: 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.	No material changes. Additional water management structures will be built as needed to manage water from areas within the mine site.

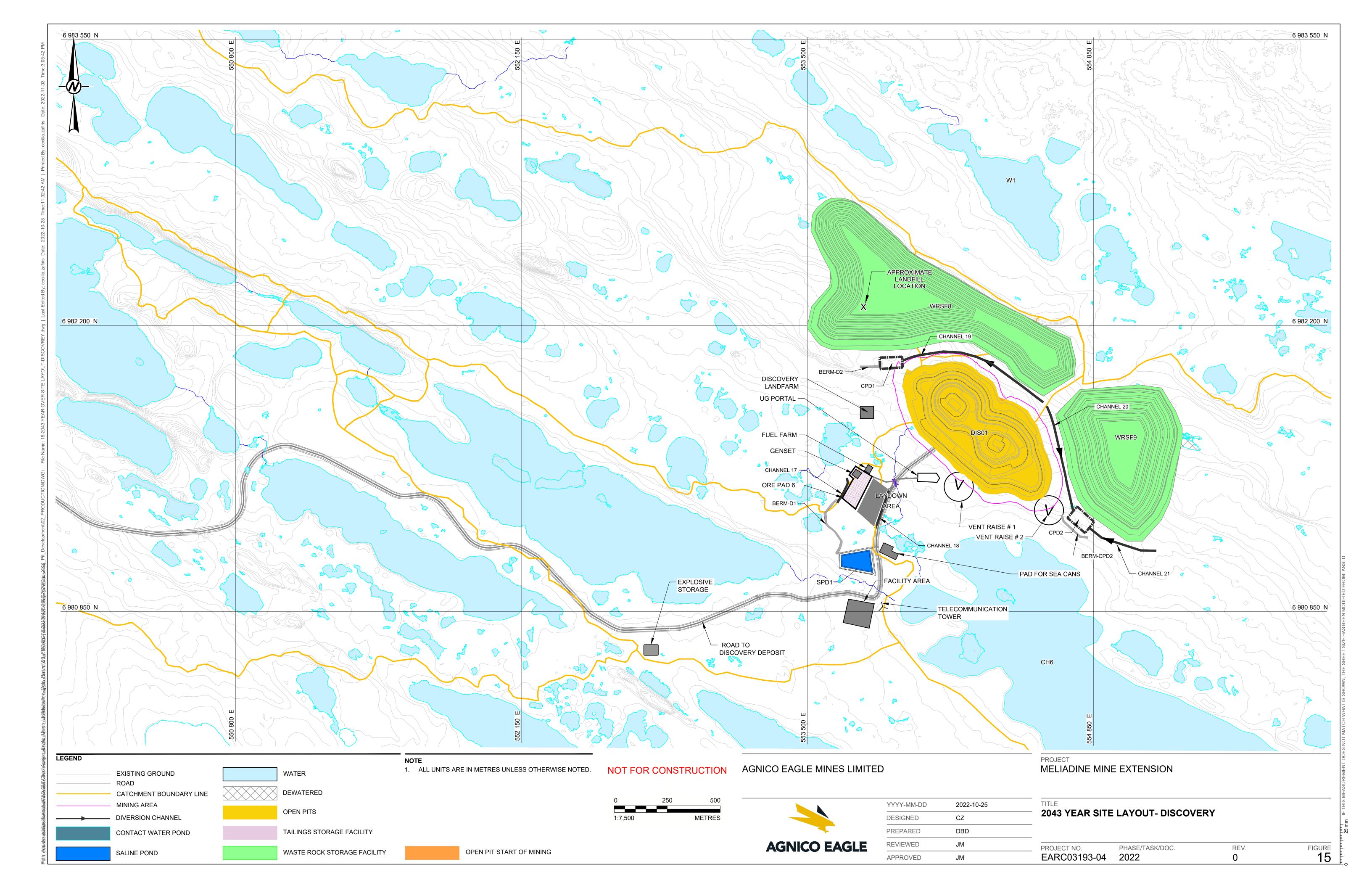


	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
	Contact Water: Contact water originating from developed areas (e.g., pits, WRSF, TSF) will be intercepted and conveyed to the various collection ponds for temporary storage. All contact water will eventually be conveyed to Collection Pond 1 (CP1). 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.	Surface Contact and Saline Water: No change to overall water management strategy. Surface contact water and saline water from the underground mines will be separated. Water management at site will be optimized by using the waterline to minimize discharge to Meliadine Lake. Water collected at the Discovery site will be conveyed through a waterline to the SETP-WTC, where it will be treated and discharged into the receiving environment (Itivia Harbour) using the approved waterline.
	Saline Water: Use of saline ponds to collect underground water. After treatment, water is conveyed to Itivia Harbour for discharge into the receiving environment.	Addition of saline ponds at F Zone, Tiriganiaq-Wolf, Pump, and Discovery to collect water originating from underground mine activities. 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).
	Treatment: 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.	Capacity of the Sewage Treatment Plant will be increased to accommodate increased number of employees.
Borrow Pits and Quarries	Borrow pit (gravel material) and quarry material (blasted rock material) needed to build the following infrastructure, but not restricted to: • AWAR • Haul/service roads • Storage/operation pad(s)	As additional material will be required for the access roads, and as there is a need for additional material to meet current requirements, new borrow pits/quarries are required.
	 Quarries and borrow pit selection consist of: Quarries: R5, R14, and R19 Borrow Pits: B5, B6A, B6West, B10, B11A, B12, B13, and B15, Meliadine esker, Tiriganiaq esker, Wesmeg esker, and Emulsion esker Most of these sources have been depleted and areas reclaimed. 	
	Material from the open pits will also be used for construction.	



	Meliadine Mine – Phase 1&2	Meliadine Extension Water Licence Amendment
On-site Fuel	Approximately 122 million liters of diesel fuel per year for use at the Meliadine Mine.	No change to overall fuel needs at the Meliadine Mine is required.
	 Current fuel tanks on site: One 6 ML tank, one 3 ML tank and a number of storage tanks with capacities varying between 1,000 and 250,000 L. Total diesel fuel storage capacity is in the range of 9.7 ML. 	 Addition of fuel storage tanks at Pump, F Zone, Tiriganiaq-Wolf, and Discovery will be needed. Each site will consist of four 75,000 L and one 50,000 L tanks for a total of 350,000 L per site. A new 6,000,000 L tank will be added adjacent to the existing industrial pad fuel tank. Combined total of 7,400,000 L added to what has already been approved.
		Total diesel fuel storage capacity (Approved and Extension) would be in the range of 17.1 ML.
Marine Shipping	A total of 4-6 vessels annually deliver dry goods, and 4 to 6 tankers annually deliver diesel fuel for the Meliadine Mine. All shipping is carried out during the open water season (typically from early August to late October) and follows established shipping lanes that are presently in use for the annual sealift to Rankin Inlet and other communities. There is no ice breaking to extend the shipping season. Ships are not serviced in Rankin Inlet and arrive with enough fuel for the return voyage south.	No change.
Closure	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.	No change (note if option to store waste rock and tailings is exercised in future, this would be addressed as part of the Closure Plan).
Employment	The total workforce during operations was assessed at 700 employees.	The total workforce during operations will be expanded to a maximum of 905 employees. Additional employment at Meliadine will gradually ramp up from 2024 to 2031. 2031 will be the peak employment year due to mining activities occurring simultaneously at various deposits. Employment will remain above the 2014 FEIS workforce until 2040 and will then gradually decrease until closure.
Camp	A total of 680 beds was proposed for the camp complex.	Three wings will be added to accommodate the increase in the number of employees.





INSET SP5 Vent Raise 2 Ore Pad 7 Vent Raise 3 Fuel Farm SEE INSET Meliadine Extension 1:60.000 Meliadine Extension Site Layout - Discovery Waterline Date: 12/19/2022 Meliadine Extension NWB Layout Waterline (Discovery to Saline Pond 6 (SP6)) Proposed Routing to Saline Pond 6 (SP6) Map Number: MEL-044 Coordinate System: NAD 1983 UTM Zone 15N NIRB Approved Project Footprint Projection: Transverse Mercator Meliadine Extension Footprint Datum: North American 1983 Catchment Boundary Line

Figure 1.2-3: Meliadine Extension Site Layout – Discovery Waterline Proposed Routing to Saline Pond 6 (SP6)



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 2021 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 <u>Agnico Eagle's Sustainable Development Policy</u>: 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 (Agnico Eagle 2021a) 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 April 2022 for Meliadine Extension (Appendix B). All activities for the Meliadine Extension Proposal are within the same area.

1.4.4 Land Tenure

Consistent with the Meliadine Mine, Meliadine Extension is primarily situated on Inuit Owned Lands (see Figure 1.1-1) and administered by the KivlA (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). As part of Meliadine Extension activities, Agnico Eagle currently anticipates potential amendments with the KivlA to the current Production Lease, as well as to the existing Quarry Permits (KVCA07Q08 and KVCA11Q01).

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.



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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)			
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 currently anticipates it will need the following amendments or new approvals for Meliadine Extension activities:

- New Fisheries and Oceans' (DFO) Authorization. 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, but Agnico Eagle
 had not commenced the Schedule 2 process following NIRB Project Certificate No.006 issuance.
 Discussions for Meliadine Extensions are underway with ECCC.

Agnico Eagle believes the partially coordinated approach for the review of the NIRB Addendum to Project Certificate No.006 and NWB Type A Water Licence 2AM-MEL1631 Amendment is the most efficient and effective review process for the Meliadine Extension, given that most of the changes proposed are primarily within the jurisdiction of the NWB. Agnico Eagle submitted the FEIS Addendum Application to the NIRB in July 2022 and is currently under the NIRB review process.

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, where conditions are applicable.

As outlined in the 2021 Annual Report (Section 10.2 of Agnico Eagle 2022a), no Action Required or Non-compliances were identified by the authorities who conducted inspections in 2021.



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1.6 Analysis of Need and Purpose of Meliadine Extension

As part of the 2014 FEIS, it was presented that 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. Incorporating lessons learned during construction and the first years of operation, resource, and project assessment have been refined. In parallel, the resources have continued to be explored through ongoing exploration activities and geological studies. Through these, economic extensions, mainly underground, have furthered the Life of Mine (LOM). Other components included in Meliadine Extension are a windfarm to address NIRB Project Certificate No.006 T&C 9.

The continued mine life of Meliadine Extension 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. Extending the LOM will ensure employment stability and continued business opportunities. Skills learned will continue to be used for an additional decade.

Agnico Eagle will continue exploration activities with the objective to extend the LOM beyond 2043. Inuit employment opportunities will be maximized throughout the LOM.

Meliadine Extension improves the overall project by adding jobs and by expanding jobs and business opportunities with the addition of 11 years to the LOM.

1.7 Consultation and Engagement

The NWB requires proponents to provide a summary of any consultation meetings, including when the meetings were held, where, and with whom. Proponents are also to provide a summary of the results of consultation meetings including a list of concerns expressed and measures proposed to address concerns.

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. When the pandemic made these existing communication methods more challenging, by the instauration of travel restrictions, public health guidelines and southern employees required to quarantines, innovative thinking led the way towards identifying an alternative option to reach a broad audience during those changing times.



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Agnico Eagle created a Virtual Meeting Room (VMR) for the Meliadine Extension to foster an open, transparent, and respectful dialogue with all communities of interest, which went live to the public on June 28, 2021 (https://meliadinevmr.agnicoeagle.com/). The website, which is completely accessible in both English and Inuktitut, allows meaningful information sharing, as well as to get feedback. Information is available on the Meliadine Extension, how we have engaged with the communities, our plans for water management, the protective measures that we implemented to protect aquatic life, and our efforts to introduce TK and IQ in our operations.

The VMR was used for public consultation on the Meliadine Extension via public meetings and Focus Group meetings between June 18 and June 25, 2021. This innovative way of engaging allows participants to have access to additional information after the engagement sessions and to provide additional comments, answer surveys or simply browse through the content once again at their own pace. The VMR will be used as part of engagement activities to communicate, gather feedback, and provide updates on the Meliadine Extension, in addition to in-person meetings, and will be continually updated and accessible 24/7.

Agnico Eagle also hosted various public meetings, focus groups, and meetings with stakeholders to provide the communities with Meliadine Extension information and answer their questions, and identify their concerns and feedback with regards to the Meliadine Extension. The extensive list of meetings and comments and questions received for the consultations are provided in Appendix C.

Further details on incorporation of IQ, TK, consultation, and engagement for the Meliadine Extension are provided in Section 3 of the Meliadine Extension FEIS Addendum.



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2 MELIADINE EXTENSION COMPONENTS AND ACTIVITIES

2.1 Meliadine Extension Design

The Meliadine Extension primarily consists of amending the Water Licence 2AM-MEL1631 to include the mining of Pump, F Zone, Wesmeg, and Discovery deposits that were previously assessed and approved for open pit mining activities by NIRB. Based on the additional geological information collected since the Water Licence approval, Agnico Eagle refined the open pit and underground mine designs and reviewed the infrastructure required to support mining activities. As part of this Application, Agnico Eagle is proposing the following changes:

- open pit mining of F Zone, Wesmeg, Pump, and Discovery deposits and associated infrastructure;
- underground mining and associated saline water management infrastructures at the Pump, F Zone, and Discovery;
- development of a portal and associated infrastructures in the Tiriganiaq-Wolf area to improve access to and expand the existing Tiriganiaq underground mine;
- construction and operation of a windfarm;
- construction of access roads;
- use of additional borrow pits and quarries to replace depleted sources and build a road to the windfarm, Tiriganiaq-Wolf portal, road to Discovery and other deposits;
- extension of the operation phase (i.e., mine life) by 11 years to 2043; and
- alternative for the future to use exhausted open pits to store tailings and waste rock.

Updates to the mine plan triggers inclusion of water and waste management infrastructures, which is reviewed as part of the Water Licence Amendment process. As part of Meliadine Extension, 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 Meliadine Extension activities, Agnico Eagle has worked to optimize the overall footprint of its proposed operation and its associated facilities. Meliadine Extension design considerations are provided in Appendix D, including the following:

- Prefeasibility Level Design for Water Management Infrastructures for Operation Phase, Meliadine Extension (Appendix D-1)
- Stability Analyses for the Proposed Tailings Storage Facility, Meliadine Extension (Appendix D-2)
- Stability Evaluation of Waste Rock Storage Facilities, Meliadine Extension (Appendix D-3)

The most current concepts have been selected for Meliadine Extension 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.

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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 Meliadine Extension Water Licence Amendment are provided in Appendix E, including the following:

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

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

2.2 Meliadine Extension Phases

The initial construction phase for the Meliadine Extension will commence in 2024 upon reception of permits and approvals. Construction will continue through the operation phase to prepare for mining of new deposits. The mine development sequence and life of mine summary for all deposits are presented in Table 2.2-1 and Table 2.2-2.

The Meliadine Mine was scheduled to be completed in 2032. With the Meliadine Extension, it is proposed to extend the LOM (i.e., operation phase) until 2043. Agnico Eagle will continue exploration activities with the objective to extend mine life beyond 2043.

Closure will extend for 7 years as pits are being re-flooded, from 2044 to 2050. 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 2051 to 2060. For additional details regarding closure and post-closure, please refer to the Interim Closure and Reclamation Plan (Appendix F-12).



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Table 2.2-1: Meliadine Extension Mine Development Sequence

Name									
Construction Infrastructure Dewatering & Fish out Deposit Depo									
Construction Infrastructure Dewatering & Fish out Deposit Open Pit									
nfrastructure Dewatering & Fish out Tiriganiaq Deposit Open Pit									
Dewatering & Fish out Ciriganiaq Deposit Open Pit									
Tiriganiaq Deposit Open Pit									
Open Pit									
Inderground									
Underground I I I I I I I I I I I I I I I I I I I									
Wesmeg Deposit									
Open Pit									
Pump Deposit									
Open Pit									
Underground Index									
F Zone Deposit									
Open Pit									
Underground Underg									
Discovery Deposit									
Open Pit									
Underground Underg									
Tiriganiaq-Wolf Mining Area									
Underground Underg									
Closure									
nfrastructure									
flooding									
Post-Closure Post-Closure									
Monitoring Monitoring									

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

Year	Total Ore Open Pit (t)	Total Waste Rock Open Pit (t)	Total Ore Underground (t)	Total Waste Rock Underground (t)	Total Saline WRSF (t)	Total Tailings Stored in TSF (t)	Total Overburden (t)
2020	201,105	2,424,133	1,722,231	832,179	-	857,637	693,226
2021	209,456	1,506,696	1,853,757	708,224	-	1,043,775	3,349,130
2022	805,698	2,593,910	1,795,949	668,700	-	1,036,149	1,221,917
2023	522,170	4,268,265	1,784,634	791,648	-	1,258,243	1,194,525
2024	1,162,317	4,680,005	1,914,255	836,442	-	1,439,030	623,602
2025	1,335,751	5,333,152	1,875,054	872,577	113,528	1,446,644	787,056
2026	1,682,088	3,062,755	1,830,249	979,387	161,238	2,354,955	2,225,166
2027	869,780	6,916,269	2,021,221	1,174,276	389,231	2,334,117	2,087,886
2028	777,060	9,286,915	2,509,795	1,125,163	55,128	2,273,527	1,918,261
2029	919,527	10,669,542	2,621,861	1,067,906	(191,571)	2,319,689	350,370
2030	1,227,191	8,313,774	2,304,465	1,209,051	178,681	2,339,819	2,432,426
2031	788,971	9,470,241	2,193,953	1,108,828	171,541	2,290,915	1,716,222
2032	741,908	9,583,821	2,391,155	1,006,758	111,522	2,338,642	1,655,221
2033	613,935	10,383,475	2,226,433	677,785	215,335	2,333,300	989,498
2034	793,675	11,206,325	2,167,472	512,589	112,344	2,350,769	-
2035	695,610	8,978,764	2,265,949	601,856	171,049	2,361,679	2,217,665
2036	1,479,607	8,636,056	2,479,570	521,334	58,783	2,366,867	1,818,870
2037	567,985	5,949,811	2,390,134	587,040	(111,623)	2,541,827	5,373,987
2038	1,252,010	10,728,043	1,335,433	297,488	(560,472)	3,102,500	19,947
2039	1,676,609	10,323,391	1,171,605	96,872	(523,102)	3,102,500	-
2040	1,727,495	7,379,533	546,805	153,786	-	3,102,500	2,790,454
2041	670,280	10,152,255	540,649	41,862	-	3,102,500	1,171,814
2042	1,098,670	10,791,759	419,008	-	-	3,093,632	-
2043	631,021	1,936,032	176,847	-	-	808,256	-
Total (t)	22,449,918	174,574,923	42,538,482	15,871,751	351,609	51,599,471	34,637,243
Total (Mt)	22.4	174.6	42.5	15.9	1.1	51.6	34.6
2014 FEIS Total (Mt)	27.0	373.3	11.1	5.3	0		57.0

2.3 Detailed Meliadine Extension Description

The facilities already included in the scope of permit under Type A Water Licence 2AM-MEL1631 include: a power plant, mill, camp, heli-pad, maintenance shop, laydown areas, Meliadine and Rankin Inlet tank farm, Waste Rock Storage Facilities (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



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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 underground mines 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.

Mining method includes the segregation of waste rocks coming from the underground mines and open pits. Dedicated waste rock facilities will be built to facilitate management of material coming from underground portions to keep it separate from open pit materials.

The combined total tonnages of all deposits throughout the LOM for Meliadine Extension include:

- 65 Mt of ore (22.4 Mt open pit and 42.5 Mt underground)
- 191.6 Mt of waste rock (174.6 Mt open pit, 15.9 Mt underground, and 1.1 Mt saline WRSF)
- 34.6 Mt of overburden

In comparison, the 2014 FEIS included the following:

- 38 Mt of ore (27 Mt open pit and 11 Mt underground)
- 378.6 Mt of waste rock (373.3 open pit, 5.3 Mt underground)
- 57 Mt of overburden

Table 2.2-2 provides a summary of the total tonnages of all the deposits over the LOM, as well as a comparison to the totals provided in the 2014 FEIS. The mining plan, including the sequence of development of the different deposits, is provided in more detail in Section 2.2. A summary is provided in Table 2.2-1.

2.3.2 Ore Stockpile Facilities and Processing

The upper milling rate is not expected to change from the current 8,500 tpd rate but will extend in time until the new proposed end of LOM.

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. For Meliadine Extension, this area will continue to be used.

For this Water Licence Amendment Application, there will be new temporary ore stockpiles adjacent to the pits and portals at Pump, F Zone, Tiriganiaq-Wolf, and Discovery (Figure 1.2-1 and Figure 1.2-2). 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). Ore will be segregated by provenance and by ore grade. 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 Attenuation 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

As per Table 2.2-2, amount of overburden and waste rock to be generated by open pit and underground mining activities during the Meliadine Extension mine life are within the scope of the 2014 FEIS.

Waste rock and overburden generated from open pits activities will be placed in one of the WRSF assessed and presented in Table 2.3-1. Overall, the total WRSF surface area has been further optimized for the Meliadine Extension Water Licence Amendment and an overview of the WRSF refinements are provided in Table 2.3-1. Further details on the design are provided in Appendix D-3.

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.



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Table 2.3-1: Waste Rock Storage Facilities

Waste Rock Storage Facility	Details Provided in Meliadine Extension FEIS Addendum	Meliadine Extension Water Licence Amendment Optimization
WRSF1	Located within the footprint of the approved B7 WRSF. The area is within the 2014 FEIS footprint.	Modified WRSF1 to account for base case water management plan (channel between SP6) to Tiriganiaq Pit lake.
WRSF3	WRSF3 is increased to the south with the addition of WRSF3_ext.	WRSF3 footprint modified to accommodate waste rock from WRSF1.
WRSF5	Located near approved B4 WRSF. The area is within the 2014 FEIS footprint.	Footprint of WRSF5 revised to keep the toe at least 31 m away from the original high-water mark of Lake A8 as per Water Licence Part D, Item 15. The revised WRSF5 has volume of 28.0 Mm ³ .
WRSF6	Located within the footprint of approved B4 WRSF. The area is within the 2014 FEIS footprint.	WRSF6 footprint was modified to accommodate WRSF1 tonnage.
WRSF7	Located within the footprint of approved A45 WRSF. The area is within the 2014 FEIS footprint.	WRSF7 footprint was slightly modified to accommodate the WRSF1 tonnages.
WRSF8	n/a	
WRSF9	Located northwest of the Discovery pit. The location has changed from that presented in the 2014 FEIS, but the area is smaller than in the 2014 FEIS.	WRSF9 footprint has been modified to stay outside of the Lake W1 watershed. The WRSF will be separated into two; WRSF8 and WRSF9.

Discovery WRSFs (i.e., WRSF8 and WRSF9) contain 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 within each pile 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.

Waste rock generated from the underground mining activities will be separated from the open pit waste rock and stored in a separate WRSF. The underground waste rock will be temporarily stored in a saline WRSF on surface before being brought back underground throughout the mine life. All saline WRSFs will be removed at closure. The four saline WRSF are:

- Saline WRSF 1 (Pump)
- Saline WRSF 2 (F Zone)
- Saline WRSF 3 (Discovery)
- Saline WRSF 4 (Tiriganiaq-Wolf)

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. The water management strategy is anticipated based on the current state of the Meliadine Mine, Meliadine Extension, and related Water Licence and amendments. Water management proposed for Meliadine Extension is consistent with approved approaches.

The general water management strategy is 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 per Term and Condition 25 per Project Certificate Amendment 002; however, the opportunity to minimize discharge to Meliadine Lake can only occur if the waterline is operational and conditions at the site are within the Normal Operating Conditions as defined in the Adaptive Management Plan (Appendix F-1).
- 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 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, Tiriganiaq-Wolf, Pump, and Discovery will include saline and contact water collection ponds, dikes, berms, culverts, channels, and sumps. For further information refer to the Prefeasibility Level 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

Freshwater and potable water use will extend for operations until 2043 and Meliadine Lake will continue to be the intake. Freshwater for dust suppression will continue to be sourced from small lakes and ponds proximal to the road and/or to Meliadine River.

Due to increased tonnage and increased camp capacity more freshwater consumption than originally



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planned is required. The current Water Licence annual consumption is 742,000 m³/year for operations.

Table 2.3-2 provides the updated freshwater consumption needs. Agnico Eagle is requesting an increase to a total of 1,116,112 m³/year for operations of freshwater consumption.

In the 2014 FEIS, the total freshwater needs was assessed at 2,168,100 m³/year (Agnico Eagle 2014, Volume 2, Table 2-27). Based on this, the additional freshwater volume requested for the Meliadine Extension Water Licence Amendment is still below the range that was assessed in the 2014 FEIS.

Table 2.3-2: Operations Freshwater Consumption Needs

lkama	2014 FEIS		Water Licence	Meliadine Extension
Items	provided in m³/h	converted to m³/yr	m³/yr	m³/yr
Camp Use	5.67	49,669	50,000	82,580
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
Underground Mining				3,600
Discovery Installation				5,500
Pit Production	1.5	12,000	N/A	
Sub-total	198	1,620,397	618,964	930,093
Contingency	25%		20%	20%
Total	247.5	2,168,100	742,757 ^(a)	1,116,112

⁽a) Type A Water Licence 2AM-1631 Amendment approval was rounded up to 742,000 m³/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 (NH3) 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.



For Discovery, contact water will be conveyed via the waterline along the Discovery Road to SP6 and discharged at Itivia Harbour using the existing waterline.

Sewage water will be treated in the Sewage Treatment Plant (STP) for Biological Oxygen Demand, TSS and bacteria prior to be conveyed to CP1. An additional plant will be required to accommodate the increased number of employees for Meliadine Extension.

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 Meliadine Extension. 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 2.3-3) and waterbodies will be included in the regulatory amendment application to MDMER Schedule 2 (Table 2.3-4). Please refer to the Fish Offsetting Plan (Appendix F-22) for additional details.

Table 2.3-3: Fish and Fish Habitat Lost through Project Infrastructure (Section 35)

A Watershed		В	Watershed	H Watershed	
Pond A2	Pond A7	Pond A37	Pond B30	Pond B36	Pond H15e
Pond A2A	Lake A8	Pond A44	Pond B31	Pond B37	I Watershed
Pond A3	Pond A19	Pond A45	Lake B5	Pond B38	Pond I1
Pond A4	Pond A32	Pond A49	Lake B6	Lake B59	J Watershed
Pond A5	Pond A34	Pond A50	Pond B19	Pond B62	Pond J4
Lake A6	Pond A35	Pond A51	Pond B22	Pond B63	Pond J5
		Pond A53	Pond B39		Pond J6
					Pond J7

Table 2.3-4: Fish and Fish Habitat Lost by Deposit of Mine Waste (Section 36)

A Watershed	B Wat	ershed	D Watershed	J Watershed
Pond A52	Lake B4	Pond B32	Pond D31	Pond J2
	Lake B7	Lake B60		Pond J3
	Pond B25	Pond B61		Pond J8
	Lake B34			



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Following completion of mining, the underground mines (Wesmeg, Pump, F Zone, Tiriganiaq-Wolf, and Discovery) and the pits (Wesmeg, Pump, F Zone, Discovery) will be flooded by a combination of natural runoff and contact water from the site. Flooding will commence at the beginning of closure and will last 7 years.

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 Extension site by road. For Meliadine Extension Amendment will increase to the assessed upper fuel storage limit of 80 ML.

Agnico Eagle will continue to adhere with 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) and the Oil Pollution Emergency Plan.

Agnico Eagle completed an assessment to discharge to Itivia Harbour at 6,000 to 12,000 m³/day, and as an alternative, up to 20,000 m³/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. Subsequently, as part of Meliadine Extension, Agnico Eagle completed an assessment to continue discharge at a rate of 20,000 m³/d through the waterline until 2043. There are no proposed changes to the discharge of water at Itivia Harbour for Meliadine Extension 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 Type A Water Licence and no changes are anticipated. A landfill will also be built within the Discovery WRSF (i.e., WRSF8). An exact waste volume is not a critical parameter in the design because of the flexibility of design to accommodate extensions (larger to accept more waste) or contractions (smaller to accept less waste) within WRSF8. Agnico Eagle will continue to adhere to management practices in accordance with the Landfill and Waste Management Plan (Appendix F-14).



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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

The inclusion of a second smaller capacity incinerator is proposed as part of the Water Licence Amendment to accommodate increased number of workers and support during planned maintenance on the primary incinerator. The incinerators are in their own buildings on the south end of the industrial pad, down-wind of other mine infrastructure. 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 Composter

Agnico Eagle is proposing to add one composter at the Meliadine site to improve waste management. Organic material including food, paper and cardboard, and dead animal (small sized only) would be diverted from the incinerator to the composter. The composter will be located in the same building as the incinerator. Further details are provided in the Incinerator and Composter Waste Management Plan (Appendix F-10).

2.3.9.5 Landfarm

Agnico Eagle does not propose changes to the three currently approved landfarms; however, two additional landfarms will be added at the Wesmeg and Discovery deposits (Figure 1.2-1 and Figure 1.2-2) which will also be designed to receive soils, rock, snow, and ice contaminated with petroleum hydrocarbons (includes light hydrocarbons such as diesel and gasoline). The locations of the landfarms were chosen to minimize the footprint of the site and the transport distance of contaminated material from potential spill locations.

Agnico Eagle is also proposing to change the soil remediation criteria used for the Abandoned Military Site Reclamation Protocol guidelines for the protection of human health and the management limit as they are more appropriate for the Meliadine site, and are discussed in 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



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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 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 Extension.

However, new access roads to the Tiriganiaq-Wolf mining area and to wind turbine locations will be constructed. It is anticipated that two roads will be constructed to the Tiriganiaq-Wolf deposit, one to the north of Lake D7 and one to the south. The road north of Lake D7 will have a few watercourse crossings (D6 to D22, and D6 to D5). The access roads will be constructed using waste rock or aggregates from quarry and borrow pit sites, and top-dressed with esker, quarry material or crushed open pit waste rock (see Section 2.3.12).

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

2.3.11 Marine Shipping

There are no changes to the shipping methods and practices. All shipping is carried out during the open water season (typically from early August to late October) and follows established shipping lanes that are presently in use for the annual sealift to Rankin Inlet and other communities. There is no ice breaking to extend the shipping season. Ships are not serviced in Rankin Inlet and arrive with enough fuel for the return voyage south. Marine shipping activities are to stay south of Coats Island to avoid sensitive wildlife habitat and species along the shipping route, subject to vessel and human safety considerations. Agnico Eagle will continue to adhere the management practices outlined in the Shipping Management Plan.

2.3.12 Pits and Quarry Sites

For construction of the AWAR, access roads, and storage/operation pad(s), Agnico Eagle has utilized a series of quarry/borrow pit sites, which are included in Table 2.3-5, along with the status.

Table 2.3-5: Approved Quarries / Eskers for Meliadine

Quarry/ Borrow Pit	Status	
R5	Never used and not planned to be used in future	
R14	Depleted and rehabilitated, not planned to be used in the future	
R19	Never used and not planned to be used in future	
B5	Depleted and rehabilitated, not planned to be used in the future	
B6A	Depleted and rehabilitated, not planned to be used in the future	
B6 West	Still has material	
B10	Depleted and rehabilitated, not planned to be used in the future	
B11A	Depleted and rehabilitated, not planned to be used in the future	
B12	Still has material, partially rehabilitated	
B13	Depleted and rehabilitated, not planned to be used in the future	
B15	Depleted and rehabilitated, not planned to be used in the future	



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Quarry/ Borrow Pit	Status
Emulsion Esker	Depleted and rehabilitated, not planned to be used in the future
Westmeg Esker	Depleted and rehabilitated, not planned to be used in the future
Meliadine Esker	Still has minimal amount of material, partially rehabilitated

As with the current practice, Agnico Eagle will look for opportunities to use clean open pit waste rock material for construction requirements on top of the borrow pits and/or quarry sites. For the Water Licence Amendment, Agnico Eagle has assumed additional material will be needed to complete the construction of the access roads, laydown areas, and water management structures. Potential sites are presented in Table 2.3-6 and Figure 2.3-1. Agnico Eagle does not intend on using all these borrow pits/quarry sites, rather an upper limit of 530,095 m² will be disturbed for material excavation. Once that surface area has been reached, other borrow pits/quarries will not be used. An additional amount of 1.6 Mm³ of waste rock will also be used for construction purposes.

Management, mitigation, and monitoring of borrow pits and quarry material will be implemented in accordance with the Borrow Pits and Quarries Management Plan (Appendix F-5).

Table 2.3-6: Proposed Borrow Pits for Meliadine Extension

Borrow Pit			
NW-GB16	D-GB1		
PFZ-GB3	D-GB2		
PFZ-GB15	D-GB3		
PFZ-GB22	D-GB4		
PFZ-GB23	D-GB5		
	D-GB16		
	D-GB17		

Figure 2.3-1: Location of Borrow Pits Meliadine Esker NW-GB16 PFZ-GB3 PFZ-GB15 PFZ-GB22 PFZ-GB23 B6 B6 West D-GB3 D-GB16 D-GB17 B12 Meliadine Extension Location of Borrow Pits and Quarries Approved Borrow Pit Sources Date: 12/19/2022 Potential Borrow Pit Sources for Map Number: MEL-015 Meliadine Extension Coordinate System: NAD 1983 UTM Zone 15N Meliadine Extension NWB Layout Projection: Transverse Mercator ECOLOGIC All-Weather Access Road Datum: North American 1983 AGNICO EAGLE



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2.3.13 Power Generation

Agnico Eagle does not anticipate any changes to the existing and approved Power Plant, which will continue to be operated as a diesel generated facility. However, to evaluate long-term objectives of displacing high carbon emissions from diesel generators with lower carbon emissions from wind turbines, Agnico Eagle completed an assessment to include a windfarm as part of the FEIS Addendum Application to the NIRB.

The windfarm location was selected based on proximity with mine site infrastructures and maximum wind-power generation (refer to Figure 2.3-2). The sites for wind turbine placement and associated access roads were selected by studying the wind resource maps, archaeology sites, land use, wildlife and vegetation baselines, and cost of infrastructure around the Meliadine Mine site. Roads to access the windfarm will either use existing roads or will require construction of new access roads at the Mine. During construction of the access roads, materials used for construction will be placed directly over the existing soil layer to avoid disturbance to the subgrade soils, the active layer, and permafrost. The roads will be slopped to allow ease of wildlife passage.

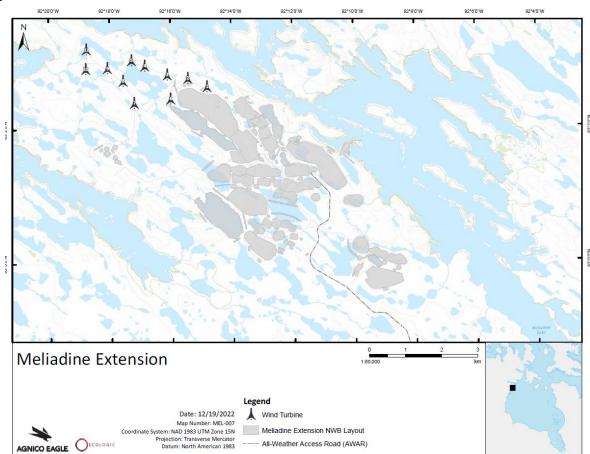


Figure 2.3-2: Turbine Locations

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The windfarm is planned to be built in a phased approach; whereby wind turbines will be constructed based on needs and other economic factors. It is anticipated that five wind turbines would be constructed during a first phase and could take 2 to 4 years, to allow for procurement, shipment of supplies, construction, and installation. The AWAR (including the bypass road to Itivia Harbour) and the Rankin Inlet barge landing area will be able to receive and allow transportation of the wind turbine components to the Meliadine Mine site without requiring modifications. Heavy equipment from the Meliadine Mine will be used where feasible, and extra equipment will be rented and barged in and out of the site via Rankin Inlet, as required. The wind turbines will operate year-round and for the duration of the Meliadine Mine life but may be extended as exploration continues.

2.3.14 Fuel and Explosives Facilities

2.3.14.1 On-site

Agnico Eagle anticipates that additional fuel storage at Pump, F Zone, Tiriganiaq-Wolf, and Discovery deposits will be needed. Each site will consist of four 75,000 L and one 50,000 L tanks for a total of 350,000 L per site (i.e., Pump, F Zone, Tiriganiaq-Wolf, and Discovery); for a combined total of 1,400,000 L. An additional 6 ML tank will be added adjacent to the existing fuel tanks on-site in the industrial pad area.

Consistent with Agnico Eagle best management practices, the storage tanks will be double walled and the whole area will be surrounded by impermeable berms to prevent a spill should the double wall leak. A fueling station will be in front of the fuel farm to allow fueling of mobile equipment. This station, as well as the equipment being refuelled, will also be sitting on a lined pad.

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 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).

2.3.14.2 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 Extension.

The existing emulsion plant and storage magazine located near the Meliadine Mine will be maintained for Meliadine Extension. A storage magazine will be added at the Discovery deposit. 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.



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

2.3.15 Maintenance, Warehouse, Laydown

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. There are no changes proposed for Meliadine Extension activities.

In addition, there are no changes proposed for Meliadine Extension activities 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

Agnico Eagle plans to be in Nunavut on a long-term basis and to remain a key contributor to the Kivalliq region by supporting local communities in a sustainable way. As such, exploration activities are undertaken on the Meliadine property with the objective to extend Meliadine Mine life beyond 2043. These ongoing exploration activities and potential mine life extension are part of the scope of the Meliadine Mine. The property is large and thus represents an extensive prospective land package to be explored. The scope of existing rights for the project includes all mineral tenures listed in this document as well as all previously issued and current regulatory approvals.

The current Meliadine project has many areas of interest, and as such form a good portion of the future of the Meliadine operation. The current orebodies of Tiriganiaq, Wesmeg, Pump, F Zone, and Discovery are a great platform from which Agnico Eagle intends to develop the area further. Development and site exploration will be concentrated in the zone containing the known orebodies and constitute great brownfield exploration potential (Figure 2.4-1).

Agnico Eagle will also continue regional exploration in the areas circled in red and this work could develop some additional mineral potential, which are part of the scope of this Application. Further, any and all access to such areas is included in the scope of such future development and are part of Agnico Eagle's existing rights, subject to the need to acquire any required surface access approvals from KivlA or the Crown.

As with all current development, Agnico Eagle intends to continue all its potential development efforts responsibly and following all regulations and Inuit landowner requirements as to the development of future properties.



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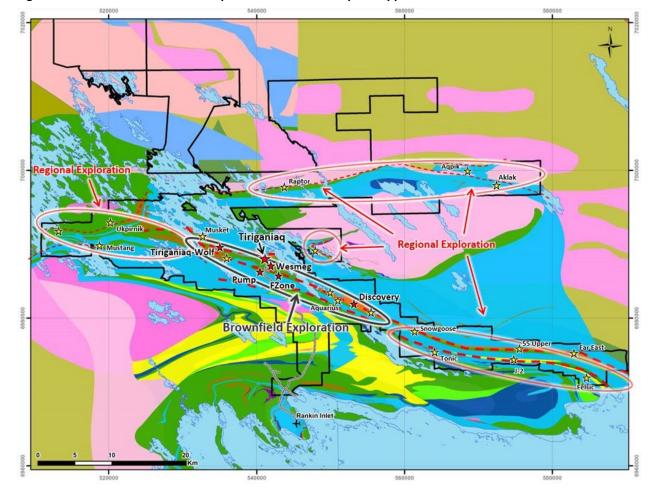


Figure 2.4-1: Potential Future Developments included in scope of Application

2.5 Options/Alternatives to Meliadine Extension

As outlined in Section 1.4.2, Agnico Eagle uses adaptive management as part of the precautionary approach and is part of the larger of decision-making processes. Agnico Eagle will continue to follow the Adaptive Management Plan (Appendix F-1) as part of the Meliadine Extension Water Licence Amendment.

In general, Meliadine Extension alternatives were evaluated according to the following criteria:

- Environmental potential impacts to the environment, project footprint, reclamation;
- Engineering and Viability best engineering practices, technology, permitting, risk, and flexibility;
- Economy cost implications, construction capital, operating costs, maintenance cost for reclamation; and
- Society community acceptance or preference, IQ and TK, health and safety, quality of life, employment, and socio-economic effects.

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2.5.1 In-pit Storage of Tailings and Waste Rock

Agnico Eagle currently places all tailings at the Meliadine Mine in a TSF, where tailings have been deposited as dry stack. To ensure appropriate long-term planning to optimize the site footprint, Agnico Eagle is assessing the potential for in-pit slurry tailings deposition as an alternative to the dry stacking method currently employed. If there is no in-pit disposal, the alternative is to continue with current practices. However, in-pit disposal would improve the current economics and mine planning, reduce overall freshwater consumption during closure reflooding, while using existing Meliadine Mill for ore processing facilities, within an area that has previously been impacted. Moreover, in-pit disposal would reduce the surface area impacted by the project by reducing the footprint of the TSF.

Current open pits assessed for tailings (i.e., WES01, WES04, WES05, WN01, PUM01, PUM03) are shown on Figure 2.5-1.

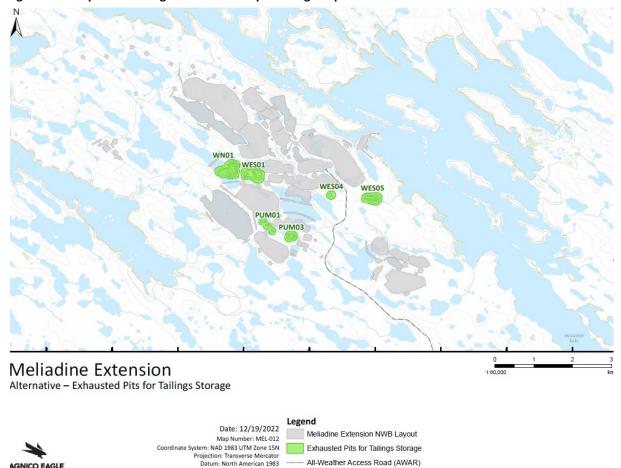


Figure 2.5-1: Open Pits being Assessed for In-pit Tailings Deposition



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Agnico Eagle is also applying to place waste rock in mined out (exhausted) pits. In-pit disposal would improve the current economics and mine planning and reduce overall freshwater consumption during closure reflooding. Moreover, in-pit disposal would reduce the surface area impacted by the project by reducing the footprint of the WRSF. The alternative to these listed benefits would be the use of the various WRSFs as currently presented in the mine plan and subsequently more land loss.

Current open pits assessed for waste rock (i.e., TIR01, TIR02, TIR03, TIR04, WES02, WES03, PUM02, PUM04, FZ001, FZ02, FZ03, DIS01) are shown on Figure 2.5-2.

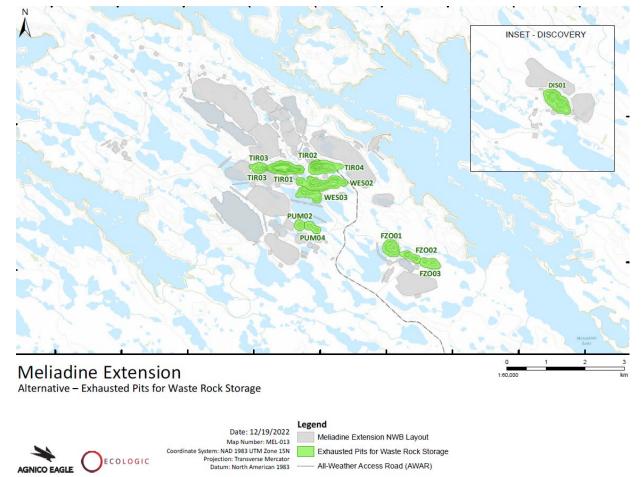


Figure 2.5-2: Open Pits being Assessed for In-pit Waste Rock Deposition

Studies to support the evaluation of pits that could be utilized for in-pit deposition of tailings and waste rock are being reviewed during the current NIRB review process. When Operations decide to proceed, Agnico Eagle will provide 90 days notice to the NWB.



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2.5.2 Access Roads, Infrastructure Locations

Underground access, as well as the access roads to the wind turbines and Tiriganiaq-Wolf area were selected based on least impacts to water and land. The alternative would require construction and operation of water infrastructure to manage various waterbodies and additional water crossings.

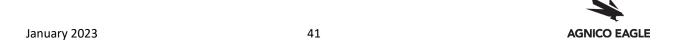
As outlined in Section 2.3.14, there will be fuel storage at the Pump, F Zone, Tiriganiaq-Wolf, and Discovery deposits. Storage at each of these sites will reduce the fuel truck travel/transfer between the main site storage and the respective deposit, which will be more efficient for operations, and increase capacity during caribou migration and weather conditions. The alternative to fuel storage at these locations would be to store all fuel at the main site thereby increasing traffic trips and creating inefficiencies for operations (i.e., fuel not readily available).

2.5.3 Screened Out Alternatives

The alternatives shown in Table 2.5-1 were considered for Meliadine Extension, in addition to those presented in the SD 2-1 of the 2014 FEIS; however, are currently determined to not be viable options at this time but could be alternatives to the Meliadine Mine in the future.

Table 2.5-1: Screened Out Alternatives for Meliadine Extension

Project Component	Description and rationale for not including
Contact Water Management	Different scenarios for dewatering of lakes and storage of contact water were evaluated. Various locations for dike positioning were also evaluated.
Saline Water Management	Inclusion of saltwater evaporators. Five saltwater evaporators were used at site between mid-2017 and 2019/2020 to reduce saline groundwater volumes stored in surface water ponds. There were some success with the evaporators but once the quantity of realized groundwater inflows to be managed became greater than long-term storage, discharge to the environment was required and they were decommissioned. However, as a short-term alternative, evaporators may be used.
Water Treatment	To reduce at the source ammonia loading and consequently the need for ammonia treatment, different strategies could be implemented, such as: • Training and housekeeping improvement in the explosive handling underground; • In situ ammonia treatment underground; • In pond ammonia treatment at the surface; • Alternative to break point chlorination for ammonia removal in the WTC building.
Waste Rock and Tailings Management	Storage of tailings into Lake B7. Not carried forward due to risks of depositing tailings into Lake B7 during operation and the long-term performance after closure. Various locations for storage of waste rock were looked at for Meliadine Extension. However, the objective is to stay within the approved 2014 FEIS footprint.



2.5.4 Project No-Go Decision

The Meliadine Extension is an opportunity made real by existing mining and milling facilities at Meliadine Mine and experience gained from the commencement of the operation. Agnico Eagle considers this extension of the LOM by 11 years, as an opportunity, to continue to develop business and growth in Nunavut, in partnership with its different stakeholders.

From the economic and societal view, the no-go alternative would result in a substantial lost opportunity. Continuation of benefits and revenue stream to Inuit, and from direct taxes paid to hamlet, territorial and federal governments would cease. Employment and business contracting opportunities to individuals and companies would be lost. Benefits to Inuit from the IIBA over the operating life of the mine would end.

Additionally, this Application represents an optimization of the 2014 FEIS. A no-go would mean that those improvements are not made to the project until the end of approved mine life in 2032. From an environmental perspective, the no-go alternative would mean no additional impacts from mining after 2032. Existing site facilities would be decommissioned, and the area disturbed would be restored within the terms of the existing project certificate and other approvals (including the Type A Water Licence, government and Inuit-issued surface tenures, and *Fisheries Act* Authorizations).

Mining is market driven, as such Agnico Eagle is continually aware that market conditions may yield no go scenarios. Options in such situations include not proceeding with construction as planned, placing the Meliadine Mine into temporary care and maintenance or commencing closure and reclamation activities earlier than projected.



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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 Extension Water Licence Amendment.

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

Management Plan Title for Meliadine Extension Water Licence Amendment	Current Plan Version	Application Appendix Reference
Adaptive Management Plan-v2_NWB	February 2021, v1	F-1
Ammonia Management Plan-v4_NWB	March 2021, v3	F-2
Aquatic Effects Monitoring Plan-v2_NWB	June 2016, v1	F-3
ARD-ML Testing Plan-v1_NWB	n/a ^(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	March 2018, v5	F-9
Incineration and Composter Waste Management Plan-v7_NWB	February 2019, v6	F-10
Itivia Bulk Fuel Storage Facility Management Plan-v2_NWB	August 20190, v1	F-11
Interim Closure and Reclamation Plan	2020	F-12
Landfarm Management Plan-v4_NWB	February 2019, v3	F-13
Landfill and Waste Management Plan-v8_NWB	March 2019, v7	F-14
Mine Waste Management Plan-v9_NWB	August 2021, v8	F-15
Ore Storage Management Plan-v4_NWB	March 2021, v3	F-16
Quality Assurance / Quality Control-v4_NWB	March 2019, v3	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-v12_NWB	December 2019, v10	F-20
Water Management Plan-v12_NWB	August 2021, v11	
Groundwater Management Plan-v8_NWB ^(b)	August 2021, v7	
Freshet Action Plan-v7_NWB ^(b)	March 2020, v6	F-21
Sediment and Erosion Management Plan-v4_NWB ^(b)	March 2021, v3	
Water Quality and Flow Monitoring Plan-v3_NWB ^(b)	March 2020, v2	
Final Fish Offsetting Plan_NWB	2014	F-22

⁽a) Currently there is no approved ARD-ML Testing Plan, as v1_NIRB was developed to support Meliadine Extension FEIS Addendum Application.



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

4 REFERENCES

- 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.
- Agnico Eagle. 2015. Meliadine Gold Project Type A Water Licence Main Application Document and supporting document. April 2015. Version 1.
- Agnico Eagle. 2020a. Meliadine Gold Mine Final Environmental Impact Statement Addendum, Environmental Assessment of Treated Groundwater Effluent Discharge into Marine Environment, Rankin Inlet. August 2020.
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- 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.
- NPC (Nunavut Planning Commission). 2000. Keewatin Regional Land Use Plan. Available on-line at: https://www.nunavut.ca/sites/default/files/keewatin_regional_land_use_plan.pdf. June 2020. Accessed April 19, 2021.

