APPENDIX 29-3. BORROW PITS AND QUARRIES MANAGEMENT PLAN

AGNICO EAGLE

MELIADINE GOLD MINE

Borrow Pits and Quarries Management Plan

MARCH 2025
VERSION 8

ᓇᐃᓈᖅᓯᒪᔪᖅ

ᐊᒡᓃᑯ ᐄᒍ ᐅᔭᕋᒃᑕᕆᐊᒃᑯᑦ (ᐊᒡᓃᑯᒃᑯᑦ) ᑕᓯᕐᔪᐊᕐᒥᑦ ᐅᔭᕋᒃᑕᕆᐊᓕᐅᖅᐸᓪᓕᐊᔪᑦ (ᐅᔭᕋᒃᑕᕆᐊᖅ), 25 ᑭᓛᒥᑕᓂᒃ ᐅᖓᓯᒃᑎᒋᔪᖅ ᐅᐊᖕᓇᖓᓂᑦ ᑲᖏᖅᖠᓂᐅᑉ, ᐊᒻᒪᓗ 80 ᑭᓛᒥᑕᓂᒃ ᐅᖓᓯᒃᑎᒋᑉᓗᓂ ᓂᒋᐊᓂᑦ ᐱᖓᖕᓇᖅᐸᓯᐊᓂᑦ ᐃᒡᓗᓕᒑᕐᔫᑉ ᑭᕙᓪᓕᕐᒥᑦ ᓄᓇᕗᒻᒥᑦ.

ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓄᓇᐃᔭᐃᓂᕐᒥᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐅᖃᐅᓯᖃᖅᑐᖅ ᐃᓚᖏᓐᓂᒃ, ᐊᐅᓛᖅᑎᑦᑎᓂᕐᓂᒃ, ᐊᒻᒪᓗ ᐅᒃᑯᐊᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᖃᓄᖅᑑᕈᑏᑦ ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᓂᑦ ᐊᒻᒪᓗ ᓄᓇᐃᔮᐃᓂᕐᓂᕐ ᑕᓯᕐᔪᐊᕐᒥᑦ ᐅᔭᕋᒃᑕᕆᐊᕐᒥᑦ.

ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᑎᕆᓂᕐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᐃᔭᐃᓂᕐᓄᑦ ᐃᓄᖕᓄᑦ ᓇᖕᒥᓂᕆᔭᐅᔪᓂᑦ ᓄᓇᖓᓃᑦᑐᓂᑦ ᓄᓇᐃᔭᐃᓂᕐᒧᑦ ᐳᒥᑦᖃᕆᐊᖅᑐᑦ ᑭᕙᓪᓕᕐᒥᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᓐᓂᖖᒑᓪᑐᒥᑦ. ᓄᓇᐃᔭᐃᓂᕐᓄᑦ ᐳᒥᑦᓕᕆᓃᑦ ᓄᓇᓕᐅᑉ ᓄᓇᖓᓂᑦ ᐊᐅᓚᑕᐅᖃᑦᑕᖅᑐᑦ ᓄᓇᕗᒻᒥ ᒐᕙᒪᒃᑯᑦ ᓄᓇᓕᖕᒧᑦ ᐊᒻᒪᓗ ᒐᕙᒪᒃᑯᓐᓄᑦ ᐱᔭᑦᑎᕋᐃᔭᒃᑯᖏᓐᓄᑦ ᐱᔾᔪᑎᑉᓗᒋᑦ ᑲᖏᖅᖠᓂᕐᒥᑦ Hᐋᓪᓚᒃᑯᑦ. ᐊᓯᖏᑦ ᐊᑐᖅᑐᑦ ᒪᓕᒐᕋᓛᑦ ᐅᖃᐅᓯᐅᔪᑦ ᐸᕐᓇᐅᑎᒥᑦ.

ᐅᑯᐊ ᐱᐅᓛᒃᑯᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓂᕈᐊᖅᓴᖅᑎᓪᓗᒋᑦ, ᐊᐅᓛᖅᑎᑦᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᒃᑯᐊᖅᐸᓪᓕᐊᓂᖏᑦ ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓄᓇᐃᔭᖅᑕᐅᔪᑦ ᑕᓯᕐᔪᐊᕐᒥᑦ ᐅᔭᕋᒃᑕᕆᐊᕐᒧᑦ:

- ᒥᑭᓛᒃᑰᖅᑎᓪᓗᒋᑦ ᓄᓇᐅᑉ ᖄᖏᑦ ᓄᓇᐃᔭᐃᕝᕕᐅᔪᓂᑦ ᐊᒻᒪᓗ ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᓂᑦ ᐊᔪᕐᓇᙱᒃᑳᖓᑦ;
- ᒥᑭᓛᒃᑰᖅᑎᓪᓗᒋᑦ ᓄᓇᐃᔭᐃᕝᕕᐅᔪᓄᑦ ᐊᒻᒪᓗ ᐃᓗᑦᑐᖅᓯᒪᔪᓄᑦ ᐲᖅᓯᓃᑦ, ᐊᔪᕐᓇᙱᒃᑳᖓᑦ;
- ᓇᑎᖏᑦ ᓄᓇᐃᔭᐃᕝᕕᐅᔪᑦ ᐊᒻᒪᓗ ᐃᓗᑦᑐᖅᓯᒪᔪᑦ ᖁᑦᑎᖕᓂᕆᔭᐅᔫᒥᑦ ᖁᑦᑎᖕᓂᖅᓴᐅᖂᕐᔪᓪᒋᑦ ᑯᕙᓂᖅᑭᖕᓇᕐᓂᐊᕐᓗᓂ, ᑕᓯᓕᐅᖅᑕᐃᓕᓂᐊᕐᓗᓂ ᐲᔭᐃᕝᕕᐅᔪᓂᑦ, ᐊᒻᒪᓗ ᖁᐊᙳᐃᓐᓇᐅᔭᖅᑐᓂᒃ ᓄᖑᑎᕆᑦᑕᐃᓕᓂᐊᕐᓗᓂ ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᓂᑦ;
- ᓱᕈᖅᐸᓪᓕᐊᑎᑦᑎᑦᑕᐃᓕᓗᓂ ᐊᒻᒪᓗ ᐊᓗᐊᓄᐊᖅᑐᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑕᐅᖃᑦᑕᖅᑐᓂᒃ ᐊᑐᕐᓗᑎᒃ;
- ARD/ML-ᓂᒃ ᐆᒃᑐᕋᐃᖅᑕᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓᓂᒃ ᖃᐅᔨᓴᐃᓂᕐᓂᒃ ᐊᖏᓗᐊᖏᒋᐊᖅᑎᑦᑎᓂᐊᕐᓗᑎᒃ;
- ᒥᐊᓂᕆᓗᒋᑦ ᐃᑦᑕᕐᓂᑕᖃᕐᕕᐅᔪᑦ;
- ᓇᓗᓇᐃᕐᓗᒋᑦ ᑭᒡᒐᕕᐊᕐᔪᕋᓗᖕᓄᑦ ᐅᑉᓗᖃᕐᕕᐅᔪᖅᑕᖃᒃᑲᓗᐊᕐᒪᖔᑦ ᓄᓇᐃᔭᐃᕝᕕᐅᔪᓂᑦ ᖃᓂᑕᖏᓂᓘᓐᓃᑦ ᓄᓇᐃᔭᐃᕙᓪᓕᐊᓂᐊᓵᕐᓗᑎᒃ;
- ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᖓ ᑲᒪᒋᖃᑦᑕᕐᓗᒍ ᐳᔪᖃᑖᖃᓗᐊᖅᑕᐃᓕᑎᑦᑎᓂᒃᑯᑦ;
- ᐅᑎᖅᑎᑎᕆᕙᓪᓕᐊᓂᖃᐃᓐᓇᕐᓗᑎᒃ ᐅᒃᑯᐊᖅᑕᐅᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᓄᓇᐃᔭᐃᕝᕕᐅᔪᑦ ᐊᑐᖅᑕᐅᔭᕆᐊᖅᓯᙲᖅᑎᓪᓗᒋᑦ; ᐊᒻᒪᓗ
- ᐊᕙᑎᒥᒃ ᖃᐅᔨᓴᐃᓂᖃᕐᓗᑎᒃ.

ᐊᖏᓗᐊᖏᒋᐊᖅᑎᑦᑎᓂᕐᒨᖓᔪᑦ ᐃᑦᑕᕐᓂᑕᖃᕐᕕᖕᓄᑦ ᐊᒻᒪᓗ ᑕᐃᑉᓱᒪᓂᑐᖃᖅ ᐃᓂᐅᔪᓄᑦ, ᑕᑯᔭᖅᑐᖅᑕᐅᔪᒪᔫᓄᑦ, ᐊᒻᒪᓗ ᐱᖁᑎᓄᑦ ᑭᒡᓕᒋᔭᐅᔫᑦᑐᑦ ᐃᖃᓗᒑᕐᔫᑉ ᓄᓇᖓ ᒥᕐᖑᐃᖅᓯᕐᕕᖓᒥᑦ, ᐊᒻᒪᓗ ᓂᕐᔪᑎᖃᕐᕖᑦ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ ᐊᒻᒪᓗ ᐅᖃᐅᓯᐅᑉᓗᑎᒃ ᐸᕐᓇᐅᑎᒥᑦ. ᐳᔪᖃᑖᖕᒥᑦ, ᓂᐱᖃᕐᓂᕐᒥᑦ, ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓᓄᑦ ᖃᐅᔨᓴᐃᓃᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᓄᓇᐃᔭᖅᓯᒪᔪᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᓴᓇᕙᓪᓕᐊᑎᓪᓗᒋᑦ, ᐊᐅᓛᖅᑎᑦᑎᓪᓗᒋᑦ, ᐊᒻᒪᓗ ᐅᒃᑯᐊᖅᐸᓪᓕᐊᑎᓪᓗᒍ ᐱᓕᕆᐊᖅ.

ᐅᓗᓕᐊᓐᓂᖅᑕᖏᓂᐊᖅᓯᓗᓂ, ᐅᓴᖅᑲᓂ ᐊᓂᓗᐃᑦ ᐃᓕᓴᐅᖏᑕᓂᓂᐊᖅᑐᑦ 10 ᑭᑕᓂᑲ ᐅᖓᓱᑲᑎᓕᒥᑲ ᐃᓱᖅᑎᓂᓂ ᓄᓇᐃᔨᐃᖏᕐᕕᐅᓱᑦ ᐊᒻᒪᓗ ᖃᐅᓪᓚᐅᑦ ᑕᐅᖅᓴᐅᓱᑦ ᓴᓂᕆᑎᓂᓂ 2 ᑭᑕᓂᑲ ᖃᐅᑎᖓᓂᖅᓴᐅᓱᑦ ᐅᓗᓕᐊᓐᓂᖏᖅᓯᓂ ᕼᐊᓵᑕᑲᐃᖅᑕᓗᓂ ᐅᕐᖏᓪᓗᓂᖅᑐᓗᓂ ᓱᑭᑐᖅᑕᓗᓂ.

ᐅᑎᖅᑎᑎᓇᖏᑦᓭᐊᑎᓂᓇᓂᐊᖅᑐᑦ ᐱᓱᖓᓇᑐᐊᕋᖅᑕ. ᐅᐸᓂᖅᑐᑦᑎᐊᓂᓴᐅᓯᑦ ᖁᓄᐃᖓᓂᐊᓂᖓᓂᓄᓗᑦ, ᓄᓇᐃᔨᐃᓂᐅᓂᐊᖅᑐᑦ ᒥᑭᔾᑦ ᐅᑎᖅᑎᑎᓇᓂᕐᑕᖓᓇᐊᖅᑎᖅᑐᑦ. ᐅᑎᖅᑎᑎᖅᑕᐅᓱᒪᔨᑦ ᓄᓇᐃᔨᐃᖏᓕᐅᖅᑐᑦ ᐅᐃᖓᓂᖅᑲᓱᖓᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᓯᐃᑎᑦᑎᓂᖅᑲᓕᑎᑦ, ᐊᓱᕐᓇᖓᑲᖅᖓᑦ, ᐊᒻᒪᓗ ᓄᓇᐃᔨᐃᖏᔪᒍᓇᐊᕐᓂᑦ.

AGNICO EAGLE

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited (Agnico Eagle) operates the Meliadine Gold Mine (Mine), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut.

This Borrow Pits and Quarries Management Plan (the Plan) describes selection, operations, and closure strategies for the borrow pits and quarries at the Meliadine Mine.

Borrow pits and quarries on Inuit Owned Lands require a quarry permit issued by the Kivalliq Inuit Association. Quarry permits on municipal land are administered by the Government of Nunavut Department of Community and Government Services on behalf of the Hamlet of Rankin Inlet. Other relevant regulations are mentioned in the Plan.

The following best management practices will be used in the selection, operation and closure of borrow pits and quarries for the Meliadine Mine:

- minimize the surface area of quarries and borrow pits, where possible;
- minimize quarry and borrow pit cuts, where possible;
- maintain the floor of the quarries and borrow pits slightly above the elevation of the surrounding area to promote drainage, to avoid creating quarry lakes, and to prevent permafrost degradation in borrow pits;
- prevent erosion and sedimentation through appropriate control measures;
- carry out ARD/ML testing and water quality monitoring in support of mitigation measures;
- protect archeological resources;
- verify that there are no raptor nests in or near quarries and borrow pits before beginning quarrying operations;
- maintain air quality through dust control/suppression;
- use progressive reclamation in closing quarries and borrow pits when no longer needed; and
- perform environmental inspections.

Mitigation measures pertaining to archaeological resources and adjacent historical sites, attractions, and facilities within boundaries of Iqalugaajuup Nunanga Territorial Park, and wildlife were developed and are described in the Plan. Dust, noise, and water quality monitoring related to the use of the quarries and borrow pits will be carried out during the construction, operation, and closure phases of the Mine.

As a safety measure, rock berms will be placed 10 metres from the edge of a quarry and above any exposed high walls that are more than 2 metres in height where there is a risk of an all-terrain vehicle or snowmobile accidentally going over the edge.

Progressive reclamation will be carried out as much as practicable. With prudent initial design, the proposed quarries/borrow pits should require little reclamation. Reclaimed quarries and borrow pits will have gently sloping walls and positive drainage, wherever possible. Loose wall rock will be pulled to the quarry floor, and quarry entrances will be blocked with large boulders.

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TABLES

DOCUMENT CONTROL

Version	Date	Section	Page	Revision	Author
1	December 2012			First draft of the Borrow Pits and Quarries Management Plan	John Witteman, Env. Consultant, Agnico Eagle
2	March 2013	1.2.2	3-4	More detail on Discovery access road	John Witteman, Env. Consultant, Agnico Eagle
3	April 2014			FEIS submission	
4	April 2015			Update document for the Class A Water Licence Application	John Witteman, Env. Consultant, Agnico Eagle
5	March 2017	1.2.1	2	2016 Comprehensive Review following completion of AWAR Construction Addition of Table 1	Manon Turmel, Agnico Eagle Mines Ltd.
6	January 2018			Annual review	Alexandre Gauthier, Env. Tech Meliadine Project
7_NWB	January 2024	A yellow arrow in the right-hand margin indicates where updates have been made		Submitted to NWB as part of the Meliadine Mine Water Licence Amendment	Permitting Department
8	March 2025			Comprehensive review and update throughout	Environment Department

ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited
ARD/ML	Acid Rock Drainage/Metal Leaching
AWAR	All-weather Access Road
CGS	Department of Community and Government Services, GN
CH	Department of Culture and Heritage, GN
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CLEY	Department of Culture, Language, Elders and Youth, GN
IOL	Inuit Owned Lands
KivIA	Kivalliq Inuit Association
NIRB	Nunavut Impact Review Board
NWB	Nunavut Water Board
Park	Iqaluqaarjuup Nunanga Territorial Park
Mine	Meliadine Gold Mine

UNITS

km	kilometre
m	metres
m^3	cubic metre
Mt	Million tonnes

SECTION 1 • INTRODUCTION

1.1 Overview

The mine plan consists of open pit and underground mining methods for the development of the Tiriganiaq gold deposit, and open pit mining at the Pump, F Zone, Wesmeg, and Discovery deposits.

Borrow pits and quarries are defined by the type of granular material extracted and the method of extraction. Quarries consist of rock material that is typically extracted by digging, cutting, or blasting and yields large stones that may then need to be crushed (INAC 2009). Borrows pits consist of fine grained fill materials, such as sand or clay, that are normally used at a nearby site (INAC 2009).

1.2 Objectives

Borrow pit and quarry material for the Mine will be used for construction of infrastructure and roads. Materials from borrow pits and quarries considered to have low potential for ARD/ML and low sulphur content is suitable to be used as construction material.

The quarrying, infrastructure and road construction activities will consist of drilling, blasting, mucking, crushing, haulage, end dump and grading. The objective of this Plan is to outline how these activities will be managed, monitored, and reported on.

1.3 Quarry Locations

Borrow pits and quarries approved as sources for construction material are listed in Table 1-1.

1.4 Related Documents

The following documents provided input to the Borrow Pits and Quarries Management Plan:

- Explosives Management Plan;
- Interim Closure and Reclamation Plan;
- Roads Management Plan;
- Dust Management Plan;
- Water Management Plan;
- Blast Monitoring Plan;
- Cultural and Heritage Resources Protection Plan;
- Air Quality Monitoring Plan; and
- Occupational Health and Safety Plan.

The Borrow Pits and Quarries Management Plan is part of the Environmental Management and Protection Plan for the Mine.

Table 1.1: Approved Borrow Pits and Quarries

Issued By	Quarry permit	Quarries/borrow pits approved	Active (Y/N)
KivIA	KVCA11Q01	B5	N
		B5A	N
		B6 and B6 West	Y
		B10 Extension	Y
		B12	Y
KivIA	KVCA07Q08	Meliadine Esker	Y
		NW-GB16	N*
GN	01-600-16	Site D	Y
GN	01-600-17	Itivia Quarry	N

*Not yet active.

1.5 Regulatory Setting

The Meliadine Mine is located on IOL, with some components located within the municipality of Rankin Inlet. This includes all borrow pits and quarries exclusively used in building and maintaining the AWAR. Although federal requirements do not apply, the *Northern Land Use Guidelines, Pits and Quarries* prepared by Indian Affairs and Northern Development Canada (INAC 2009; which in 2017 split into Services Canada and Crown-Indigenous Relations and Northern Affairs) provides useful guidance in establishing and operating borrow pits and quarries in an Arctic setting.

In building the AWAR, borrow pits and rock quarries on IOL required a quarry permit issued by the KivIA. Quarry permits from the KIA include terms and conditions specifying how operations are to be conducted.

Quarry permits on municipal land are administered by the Government of Nunavut Department of Community and Government Services (CGS) on behalf of the hamlet of Rankin Inlet. When the hamlet council passes a resolution approving the quarry and/or borrow pit, the permit is issued by CGS. If Agnico Eagle purchases materials from existing quarries and borrow pits in the hamlet for the construction of the bypass road and the Itivia laydown, permits would not be required in this instance.

The Department of Culture and Heritage (CH) administers the archaeology permitting process for Nunavut. Archaeological surveys are undertaken in advance of borrow pit and quarry selection to ensure all archaeological sites are identified and avoided if possible. If the sites cannot be avoided, they are mitigated with the approval of CH.

The Nunavut *Wildlife Act* and Wildlife Regulations will apply as raptors nesting close to the AWAR and quarries/borrow pits may be disturbed, or raptors may nest in the quarries and/or borrow pits upon the completion of their use.

Land animals may also be disturbed by the quarrying activities. The quarries and possibly the borrow pits in some instances will require the use of explosives. The activities will have to comply with the *Explosive Use Act* and Regulations, and the *Mine Health and Safety Act and Regulations.* The latter is administered by the Worker's Safety and Compensation Commission.

Use of rock and granular material from the quarries and borrow pits could introduce waste to water, and will require a water licence from the NWB under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and associated water regulations. The federal *Fisheries Act* will apply if runoff water containing deleterious substances flow from the quarries/borrow pits into fish bearing waters.

Use of explosives at quarries can generate shock waves that have the potential to cause detrimental effects on fish. The federal *Fisheries Act* will apply if this was to occur. Guidelines for the use of explosives in or near Canadian fisheries waters provide specific methods for calculating the setback distance required to stay below this threshold based on different amounts of explosive and the type of substrate.

SECTION 2 • BORROW PIT AND QUARRY OPERATIONS

2.1 Quarry and Borrow Pit Extraction Methods

Quarry operations will use explosives. The design, size, and shape of the blasts are planned with safety being the foremost consideration. A predetermined pattern of drill holes is drilled to a depth not exceeding the overall depth of the quarry and filled with explosives. Prior to a blast, all personnel and equipment are moved to a safe distance from the blast area. The blast fragments (i.e., the blasted rock) is then loaded into haul or dump trucks using either a loader or a hydraulic shovel. The truck drives to the end of the road (or other construction area) where the rock is dumped. The rock is then pushed into place using a dozer. This sequence is called a “drill, blast, load, haul, dump” sequence.

Some rock can be moved to a crusher to produce aggregate of various sizes. The crusher is located as far from water as possible and where it is best shielded from the prevailing wind, preferably behind a high wall in a quarry to reduce the quantity of wind-blown dust and to have as much dust as possible fall within the boundaries of the quarry.

Wherever possible, borrow pit material will be ripped using a dozer. This loosens the material and allows it to be picked up using a loader or a hydraulic shovel. Standard drill and blast procedures may be used in instances where ripping is not possible. The sequence of steps under this circumstance follows that for rock quarries.

SECTION 3 • MONITORING AND MITIGATION MEASURES

The ranking of mitigation options is as follows:

- **Avoidance** – using an alternate site or technology to avoid the adverse effect all together. This is the most desirable;
- **Minimization** – taking actions to minimize and/or contain effects to the maximum extent possible during engineering design, pre-development, construction, operations, and closure;
- **Rectification** – taking actions to rehabilitate or restore the affected environment after the fact; and
- **Compensation** – this is used as a last resort to offset adverse environmental effects. This is the least desirable.

Best management practices will employ the following general mitigation measures for the quarries and borrow pits:

- minimize the surface area of quarries and borrow pits where possible;
- minimize rock and borrow pit cuts where possible;
- maintain the floor of the quarries and borrow pits slightly above the elevation of the surrounding area to promote drainage, to avoid creating quarry lakes, and to prevent permafrost degradation in borrow pits;
- prevent erosion and sedimentation through appropriate control measures;
- carry out ARD/ML testing and water quality monitoring in support of mitigation measures;
- protect archeological resources;
- verify that there are no raptor nests in or near quarries and borrow pits before beginning quarrying operations;
- reduce emissions through dust control/suppression;
- perform environmental inspections; and
- use progressive reclamation in closing quarries and borrow pits no longer needed..

3.2 Acid Rock Drainage and Metal Leaching

Sampling and testing will be completed prior to use of any quarry or borrow pit to reduce the risk of ARD/ML. As recommended by Price (2009), for every 100,000 tonnes of material removed from a borrow pit or rock quarry, eight samples will be collected for static testing and analysis (ARD/ML). Additional measures will be used while the quarries and borrow pits are operational. If ARD/ML materials are found, these materials will not be used for construction and the area will be covered with a minimum two-metre-thick layer of non-acid generating borrow material to encapsulate it below the active layer.

The sampling and testing will confirm that the best available materials are being used in constructing the access roads.

The same procedures will be used should any new quarry and/or borrow pit be developed.

3.3 Management of Water Originating from Quarries and Borrow Pits

The development of each borrow pit and quarry will proceed in a manner, to the extent possible, that ensures water entering the area because of precipitation or snow melt is retained within the active boundary. Generally, this will be accomplished by sloping borrow pit and quarry floors slope towards a natural or engineered sump to collect waters and settle out suspended solids. Water quality monitoring provides information on possible impacts on the environment (e.g., water and sediment quality). If a borrow pit or quarry requires dewatering, a sample of the ponded water will be collected and submitted to an accredited laboratory for analysis of specific parameters. This water would be transported to the Mine and deposited into CP1, or discharged to the environment following the NWB Water Licence 2AM-MEL1631 conditions.

A buffer of at least 31 m of undisturbed land will be maintained between quarries/borrow pits and waterbodies when practicable. If not possible, Agnico Eagle will seek approval from the Board. Best management practices will prevent direct drainage of the quarry to watercourses. However, any significant seeps originating from the borrow pits or rock quarries likely to reach receiving waters will be sampled and analysed for a full suite of water quality parameters. Any problematic water will be directed away from waterbodies, or held if possible. If necessary, silt curtains and/or straw logs will be used to control suspended sediments in water seeping from the quarries/borrow pits.

Although erosion is not expected to originate from water flow from the quarries/borrow pits, any evidence of erosion will be repaired by placing rip-rap over the affected area, and measures will be taken to reduce the velocity of the water with, for example, silt curtains, straw logs, or small check dams.

3.4 Archaeological Resources

If any potential archaeological site is identified during the operation of any quarry/borrow pit, work will stop, a professional archaeologist will be consulted, and CH will be informed of the discovery.

All equipment will remain within the boundaries of the quarries/borrow pits to ensure any nearby archaeological site is not inadvertently damaged.

Before any new quarry/borrow pit is selected, it will be surveyed for archaeological resources by a professional archaeologist registered in Nunavut. Sites with archaeological resources present will not be selected if there is a similar site devoid of archaeological resources nearby.

3.5 Iqaluqaarjuup Nunanga Territorial Park

Quarries and borrow pits will not be developed in or near the Iqaluqaarjuup Nunanga Territorial Park (the Park). Rock quarry R19 and borrow pit B15 are the closest to the Park. Both are more than 1 km from the Park boundary and quarry R19 and B15 is closed and rehabilitated

2.53.6 Dust Control

The major source of dust generation during the operations of borrow pits and quarries will be in the vicinity of the crusher while it is operating. To limit the creation of dust, any crusher will be situated where it is best shielded from the prevailing wind, preferably behind a high wall. In addition, crushing that occurs during the summer when dry weather is expected will be controlled through wetting. Both measures will minimize dust generation and limit dusting to the bounds of the borrow pit or quarry.

Transport of material from the borrow pits and quarries will be subject to speed limit restrictions to reduce dust generation.

Dust monitoring is occurring along the AWAR and between the AWAR and the Park.

3.7 Ground Ice and Permafrost Protection

The borrow pits[1] sites selected are from glaciofluvial deposits and weathered bedrock deposits located in well-drained areas. All have positive topography rising above the local setting. These types of granular deposits were selected because they are largely free of ground ice, thereby minimizing possible thaw settlement and melting ground ice, which can result in erosion, slumping of side slopes, and an altered landscape that extends beyond the borrow pit. Should this happen, the area will be monitored and, if necessary, stabilized by covering the affected land with approximately 2 m of rock or other granular material. This reclamation effort would allow the permafrost to move up into the material covering the area and stop any remaining ground ice from melting. Inspections of quarries/borrow pits will continue after their closure at the end of Mine predevelopment and construction.

Any significant seeps originating from the borrow pits because of ground ice, permafrost melting, or from precipitation events will be monitored if the water is likely to reach receiving waters[2].

[1] Quarry sites are expected to be free of ground ice and should not release any water should the permafrost melt.
[2] Shallow, standing water will not be collected as it poses little risk to the receiving environment.

SECTION 4 • PROGRESSIVE RECLAMATION

The Mine's reclamation objective is to avoid or minimize negative environmental effects wherever possible, practice progressive reclamation, and, upon closure, return negatively impacted areas to productive and lasting use by wildlife and humans. Reclaimed areas will be chemically and physically stable, and should ultimately support the same functions as surrounding undisturbed land. Because of the proximity to Rankin Inlet, particular attention will be paid to ensuring that reclaimed areas are safe for future traditional use.

A practical, cost-effective approach will be central to the closure and reclamation of the borrow pits and quarries. The intent is to pursue progressive reclamation to return areas to natural conditions and avoid long-term care and maintenance requirements. Most quarries and borrow pits will no longer be needed following the completion of construction, although several quarries will remain open to support ongoing maintenance and repair of the AWAR[3]. Using best management practices, borrow pits and quarries no longer in use will be reclaimed by stabilizing disturbed land surfaces, which will promote natural re-vegetation.

The reclaimed quarries and borrow pits will have gently sloping walls and positive drainage wherever possible. With prudent initial design, the quarries/borrow pits should require little reclamation. Loose wall rock will be pulled to the floor of the quarry, and the quarry entrance will be blocked with large boulders. For the interim until the quarries and borrow pits are reclaimed, rock berms will be placed 10 m from the edge of the quarry/borrow pits and above any exposed high walls that are more than 2 m in height where there is a risk of an all-terrain vehicle or snowmobile accidentally going over the edge.

Should acid-generating bedrock be exposed in borrow pit/quarry, these areas will be covered with a minimum of a 2 m thick layer of non-acid generating soil or rock. Water will be directed away from the area.

[3] A small number will remain active to store and/or supply crushed rock and/or granular material for ongoing road maintenance.

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