

## NIRB Application for Screening #125036

### Amaruq Exploration Access Road - Additional Quarry Amendment

**Application Type:** New  
**Project Type:** Quarry  
**Application Date:** 12/23/2016 1:25:47 PM  
**Period of Operation:** From 2017-03-15 to 2025-12-31  
**Proposed Authorization:** From 2017-03-15 to 2025-12-31  
**Project proponent:** Ryan Vanengen  
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## DETAILS

### Non-technical project proposal description

- English:** The Amaruq Exploration Property (Amaruq) is a 408-square kilometre site located on Inuit Owned Land (IOL), approximately 150 kilometres north of Baker Lake, and approximately 50 kilometres northwest of the Meadowbank mine. The Amaruq Exploration Access Road is approved to be a 6.5 metre (m) wide exploration sized road that is 64.134 km in length, and will connect the Meadowbank mine site, north of Vault Pit operations, to the Amaruq Exploration site. Additional hard rock quarries will allow for the road to be constructed in a timely fashion that minimizes thaw susceptibility, and will ensure the construction of the access road is economical. As a result, Agnico Eagle is applying to the Nunavut Water Board to amend the Type B 8BC-AEA1525 to include 6 additional quarries (Q 10+500; Q 26+250; Q 30+050; Q 34+900; Q 50+600; and Q 52+00;) located immediately adjacent to the approved exploration access road.
- French:** La propriété d'Exploration Amaruq (Amaruq) est un site de 408 km<sup>2</sup> situé sur terre (Inuites), environ 150 kilomètres au nord de Baker Lake et environ 50 kilomètres au nord-ouest de la mine Meadowbank. Le chemin d'accès de Exploration Amaruq est approuvé pour être une exploration large de 6,5 mètres (m) taille de route qui est de 64,134 km de longueur et reliera la mine Meadowbank, au nord d'opérations de voûte fosse, sur le site Amaruq Exploration. Carrières plus hard rock permettront la route à construire de façon opportune qui minimise la susceptibilité de dégel et assureront que la construction du chemin d'accès est économique. En conséquence, Agnico Eagle présente une demande à l'Office des eaux du Nunavut en vue de modifier la 8BC-AEA1525 Type B pour y inclure les 6 autres carrières (Q 10 + 500 ; Q 26 + 250 ; Q 30 + 050 ; Q 34 + 900 ; Q 50 + 600 ; et Q 52 + 00 ;) situé juste à côté le chemin d'accès approuvé d'exploration.
- Inuktitut:** La propriété d'Exploration Amaruq (Amaruq) est un site de 408 km<sup>2</sup> situé sur terre (Inuites), environ 150 kilomètres au nord de Baker Lake et environ 50 kilomètres au nord-ouest de la mine Meadowbank. Le chemin d'accès de Exploration Amaruq est approuvé pour être une exploration large de 6,5 mètres (m) taille de route qui est de 64,134 km de longueur et reliera la mine Meadowbank, au nord d'opérations de voûte fosse, sur le site Amaruq Exploration. Carrières plus hard rock permettront la route à construire de façon opportune qui minimise la susceptibilité de dégel et assureront que la construction du chemin d'accès est économique. En conséquence, Agnico Eagle présente une demande à l'Office des eaux du Nunavut en vue de modifier la 8BC-AEA1525 Type B pour y inclure les 6 autres carrières (Q 10 + 500 ; Q 26 + 250 ; Q 30 + 050 ; Q 34 + 900 ; Q 50 + 600 ; et Q 52 + 00 ;) situé juste à côté le chemin d'accès approuvé d'exploration.

### Personnel

Personnel on site: 10  
Days on site: 365  
Total Person days: 3650  
Period of operation: from 2017-03-15 to 2025-12-31  
Proposed term of operation: from 2017-03-15 to 2025-12-31

## ACTIVITIES

### Project Activities

Location	Activity Type	Land Status	Site History	Site Archaeological or Palaeontological Value	Proximity to the nearest communities and any protected areas
0	Quarry/Borrow pit	Crown	No previous project activities have been completed in the proposed additional quarry sites.	The proposed quarries are within the previously assessed local study area of the approved Amaruq Exploration Access Road. The proposed quarries are in locations that avoid impacts to archaeological/palaeontological and cultural sites.	The Amaruq Exploration Property is approximately 150 kilometres north of Baker Lake, and approximately 50 kilometres northwest of the Meadowbank mine. In 2016, Agnico Eagle began constructing the Amaruq Exploration Access road Meadowbank and are requesting 6 additional quarries. There are no known protected areas near the project.
0	Quarry/Borrow pit	Inuit Owned Surface Lands	No previous project activities have been completed in the proposed additional quarry sites.	The proposed quarries are within the previously assessed local study area of the approved Amaruq Exploration Access Road. The proposed quarries are in locations that avoid impacts to archaeological/palaeontological and cultural sites.	The Amaruq Exploration Property is located approximately 150 kilometres north of Baker Lake, and approximately 50 kilometres northwest of the Meadowbank mine. In 2016, Agnico Eagle began constructing the Amaruq Exploration Access road to connect the Amaruq Exploration Property to Vault Pit at Meadowbank and are requesting additional hard rock quarries. There are no known protected areas near the project.

### Community Involvement and Regional Benefits

Community	Name	Organization	Date Contacted
Baker Lake	Luis Manzo	Kivalliq Inuit Associations	2016-10-04
Baker Lake	Various Elders	HTO and CLARC	2016-07-16

## AUTHORIZATIONS

### Project Locations

Kivalliq

### Project Authorization

Authorizing Agency	Authorization	Current Status	Date Issued / Applied	Expiry Date
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	<b>Description</b>			
Nunavut Water Board	Type 8BC - AEA1525	Active	2015-11-09	2025-12-31
Aboriginal Affairs and Northern Development Canada	Crown Land Quarry Lease - 66H/8-01-1	Active		2026-12-31
Kivalliq Inuit Association	IOL Borrow Lease - KVCA15Q02	Active		2017-11-22

## MATERIAL USE

Equipment to be used (including drills, pumps, aircraft, vehicles etc.)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Excavator	1	7x12m	Excavate Material
Loader	1	7 x 12 m	Load material into haul trucks
Drill	1	2.3 x 6m	Drilling blast pattern
Emulsion Truck	1	2.3 x 7.5 m	Delivering emulsion to quarries for blasting

### Detail Fuel and Hazardous Material Use

Fuel / Material	Type	Number of Containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	1	15000	15000	Liters	Heavy Equipment operation
Explosives	hazardous	2	35000	70000	Lbs	Blasting (in kg not lbs)
Cap Magazines	hazardous	1	40000	40000	Lbs	Blasting (in kg not lbs)

### Project Water Consumption

Daily Amount (m3)	Proposed Water Retrieval Methods	Proposed Water Retrieval Location
0	NA	NA

## WASTE

### Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Quarry/Borrow pit	Hazardous waste	20L/mth	Waste oil will be stored	Disposed of at certified waste facility in the south
Quarry/Borrow pit	Non-Combustible wastes	20 kg/d	Food Debris will be sent to approved incinerators	NA
Quarry/Borrow pit	Other, Contaminated Soil	20 m3	Shipped and treated at approved Meadowbank Landfarm	NA

### Environmental Impacts

As previously submitted and screened by the NIRB, the Exploration Access Road will interact with the natural and human environment of the area in both time and space. The Exploration Access Road has been determined to present few negative effects to the environment. The identified impacts will not occur in the long-term, or be significant due to mitigative measures and standard best practices that will be implemented. Agnico Eagle believes the addition of six (6) quarries, is not expected to change the conformity decision by NPC nor substantively change the predicted impacts previously screened by NIRB. As presented in the main application document, Agnico Eagle prioritized the need to ensure all quarries had low environmental impact. Agnico Eagle selected quarries that are small in size, were located to ensure material is Non- PAG/ML, will be constructed within permafrost, 31 m setback from waterbodies, and that all selected location did not impact archaeological sites.

## **DETAILS PART 2**

### **Project General Information**

The Amaruq Exploration Property (Amaruq) is a 408-square kilometre site located on Inuit Owned Land (IOL), approximately 150 kilometres north of Baker Lake, and approximately 50 kilometres northwest of the Meadowbank mine. Agnico Eagle Mines Limited (Agnico Eagle) leased exploration rights to the Amaruq Exploration Property from Nunavut Tunngavik Incorporated in April 2013, and maintains an exploration camp on the site. The Amaruq Exploration Access Road is approved to be a 6.5 metre (m) wide exploration sized road that is 64.134 km in length, and will connect the Meadowbank mine site, north of Vault Pit operations, to the Amaruq Exploration site. The Amaruq Exploration Access Road was screened by NIRB on November 4th, 2015 and a Type 8BC-AEA1525 License was issued by the NWB on November 9th, 2016. The road is an important link to fuel and supplies for the advancement of the Amaruq Exploration project. Ultimately the rapid construction of the road will allow Agnico Eagle to conduct year round exploration drilling at the Amaruq exploration project, to continue to aggressively drill the inferred deposit, to begin building an exploration ramp in 2018, and to continue to assess the feasibility of the future mine site. Additional hard rock quarries will allow for the road to be constructed in a timely fashion that minimizes thaw susceptibility, and will ensure the construction of the access road is economical. As a result, Agnico Eagle is applying to the Nunavut Water Board to amend the Type B 8BC-AEA1525 to include 6 additional quarries (Q 10+500; Q 26+250; Q 30+050; Q 34+900; Q 50+600; and Q 52+00;) located immediately adjacent to the approved exploration access road. The proposed quarries are composed of non-potentially acid draining/ non-metal leaching (NPAG/ML) material, are small in size, are within the previously assessed local study area of the approved Amaruq Exploration Access Road, and are in locations that avoid impacts to archaeological and cultural sites. No significant environmental impacts are predicted as a result of adding these additional quarries to the construction and operation of the Amaruq Exploration Access Road

### **DFO Operational Statement of Conformity**

This is not applicable as the proposed activities do not interact with fish or fish habitat.

### **Transportation**

As with many industrial activities in the North, the schedule for the construction and amount of equipment is based on the timing of regulatory approvals, and a balance of logistical and technical considerations. To improve the efficiency of the construction of the road, Agnico Eagle is proposing to use two teams: one that will operate equipment in the approved esker borrow areas and another team that will operate in the proposed quarries along the approved access road. This will ensure the sequence of construction required to construct the Middle Section of the Exploration Access Road (around km 32) is achieved in the winter season (Q4 2016 to end of Q2 2017); this will ensure minimal effects to the environment as stated in the original application. All equipment and supplies for construction have already been shipped to Baker Lake on ships and barges during the 2016 shipping season and transported along the Meadowbank AWAR to the Meadowbank Mine. Once approved, equipment will be shipped along the road for construction in quarries as the Amaruq road advances.

### **Camp Site**

No new camp site is required for this application.

### **Equipment**

Tables 2.3-1 of the Main Application Document summarizes the equipment needs for the Amaruq Exploration Access Road and the additional needs for quarry equipment. 1 – Excavator (1250 or 365) - 7x12m 1 – Loader (K600) – 7 x 12m 1 – Drill (B12) - 2.3 x 6m 1 – Haul truck 773 - 7x 12m 1 – Emulsion truck (Dyno - a contractor) – 2.3 x 7.5m 3– Pickup trucks - 2.3 x5.9 m

### **Water**

No additional water use is requested

### **Waste Water (Grey water, Sewage, Other)**

No additional waste water will be produced

### **Fuel**

Diesel fuel is required for machine operation and will be stored in enviro tanks with proper secondary containment. The volume is described in Section 5 of the NIRB form.

### **Chemical and Hazardous Material**

Chemical and Hazardous Material Management is described in Section 5 of the NIRB form. Equipment will be maintained at

approved maintenance shops located at the Meadowbank Mine site; all chemicals and HAZMAT will be managed, packaged and shipped to certified HAZWASTE facilities in the south. The NWB approved "Emergency Response and Spill Contingency Plan - Amaruq Exploration Access Road" will be adhered to for activities in the quarries.

### **Workforce and Human Resources / Socio-Economic Impacts**

Approximately 10 additional full time contract workers will be required for operation of the additional quarries. The construction contractor hired by Agnico Eagle will be required to have a Contractors Inuit Employment Plan and Agnico Eagle expects that several companies with Inuit Joint Ventures will submit proposals. Kivalliq residents and businesses will receive preference with respect to employment and local business opportunities associated with maintenance of the road. Local business opportunities may include logistical support, fuel delivery, housekeeping, cooks, and food supply. Local positions are expected to consist of general labourers and heavy equipment operators. Training opportunities are currently available to Inuit employees at the Meadowbank mine for heavy equipment operators. Based on ongoing training of equipment operators at Meadowbank mine, the availability of a pool of local temporary workers and their experience with the construction of the Meliadine all-weather access road, Agnico Eagle anticipates that the workforce will consist of a high proportion of local employees, consistent with Agnico Eagle's other northern operations. Agnico Eagle works consistently to develop well thought out and planned approaches for involving Inuit in employment, high levels of training, and business opportunities for their projects. It is expected that through ongoing consultation and socio-economic monitoring, Agnico Eagle and local communities will be well positioned to respond to social or economic concerns as they arise during the permitting, construction, operations and closure phases of this Project. These few additional positions are expected to have a net socio economic benefit within the Kivalliq.

### **Public Involvement / Traditional Knowledge**

Traditional Knowledge workshops, Amaruq road visits and consultation meetings have been conducted since 2014 for the Amaruq Exploration Access Road, including the area of the proposed quarries. The proposed additional quarry locations were selected to avoid archaeological and cultural sites. Separate meetings regarding the additional quarries were held with KIA representatives and community groups and are listed in Section 7 of the NIRB application form. Results of the Baseline Traditional Knowledge Report v.2 (Agnico Eagle 2014) indicated that the general area around the approved Amaruq Exploration Access Road is valued both for practicing traditional land use (TLU) activities and for providing access to important TLU sites in the past (Agnico Eagle, 2015). A decrease in the availability of resources for harvesting, including for wildlife, vegetation and fish due to effects of the Exploration Access Road is not anticipated. In addition, Agnico Eagle selected quarry locations to avoid archaeological and cultural sites. As a result changes in the use of culturally important sites due to effects of the use of the additional quarries are not anticipated.

### **SECTION C: Pits and Quarries: Project Information**

The Amaruq Exploration Access Road was screened by NIRB on November 4th, 2015 and a Type 8BC-AEA1525 License was issued by the NWB on November 9th, 2016. The road is an important link to fuel and supplies for the advancement of the Amaruq Exploration project. As a result, Agnico Eagle is applying to the Nunavut Water Board to amend the Type B 8BC-AEA1525 to include 6 additional quarries (Q 10+500; Q 26+250; Q 30+050; Q 34+900; Q 50+600; and Q 52+00;) located immediately adjacent to the approved exploration access road. The proposed quarries are composed of non-potentially acid draining/ non-metal leaching (NPAG/ML) material, are small in size, are within the previously assessed local study area of the approved Amaruq Exploration Access Road, and are in locations that avoid impacts to archaeological and cultural sites. Prior to operations, the quarries will initially be surveyed and staked to provide operational boundaries to ensure the protection of the environment (i.e. ensure that there are no nesting or denning sites). After pre-stripping standard blast procedures will be implemented to ensure geotechnical stability, safety of operators; consideration for drainage and closure will be made in the design of the blasts and quarries. Details of the Quarry Operation, Volumes and Design are provided in Section 2.4 of the Main Application Document.

### **Description of Existing Environment: Physical Environment**

The proposed quarries are located adjacent to the approved Amaruq Exploration Access Road which is an all-season road that lies mainly on land, avoiding lake edges and crossing a number of small and medium-sized drainages. The terrain through which the road extends includes a variety of features, including boulder fields, level elevated landforms, lower terrain associated with lakes and drainages, and glacial features. Water crossings will necessitate the installation of culverts and bridges. A long, well-defined esker generally runs parallel to the road (to the east of the road) along the northern half of the road; borrow materials will be extracted from a number of areas along this esker as well as six other quarry locations described previously in this document. Additional hard rock quarry material will be needed, and will be obtained from the proposed quarries within proximity of the approved road. The proposed quarry locations generally consist of elevated bedrock landforms.

### **Description of Existing Environment: Biological Environment**

The proposed quarry locations generally consist of elevated bedrock landforms; although the footprint of the quarries contain vegetation and wildlife habitat, it is generally considered low value to local fauna. Please refer to Section 3.0 of the Main Application Document.

### **Description of Existing Environment: Socioeconomic Environment**

The Project will extend employment opportunities that are currently provided by the Meadowbank Mine and the Amaruq project. Many of these opportunities will be targeted to the local population in Baker Lake and other Kivalliq communities. Most indirect employment opportunities occurring in Nunavut are expected to be filled by the existing labour force working in industries currently supplying Meadowbank Mine. The Project will maintain current pick-up points in Kivalliq communities, and any incidental employment that arises via attrition will be filled with priority given to residents of the Kivalliq Region, and, secondarily, Nunavut. Given the size of the additional quarry work, the approach to recruitment is not expected to induce intra- or inter-territorial migration, population increase, or demographic change.

## **Identification of Impacts and Proposed Mitigation Measures**

As previously submitted and screened by the NIRB, the Exploration Access Road will interact with the natural and human environment of the area in both time and space. The Exploration Access Road has been determined to present few negative effects to the environment. The identified impacts will not occur in the long-term, or be significant due to mitigative measures and standard best practices that will be implemented. Agnico Eagle believes the addition of six (6) quarries, is not expected to change the predicted impacts previously screened by NIRB. Nevertheless, for the purposes of this application and as an extension of the approved Exploration Access Road activities, Agnico Eagle has conducted an abridged environmental assessment, that considers the temporal boundary for construction, operation, and closure of the additional six (6) quarries to be about nine years (i.e., two years construction (2016 to 2018), up to five years operation, and two years for closure following closure of the advanced exploration project infrastructure). As discussed in Section 2.1 of the Main Application Document, during the design phase of the proposed quarry application, Agnico Eagle prioritized the need to ensure all quarries had low environmental impact. Agnico Eagle selected quarries that are small in size, were located to ensure material is Non- PAG/ML (refer to Appendix B), will be constructed within permafrost, the locations were 31 m setback from waterbodies, and that all selected locations did not impact archaeological sites (refer to Appendix C of the Main Application Document). As a result of these design decisions, no impacts to surface hydrology, fish or fish habitat (avoidance of waterbodies), wildlife (given the small size of the quarries), surface water quantity or quality are predicted. Furthermore, there will be nil to negligible changes to the physical environment, air and noise (atmosphere) and cumulative effects. Overall, the potential impacts on the Terrain and Permafrost, Soil, Potential for Acid Generation/ Metal Leaching, Terrestrial Environment and Archaeological and Heritage Sites, and Traditional Knowledge due to the construction, operation, and reclamation of the additional quarries were considered and assessed. The details provided in the section 3 of the Main Application document and describe the existing environment, environmental impacts, and mitigation for the proposed amendment to include six additional quarries. Agnico Eagle believes the content provided is appropriate for the type, scope, and scale of the application for amendment to the Type B Water Licence, and NIRB to provide screening that may be required.

## **Cumulative Effects**

The identified impacts will not occur in the long-term, nor be significant due to mitigative measures and standard best practices that will be implemented. Due to the design decisions, small footprint and avoidance of archaeological and cultural sites, the addition of six (6) quarries, is not expected to change the impacts of the approved Amaruq access road. Overall, the potential for cumulative effects associated with the construction, operation and closure of the proposed exploration access road, with the addition of these six additional quarries, is considered to be low. As previously documented in Agnico Eagle (2015), considering all past and present development, the level of development in the region of the proposed road is low, and many of the developments are minor disturbances (camps, fuel caches, quarries). There are very few large developments disturbances (mines, winter roads, communities) in the area. This conclusion is also supported by the fact that most of the developments documented are no longer active (i.e. average of 84% no longer active). The reasonably foreseeable future developments would have potential to affect this conclusion if all were to proceed, but the probability of this is low.

