AGNICO EAGLE

March 2015

EXPLORATION

Application for a Type B Licence to Construct the Amaruq Exploration Access Road
Main Application Document

Submitted to:
Nunavut Water Board
PO Box 119
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EXECUTIVE SUMMARY

The Amaruq Exploration Property is a 408-square kilometre which supports an exploration camp site located on Inuit Owned Land 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. The Kivalliq Inuit Association issued Agnico Eagle a land use permit for exploration purposes. Similarly, the Nunavut Water Board issued Agnico Eagle a water licence for exploration purposes.

In July 2013, an exploration drilling program was initiated. The results of the drilling showed promising gold mineralization and drilling continued in October 2014 to advance an inferred deposit with the goal of becoming a potential satellite pit to the Meadowbank mill. Drilling will continue in 2015 (as weather permits) to progress the inferred deposit into a resource estimate to allow for feasibility studies to be completed in 2016.

Currently the Amaruq exploration site can only be operated safely on a seasonal basis as it is dependent upon either helicopter or snow cat access. Drilling activities can only be conducted when there is immediate safe access to off-site medical care (in the event of a potential accident) and thus there are periods when neither helicopter nor snow cat access is reliable (due to weather or ground conditions). These constraints limit the rate at which exploration and resource conversion drilling activity can be conducted at the Amaruq exploration site.

The Meadowbank mine is scheduled to complete all mining activities by mid-2017, with the exhaustion of its known ore reserves, with milling of all stockpiles to be completed several months later. Consequently, timing of sourcing additional ore reserves that could be milled at the Meadowbank mine is of critical interest to Agnico Eagle. The Meliadine Gold Project is unlikely to be ready to start commercial operations before 2019 (due to the time required to finish permitting and complete construction). Agnico Eagle is working to look for ways to extend the operating mine life of the Meadowbank mine as it looks for ways to protect the integrity of its current workforce, and are therefore looking for solutions to reduce the long gap between completion of mining at Meadowbank and start of mining at the Meliadine site. The Amaruq exploration site has the potential to extend the Meadowbank mine life thereby potentially reducing this gap.

As a result accelerating development of the Amaruq exploration site by moving to year-round exploration activity is important to Agnico Eagle. This accelerated development can best be achieved by connecting the Amaruq exploration site to the Meadowbank site by the construction of an exploration access road. This would allow safe access to medical care facilities at Meadowbank on a year round basis and would allow for an increase in drilling activity as key supplies (especially fuel) can be moved on a regular basis to Amaruq from supplies stored at Meadowbank and Baker Lake. This would accelerate Agnico Eagle's ability (timing) to advance this site into the feasibility stages. It would also enable Agnico Eagle to look at going underground at Amaruq by constructing an exploration decline in 2018 to expand its Amaruq exploration program underground beyond 2019.

Realistically, year-round exploration and the future fuel requirements for advanced exploration at the Amaruq exploration site is not possible using a winter road (fuel storage facilities are not adequate, fuel transport over a winter road or by helicopter is constrained by equipment and seasonal weather). Consequently, Agnico Eagle initiated work to look at possible locations and the feasibility of constructing an exploration access road between the Meadowbank mine and the Amaruq exploration site to allow safe and efficient year-round transport of fuel, equipment, supplies, and personnel.

An alternatives assessment was conducted to evaluate the possibility of using a winter road and in combination with airlifting fuel, however based on future fuel requirements, this is not a feasible option. Furthermore the alternatives assessment considered various options for routing that included a southern, eastern, or central route. The southern route uses the north portion of the Meadowbank Mine All Weather Access Road; the eastern route is predominantly on an esker. The central route, west of the esker, minimizes the possible effects to the environment and is the most economically and environmentally feasible; therefore, is carried forward in this application. Information related to the construction, operation, and environmental assessment of the exploration access road is presented in this Main Application Document in support of the Type B Water Licence application and NIRB screening of the proposed exploration access road.

The proposed Amaruq Exploration Access Road route selected is 62.5 kilometres long. The proposed road surface will be 6.5 metres wide, with 3 bridges, 8 large open bottomed arch culverts, 28 corrugated round culverts to pass watercourse crossings and many other localized drainage culverts to prevent erosion, reduce thaw susceptibility and washout of the road during freshet. The bridges, open bottom arch culverts and round culverts will allow normal river and stream flow, and fish migration at road water crossings. The proposed Amaruq Exploration Access Road will have 7 borrow areas with short spur roads, will use the Vault Pit as a quarry and be a private road constructed by Agnico Eagle on both Crown and Inuit Owned Lands.

After selecting the proposed route for the road, preliminary baseline studies were carried out in 2014 (and are ongoing) including a traditional knowledge study, archaeological, aquatic and wildlife surveys, water crossing assessments, and gravel borrow pits appraisals. Preliminary construction engineering for a proposed road construction design is also underway.

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ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᔪᓕᕆᔾᑦ 408-ᓂᒃ ᑭᓛᒥᑕᒥᒃ ᑭᐸᒃᕆᒃᑐᓕᕐᒐᔪᒥᒃ ᐊᕐᒋᑎᒋᔪᖅ ᐃᑲᔪᐃᔪᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᓄᓇᓕᐊᓛᒥᒃ ᐃᓄᐃᑦ ᓄᓇᒋᔭᕐᒐᓐᓃᑐᒥᒃ 150 ᑭᓛᒥᑕᓪᓗᐊᓂᒃ ᐅᐊᕐᓇᕐᒐᓂᑦ ᖃᒪᓂᑦᑐᐊᑉ ᐊᒪᓗ 50 ᑭᓛᒥᑕᓪᓗᐊᓂᒃ ᐅᐊᕐᓇᖅᐸᓯᕐᒐᓂᑦ ᐱᕐᒐᕐᓇᖅᐸᓯᕐᒐᓂᑦ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐅᔭᕋᕐᓂᐊᕐᕕᐅᑉ. ᐊᓪᓂᒃᑯᑦ ᐊᑐᖅᑐᐊᓚᐅᖅᑐᑦ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐱᔪᕐᓇᐅᑎᖃᕐᓂᕐᒥᒃ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᑐᙵᕕᒃᑯᓐᓂᑦ ᐋᐳᕆ 2013-ᒥᑦ. ᑭᖕᓪᓕᕐᒥᑦ ᐃᓄᐃᑦ ᑲᑎᒪᔩᕐᒋᑦ ᑐᓂᓯᓚᐅᖅᑐᑦ ᐊᓪᓈᑯᒃᑯᓐᓄᑦ ᐳᒥᕐᒥᒃ ᓄᓇᒥᒃ ᐊᑐᕈᕐᓇᐅᑎᒥᒃ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐱᔾᔪᑎᓕᕐᒥᑦ. ᐊᔾᔩᕐᓚᕐᒐ, ᓄᓇᕗᒻᒥᑦ ᐃᒪᓕᕆᔩᒃᑯᕐᒋᑦ ᑐᓂᓯᑉᐳᑎᒃ ᐊᓪᓈᑯᒃᑯᓐᓄᑦ ᐃᒪᕐᒧᑦ ᓚᐃᓴᒥᒃ ᕿᓂᖅᓴᐃᓂᕐᒧᑦᑕᐅᖅ.

ᔪᓚᐃ 2013-ᒥᑦ, ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐃᑳᑕᐃᓂᖅᑕᖅᑲᓚᐅᖅᑐᖅ. ᐃᑳᑕᐃᓂᖅ ᑕᑯᒃᓴᐅᑎᑦᑎᓚᐅᖅᑐᖅ ᒃᑰᑕᖅᑲᐅᓗᕿᓐᓂᕐᒐᓂᒃ ᐊᒪᓗ ᐃᑳᑕᐃᓂᖅ ᑲᔪᓯᑉᐳᓂ ᐅᒃᑑᐱᕆ 2014-ᒥᑦ ᓯᕗᓪᓗᐊᕆᐊᕐᓂᕐᒧᑦ ᑕᐃᒪᑕᖅᑲᖅᑐᒃᓴᐅᓂᕐᒐᓄᑦ ᑐᕌᒐᖅᑲᖅᓗᑎᒃ ᐃᓗᖅᑐᖅᓯᒪᔪᓕᐅᖅᑕᐅᑐᐃᓐᓇᕆᐊᖅᑲᕐᓂᕐᒐᓂᒃ ᐊᐳᖅᑎᓐᓈᖅᑑᑉ ᓯᖅᑲᓪᓕᑎᕆᕕᕐᒐᓄᐊᕐᓗᒍ. ᐃᑳᑕᐃᓂᖅ ᑲᔪᓯᓂᐊᖅᑐᖅ 2015-ᒥᑦ (ᓯᓚ ᐱᔪᕐᓇᖅᑎᑦᑎᑐᐊᖅᐸᑦ) ᐱᒋᐊᑲᓐᓂᕐᓂᕐᒧᑦ ᑕᐃᒪᑕᖅᑲᖅᑐᒃᓴᐅᓂᕐᒐ ᖃᐅᔨᓂᕐᒧᑦ ᐃᓱᐊᖅᑐᖅᓯᐅᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᐃᓂᖃᕈᕐᓇᕐᓂᕐᒧᑦ ᐱᐊᓂᒃᑕᐅᓂᐊᕐᓗᑎᒃ 2016-ᒥᑦ.

ᒫᓐᓇᐅᔪᖅ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᐅᑉ ᐃᓂᕐᒐ ᐊᐅᓚᑕᐅᔪᕐᓇᖅᑐᖅ ᐊᑦᑕᓇᖅᑐᖅᑕᖅᑳᕆᓪᓗᒍ ᐅᑭᐅᑉ ᐃᓚᐃᓐᓇᕐᒎᕐᒐᓗᒍ ᐊᑐᖅᑲᑦᑕᕐᒪᑕ ᖁᓕᒥᑰᓕᕐᓂᑦ ᐅᖓᓘᓃᑦ ᐅᑭᐅᑯᑦ ᐊᑐᖅᑕᐅᖅᑲᑦᑕᖅᑐᒃᑯᑦ ᑎᑭᑕᐅᑎᓂᕐᒧᑦ. ᐃᑳᑕᐃᓃᑦ ᐱᓕᕆᐊᕐᒍᔪᕐᓇᖅᑐᑦ ᑭᓯᐊᓂ ᐊᑦᑕᓇᖅᑐᖅᑕᖅᑳᕆᑦᑐᒃᑯᑦ ᐃᓂᐅᔫᑉ ᐊᓯᐊᓂᑦ ᐋᓐᓂᖅᑐᖅᑲᖅᑐᓕᕆᕙᕐᒧᑦ (ᐱᓂᕐᓗᐊᕿᓂᖅᑕᖅᑲᕋᔭᖅᐸᑦ) ᐊᒪᓗ ᖃᑯᑎᒃᑯᑦ ᖁᓕᒥᑰᓕᒃᑕᖅᑳᕆᐸᒃᓗᓂ ᐅᕙᓘᓃᑦ ᐊᐳᑎᒃᑯᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᒥᒃ ᒪᓂᒪᔪᓂᒃ (ᓯᓚ ᐱᔾᔪᑎᒋᐸᓗᒍ ᐅᕙᓘᓃᑦ ᒪᓂᕋᐅᑉ ᖃᓄᐃᓂᕐᒐ). ᑕᒪᒃᑯᐊ ᐊᔪᕐᓇᕈᑕᐅᔪᑦ ᑮᓐᖅᑲᖅᑎᑦᑎᔪᑦ ᖃᓄᑎᒋ ᐱᓕᕆᐊᕐᒍᔪᕐᓇᕐᓂᕐᒐᓂᒃ ᕿᓂᖅᓴᐃᓃᑦ ᐊᒪᓗ ᐱᕙᐅᔪᓂᒃ ᐱᓕᕆᐊᖅᑲᕐᓂᖅ ᐃᑳᑕᐃᓂᒃᑯᑦ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᕙᕐᒥᑦ.

ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐱᐊᓂᒡᕙᒃᓴᖅᑲᖅᑐᑦ ᐅᔭᕋᕐᓂᐊᕐᓂᓕᕆᓂᓗᒃᑖᑦ ᐅᑭᐅᒥᑦ 2017 ᕿᑎᐊᓂᑦ, ᓄᕝᕈᑎᓯᒪᓕᕐᓂᕐᒧᑦ ᖃᐅᔾᔨᒪᔭᐅᔪᓂᒃ ᐅᔭᖅᑲᓂᒃ, ᓯᖅᑲᓪᓕᑎᕆᓂᓗᒃᑖᑦ ᐱᓯᒪᔭᕐᒋᓐᓂᒃ ᐱᐊᓂᒃᑕᐅᓗᑎᒃ ᑲᐸᓯᐊᕐᔪᐃᑦ ᑕᖅᑮᑦ ᑭᕝᕊᓂᐊᒍᑦ. ᑕᐃᒪᓐᓇᒧᑦ, ᖃᕐᒐᒃᑰᓂᐊᕐᓂᕐᒐ ᓇᑮᙵᕐᓂᐅᔪᓕᐅᕆᓂᖅ ᐅᔭᖅᑲᒃᑲᓐᓂᕐᓂᑦ ᓯᖅᑲᓪᓕᖅᑎᖅᑕᐅᔪᕐᓇᖅᑐᓂᒃ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᑲᒪᒋᔭᖃᓗᐊᖅᑐᑦ ᐊᓪᓃᑯᒃᑯᑦ. ᑕᓯᕐᔪᐊᕐᒥᑦ ᐱᓕᕆᐊᖅ ᒪᓂᒪᓕᔾᔮᕐᒋᑦᑐᒃᓴᐅᔪᖅ ᐊᐅᓛᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᐅᑭᐅᑉ 2019 ᓯᕗᓂᐊᒍᑦ. (ᐱᔾᔪᑎᒋᐸᓗᒍ ᐱᕕᖃᕐᓂᐅᔭᕆᐊᖅᑲᖅᑐᖅ ᐳᒥᑦᓕᕆᓂᕐᒧᑦ ᐊᒪᓗ ᓴᓇᔭᐅᓂᕐᒐ ᐱᐊᓂᒃᓯᒪᓂᕐᒧᑦ). ᐊᓪᓈᑯᒃᑯᑦ ᐱᓕᕆᐊᖃᖅᑐᑦ ᖃᓄᖅ ᐅᐃᒍᒋᐊᕈᕐᓇᕐᓂᕐᒐ ᐊᐅᓛᕐᓂᕆᔭᕐᒐ ᐊᐳᖅᑎᓐᓈᖅᑐᖅ ᕿᓂᖅᑎᓪᓗᒋᑦ ᖃᓄᖅ ᒥᐊᓂᕆᔭᐅᔪᕐᓇᕐᓂᕐᒐ ᐃᓗᐃᑑᓂᕐᒐ ᒫᓐᓇᐅᔪᖅ ᐱᓕᕆᓂᐅᔪᑦ, ᐊᒪᓗ ᑕᐃᒪᓐᓇᒧᑦ ᕿᓂᖅᑐᖅ ᒥᒃᓵᒋᐊᖅᑎᑦᑎᓂᕐᒥᒃ ᓄᖅᑲᕐᒐᕐᑲᑦᑖᕐᓂᐅᔪᑦ ᐊᑯᓐᓂᕐᒋᓐᓂᒃ ᐱᐊᓂᒃᓯᒪᓂᐅᕐᒐ ᐅᔭᕋᕐᓂᐊᕐᓂᐅᑉ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐊᒪᓗ ᐅᔭᕋᕐᓂᐊᖅᑐᓕᕆᖕᓪᓕᐊᓂᖅ ᑕᓯᕐᔪᐊᕐᒥᑦ. ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᐅᑉ ᐃᓂᕐᒐ ᐅᐃᒍᒋᐊᖅᓯᓂᖅᑐᐃᓐᓇᕆᐊᖅᑲᖅᑐᖅ ᐊᐳᖅᑎᓐᓈᖅᑑᑉ ᐊᐅᓛᕐᓂᕆᔭᕐᒐᓂᒃ ᑕᐃᒪᓐᓇᒧᑦ ᓄᖅᑲᕐᒐᕐᑲᑦᑖᕐᓂᕐᒥᒃ ᒥᒃᓵᒋᐊᖅᑎᑦᑐᓂ.

ᑕᐃᒪᓐᓇᒧᑦ ᐱᒋᐊᖅᑎᒃᑲᓐᓂᕐᓂᖅ ᐱᕚᓪᓕᐊᓂᖓ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᐅᑉ ᐃᓂᐅᔪᒥᒃ ᐅᑭᐅᓗᒃᑖᕐᒥᑦ ᕿᓂᖅᓴᐃᓂᖃᓕᕐᓗᓂ ᐱᒻᒪᕆᐅᔪᖅ ᐊᒃᓃᑯᒃᑯᓐᓄᑦ. ᐱᒋᐊᖅᑎᒃᑲᓐᓂᕐᓂᕐᒧᑦ ᐱᕚᓪᓕᐊᓂᖅ ᐱᐅᓛᒃᑯᑦ ᑎᑭᐅᑎᔭᐅᔪᓐᓇᖅᑐᖅ ᑲᑎᑦᑐᒋᑦ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐃᓂᐅᔪᖅ ᐊᐳᖅᑎᓐᓈᖅᑐᒧᑦ ᓴᓇᓗᓂ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐊᑦᕿᑎᒥᒃ. ᑕᐃᒪᓐᓇ ᐊᑦᑕᓇᖅᑐᒦᓐᓂᖅᑕᖅᖢᒋᑦᑐᒥᒃ ᐋᓐᓂᖅᑐᖅᑲᖅᑐᓕᕆᕝᕕᒧᐊᖅᑲᑦᑕᕈᓐᓇᕋᔭᖅᑐᑦ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐅᑭᐅᓗᒃᑖᒃᑰᕐᒪᔪᒥᒃ ᐊᒻᒪ ᐊᕆᒡᓕᕆᐊᖅᑎᑦᑎᓗᓂ ᐃᑰᑕᐃᓂᕐᓄᑦ ᐱᖁᑎᓄᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᕆᓐᓄᑦ (ᐅᖅᓱᐊᓗᓗᐊᕐᒥᑦ) ᓅᑕᐅᔪᓐᓇᖅᑕᑦᕐᓗᑎᒃ ᐱᔭᕆᐊᖅᑳᕐᒪᑕ ᐊᒪᕈᖅᒧᑦ ᑐᖅᑯᖅᑕᐅᓯᒪᔪᓂᒃ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐊᒻᒪ ᖃᒪᓂᑦᑐᐊᕐᒥᑦ. ᐱᒋᐊᖅᑎᒃᑲᓐᓂᖅᑎᑦᑎᓇᔭᖅᑐᖅ ᐊᒃᓃᑯᒃᑯᑦ ᐱᔪᓐᓇᕐᓂᕐᒪᓂᒃ (ᖃᕐᒪᒃᑯᑦ) ᓯᕗᒻᒧᕐᓂᕐᒧᑦ ᐃᓂᐅᔪᒧᑦ ᐃᓗᐊᖅᓯᑎᓐᓂᕐᒧᐊᕐᓗᒍ. ᐊᒃᓃᑯᒃᑯᓐᓂᓪᓗ ᐱᒋᐊᖅᑎᑦᑎᔪᓐᓇᕐᓗᑎᒃ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ ᐱᓕᕆᖅᕐᓂᕐᒧᑦ ᐊᒪᕈᖅᒥᑦ ᓴᓇᓗᑎᒃ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ 2018-ᒥᑦ ᐊᕆᒡᓕᕆᐊᖅᑎᓐᓂᕐᒧᑦ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᑐᕌᖓᔪᖅ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ 2019 ᐅᖓᑖᓄᑦ.

ᓯᓚᔪᒃᑯᑦ, ᐅᑭᐅᓗᒃᑖᖅ ᕿᓂᖅᓴᐃᓂᖅ ᐊᒻᒪ ᓯᕗᓂᖅᓴᒥᑦ ᐅᖅᓱᐊᓗᖕᒥᑦ ᐱᔭᕆᐊᖅᑲᖅᓂᐅᔪᑦ ᓯᕗᒧᒋᐊᕐᓂᕐᒥᒃ ᕿᓂᖅᓴᐃᓂᖅ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐃᓂᐅᔪᒥᑦ ᐊᔪᕐᓇᙱᑦᑐᖅ ᐊᑐᕐᓗᓂ ᐅᑭᐅᑯᑦ ᐊᑉᕿᑎᒥᒃ (ᐅᖅᓱᐊᓘᓯᕚᑦ ᑕᐃᒪᐅᕋᓂᙱᓪᓚᑕ, ᐅᖅᓱᐊᓗᐃᑦ ᐊᐟᔭᖅᑐᖅᑕᐅᓂᖏᑦ ᐅᑭᐅᑯᑦ ᐅᕙᓗᓃᑦ ᖁᓕᒥᒎᓕᒃᑯᑦ ᐊᔪᕐᓇᕈᑕᐅᖕᒪᑦ ᐱᕐᑯᑎᓄᑦ ᐊᒻᒪ ᐅᑭᐅᑉ ᐃᓚᖓᒍᑦ ᓯᓚᐅᑉ ᖃᓄᐃᓂᖓᓄᑦ). ᑕᐃᒪᓐᓇᒧᑦ, ᐊᒃᓃᑯᒃᑯᑦ ᐱᓚᓇᐊᖅᑲᓇᐊᓚᐅᖅᑐᑦ ᐃᓂᒋᔭᐅᔪᖕᓇᖅᑐᓂᒃ ᐊᒻᒪ ᐃᓗᐊᖅᑐᒃᑯᑦ ᓴᓇᓂᕐᒥᒃ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐊᑉᕿᑎᒥᒃ ᐊᐳᖅᑎᓐᓈᖅᑑᑉᓗ ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᓪᓗ ᐃᓂᐅᔫᑉ ᐊᑯᓐᓂᖕᒋᑦᑎᒍᑦ ᐊᑦᑕᓇᖅᑐᒦᖕᒋᑦᑐᒃᑯᑦ ᐊᒻᒪ ᓈᒻᒪᒃᑐᒃᑯᑦ ᐅᑭᐅᓗᒃᑖᖅ ᐊᐟᔭᖅᑐᐃᓂᕐᒥᒃ ᐅᖅᓱᐊᓗᖕᓂᑦ, ᐊᑐᖅᑕᐅᔪᓂᒃ, ᐱᕐᑯᑎᓂᒃ, ᐊᒻᒪ ᐱᓚᓇᓃᓂᒃ.

ᐊᓯᐊᒍᖕᒐᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᐃᓂᖅᑕᖃᓚᐅᖅᑐᖅ ᕿᒥᕈᓂᕐᒧᑦ ᐅᑭᐅᑯᑦ ᐊᑉᕿᑎᒥᒃ ᐊᑐᕈᓐᓇᓇᐊᒃᓴᖅ ᐊᒻᒪ ᐃᓚᐅᓗᓂ ᖁᓕᒥᒎᓕᒃᑯᑦ ᐅᖅᓱᐊᓗᖕᒥᑦ ᐊᐟᔭᖅᑐᐃᓂᕐᒥᒃ, ᑭᓯᐊᓂ ᑕᐅᑐᒃᓗᒍ ᓯᕗᓂᖅᓴᒥᒃ ᐅᖅᓱᐊᓗᖕᒥᑦ ᐊᑐᓇᐊᖅᑲᖅᓂᖅ, ᑖᓇ ᐃᓗᐊᖅᑑᖕᒋᑦᑐᖅ. ᐊᒻᒪ ᐊᓯᐊᒍᖕᒐᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᐃᓂᖅ ᐊᔾᔨᒌᖕᒋᑦᑐᓂᒃ ᑕᐅᑐᓚᐅᖅᑐᖅ ᐊᑉᕿᓯᐅᕐᓂᕐᒧᑦ ᐃᓚᐅᑉᓗᓂ ᓂᕆᖅᐸᓯᒃᑯᑦ, ᑲᓇᖕᓇᖅᐸᓯᒃᑯᑦ ᐅᕙᓘᓃᑦ ᕿᑎᐊᒍᖕᒐᔪᒃᑯᑦ ᐊᑉᕿᑎᒥᒃ. ᓂᕆᖅᐸᓯᒃᑯᑦ ᐊᑉᕿᑎ ᐊᑐᖅᑕᖅᑐᖅ ᐅᐊᖕᓇᖕᒐᓃᖕᒐᔪᖕᒐᓂᒃ ᐊᐳᖅᑎᓐᓈᖅᑐᒥᑦ ᐅᑭᐅᓗᒃᑖᖅ ᐊᑉᕿᑖᓂᒃ; ᑲᓇᖕᓇᖅᐸᓯᒃᑰᖕᒐᔪᖅ ᐊᑉᕿᑎ ᕿᒥᕐᕙᖕᒐᔫᒧᐊᖅᓗᓂ. ᕿᑎᐊᒍᖕᒐᔪᖅ ᐊᑉᕿᑎ, ᐱᖕᒐᖕᓇᖕᒐᓂᑦ ᕿᒥᕐᕚᖕᒐᔫᑉ, ᒥᒃᓵᓕᕆᐊᖅᑎᑦᑎᔪᖅ ᖃᓄᐃᖕᒐᖅᑎᑦᑎᓂᐅᑐᐃᓐᓇᓇᐊᖅᑐᒥᒃ ᐊᕙᑎᒥᒃ ᐊᒻᒪ ᐱᕈᖅᐸᓪᓕᐊᓂᖕᒐᔪᒃᑯᑦ ᐊᒻᒪ ᐊᕙᑎᒎᓕᖕᒐᔪᒃᑯᑦ ᐅᓗᐊᓛᖕᒍᐸᓗᓂ; ᑕᐃᒪᓐᓇᒧᑦ, ᐃᓚᐅᑎᑕᐅᔪᖅ ᑕᒡᕙᓂ ᑐᒃᓯᕋᐅᑎᒥᑦ. ᑐᑭᓯᐅᒪᔾᔪᑎᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᓴᓇᔭᐅᓂᖕᒐᓄᑦ, ᐊᐅᓚᓂᖕᒐᓄᑦ, ᐊᒻᒪ ᐊᕙᑎᒥᒃ ᖃᐅᔨᓴᐃᓂᕐᒥᑦ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐊᑉᕿᑎᒧᑦ ᑕᐃᒪᐅᔪᖅ ᑐᒃᓯᕋᐅᑎᒻᒪᕆᖕᒥᑦ ᐃᓚᒋᐸᒍ Type B ᐃᒪᕐᒧᑦ ᓚᐃᓴᒥᒃ ᑐᒃᓯᕋᐅᑎᒧᑦ ᐊᒻᒪ NIRB-ᑯᑦ ᖃᒥᕈᓂᖕᒐᑦ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐊᑉᕿᓯᐊᖅᑕᐅᔪᒪᔪᒧᑦ.

ᐊᒪᕈᖅ ᕿᓂᖅᓴᐃᓂᕐᒧᑦ ᐊᑉᕿᓯᐅᖅᑕᐅᔪᒪᔪᖅ ᓂᑯᐊᖅᑕᐅᔪᖅ 62.5 ᑭᓛᒥᑕᒥᒃ ᑕᑭᑎᒋᔪᖅ. ᐊᑉᕿᓯᐅᖅᑕᐅᔪᒪᔪᖅ 6.5 ᒦᑕᓂᒃ ᓯᓚᖕᓂᖅᑲᖅᓂᐊᖅᑐᖅ, ᐱᖕᒐᓯᓂᒃ ᐃᑳᕈᑎᑦᑲᖅᑐᓂ, 8-ᓂᒃ ᐊᕆᔪᓂᒃ ᐊᓗᐊᒍᑦ ᐅᒃᑯᐃᖕᒐᔪᓂᒃ ᓯᑉᐳᖅᑲᖅᑐᑎᒃ, 28-ᓂᒃ ᐊᖕᒪᓗᖅᑐᓂᒃ ᐃᒧᓗᕌᖅᑐᖅᑲᖅᑐᓂᒃ ᓯᑉᐳᖅᑲᖅᑐᑎᒃ ᐃᒪᖅ ᐃᑳᕈᖕᓇᖅᓂᖕᒐᓄᑦ ᐊᒻᒪ ᐊᒥᓯᐃᑦ ᖃᓂᑦᑐᒥᑦ ᑰᖕᒐᕝᕕᑦ

ᓯᕐᕆᑕᐃᓕᑎᓐᓂᕐᒧᑦ, ᒥᖅᓯᐅᕐᕆᑎᓐᓂᕐᒧᑦ ᐊᐅᖅᑭᑦᓭᐊᓂᐅᔪᓐᓇᕐᓂᓕᓪᓕᑦ ᐊᓪᓚᑕ ᓯᐅᕐᐃᓴᖅᑕᐃᓕᓭᕐᒧᑦ ᑯᓗᐊᕐᕆᑦᓭᓗᒍ ᐊᐅᖅᑭᑦᓭᐊᓗᕐᕆᑦᓭᓗᒍᔨᓕᓪ. ᐃᑲᔪᖏᑦ, ᐊᓗᐊᒍᑦ ᐅᖅᑯᐃᓐᖓᔪᑦ ᓯᑦᓭᐃᑦ ᐊᓪᓚᑕ ᐊᓐᓚᓭᖅᑐᑦ ᓯᑦᓭᐃᑦ ᑯᓂᕆᓂᓕᕐᓂᐊᕐᕆᑐᑦ, ᐊᓪᓚᑕ ᐃᕐᖅᓭᐃᑦ ᓄᑐᓐᓇᓭᓗᕆᓂᖅ ᐊᑦᕐᑯᕆᖅᑯᑦ ᐃᑲᕐᓘᖅᑯᑦ. ᐊᓪᓚᑭᕐᖅ ᕿᓂᕐᖅᓴᐃᓂᕐᒧᑦ ᐊᑦᕐᑯᓯᐅᕐᖅᑕᐅᔪᓚᕐᖅ 7-ᓂᖅ ᓯᐅᕐᕆᑕᕐᓘᕐᖅᓭᓗᕆᓂᖅ ᐊᓪᓚᑕ ᑕᑦᕐᑯᐊ ᓇᐃᑐᓂᖅ ᐊᑦᕐᑯᑎᕐᖅᓭᓗᕆᓂᖅ, ᐊᑐᕐᖅᑕᐅᓂᐊᕐᕆᑐᕐᖅ Vault Pit ᐃᓗᑦᑐᕐᖅᑎᓯᒪᔪᕐᖅ ᐊᓪᓚᑕ ᐃᓄᖓᓄᑦ ᐊᑐᕐᖅᑕᐅᔪᖓᓇᕐᓂᑐᓂ ᓴᓇᕆᐅᔪᕐᖅ ᐊᖏᓂᑯᑯᓄᑦ ᑲᖏᒪᑯᑦ ᐊᓪᓚᑕ ᐃᓄᐃᑦ ᓄᓇᕗᖅᖃᖅᑐᓂᖓᓂᒃ.

ᓂᕈᐊᕐᕆᐅᔾᓂᕐᑲᕐᕆᑎᓐᓂᕐᒍᒍ ᐊᑦᕐᑯᑎᑎᕆᐅᔪᓚᕐᖅ, ᓯᐅᑦᓀᕐᕆᓴᖓᔪᑯᑦ ᑭᖑᓀᕆᐅᔪᓄᑦ ᖃᐅᔨᓴᐃᓂᕐᕆᕆᓚᐅᕐᕆᑐᕐᖅ 2014-ᒥᑦ (ᐊᓪᓚᑕ ᑲᔪᓯᑦᓄᓂ) ᐃᓚᐅᑦᓄᓂ ᐱᕐᕆᔪᑯᑦ ᖃᐅᔨᓴᐃᓂᕐᒧᑦ ᖃᐅᔨᓴᐃᓂᕐᖅ, ᐱᕐᕆᔪᓯᑐᖃᓂᕐᖅ, ᐃᓚᒌᓂᕐᖅ ᐊᓪᓚᑕ ᓂᕿᐊᓂᐅᒃ ᖃᐅᔨᓴᐃᐅᑦ, ᐃᓚᒋᑯᑦ ᐃᑲᖅᑕᕿᓘᓐᓄᑦ ᖃᐅᔨᓴᐃᐅᑦ, ᐊᓪᓚᑕ ᓯᐅᕐᖅᑕᕿᓘᑦ ᐃᓄᓕᓯᒪᔪᑦ ᖃᐅᔨᓴᐅᖅᑕᐅᓂᖏᑦ.

ᓯᐅᒌᓕᖅᑭᖓᔪᑯᑦ ᓴᓇᕆᐅᓂᕐᒧᑦ ᐱᒋᓚᐊᖓᔪᖅ ᐊᑦᕐᑯᑎᓯᐅᕐᖅᑕᐅᔪᓚᑦᑭᑦ ᖃᓄᐃᓐᖏᓂᕐᓂᖓᓄᑦ ᐱᒋᓚᐊᖓᔪᓕᖅᑕᐅᖅᑕᖅ.

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DOCUMENT CONTROL

Version	Date	Section	Page	Revision
1	3/16/2015	All	All	Main Supporting Document for the Type B Access Road Application

Prepared by:
Agnico Eagle Mine Limited and Golder Associates Ltd.

Approved by:

Ryan Vanengen, M.Sc. – Environmental Superintendent Nunavut

ABBREVIATIONS, ACRONYMS, AND UNITS

Agnico Eagle	Agnico Eagle Mines Limited
AWAR	All-weather Access Road
DFO	Fisheries and Oceans Canada
IOL	Inuit Owned Land
KIA	Kivalliq Inuit Association
km	kilometre
km^2	square kilometre
L	litre
NIRB	Nunavut Impact Review Board
m	metre
m^3	cubic metre
mm	millimetre
NPC	Nunavut Planning Commission
NWB	Nunavut Water Board

1.0 INTRODUCTION

The Amaruq Exploration Property (formerly the 'IVR project'), which supports an exploration camp site located in Nunavut approximately 150 kilometres (km) north of Baker Lake and 62.5 km northwest of the existing Meadowbank mine (Figure 1.1-1). The 408 square kilometres (km^2) Amaruq Exploration Property is located on Inuit Owned Land (IOL), and was acquired by Agnico Eagle Mines (Agnico Eagle) in April 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated. Access to the exploration site is currently supported by a seasonal winter access road.

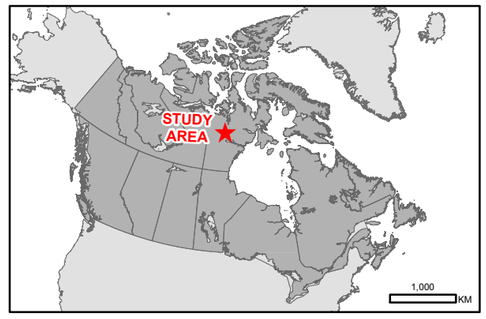
Agnico Eagle's intention is to acquire necessary permits and build a single lane gravel surfaced exploration access road linking the Amaruq Exploration site to the Meadowbank mine to facilitate safe, efficient, economical year round operations, including, the transport of fuel, equipment, and personnel in support of ongoing advanced exploration, camp operations, and environmental baseline data collection. Information related to the construction and operation of the Amaruq Exploration Access Road is presented in this document in support of the Type B Water Licence application and a Nunavut Impact Review Board (NIRB) Part 1 and 2 screening of the proposed Amaruq exploration access road.

1.1 Background

Exploration in 2014 at the Amaruq Exploration site in 2014 was expanded beyond the initial "I", "V" and "R" gold-bearing mineralized zones discovered in 2013. Therefore, following local consultation in Baker Lake, Agnico Eagle renamed the whole project and property "Amaruq", an Inuktitut word meaning "large wolf", after the legend of how wolves were created to keep the caribou herds healthy. The Amaruq Exploration Property includes several distinct zones of mineralization identified as "I", "V", "R" and "Whale Tail" and several other targets on a property covering 40,800 hectares.

LEGEND

- PROPOSED AMARUQ EXPLORATION ACCESS ROAD
- COMMUNITY
- WATERCOURSE
- WATERBODY



REFERENCE

1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
3. INSET MAP DATA OBTAINED FROM ESRI

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

10 0 10
KILOMETRES

PROJECT
AGNICO EAGLE MINES LIMITED
AMARUQ EXPLORATION ACCESS ROAD
NUNAVUT

AGNICO EAGLE

TITLE

GENERAL SITE LAYOUT

Golder Associates

PROJECT		1408749	FILE No.	
DESIGN	DO	03 Mar. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	16 Mar. 2015		
CHECK	DF	16 Mar. 2015	**FIGURE 1.1-1**	
REVIEW	GC	16 Mar. 2015		

\\golder.gds\gal\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Amaruq_Exploration_Road\99_PROJECTS\1408749_EIA\02_PRODUCTION\EIA\MXD\Report\EIS\GENERAL\1408749_FIG_1_1_1_GENERAL_SITE_LAYOUT.mxd

A new 25-person exploration camp has been commissioned on the Amaruq Exploration site, with an expansion underway to accommodate 60 workers by spring 2015 and up to 100 persons in the summer of 2015. The collection of environmental baseline data from the Amaruq Exploration site area began in the second half of 2014. This environmental baseline study could be used for the eventual permitting of the Amaruq project. In addition, up to mid-September, the Agnico Eagle permitting team has been evaluating various possibilities for the location of an exploration access road between the Meadowbank mine and the Amaruq Exploration site. Preliminary baseline assessments were undertaken to evaluate the proposed route and possible borrow pits, in the event that an exploration access road is deemed necessary to increase the drilling effort. For that purpose, preliminary engineering for a possible exploration access road design is ongoing. The intention is to be prepared to permit and build a road linking the Amaruq Exploration site to the Meadowbank mine for the transport of fuel, equipment, and personnel to support ongoing exploration activities.

1.2 Proponent Information

The Amaruq Exploration Property is owned and managed by Agnico Eagle Mines Limited (NYSE:AEM, TSX:AEM) ("Agnico Eagle" or the "Company"), a Canadian publicly traded mining company listed on the Toronto and New York Stock Exchange, trading symbol AEM, with head offices in Toronto, Ontario.

Agnico Eagle is a senior Canadian gold mining company that has produced precious metals since 1957. Its nine mines are located in Canada, Finland, and Mexico, with exploration and development activities in each of these regions as well as in the United States. Agnico Eagle began exploring for minerals in Canada since 1953 and has been active in the Kivalliq Region since 1990. Agnico Eagle owns and operates the Meadowbank mine, which is located 70 km directly north of Baker Lake and approximately 50 km southeast of the Amaruq Exploration site. In addition Agnico Eagle owns rights to the Meliadine Gold Project, which is located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet. The Meliadine Gold Project is now in the final permitting phases for development having received a final Project Certificate from the NIRB in February 2015 (NIRB 2015a).

Agnico Eagle is a senior mining company with a proven reputation for sustainability and economic success in Nunavut. Its' success is based on grass roots exploration and successful mining in politically stable countries. Unlike venture capital exploration companies, the economic base and free cash flow from its operations, permits the construction the exploration access road to an exploration property that does not have a proven resource. Presently, Agnico Eagle has maintained strong relationships with the NIRB, Nunavut Water Board (NWB), and regulators on their projects, most notably on the recent approval by NIRB for the Meliadine Project and on the by the NWB a pre-hearing decision on the Meadowbank Mine Type A Water Licence Renewal. These relationships are built on thorough monitoring, reporting and presentation of information to the regulators and stakeholders, and is backed by successful and accomplished operations. Agnico Eagle also sees the potential in the north, and if approved by the regulators is willing to invest in the Amaruq exploration access road, with the knowledge that building the road may not translate into additional resource extraction and production for Agnico Eagle.

Agncio Eagle's audited financial statements are available on line at:

http://ir.agnicoeagle.com/files/doc_financials/2014/Annual-Audited-Financial-Statement-2014.pdf

The people who work for and with Agnico Eagle in advancing the Amaruq Exploration Access Road Project are listed below:

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1.3 Access Road Classification

Indian and Northern Affairs Northern Land Use Guidelines for Access: Roads and Trails (Volume 5, 2010) (INAC 2010) acknowledges that roads are often used to access land use activity sites in northern Canada due to the high cost and seasonal restrictions associated with travel by air or water. Existing road infrastructure in northern Canada, including Nunavut, is limited and access routes must often be planned and constructed before a primary land use activity can begin. The Guidelines provide classification of roads by season of use, size, and purpose.

For the purpose of this application, the Amaruq road is classified as an "Access Road" which provides initial access to resource areas for exploration, designed to carry low traffic volumes at low speeds, requiring minimal design work.

Should the activities at the Amaruq exploration site proceed to development, Agnico Eagle will evaluate the environmental and economic feasibility of widening and increasing the base the road to accommodate increased

traffic and/or haul trucks depending on the requirements of the future development. If in the future the site proceeds to development, Agnico Eagle will submit the necessary amendments to reclassify the road.

1.4 Authorizations

The Lead authorizing agencies for the Amaruq Exploration Access Road Project are the Nunavut Planning Commission (NPC), the NIRB, the NWB, and the Kivalliq Inuit Association (KIA). A full list of Applicable acts, regulations, and guidelines that govern the road are provided in Appendix A.

1.4.1 Land Use

Agnico Eagle has sole responsibility for the construction and ongoing inspection and maintenance of all of the components of the proposed Amaruq exploration access road, including the road bed, spur roads, the bridges, the culverts, and the borrow sites and quarry used in the construction of the exploration access road. This exploration access road will not be part of any Territorial highway system. Refer to Section 5.0 – Management, for additional information on the operation, maintenance, and access for the exploration access road.

Land Use Planning

All project proposals in the Keewatin Planning Region that require a licence or authorization from a land use authorizing agency must be assessed by the NPC for conformity with the Keewatin Regional Land Use Plan (NPC 2000). The proposed Amaruq exploration access road is entirely within the Kivalliq (Keewatin) region of Nunavut and therefore is subject to confirmation of conformity determination to the Keewatin Regional Land Use Plan. Agnico Eagle is requesting that NPC undertake a conformity determination on the proposed Amaruq exploration access road. Agnico Eagle considers the submission of the Type B application to the NWB, and screening request to the NIRB will trigger NPC conformity determination requirements. It should be noted that Agnico Eagle received a positive NPC conformity determination for the winter road on January 22, 2015.

Inuit Owned Land

As stated previously, the 408 km^2 Amaruq Property is located on IOL, and was acquired by Agnico Eagle in 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated. Figure 1.4-1 highlights the regional exploration projects and claims in the proximity of the Amaruq Property. The main routing of the Amaruq exploration access road is on both IOL and Crown land as shown in Figure 1.4-2. The surface ownership of the land encompassing the exploration access road right-of-way was transferred to the KIA when the Nunavut Land Claims Agreement came into effect. Land and environmental management in this area are generally governed by the provisions of the Nunavut Land Claims Agreement.

The proposed exploration access road route is to be constructed on IOL leased by Agnico Eagle from the KIA. In addition, quarry permits will be sought for three esker borrow pits on IOL and proximal to the proposed exploration access road. The esker borrow pits will be accessed from the proposed exploration access road via spur roads described in Section 3.5. With respect to compensation requirements (if deemed necessary), Agnico Eagle proposes that a letter will be filed with the NWB by Agnico Eagle and/or the KIA prior to the issuance of a Type B Water Licence confirming resolution of compensation agreements. Agnico Eagle has in place necessary mitigation measure to ensure that proposed road will not substantially affect the quality, quantity or flow of water through IOL.

The only quarry to be sourced for construction of the exploration access road is a portion of the Vault Pit. Extraction of material from this location is already authorized through NTI subsurface projection lease BL14-001-PL and surface production lease KVPL08D280. Vault is a project component of the Meadowbank mine as shown on Figure 1.4-2.

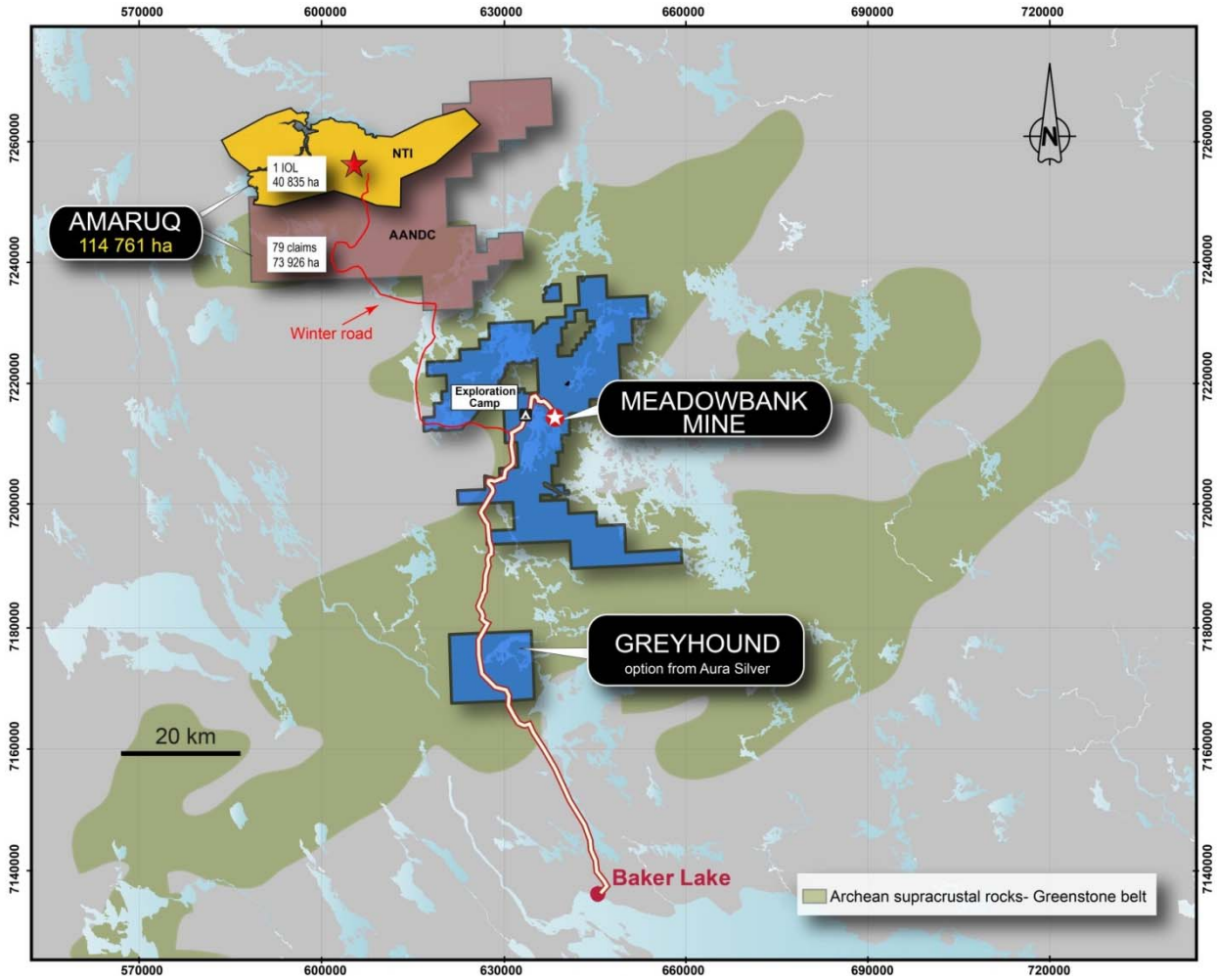
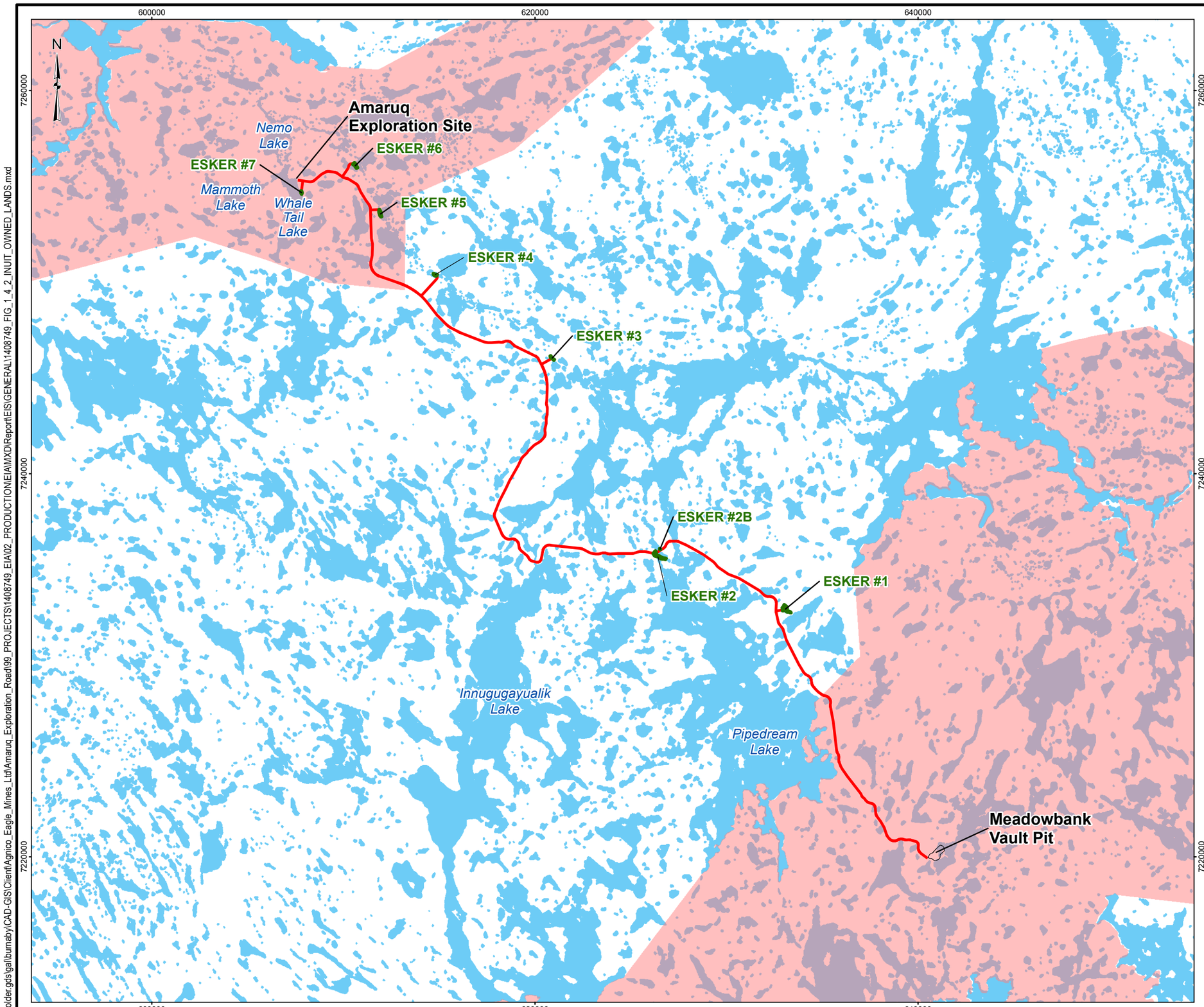


Figure 1.4-1: Regional Exploration Projects and Claims in Proximity to the Amaruq Property

Crown Land

Crown land use authorizations are required and will be acquired from Aboriginal Affairs and Northern Development Canada for use of four esker borrow areas accessed via spur roads located on Crown land and proximal to the proposed exploration access road as shown on Figure1.4-2.



LEGEND

- PROPOSED AMARUQ EXPLORATION ACCESS ROAD
- PROPOSED BORROW PIT
- INUIT OWNED LAND
- WATERBODY

REFERENCE

1. PROPOSED AMARUQ EXPLORATION ACCESS ROAD AND BORROW PITS OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. INUIT-OWNED LANDS OBTAINED FROM THE NUNAVUT-TUNNGAVIK INC.
3. WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

4000 0 4000
METRES

PROJECT
AGNICO EAGLE
AGNICO EAGLE MINES LIMITED
AMARUQ EXPLORATION ACCESS ROAD
NUNAVUT

TITLE
PROPOSED EXPLORATION ACCESS ROAD ON INUIT OWNED LANDS

Golder Associates

PROJECT		1408749	FILE No.	
DESIGN	DF	04 Mar. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	16 Mar. 2015		
CHECK	DF	16 Mar. 2015		
REVIEW	GC	16 Mar. 2015		

FIGURE 1.4-2

\\golder.gds\gal\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Amaruq_Exploration_Road\99_PROJECTS\1408749_EIA\02_PRODUCTION\EIA\MXD\Report\EIS\GENERAL\1408749_FIG_1_4_2_INUIT_OWNED_LANDS.mxd

1.4.2 Environmental Screening

The information provided in this main application document has been compiled to meet the information requirements established by the NIRB Part 1 project proposal information requirements form and applicable sections of the Part 2 project specific information requirements screening form (NIRB 2015b, internet site). The NIRB Part 1 Form is provided as Attachment B to the cover letter for this Application. In the absence of a framework for concordance assessment for NIRB requirements refer to the modified NWB concordance assessment document as Attachment F to the cover letter submitted with this Application. Agnico Eagle has compiled the application and supporting information to meet concordance to the NWB Draft - Supplemental Information Guideline (SIG) for General Water Works (including crossings, trainings, flood control, diversions, and flow alternations) (M1). Agnico Eagle has modified the M1 guide for transparency to assist in determination of concordance to NIRB's Part 2 screening form. Agnico Eagle understands that a positive environmental screening decision on this Application is required before any other agency can issue any permits, leases, or authorizations that would allow Agnico Eagle to commence construction of the exploration access road. A list of anticipated permits, licenses, agreements, authorizations, and approvals for the proposed exploration access road is presented in Table 1.4-1 (see also Appendix A).

Table 1.4-1: Required Licenses, Permits, Agreements, and other Approvals for Amaruq Exploration Access Road

Authorization	Authority	Basis	Expected Date[a]
Conformity determination with Keewatin Regional Land Use Plan	Nunavut Planning Commission	Allows project to proceed to screening	May 31, 2015
Project Screening	Nunavut Impact Review Board	Allows project to proceed to authorizations to build and operate the exploration access road	July 15, 2015
Type B Water License	Nunavut Water Board	Allows for construction of the exploration access road	Sept 1st, 2015
Right-of-way Lease	Kivalliq Inuit Association	Allows right-of-way for all-weather road across Inuit lands	May 31, 2015
Land Use Lease	Aboriginal Affairs and Northern Development Canada – Lands Division	Allows right-of-way for all-weather road across Crown Lands	May 31, 2015
Quarry Licence (IOL)	Kivalliq Inuit Association	Various borrow sites along the right-of-way for building the exploration access road	May 31, 2015
Quarry Licence (Crown Land)	Aboriginal Affairs and Northern Development Canada – Lands Division	Various borrow sites along the right-of-way for building the exploration access road	May 31, 2015
Explosive Magazine Permit Renewal	Workers' Safety & Compensation Commission	Permits an explosive magazine on-site and at other approved locations	Prior to construction
Class 2 Permit for Heritage Sites (obtained by qualified professional archaeologist)	Department of Culture, Language, Elders, & Youth	Unavoidable impacts of exploration access road on heritage sites	Prior to construction

[a] expected dates are projections only and are dependent on receipt of regulatory authorization from the authorizing agencies. Actual receipt dates are outside the control of Agnico Eagle.

The NIRB has completed two previous screenings for the Amaruq property, one for the Amaruq Exploration site and another for the winter access road (11EN010, re-issued on February 10, 2015). The proposed exploration access road application does not have an impact on prior screenings completed by the NIRB.

1.4.3 Water Licence

Agnico Eagle's intention is to acquire necessary permits to build a single lane gravel surfaced exploration access road linking the Amaruq Exploration site to the Meadowbank mine to facilitate safe, efficient, economical year round operations, including, the transport of fuel, equipment, and personnel in support of ongoing advanced exploration, camp operations, and environmental baseline data collection.

Agnico Eagle holds one water licence for the Amaraq property. The exploration site is subject to Type B Water Licence 2BE-MEA1318, which was amended in 2015 for the winter access road. Agnico Eagle expects that no changes or amendments are required to water licence 2BE-MEA1318 as a result of the current exploration access road application.

Agnico Eagle has compiled the application and supporting information to meet concordance to the NWB Draft - Supplemental Information Guideline (SIG) for General Water Works (including crossings, trainings, flood control, diversions, and flow alternations) (M1). Agnico Eagle has modified the M1 guide for transparency to assist in determination of concordance to NIRB's Part 2 screening form. Water Use and water licence application fees as required by the *Nunavut Water Regulations* will be submitted to the NWB with the application to ensure Minimum application requirements are met.

In addition, to meet the information needs of the regulatory agencies, Agnico Eagle has incorporated, where applicable, the information requirements and recommendations made in the Northern Land Use Guidelines for Access: Road and Trails (volume 5) (INAC 2010a) and Pits and Quarries (volume 7) (INAC 2010b).

Table 1.4-2 lists the current licenses, authorizations, and permits held by Agnico Eagle for the Amaruq Property. No licenses or permits have been issued to date for the proposed exploration access road.

Table 1.4-2: Current Licenses and Permits Held by Agnico-Eagle Mines Limited for the Amaruq Property

Licence Number	Explanation	Issued By	NIRB File	Date of Expiry	Remarks
KVL312C03	Amaruq Exploration	KIA	11EN010	Aug 28, 2016	General land use permit applying to camp and exploration on IOL BL-42/43
KVRW011F01	Amaruq Winter Road Right-of-Way on IOL	KIA	11EN010	August 28, 2016	Winter road across IOL
N2013F0030	Amaruq Winter Road Right-of-Way on Crown Land	AANDC	11EN010	April 15, 2016	Winter road across Crown Land
KVCL314C01	Amaruq commercial lease of 268 hectares	KIA	11EN010		Commercial Lease for camp site and associated infrastructure (in preparation)
KVCA15Q01	Amaruq quarry permit	KIA	11EN010		Borrow pit for Amaruq Exploration site use near the camp site (in preparation for exploration camp)
WCB	WCB Program Authorization	WCB			Annual renewal
2BE-MEA1318	Type B Water Licence for camp and exploration drilling	NWB	11EN010	March 6, 2018	Allows use of water and disposal of waste for camp and drilling; installation of a Wastewater Treatment System “bionest”; development and operation of quarries; construction of a gravel road between camp and quarries; and extension of exploration project boundaries.

KIA = Kivalliq Inuit Association; AANDC = Aborginal Affairs and Northern Development Canada; IOL = Inuit Owned Land; WCB = Workers Compensation Board; NWB = Nunavut Water Board

1.5 Schedule

1.5.1 Proposed Exploration Access Road Construction Schedule

The detailed construction schedule in relation to the current project proposal for construction of an exploration access road is presented in Table 1.5-1. Also refer to Section 3.1.

Table 1.5-1: Approximate Timeline for Construction – Proposed Amaruq Exploration Access Road

Activity or Milestone	Details	Date[a]
Shipment of Equipment by Barge	Equipment will be shipped to Meadowbank and will arrive at the Meadowbank spud barge for immediate transport along the Meadowbank AWAR and storage at Meadowbank	Q2 – Q3 2015
Receive regulatory approval; Receive Type B License to Construct the Amaruq Exploration Access Road	N/A	September 2015
Equipment mobilization, maintenance and construction preparation	Team 1, based at Vault	Q4 2015
Begin construction of *South Section* beginning at the Vault Pit	Team 1 will advance north using Vault Pit material	Q4 2015
Mobilization and delivery of equipment via the Amaruq winter road	Equipment will be delivered to Amaruq Exploration site and at selected borrow areas along the access road	Q4 2015
Equipment mobilization, maintenance and construction preparation	Team 2, based at Amaruq	Q4 2015
Begin construction of the *North Section* beginning at Amaruq	Team 1 will continue advancing north on Section 1 of the road; Team 2 will advance south toward the *Middle Section* using borrow material from Esker 7 and 6.	Q1 2016
Begin construction of the *Middle Section* of the access road and complete bridge work	Team 1 and Team 2 simultaneously working on *Middle Section* advancing towards each other from opposite directions to meet somewhere in the middle; it is critical that this construction begins in the fall and extends through the winter months to avoid potential impacts to the environment	Q4 2016
Construct the final surface layer	Entire length of the access road, material will be sourced primarily from Vault Pit	2017
Complete construction	Entire length of the access road	Q3 2017

[a] expected dates are projections only and are dependent on receipt of regulatory authorization from the authorizing agencies.

1.5.2 Permitting Schedule

The schedule for the construction of the proposed exploration access road is based on a balance of logistical and technical considerations, on the timing of regulatory approvals, and is scheduled to minimize impacts on the environment (i.e., construct the as much as possible in the winter to minimize potential impacts).

The proposed exploration access road is critical to Agnico Eagle achieving it preferred schedule for the Amaruq Exploration site. A highly optimistic schedule or the Amaruq Exploration project is presented in Table 1.5-2 in an effort to provide some degree of transparency and clarification on Amaruq planning moving forward.

Table 1.5-2: Conceptual Timeline for Amaruq Exploration

Activity or Milestone	Date[a]
Exploration Surface Drilling	2015
Conduct Baseline Environmental Impact Assessment Studies	2015
Receive the NWB approval and begin the construction of the Exploration Access Road	September 2015
Pre-feasibility Studies	2016
Continue Baseline Environmental Impact Assessment Studies	2016
Exploration Delineation Drilling continues	2016 - 2017
Complete the Exploration Access Road	2018
Evaluate for advanced exploration and underground ramp development once the exploration access road has been completed; possible bulk sampling	2018
Continue Feasibility Studies	2018

[a] dates provided are conceptual only and are dependent on receipt of regulatory authorization from the authorizing agencies and feasibility assessment of moving development forward.

2.0 PROJECT PROPOSAL

2.1 Project Rationale

The goal of all Agnico Eagle mining operations is to continue mining sustainably, on an economically viable property, within an accepting and politically stable region. The reality is that mining is dependent on available resources that are feasible; therefore once mine development operations begin and capital costs are made, companies are continuously seeking additional satellite deposits to support existing mine operations. Once a potential ore zone is identified, it must go through all the same stages of exploration as any other deposit to fully assess the economic and environmental feasibility of mining the satellite deposit. The Amaruq deposit is one such deposit. Currently, initial exploration work has identified an inferred deposit but additional infill or delineation surface drilling is required to complete a resource estimate and to determine the feasibility of advanced exploration (i.e., continued delineation drilling, possible underground ramp development, underground drilling, and possibly bulk sampling). At each exploration stage, studies are completed to determine the economic feasibility of the project taking into account technical, financial and environmental factors to determine if an application is made to regulators for future phases or development. Alternatively, a decision is made to abandon the project and focus resources on other potential properties. The ultimate goal for the Amaruq property is to determine if the deposit can be classified as a feasible satellite deposit to the Meadowbank mine.

Agnico Eagle believes prolonged mining in the Kivalliq region is a priority for continued uninterrupted economic benefits to Nunavummiut. With the goal of minimizing any gap between the Meadowbank mine closure and the potential development of a satellite deposit to extend the Meadowbank life of mine it is important that exploration advances as quickly and efficiently as possible at the Amaruq property given that Meadowbank mine production is projected to end in 2017. Given that the exploration project is in its' infancy with regulatory approval, the exploration access road will permit Agnico Eagle to conduct year round exploration drilling to aggressively drill the inferred deposit and ultimately define the resource, assess the satellite pit feasibility, and, if necessary, collect a bulk sample.

Currently the Amaruq Exploration Property can only be operated safely on a seasonal basis as it is dependent upon either helicopter or snow cat access. Drilling activities can only be conducted when there is immediate safe access to off-site medical care (in the event of a potential accident) and thus there are periods when neither helicopter nor snow cat access is reliably possible due to weather or ground conditions. These constraints limit the rate at which exploration and resource conversion drilling activity can be conducted at the Amaruq Exploration site.

The Meadowbank mine is scheduled to complete all mining activity by mid-2017 with the exhaustion of its known ore reserves and milling of all stockpiles to be complete several months later. Consequently timing of sourcing additional ore reserves that could be milled at the Meadowbank mine is of critical interest to Agnico Eagle. The Meliadine Project is unlikely to be ready to start commercial operations before 2019 (due to the time required to finish permitting and complete construction). Agnico Eagle is working to extend the operating mine life of the Meadowbank mine as it looks for ways to protect the integrity of its current workforce so that there is no long gap between completion of mining at Meadowbank and start of mining at the Meliadine site. The Amaruq Exploration site has the potential to extend the Meadowbank mine life thereby potentially eliminating this gap.

This accelerated development can best be achieved by connecting the Amaruq Exploration site to the Meadowbank site by the construction of an exploration access road. A key project component, which affects the

pace of exploration at Amaruq is the amount of onsite fuel storage required to allow for year-round exploration activity, and the amount of fuel required to develop an underground exploration ramp. Compared to 2014, Agnico Eagle plans to double its exploration in 2015. In 2015, Agnico Eagle plans to store approximately 700,000 litres (L) of fuel in thirteen 50,000 L environ tanks. The fuel will be transported to site on the existing winter road. This amount of fuel will not provide year-around drilling and will only enable Agnico Eagle to complete exploration activity between March and October of 2015. Without access to additional fuel, the Amaruq Exploration camp will be put into care and maintenance for four months of the year, and Agnico Eagle will need to reduce the advancement of this exploration site. Agnico Eagle's preference is to minimize and eliminate the future need to put the exploration site into seasonal care and maintenance given the aggressive drilling and, once the exploration access road is constructed, advance exploration plans for Amaruq in 2018 to include an underground exploration ramp. Refer to Table 2.2-1 for a summary of fuel requirements for the planned exploration program.

It is evident from Table 2.2-1 that in comparison to 2015, the fuel requirements will double in 2016, due to greater number of drills planned to determine the underground potential at the site and to bring the project into the feasibility. An even greater increase in fuel requirements are anticipated in 2018 as advanced exploration extends to an underground exploration decline. If permits are received to begin construction of the proposed exploration access road, Agnico Eagle intends to begin construction of a larger fuel storage facility after the 2017 barge season, and begin underground exploration and year-round advanced exploration activities thereafter.

Table 2.2-1: Fuel requirements for Exploration

Timeline	Activity		Details of Activity	Forecasted Fuel Consumption
2015	Exploration Drilling and Baseline Environmental Work	Electricity generation for camp use	An approximately 60 to 100 person camp	700,000 L (camp + drilling)
		Surface Exploration Drilling	Operating between 6 to 8 drill rigs	
		Helicopter (Jet A)	Drill rig transport and personnel transport	300,000 L
			2015 Total	***1.0 million L of Fuel***
2016 – 2017	Advanced Exploration and Baseline Environmental Work	Electricity generation for camp use	An approximately 100 to 150 person camp	1.4 million L (camp + drilling)
		Surface Exploration Drilling	Operating 10 drill rigs	
		Helicopter (Jet A)	Transporting the drill rigs and personnel to and from the camp	600,000 L
			2016 to 2017 Total	***2.0 million L of Fuel***
2018	Potential Advanced Exploration	Electricity generation for camp use	Approximately 100 to 200 person camp	1.4 million L
		Underground Exploration and ramp development		2.5 million L
		Surface support Equipment for underground mining		0.7 million L
		Surface drilling	Operating 10 drill rigs and advancing approximately > 50,000 m of drilling	1.4 million L
		Helicopter Transport	Transporting drill rigs within the local area	600,000 L
			2018 Total	***6.6 million L of Fuel***

L = litre; m = metre

2.2 Alternatives

Agnico Eagle assessed the financial implication and effects on the exploration program for several alternatives of continued exploration of the Amaruq Exploration Property and main site, including:

- continued use of winter road only;
- continued use of winter road and expansion of the on-site fuel storage with construction of 1.4 million L storage facility at the Amaruq Exploration site;
- combination of continued use of winter road, 1.4 million L expansion of on-site fuel storage, and increased use of helicopter airlift activity; and

- combination of continued use of winter road, 1.4 million L expansion of on-site fuel storage, increased use of helicopter airlift activity, and scale back on exploration activity.

Table 2.2-2 summarizes the alternatives to the project that were considered with an overview of the financial implications and effects on exploration.

Table 2.2-2: Road Alternatives Assessment

Alternative	Financial Implication[a]	Effect on Exploration
Continued use of the winter road only	• Estimated operating cost of the exploration program is approximately $20 million • Could be double if an access road is constructed depending on future fuel availability	• seasonal scaled back pace • delay to advancement of exploration • operational difficulty in meeting aggressive exploration timelines • higher safety risks due to isolation • this option does not support minimizing timeline gaps between exploration and mine care and maintenance at Meadowbank
Continued use of winter road, and expansion of exploration site fuel storage capacity	• Estimate of $2 million to construct a new storage facility	• seasonal scaled back pace • delay to advancement of exploration • operational difficulty in meeting aggressive exploration timelines • higher safety risks due to isolation • this option does not support minimizing timeline gaps between exploration and mine care and maintenance at Meadowbank
Combination of winter road, increasing fuel storage and large helicopter airlift of fuel and equipment with no scale back exploration program.	• Estimate of $4 million for heavy helicopter airlift of fuel; and • Estimate of $2 million to construct a new storage facility	• year-round exploration; • no impacts to exploration advancement • increased safety and environmental risk from increased large helicopter usage • increase impact of climate conditions on operations • increased Green House Gas effects from use of large helicopters • operation restriction on large equipment in between winter road seasons • increase helicopter travel during summer months • this option does not support minimizing timeline gaps between exploration and mine care and maintenance at Meadowbank
Combination of winter road, increasing fuel storage and large helicopter airlift of fuel and equipment with scale back exploration program.	• Estimate of $4 million for heavy helicopter airlift of fuel; and • Estimate of $2 million to construct a new storage facility	• year-round exploration; • significant impacts to exploration advancement and overall project timelines • if deposit proves feasible as a satellite mine deposit this option does not support minimizing timeline gaps between exploration and mine care and maintenance at Meadowbank

[a] nominal incremental costs that will be lost or could otherwise be invested into the capital costs of the access road

2.3 Road Routing Alternatives Assessment

Between July and August 2014, a desktop assessment of seven alternative all-weather exploration access road routes were considered. This alternatives assessment considered various options for routing that included a southern route, an eastern route (shown in Figure 2.3-1), and a more direct central route with larger clear span bridges.

The assessment routing for the proposed access road considered the following:

- the preferred route should minimize possible effects on the environment, and facilitate maintenance of the exploration access road, particularly during winter;
- the overall length of the road;
- the route's proximity to existing satellite ore bodies (including Vault Pit);
- minimizing the number of stream crossings;
- the availability of quarries and borrow areas along the route;
- geomorphology;
- avoidance of archaeological sites; and
- remaining on the height of land to allow for drainage in the summer and for wind to clear snow in the winter.

The alternatives routings considered in this assessment are illustrated in Figure 2.3-1. The southern routing considered using the north portion of the Baker Laker to Meadowbank Mine All Weather Access Road (AWAR) and construction was proposed to begin near the current exploration camp. This route was south of the Pipe Dream Lake watershed, but was limited in borrow material (particularly in the southern most section of the route) due to its proximity to Vault Pit and other borrow areas.

The eastern route considered routing the access road predominantly on the esker. Although economically feasible, the potential environmental impacts were deemed moderately significant due to the interaction of construction and operations with wildlife habitat and its' proximity to many waterbodies.

The central route, a more direct route which had fewer steep sections (and therefore less borrow material), advancing north from Vault pit and west of the esker, ultimately proved to minimize the possible effects to the environment, was the most economically feasible, and therefore was carried forward in this application.

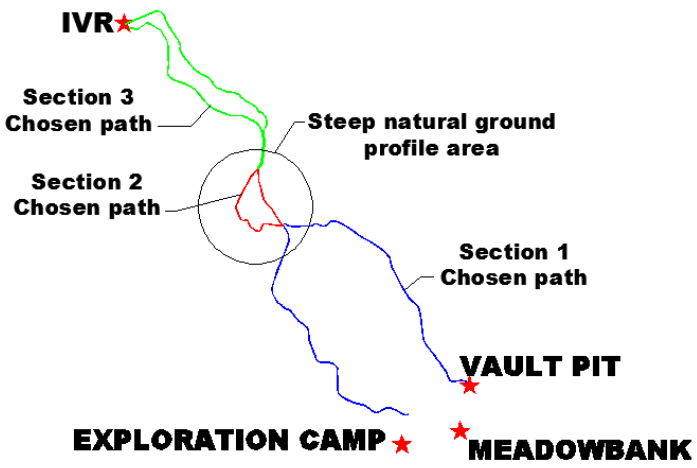


Figure 2.3-1: Alternative Road Route Assessment

Note: at the time the exploration property was called IVR, now referred to as Amaruq.

2.4 Preferred Option

Agnico Eagle believes construction of an exploration access road along the route proposed is the best solution to meet the aggressive requirements of exploration and advanced exploration in 2018. The proposed exploration access road will:

- Increase exploration activities from seasonal to year round.
- Improve year-round fuel availability and transportation.
- Improve operational safety and environmental management.
- Improve Agnico Eagle's access to the territory in the area and facilitate access to potential exploration targets along the exploration access road path, increasing feasibility of further exploration in this area.
- Provide greatest degree of flexibility in operational decisions and improved feasibility of future advanced exploration development.
- Improves linkage to existing resources at Baker Lake and Meadowbank, if needed for Emergency Response.
- Improve operations and minimize costs with the ability for shared resources (i.e., heavy equipment) between the Amaruq Exploration site and the Meadowbank mine.
- Minimize environmental risk and impact for fuel transportation and management.
- Increase local employment opportunities from seasonal to year round and in general through aggressive approach to exploration activities and opportunities (construction and operations and maintenance for the exploration access road, and support with baseline data collection).
- Short-term increase employment opportunities for Nunavummiut during the construction phase (i.e., an additional 100 persons for approximately 20 months).

- Provide greater degree of employment stability from seasonal to year round.
- Initial high cost of construction of the exploration access road would be recovered as compared to airlifting fuel for resupply should the Amaruq Exploration project proceed to next phase of exploration to include ramp and underground exploration development.

Consequently, Agnico Eagle feels that the construction of the exploration access road, along the proposed routing, is the most cost-effective and best overall alternative from an environmental and socio-economic impact perspective.

3.0 PROJECT SCOPE

The exploration access road is proposed to be a 6.5 metre (m) wide exploration sized road that is 62.5 km in length and is proposed to connect the Meadowbank mine site, north of Vault Pit operations, in a northwest direction to the Amaruq Exploration site. The general description of the exploration access road is summarized in Table 3.0-1.

Table 3.0-1: Proposed Exploration Access Road General Description

Design Element	Details
Width of Road	6.5 m surface with an average base of 12.5 m, assuming a 2.5:1 sloped embankments (average base of borrow pit roads is 7.5 m)
Average Height	1.2 m
Road Length	62.5 km (Average length spur roads is .6 km)
Number of Quarries	1 (Vault Pit)
Number of Borrow Areas along the Esker	7
Total Volume of material required	~2,033,000 m^3
Number of watercourses that require clear span structures (arch culverts or bridges)	11
Total number of water crossings	39

m = metre; m^3 = cubic metre; km = kilometre

Based on the landscape, borrow pit access, watercourse crossings, and construction approach, the exploration access road has been divided into three main sections:

- **South Section** (Section 1 in Figure 2.3-1) - is nearest to the Vault Pit and is characterized by large rolling hills through boulder fields, aggrading surfaces, periodic bedrock outcrops, and many medium sized and small watercourse crossings. Arched culverts, and one bridge will be used to clear span the valued fisheries watercourses (i.e. potential migration routes and/or potentially provide spawning or nursery habitat for large-bodied or small bodied fish.
- **Middle Section** (Section 2 in Figure 2.3-1) - is dominated by small and medium-sized watercourses that drain into Pipedream Lake and Innugugayualik Lake, north through the Meadowbank River to the Back River. Arched culverts and bridges will be used, where required, to clear span valued fisheries watercourses, and inset pipe culverts will be used to maintain local drainage and passage for small-bodied fish. Many localized drainage culverts will be required to improve stability of the exploration access road.
- **Northern Section** (Section 3 in Figure 2.3-1) - is nearest to the Amaruq Exploration site and is characterized by boulder fields, aggrading surfaces, few small watercourses, and is west of a long (~15 km) esker, which will be the primary source for borrow material.

3.1 Construction Operations and Schedule

As with many industrial activities in the North, the schedule for the construction of the proposed exploration access road is based on a balance of logistical and technical considerations, and on the timing of regulatory approvals. For additional information on the timing of regulatory approvals refer to Table 1.4-1. For the purpose of establishing a construction schedule, Agnico Eagle has assumed permits for the exploration access road will

be received by September 2015. A key factor driving the sequence of construction is the requirement that the timing to reach the Middle Section of the exploration access road is achieved in the winter season to ensure minimal effects to the environment. Generally spring freshet can begin occurring in mid-May and peaks in June with typical freeze up in October. If permits are not received by September 2015 to allow for a full winter season of construction, Agnico Eagle will endeavour to adjust the schedule to ensure the winter timing requirements are met, however this is not the preferred approach. See Table 1.5-1 for the Schedule for Construction of the exploration access road. Table 1.5-2 presents a conceptual timeline for ongoing exploration at Amaruq, to provide transparency and clarity on future plans.

Once authorizations for the proposed exploration access road are received, mobilization of construction equipment for starting at the north section of the road will be accomplished using the existing winter road. To ensure workplace safety Agnico Eagle will ensure compliance to WCB requirements. Agnico Eagle intends to begin construction at Vault (the south section). Agnico Eagle would also transport road construction equipment to the Amaruq Exploration site on the winter road so that by early 2016 the exploration access road will be constructed by two separate teams; one advancing from Vault and the other advancing from Amaruq. Tables 3.1-1a and b presents two access road construction options under consideration and highlights the section or components of the road each team is responsible for, as well as their equipment needs and proposed work schedule. The proposed work schedule is to have a day and night shift (a total of a maximum of 20 hours of production per day) and assumes lost time due to blizzards, wildlife protection, and snow removal to potentially reduce the productivity by -20%. The current construction plan assumes the same production in the summer time as in the winter time, and the same night and day time.

Team 3 will be dedicated to the culvert construction and the construction of the 3 bridges along the exploration access road once the road has advanced to the Middle Section. Most of the technically challenging construction is located along the Middle Section of the exploration access road. The advancement of Northern and Southern Sections and the scheduling to ensure the timing of the construction in Middle Section is completed during the winter is critical to the success of the project, and will ultimately reduce the potential impacts to the environment by avoiding critical breeding and open water periods.

Table 3.1-1a: Projected Equipment Needs and sample of Team Work Schedules (Option 1)

Team	Road Section or Component	Equipment	Sample Work Schedule
Team 1	Vault Pit	3– Pickup trucks; 1 – Dray; 1 – Excavator K400 + Hammer; 1 – Dozer D8 + Riper; 1 – Loader #980; 15 – 12-wheeler Trucks; 1 – Roll Compactor; 1 – Foreman; and 2 – Surveyors.	working on a 10hr day x 2 shift x 60 min/3 min x 20 T.M = 8000 T.M/day (Max) which is equal to 3,563 m³/day (Max) +/- and approximately 139 linear m/day (Max) +/- (without production factor).
Team 2	Amaruq Exploration site	3– Pickup trucks; 1 – Dray; 1 – Excavator K400 + Hammer; 1 – Dozer D8 + Riper; 1 – Loader #980; 15 – 12-wheeler Trucks; 1 – Roll Compactor; 1 – Foreman; and 2 – Surveyors.	working on a 8hr day x 2 shift x 60 min/3 min x 20 T.M = 6400 T.M/day (Max) which is equal to 3,075 m³/day (Max) +/- and approximately 119 linear m/day (Max) +/- (without a production factor).
As needed	Borrow Areas	1 – Dozer D8 + Riper 1 – Excavator	working on a 8hr day x 2 shift x 60 min/3 min x 20 T.M = 6400 T.M/day (Max) which is equal to 3,075 m³/day (Max) +/- and approximately 119 linear m/day (Max) +/- (without a production factor).
Team 3	Culvert and Bridge Construction	t.b.d.	t.b.d.
Team 2 and Team 3	Middle Section	t.b.d	t.b.d

t.b.d = to be determined

Table 3.1-1b: Projected Equipment Needs and sample of Team Work Schedules (Option 2)

Team	Road Section or Component	Equipment (each team)	Sample Work schedule
Team 1 and Team 2	Vault Pit and Amaruq Exploration site concurrently	3– Pickup trucks; 1 – Dray; 1 – Excavator K400 + Hammer; 1 – Dozer D8 + Riper; 1 – Loader #980; 15 – 12-wheeler Trucks; 1 – Roll Compactor; 1 – Foreman; and 2 – Surveyors.	working on a 10hr day x 2 shift x 60 min/3 min x 20 T.M = 8000 T.M/day (Max) which is equal to 3,563 m³/day (Max) +/- and approximately 139 linear m/day (Max) +/- (without production factor). Consistent work schedule
As Needed	Borrow Areas	1 – Dozer D8 + Riper 1 – Excavator	
Team 3	Culvert and Bridge Construction	t.b.d based on final design requirements	
Team 2 and Team 3	Middle Section	Combination of equipment above	

t.b.d = to be determined

Fuel delivery, storage, containment and handling for construction will follow applicable standards; all fuel will be stored in secondary containment as self- supporting insta-berms or constructed berms that will contain 110% of the maximum volume. Table 3.1-2 presents the approximate volume of consumable fuel and/or hazardous material that will be stored either at the Amaruq exploration site, along the access road during construction or at the Meadowbank mine site.

Table 3.1-2: Construction Consumables and Storage Location for the Exploration Access Road

Material	Maximum Amount Present at the Exploration Camp for use During Construction	Storage Location
Acetylene	30 cylinders	Exploration Site
Diesel Fuel	500,000 liters	Exploration Site and Meadowbank; in approved facilities
Diesel Fuel	Up to 15,000 liters in 2 locations along the proposed road; to serve as fuel caches during access road construction	Esker # 1 and Esker #3 – double walled enviro-tank
Ethylene Glycol	2,000 liters	Exploration site
Oil	5,000 liters	Exploration site
Grease	5,000 liters	Exploration site
Propane	100 cylinders	Exploration site
Unleaded gas	10,000 liters	Exploration site

Minimal waste will be generated because of the proposed Amaruq Exploration Access Road construction. Based on previous experience and given that maintenance of construction equipment will be centered at the

Amaruq exploration site and the Meadowbank mine maintenance facilities, very little waste is expected to be produced in addition to what has been previously approved at authorized facilities. All waste generated will be backhauled to approved/licensed waste disposal facilities. Table 3.1-3 presents approximate quantity of waste, treatment and disposal methods. Mitigation and management plans are in place to ensure proper handling and disposal of any waste generated. Further information can be reviewed in the Emergency Response and Spill Contingency Plan and the Road Management Plan.

Table 3.1-3: Type of Waste, Quantity, Treatment and Disposal Method Anticipated during the Construction of the Proposed Exploration Access Road

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Miscellaneous Solid Waste	Cardboard, cans, steel, food waste	Conservatively 10 kg/day of waste can be expected	Waste will be returned to an existing and approved Agnico Eagle facility	Disposed of at the Meadowbank Mine landfill or incinerated
Waste Oil	Waste Oil from engines (undertaken by qualified technicians)	Conservatively, 100 Liters/ month is expected	Waste oil will be returned to an existing Agnico Eagle camp facility	Disposed of by consuming waste oil in burners/ furnaces or shipped south to an approved recycling facility
Contaminated Soil	Soil collected due to small fuel spills that may occur along the road or in the borrow areas; small quantities of fuel following spill remediation	Conservatively estimated at 100 m^3	Contaminated soil will be returned to an existing Agnico Eagle facility	Disposed of at the approved Meadowbank Landfarm and appropriately treated

At this time Agnico Eagle does not anticipate blasting will be necessary to construct the proposed exploration access road. To ensure proper handing and management of explosives with be in accordance with established standards set out in the Northern Land use Guidelines, Pits, and Quarries prepared by the AANDC (2008) and the activities will comply with the Explosive Use Act and Regulations, and the Mine Health and Safety Act and Regulations. The emergency response and spill contingency plan already addresses use, management, mitigation and contingency measure for explosive materials including, transportation, storage, methods, potential types, volumes, and hazard class. If/when it is determined that blasting will be required, additional blast management plans will be submitted prior to activities.

3.2 Road Route

The proposed exploration access road routing is shown in Figure 1.4-2.

The geometric design of the road is based on the criteria included in the Transport Association of Canada Geometric Design Guide for Canadian Roads (TAC 2009). The construction of the exploration access road

follows generally accepted good engineering practices for building roads in permafrost areas of the Northwest Territories and Nunavut.

Although not expected to deviate significantly from the proposed road route, ground-trothing during construction will determine and confirm the final exploration access road routing. Final road routing will be incorporated into the final as built drawing and final construction report to be provided to regulators 90 days following completion of the exploration access road.

3.3 Road Design

The exploration access road (see Figures 3.3-1 to 3.3-3) will be a nominal single lane road with a running surface of 6.5 m in width. There will be passing turnouts of 35 m in length tapered at 15 degrees for entry and exit, set at intervals of approximately every 400 m along the road (actual distance between passing turnouts will be 400 m ± 50 m to be optimized with the topography for safety purposes). The nominal running surface at each passing turnout will be 9.0 m in width. The minimum road depth will be 0.45 m for areas over non-thaw susceptible soil (well-drained soil over bedrock) and 1.2 m for areas over thaw susceptible soil (poorly drained, ice-rich, organic or bog over bedrock). In both cases, the side slope of the road would be 2.5H:1V. Using an average road thickness of 1.2 m, average width of the road base will be 12.5 m, increasing to 15 m at each passing turnout.

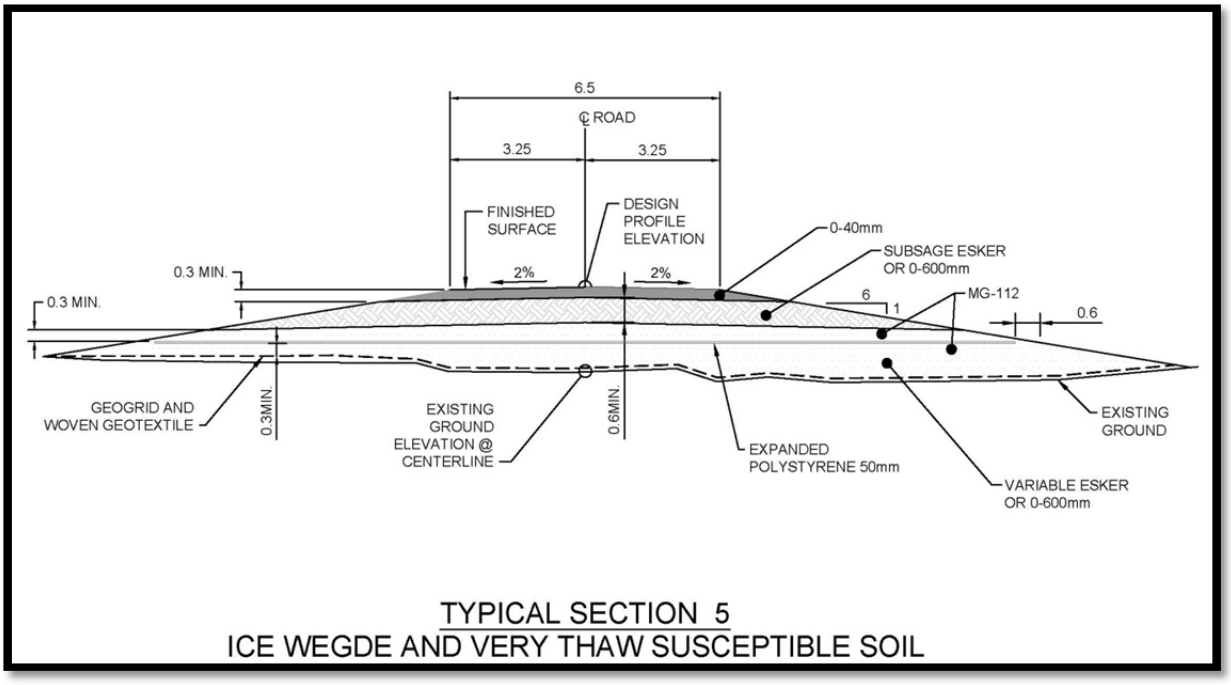


Figure 3.3-1: Typical Road Cross Section for Thaw Susceptible Soil

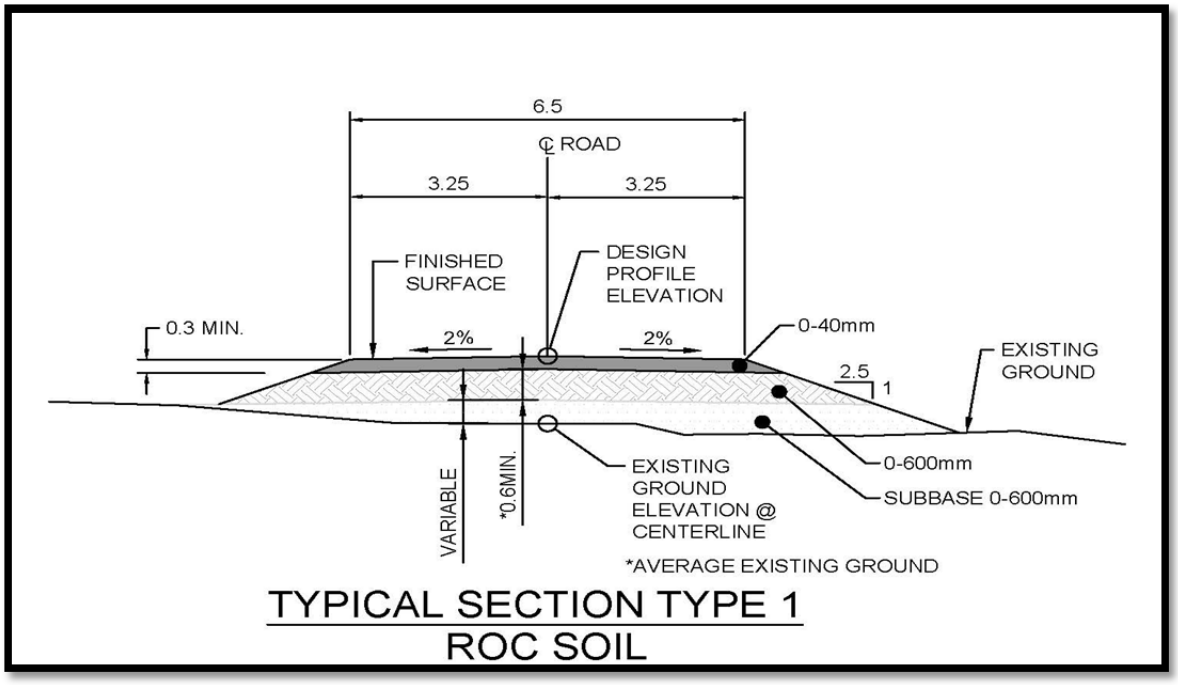


Figure 3.3-2: Typical Road Cross Section for Thaw Unsusceptible Soil

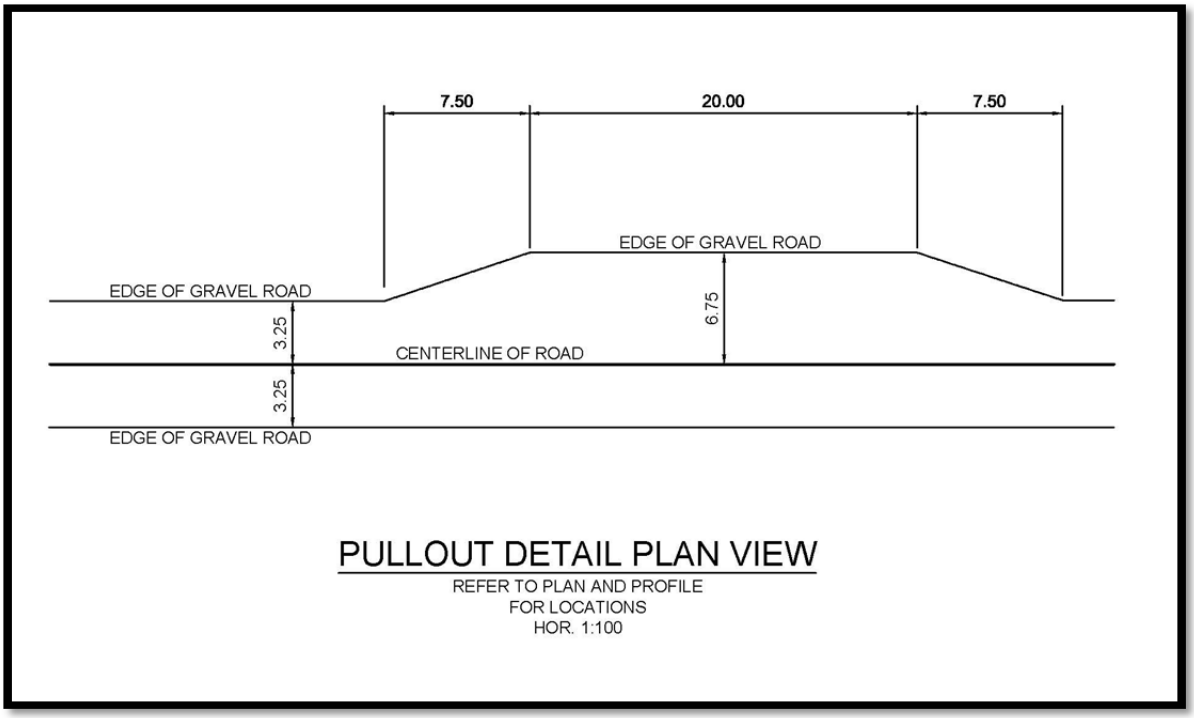


Figure 3.3-3: Plan View of Typical Road at a Passing Turnout

The potential impacts on the physical terrain due to the construction, operation, and reclamation of the exploration access road will include processes associated with permafrost degradation that are common to construction practices in the north, which may include thaw-induced settlement. Typically, thaw-induced settlement can be associated with construction across poorly drained, ice-rich soils. This will be mitigated by appropriate road design, the use of appropriate construction materials, and the use of appropriate construction practices, which may include the use of geomembrane directly on tundra and by backfilling with large boulder and cobble material that promote drainage.

The construction methods and trafficking of road construction materials may initially result in some degree of permafrost degradation along the exploration access road alignment until a sufficient thickness of road cross-section is developed to insulate the underlying permafrost. The road thickness is designed so that once the exploration access road has been completed; permafrost will aggrade, or rise, back into the road fill materials so that the permafrost active layer (the layer of annual freeze and thaw) will be maintained within the coarse, free-draining road base materials. This will limit the degree to which thaw-induced settlement may occur. Furthermore, the exploration access road alignment has been selected to avoid, where possible, the placement of fill materials across areas of poorly drained thaw-susceptible soils. Therefore, it is anticipated that the majority of potential terrain impacts on the surficial soils and bedrock along the exploration access road will occur at the quarries, culverts locations, and bridge crossings.

To the greatest extent possible, the construction of the exploration access road will be carried out during winter months. If the permits are in place by September 2015, construction will begin at Amaruq and advance south, and from Vault to advance north. If permits are in place for the beginning of the winter a rough trail would be advanced at the full base width of the exploration access road in both directions under frozen conditions (i.e., from Amaruq advancing south and from Vault advancing north).reducing the potential impacts to nesting birds If permits are not in place prior to frozen conditions Agnico Eagle will adapt construction practices to comply with the *Migratory Birds Convention Act*.

The majority of the small watercourse pipe culverts, bridge abutments, and arch culvert earth work will be undertaken in the winter. The construction of Section 2 of the exploration access road will be timed to be completed in the winter under frozen conditions to minimize potential impacts to the downstream receiving environment. The majority of the proposed arched culvert crossings have Arctic grayling and small-bodied feeder fish; therefore, “in-water” construction in these watercourses will occur during the winter under frozen conditions and during the open water season, generally after July 15. Bridge work will be completed under frozen conditions and only between July 15 to August 15 during the open-water season (i.e., between the spring spawning and fall spawning open water period according to the Fisheries and Ocean Canada [DFO] timing for in-water work for spring and fall spawning watercourses in Nunavut, which can be found at the DFO link http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/nu-eng.html).

Specific exploration access road design criteria are presented in Table 3.3-1.

Table 3.3-1: Exploration Access Road Design Criteria

Design Element	Criteria	Note
Maximum Speed	50 km/h	
Travel Surface material	0 to 40 mm	
Road Length	62.5 km	
Width	6.5 m	Minimum one lane service road to permit use of shovel and #6030
Bridge surface width	6.9 m	
Maximum gradient	8%	
Stopping distance	85 m at 50 km/h	Visibility distance under poor weather conditions
Minimum radius of curvature	135 m at 50 km/h	Minimum radius for safe operation at 50 km/hr
Minimum sag curve “k” value	17 for 50 km/h	Safety for Concave curves
Minimum crest curve “k” value	13 for 50 km/h	Safety for convex curves
Cross fall	+/- 2 %	
Embankment slope	2.5H: 1 V	To maintain long term stability
Minimum passing turnout frequency	Every 400 m on the same side for construction and safe passage during operation	
Passing turnout dimensions	35 m x 3.5 m on the same side and includes a taper	
Vault Quarry material	Non-Potentially Acid Generating	
Borrow Pit material	Non-Potentially Acid Generating	
Offset for Archaeological sites	30 m	

km/h = kilometre per hour; mm = millimetre; m = metre

Agnico Eagle will use the following construction methods:

1) To the extent possible, construction will be scheduled during the winter season to ensure that fill is placed on frozen ground. Agnico Eagle plans to schedule construction to begin in September 2015, or as soon as the permits are granted and will essentially complete it in less than 1.5 years. Work would continue for approximately an additional six months (with full completion of the road expected in Q3 2017 and no later than the beginning of 2018) to complete the exploration access road topping, signage, etc. Two crews advancing in opposite directions will build the exploration access road, with specialized crew installing the open bottom culverts, building the abutments, and installing the bridges. Fuel will be delivered to the stationary and mobile road-building equipment from Meadowbank and/or the Amaruq tank farm by mobile tank truck.

2) Road fill material will be placed directly over the existing soil layer with minimal disturbance or stripping to avoid disturbing the fragile subgrade soils along the proposed exploration access road alignment. To the extent possible, Agnico Eagle will place all rock/granular material from the borrow areas directly on the

frozen ground. There will not be any disturbance of the soil except where culverts are to be embedded to permit flows in small stream crossings. This will facilitate small-bodied fish movements in these crossings.

3) Only thick drifted snow will be removed before the exploration access road fills are placed. Route selection was mindful of drifting snow. Care will be taken to not disturb the soil layer should snow removal prove necessary.

3.4 Bridge and Culvert Design

Consultants to Agnico Eagle completed fish surveys at each of the proposed bridge and culvert crossings in 2014. A total of eleven watercourses are considered to be potential migration routes and/or potentially provide spawning or nursery habitat for large-bodied or small bodied fish. Three of the watercourses crossed are sufficiently large to provide habitat and a migratory route for both large-bodied and small-bodied fish; bridges are proposed for these crossings. At eight of the watercourses, open-bottomed structures will be installed (e.g., arch culvert). The remaining 28 watercourses are smaller and range from partially open, flowing channels to boulder fields where no water was visible; these watercourses will be crossed with inset corrugated piped culverts. See Figure 3.4-2.

Engineering for the final culvert design and locations for localized drainage culverts is ongoing. General bridge and arch culvert layouts are provided in Figures 3.4-1a to 3.4-1c. Localized drainage culverts are standard corrugated piped culverts that will be placed in areas along the proposed exploration access road that may have susceptibility to erosion or ponding and are intended to drain local water that may have potential of washing out or creating slumping of the road. The localized drainage culverts will minimize thaw susceptibility and effects to permafrost. Currently, the engineering team conservatively estimates a total of approximately 153 small localized drainage culverts that range in size from 60 to 1,000 millimetres (mm) in diameter will be required. These are located in areas that have ephemeral features that are non-fish bearing and do not support the fishery. Table 3.4-1 summarizes the number of crossings and identifies the borrow areas for the South, North, and Middle Section of the proposed exploration access road. The assessment and sizing of the culverts is ongoing and will be finalized prior to construction.

Table 3.4-1: Summary of Bridges, Arch Culverts, Mitigation Culverts, and Borrow Areas

Broad Section	km	Type Crossing	# of Crossings	Borrow Area Sourced	Spur Road
Southern Section (beginning at Vault)	0+000 to 24+500	Inset corrugated culverts and/ or localized drainage culvert	59	Vault Pit and Esker 1	A short direct spur road that is routed directly west toward Esker 1 is required
		Arch Culverts	4		
		Bridge	1		
Middle Section	24+500 to 43+840	Inset corrugated culverts and/ or localized drainage culverts	65	Esker 2, Esker 3	No spur road to Esker 2 required; Esker 3 requires a small spur west from the road route
		Arch Culverts	2		
		Bridge	2		
Northern Section	43+840 to 62+500	Inset corrugated culverts and/ or localized drainage culvert	57	Esker 4, Esker 5, Esker 6, Esker 7	Variable length spur roads routed in a straight line to the eskers are required
		Arch Culverts	2		
		Bridge	0		

Most of the large watercourses are located in the Middle Section of the road. Bridge construction will be completed by a specialized team with most of the work planned in the winter. Once the exploration access road has advanced to the watercourse, the first step in bridge construction will be to build two footings to support the abutments. Abutments will be formed with corrugated steel boxes filled with gravel Cl-A and/or structural fill.

Agnico Eagle is planning to assemble the bridges on shore and then slide them into place using equipment that has to pass across the ice to move the bridge structure across the watercourse. Because of the large spans, there are no cranes available at Meadowbank or in Baker Lake capable of lifting these assembled spans into place. Thus, the bridges must be in place before the ice bearing capacity is lost (or before April).

Based on construction surveys and stream assessments carried out by Agnico Eagle, Agnico Eagle believes that none of the rivers along the proposed exploration access road route will be considered navigable under the *Navigable Waters Protection Act*. This will be confirmed by Transport Canada.

Prior to construction, additional field work may be completed to confirm the appropriateness of the final crossing locations and crossing type recommendations to mitigate impacts to valued fishery functions and put mitigative measures in-place to prevent the washing out of the road. Agnico Eagle will seek DFO review for crossing design plans prior to construction. However, the results of this initial assessment indicate that, with appropriate mitigation, it will be possible to construct the proposed exploration access road in a manner that will not result in serious harm to fish or fish habitat (Section 4.2.2).

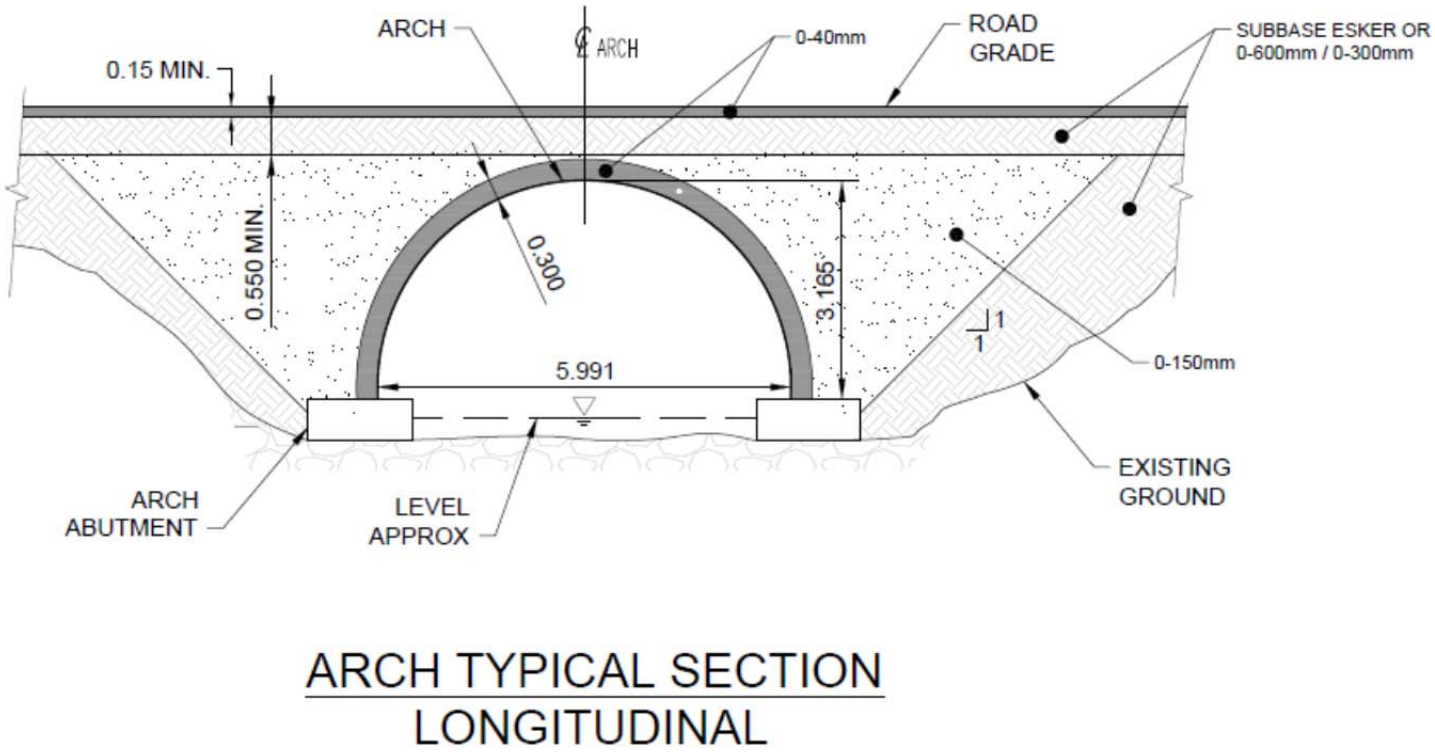


Figure 3.4-1a: General Bridge and Arch Culvert Layouts

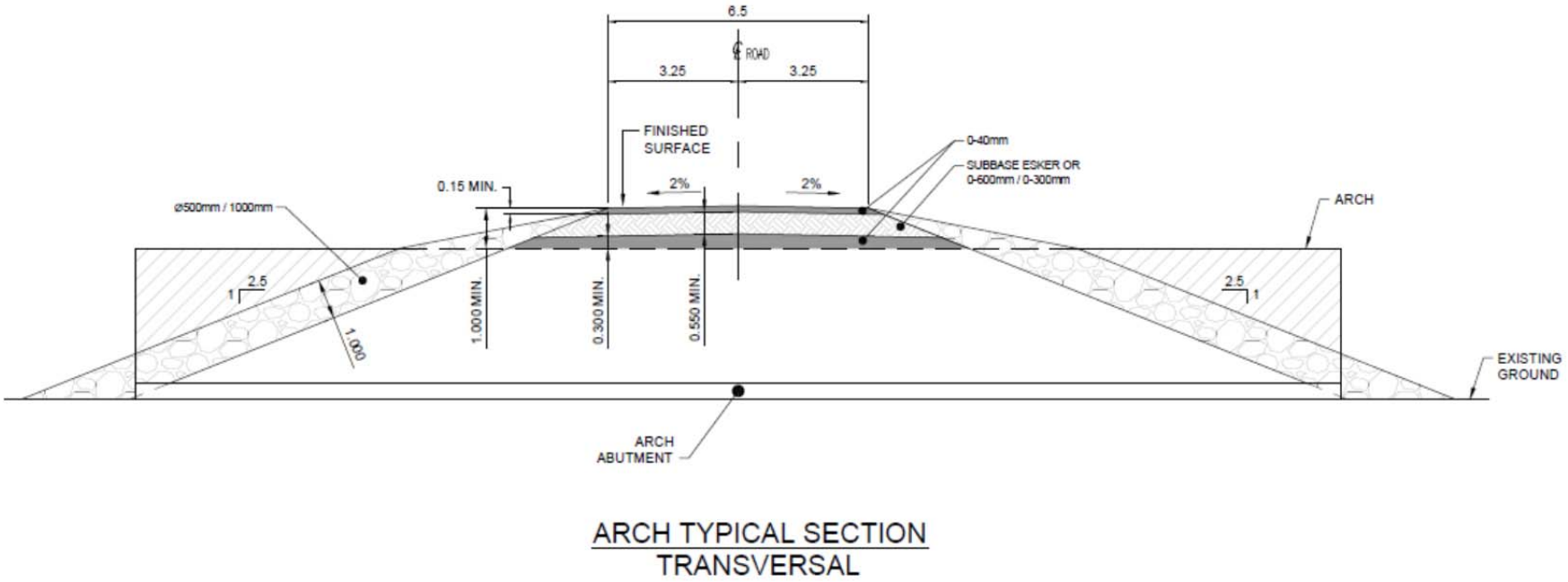


Figure 3.4-1b: General Bridge and Arch Culvert Layouts

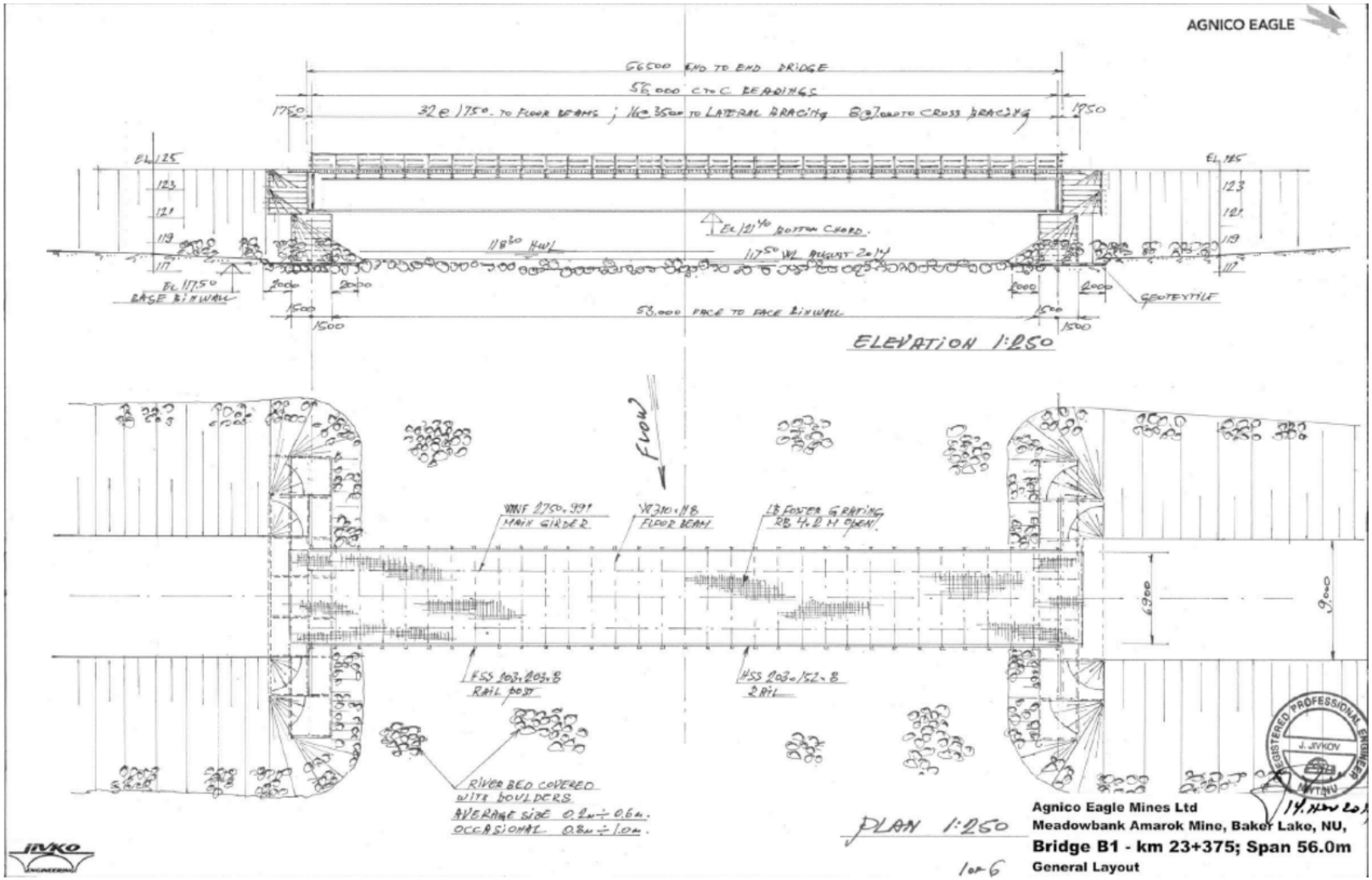


Figure 3.4-1c: General Bridge and Arch Culvert Layouts

During construction, Agnico Eagle will conform with all of the applicable DFO Operational Statements (i.e., bridge maintenance, clear span bridges, culvert maintenance, and ice bridge) for protecting fish and fish habitat in constructing and operating the proposed crossings. Agnico Eagle will construct in accordance with DFO and Environment Canada guidance, and will put in place sediment and erosion control measures that are implemented prior to the start of work and maintained during the work phase, to prevent entry of sediment into the water or the movement of re-suspended sediment into the stream crossings. Specifically that the:

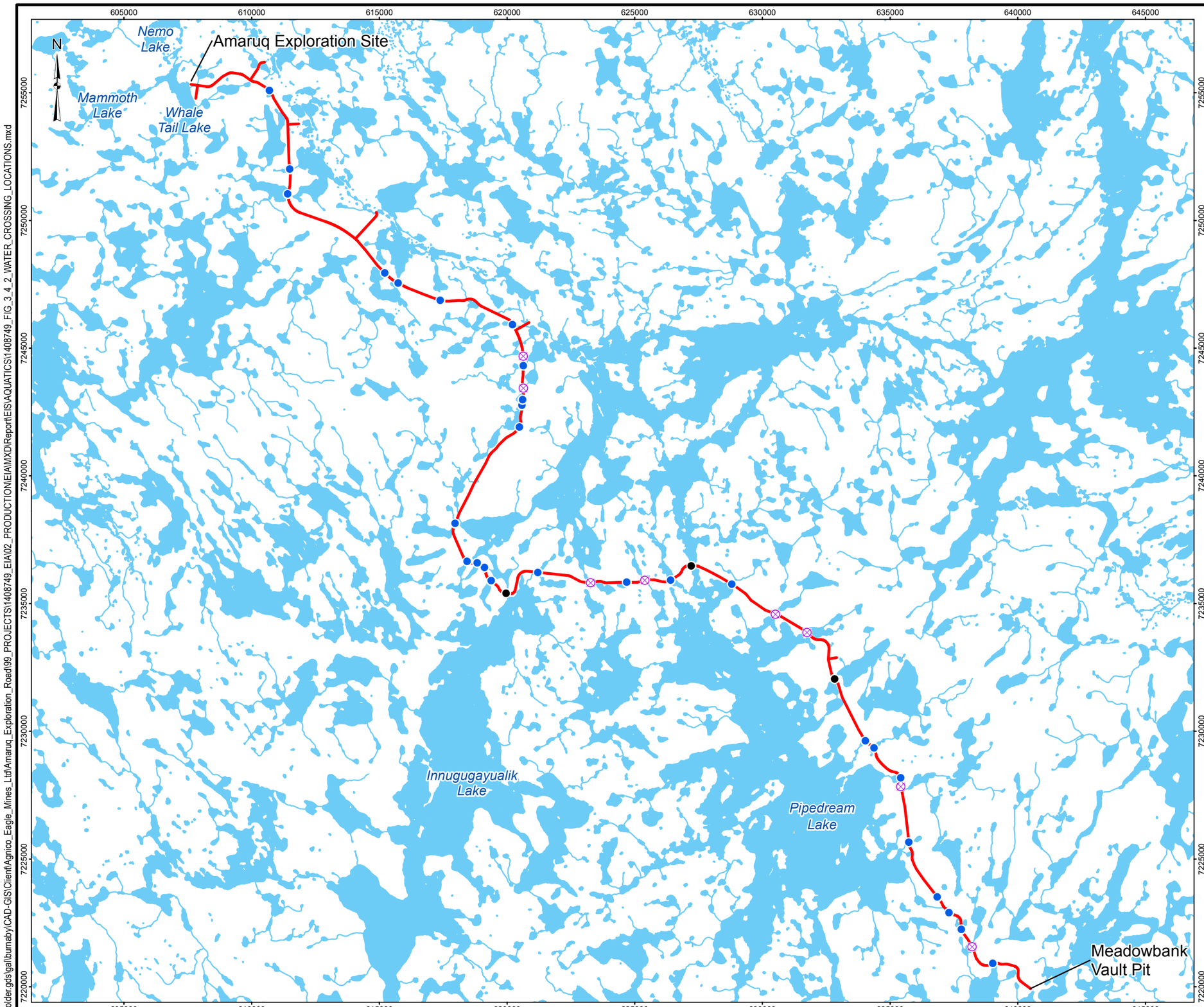
- DFO timing windows for in-water construction are followed;
- DFO guidance on culvert and bridge installation are followed;
- sediment and erosion control measure will be left in place until all disturbed areas have been stabilized;
- all disturbed areas will be physically stabilized as soon as possible following construction and to the greatest extent possible re-vegetated with native species from the area, assuming that an appropriate source of vegetation can be reasonably found (seed or transplants);
- machinery used near stream crossings will arrive on-site in a clean condition and be maintained free of fluid leaks to keep contaminants out of the water;
- the equipment will be re-fuelled, serviced, and washed away from the stream crossings to prevent deleterious substances from entering the water. Fuel, lubricants, hydraulic fluids, etc., will not be stored within 31 m of the high water mark of any waterbody and will be kept in an area where spillage can be contained, and in a manner inaccessible to all wildlife; and
- an emergency spill kit will be kept at the work site in case of fluid leaks or spills from machinery.

Table 3.4-2 summarizes the locations of the crossings with fisheries considerations, including inset pipe culverts, arch culverts, and bridges. All crossing locations are shown in Figure 3.4-2.

Table 3.4-2: Locations and Design Specifications for Crossings with Fisheries Considerations

From Construction (actual planned location)			Crossing Type to Mitigate Potential Impacts to Fish	Span (m)
km	Easting	Northing		
3+280m	638223.097E	7221546.432N	AR-1 – Arch culvert	6
			Inset culvert	
			Inset culvert	
10+495m	635422.193E	7227841.604N	AR-2 – Arch culvert	6
			Inset culvert	
			Inset culvert	
15+640m	632839.846E	7232037.174N	BR-3 - Bridge	14.5
18+105m	631715.968E	7233905.018N	AR-3 – Arch culvert	6
19+560m	630485.248E	7234602.817N	AR-4 – Arch culvert	6
			Inset culvert	
23+350m	627217.372E	7236477.216N	BR-1 – Bridge[a]	53
25+440m	625376.110E	7235926.784N	AR-5 – Arch culvert	6
27+710m	623209.832E	7235808.680N	AR-6 – Arch culvert	6
			Maintain interstitial flow	
31+560m	619955.522E	7235414.108N	BR-2 - Bridge	60
			Maintain interstitial flow	
			Inset culvert	
			Inset culvert	
			Inset culvert	
41+600m	620627.087E	7243518.197N	AR-7 – Arch culvert	6
			Inset culvert	
42+780m	620634.051E	7244692.188N	AR-8 – Arch culvert	6
			Inset culvert	
			Inset culvert	

[a] the high water level and bridge height lowest point is 118.3 masl and 121.4 masl respectively, where masl is metres above sea level



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LEGEND

- PROPOSED AMARUQ EXPLORATION ACCESS ROAD
- CORRUGATED PIPE CULVERT
- OPEN BOTTOM ARCH CULVERT
- BRIDGE
- WATERCOURSE
- WATERBODY

REFERENCE

1. PROPOSED AMARUQ EXPLORATION ACCESS ROAD ALIGNMENT OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

3000 0 3000
METRES

PROJECT
AGNICO EAGLE
AGNICO EAGLE MINES LIMITED
AMARUQ EXPLORATION ACCESS ROAD
NUNAVUT

TITLE
WATERCOURSE CROSSING LOCATIONS

Golder Associates

PROJECT		1408749	FILE No.	
DESIGN	BB	26 Feb. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	16 Mar. 2015		
CHECK	DF	16 Mar. 2015		
REVIEW	GC	16 Mar. 2015		

FIGURE 3.4-2

3.5 Rock and Granular Material in Borrow Pits

The exploration access road will be constructed from glacial-fluvial material and Vault quarry rock. The minimum thickness, or depth, of the exploration access road will vary from 0.450 to 1.150 m, depending on whether the underlying soil is thaw-stable (0.45 m) or thaw-susceptible (1.15 m). Three types of structural fill are proposed for construction. The first type of material is 40 mm crushed material which will be sourced from Vault Pit. This material will be used as a top dressing for the exploration access road and will form the running surface. Coarse run-of-quarry rock (0 to 600 mm), will form the base of the exploration access road in Section 1 of the road between the Vault Pit and the first esker (which is about 16.5 km). The third type of fill is granular esker material, which will form a majority of the base of the exploration access road (approximately 46 km). The construction material required for the exploration access road is estimated to be 2.04 million cubic metres (m^3), sub-divided as follows:

- 540,000 m^3 of quarried rock fill from Vault Pit proposed quarry site (density of 2,245 kg/m^3); and
- 1.5 million m^3 of glacial-fluvial sand, till, and gravel will come from 6 borrow sites (Esker 1, 2, 3, 4, 5, and 6; density of 2,081 kg/m^3 average).

Surface silt and moisture content for each esker borrow source are shown in Table 3.5-1.

Table 3.5-1: Grains Size Partitions for each Esker Borrow Source

Esker	Gravel >5 mm (%)		Sand >80 µm and <5 mm (%)		Silt and clay <80 µm (%)		Density (kg/m^3)	Moisture (%)	# samples
	Average	Range	Average	Range	Average	Range			
1	43	27-68	53	29-72	4	1-11	2100	7.6	6
2	26	10-42	71	56-86	3	4-4	2000	9.3	4
3	9	4-89	87	72-94	4	2-6	1920	10.9	5
4	31	25-37	66	59-74	3	1-4	2120	6.7	2
5	23	4-46	74	52-93	3	2-3	2010	10.2	4
6	53	37-59	45	39-61	2	2-3	2175	5.7	4
7	40	20-51	52	37-74	8	6-12	2245	6.2	3

mm = millimetre; µm = micrometre; kg/m^3 = kilogram per cubic metre

Aggregate material will be stripped using a dozer or loader. Based on the preliminary borrow pit design and material types, it should be possible to strip two layers over the summer period, each to a depth of approximately one metre. The material will be piled in mounds to allow drainage. Subsequently the mounded material will be easily handled at all times of the year. Although the current construction plans limit blasting to the Vault Pit, and esker borrow pits may not require blasting based on results of surface sampling, blasting in the borrow pits has been considered and is discussed in the Amaruq Road Management Plan.

The proposed location of the Vault quarry and borrow areas are shown in Figure 1.4-2. The estimated volumes of material to be extracted from the rock quarry and each glacial-fluvial borrow site are presented in Table 3.5-2, along with the length of spur road. Table 3.5-3 presents the spur road locations to access the borrow areas.

Table 3.5-2: Amaruq Exploration Access Road Borrow Pits and Waste Rock for Road Construction

ID Number	Surface Area (ha)	Volume (m^3)[a]	Land Ownership	Length of Spur Road (m)	Number of Samples for ARD/ML Testing	Location UTM Zone 14 W Easting(m) Northing (m)	
Vault Open Pit – NPG Waste Rock							
Vault Open Pit Quarry	Not Applicable	540,000	Meadowbank Gold Mine (IOL)	None	ARD testing and delineation ongoing	640141	7221038
Borrow Pits – Esker Material							
Esker 1	18.1	218,000	CL	319	8	633379	7232759
Esker 2	12.7	364,000	CL	None	14	626649	7235662
Esker 3	14.8	283,000	CL	603	11	621825	7247508
Esker 4	10.4	257,000	CL	1,364	10	614953	72504425
Esker 5	11.2	195,000	IOL	422	8	611936	7253888
Esker 6	6.9	111,000	IOL	942	4	610689	7256058
Esker 7	1.4	65,000	IOL	511	3	607799	7254627
Total	**75.5**	**2,033,000**			**58**		

[a] Volumes are provisional at this time and are subject to change.
CL=Crown Land, IOL= Inuit Owned Land.

Table 3.5-3: Amaruq Exploration Access Road – Spur Roads

ID Number	Land Ownership	Length of Spur Road (m)	Location UTM Zone 14 N Easting(m) Northing (m)	
Esker 1	CL	319	632588.2371	7232832.2024
			632903.0546	7232886.0711
Esker 2	CL	None	None	None
Esker 3	CL	603	620859.9713	7246004.407
			620336.655	7245704.809
Esker 4	CL	1364	614879.0747	7250316.8497
			614058.0662	7249278.8642
Esker 5	IOL	422	611838.3693	7253781.9344
			611416.3264	7253762.608
Esker 6	IOL	942	610503.524	7256195.974
			609946.6992	7255499.1009
Esker 7	IOL	511	607809.748	7254779
			607879.9399	7255285.5753

CL=Crown Land, IOL= Inuit Owned Land.

3.6 Dust Suppression

Based on the projected operational use along the exploration access road, dust suppression is not likely to be required. This is primarily based on Agnico Eagle's experience operating the Meliadine road and quantified through dustfall monitoring studies that are completed annually at the Meadowbank mine site and along representative portions of the AWAR from Baker Lake to Meadowbank mine (Agnico Eagle 2014). The Meadowbank AWAR has a greater intensity of traffic as compared to what is proposed for the exploration access road. Dustfall studies have been conducted to characterize dust deposition based on proximity to the roadway and are used to compare rates of dustfall to those on the mine site (due to hauling and operational activity, the mine site dust generation was predicted to be elevated, thus Agnico Eagle actively suppresses dust along all of the haul roads around the Meadowbank site). Overall, rates of dustfall along the Meadowbank AWAR were within the range of Alberta Environment's ambient air quality guidelines (recreational or industrial). Dustfall rates were greatest within 50 m from the AWAR and were not significantly different between 100 and 150 m from the road. The rates along the AWAR were not significantly different from those at the Meadowbank mine site. In general, annual studies have found that elevated rates of dustfall are confined to <100 m from the Meadowbank AWAR.

Based on these findings Agnico Eagle does not believe dust suppression will be required for the proposed exploration access road. However, if deemed necessary, Agnico Eagle may use water and water trucks for dust suppression and is therefore requesting 299 m^3/day of water use for dust control. Water sources will be existing large waterbodies proximal to the road (Innugugayulalik Lake and Pipe Dream Lake). The quality and quantity of the water from the existing waterbodies is suitable for dust suppression. The different sources and exact location of pumping to be used will depend on the section of road to be treated.

Gas powered pumps will pump water from the source into a tank mounted on the truck bed. The intake for the pump will be fitted with a screen to avoid the impingement of fish. Given Agnico Eagles' past experience in road operation at Meadowbank it is unlikely for dust suppression purposed that the full 299 m^3/day will be required daily and it is highly likely that it will be required only during the summer period (July to September) when the road is not snow covered. It is anticipated that the application of water to the road for dust suppression will be sufficient to wet the running surface but not enough to have any water runoff and therefore no water returned to the source.

4.0 DESCRIPTION OF EXISTING ENVIRONMENT, ENVIRONMENTAL IMPACTS, AND MITIGATION

The proposed exploration access road will interact with the natural and human environment of the area in both time and space. This section of the Main Application Document describes the existing environment, including physical, biological, social, economic and potential cumulative effects. The potential environmental impacts associated with the road, and the proposed mitigation measures for these impacts are also provided.

The detail provided in the description of the existing environment, environmental impacts, and mitigation are appropriate for the type, scope, and scale of an exploration access road and associated infrastructure for which a Type B Water Licence and NIRB screening is being requested.

The assessment approach is based on ecological, cultural, and socio-economic principles and environmental best practice. Key elements of the assessment methods and approach include the following:

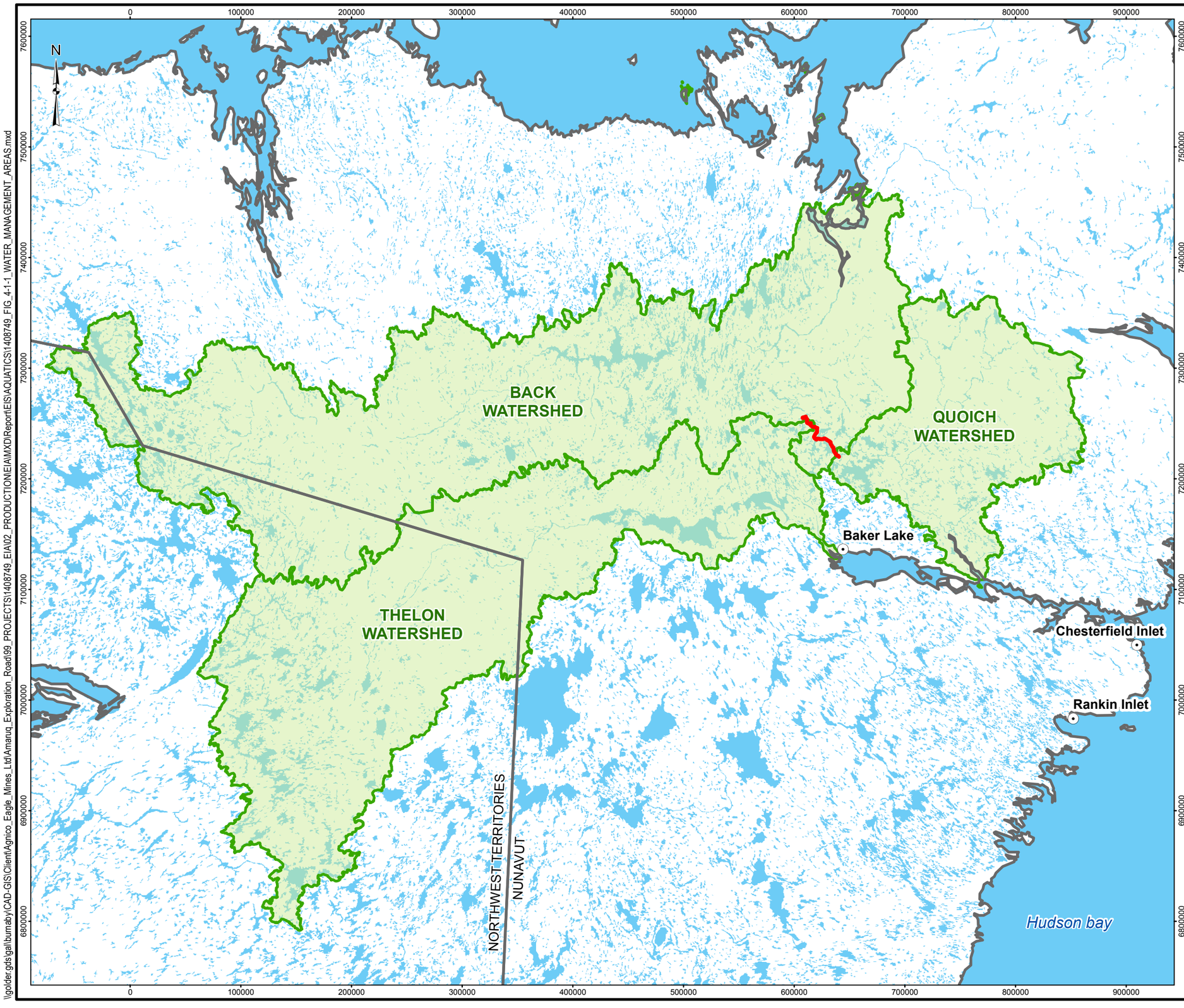
- determining links between the proposed exploration access road and valued environmental component;
- determining project specific effects;
- outlining mitigation measures to minimize impacts;
- determining if impacts are left after mitigation in place; and
- proposing monitoring and follow-up.

For the purposes of this environmental assessment, the temporal boundary for construction, operation, and closure of the road is about nine years (i.e., two years construction, five years operation, and two years for closure following closure of the advanced exploration project infrastructure).

The proposed exploration access road is a 6.5 m-wide exploration sized road that is 62.5 km in length and is proposed to connect the Meadowbank mine site, north of Vault Pit operations, in a northwest direction to the Amaruq exploration site. The general description of the road is summarized in Table 3.1-1. The Regional Study Area (RSA) and Local Study Area (LSA) are defined specifically for each environmental component.

In review of the water management area provisions of the *Nunavut Water* Regulations s. 17 and Schedule 4, the proposed exploration access road falls within several established water management areas with the southern tip in the Quoich watershed, and the road is predominantly located in the Back River watershed with a northwest portion in the Thelon watershed (Figure 4.1-1).

Agnico Eagle has provided a summary table identifying the environmental impacts for each phase of the proposed exploration access road development from construction to operation and closure consistent with the requirements of the NIRB PSIR see Appendix B. While the proposed exploration access road has few negative effects to the environment, the impacts do not result in long-term or significant impacts due to mitigative measures.



LEGEND

- PROPOSED AMARUQ EXPLORATION ACCESS ROAD
- WATERSHED BOUNDARY
- WATERBODY

REFERENCE

1. PROPOSED AMARUQ EXPLORATION ACCESS ROAD ALIGNMENT OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
3. PROVINCE / TERRITORY BOUNDARY OBTAINED FROM ESRI
4. WATERSHED DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

75 0 75
KILOMETRES

PROJECT
AGNICO EAGLE MINES LIMITED
AMARUQ EXPLORATION ACCESS ROAD
NUNAVUT

AGNICO EAGLE

TITLE

WATER MANAGEMENT AREAS

Golder Associates

PROJECT		1408749	FILE No.	
DESIGN	JL	02 Mar. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	16 Mar. 2015		
CHECK	DF	16 Mar. 2015		
REVIEW	GC	16 Mar. 2015		

FIGURE 4.1-1

\\golder.gds\gal\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Amaruq_Exploration_Road\99_PROJECTS\1408749_EIA\02_PRODUCTION\EIA\MXD\Report\EIS\AQUATICS\1408749_FIG_4-1-1_WATER_MANAGEMENT_AREAS.mxd

4.1 Physical Environment

4.1.1 Terrain and Permafrost

Environmental Setting

The terrain LSA for the proposed exploration access road is defined by a 500 m corridor centered the road footprint, which includes the road right-of-way.

Terrain mapping of the corridor was completed using 1:60,000 scale black and white photographs from 1979 and 1982. The topography within the terrain LSA is rugged and somewhat dissected at the south end of the corridor, and becomes undulating and subdued towards the north end. The surficial geology is mainly composed of till veneers and blankets overlying undulating bedrock topography. Lacustrine veneers overlying till blankets are found at the north end of the corridor. Glaciofluvial deposits, including eskers, are also found in the northern part of the corridor and the eskers are oriented mainly in a northwest/southeast direction. Till deposits tend to be moderately well to imperfectly drained. The lacustrine deposits are finer textured and are imperfectly to poorly drained especially in low lying areas. Glaciofluvial deposits are coarser textured and are therefore moderately well to rapidly drained.

The proposed exploration access road is found in the zone of continuous permafrost (Natural Resources Canada 1995) meaning that permafrost is found under 90 to 100% of the landscape and the ground ice content in the upper 10 to 20 m of ground is expected to be between 0 and 10%. The terrain mapping identified only a few areas where patterned ground was obvious from the aerial photographs. Stripes were identified in the lacustrine sediments at the north end of the corridor and are an indication that periglacial processes such as frost sorting, frost heave and frost creep are acting on these fine-grained deposits. Other forms of patterned ground (e.g., mudboils, circle and polygons), frost shattering of bedrock and solifluction lobes are also likely to be present in this area but are too small to be seen on the aerial photographs.

Impacts, Mitigation, and Monitoring

Effects to the terrain and permafrost are anticipated to be confined to the narrow footprint area of the route. In addition, eskers will be used as borrow material. The construction of the proposed exploration access road will have minimal but measureable effects on the terrain in that materials will be directly covered by fill materials. The thickness of the fill materials is designed to preserve the underlying permafrost in areas of thaw-stable soils, and to promote the aggradation, or building, of permafrost into the road structure in these areas of thaw sensitive soils. Potential for snow drifting was a design road route selection consideration. Maintenance of the proposed exploration access road during winter will minimize the depth of snow drifting and accumulation along the road edges in areas of thaw-sensitive materials. Localized drainage culverts will be placed in topographically low areas where water may accumulate against the road fills. Numerous localized drainage culverts will be installed to reduce thaw susceptibility; however, water accumulation against the proposed exploration access road may result in thaw settlement. Following closure, terrain can be contoured, to the extent practical, to blend the residual footprint with the surrounding landscape.

The development of eskers to provide suitable road construction materials will result in open excavations on the landscape. Excavation of the eskers will result in changes in thermal regimes and permafrost conditions within the eskers. As a consequence the active layer beneath the excavated portions of the eskers may be depressed slightly. There will be a localized negative effect to individual sources of borrow material along the eskers;

however, this is not expected to be a measureable impact the terrain in the LSA. Where possible the excavated portions of the eskers will be designed to promote drainage from the eskers so that no water accumulation occurs.

4.1.2 Soil

Environmental Setting

The soil LSA for the road is defined by the road footprint which includes the road right-of-way and associated borrow pits and rock quarries. The soil RSA was defined as a 1.5 km radius from the proposed exploration access road.

Soil conditions in the area of the proposed exploration access road were classified and mapped using the general principles and methods outlined by the Expert Committee on Soil Survey (1982) and the Mapping Systems Working Group (Agriculture Canada 1981). All soils were mapped according to the Canadian System of Soil Classification (Soil Classification Working Group 1998). Note that all mapping was undertaken by desktop processes with no field verification.

The objective of the soil mapping was to describe and characterize the existing soil resources, the distribution across the landscape, and associated soil quality and sensitivities within area. The approach to classifying and describing soil units involved a review of existing information, and development of soil maps in a Geographical Information System (GIS) platform.

The proposed exploration access road is found within the Wagner Bay Plateau Ecoregion, an area composed of massive Archean rocks of the Canadian Shield that form broad, sloping uplands, plains, and valleys. It rises gradually westward from Chesterfield Inlet to 600 masl elevation, where it is deeply dissected. Turbic and Static Cryosols developed on discontinuous, thin, sandy moraine and alluvial deposits are the dominant soils in the ecoregion. The soils mapped in the area of the proposed road include static cryosols, regosols and rock and are described below:

- The static cryosol soils typically occur on the lower slopes of ridges and eskers or as veneers over flat rocky plains characterized by frost boils.
- Soils of the Regosolic order are most commonly associated with landforms where the land surface is (or has recently been) unstable. Because of the unstable surface, the soil has had little time to develop, and hence soil horizons are very weakly expressed if present at all. The instability could be from either erosion of the landsurface or through deposition of sediment and burial of an earlier surface; in some cases, this can occur in different portions of the same landscape. River floodplains also commonly have Regosolic soils associated with them.
- Rock is unvegetated areas with bedrock at the soil surface.

Impacts, Mitigation, and Monitoring

Site clearing and soil stripping and storage will occur only at the borrow areas, whereas soils will be covered with the rock base along the footprint of the proposed exploration access road. This will result in changes to soil quantity, distribution, and/or availability of soil. Soil removal will occur at the beginning of the construction phase for the opening of the borrow sites, but due to the nature of these sites, quantities of soils are expected to be small (i.e., borrow sites are of till material, with little surface soils).

With appropriate soil salvage and reclamation techniques, soils can be returned to the landscape and support natural plant communities. However, soil can be altered or lost through the following project components and activities:

- wind and water erosion during construction and reclamation phases, and
- disturbance of soil during construction for the footprint of the road.

An area of approximately 73 hectare (ha) is expected to be disturbed for proposed exploration access road and borrow pits during operation. The 73 ha of disturbed area will be reclaimed at closure.

During the processes of soil salvage and stockpiling, and storage of topsoils at borrow sites, the quantity of soils available for site reclamation may be reduced due to wind and water erosion. Use of standard erosion and sediment control techniques and the short duration of storage will result in negligible loss of the stockpiled soils.

4.1.3 Air and Climate

Environmental Setting

The proposed exploration access road is located near Baker Lake, a site with a long-term climate record. The region experiences long cold winters followed by short cool summers. Winds are predominantly from the northwest and are highest in winter, lowest in summer. Annual precipitation is low, with most occurring as rain in late summer and fall. Air quality in the region is generally high. There can be episodic reductions in air quality, for example during springtime Arctic Haze events, or when boreal forest fire smoke is transported to the region in summer.

Impacts, Mitigation, and Monitoring

Construction and operation of the proposed exploration access road will lead to increased gas- and particulate-phase air emissions, including greenhouse gases. Sources that can affect air quality include mobile combustions sources (e.g., light duty gasoline vehicles and heavy duty diesel equipment) and emissions from blasting during construction, and mobile combustion sources and fugitive road dust emissions during operations.

Emissions from the construction phase are anticipated to be of low intensity and transient in nature resulting in a negligible change in local air quality or emissions of greenhouse gases. Emissions of trace gases, including greenhouse gases, from mobile combustion sources during road operations are also expected to be of low intensity, resulting in a negligible change to local air quality or greenhouse gas emissions. Emissions of fugitive dust during the operational phase are naturally mitigated by 80 to 95% during the eight months when the ground is frozen; these emissions represent a negligible change to local air quality. Similar to the Baker Lake to Meadowbank AWAR, through extensive monitoring and review with regulators, if deemed necessary, water may be used for dust suppression during the summer months.

4.1.4 Noise

Environmental Setting

The noise LSA for the proposed exploration access road was defined as a boundary at a distance of 1.5 km from both sides of the road, along its entire length. The RSA includes the LSA and extends approximately 5 km in each direction from the road.

The potential effect of noise from construction and operation on the proposed exploration access road was evaluated using approach and compliance criteria described in Alberta Energy Regulator (AER) Directive 038: Noise Control (EUB 2007). In addition, noise and vibration from blasting activities were evaluated based on approach and limits described in Ontario Ministry of Environment (OMOE) Noise Pollution Control Publication 119 (NPC-119) (OMOE 1978). Noise levels from construction and operation will comply with Directive 038 nighttime and daytime permissible sound levels.

Impacts, Mitigation, and Monitoring

Noise and vibrations from blasting activities will not exceed limits suggested in NPC-119 at distances beyond 300 m from blasting activities. Both residual and cumulative effects from construction and operation noise are considered negligible. Blasting noise levels will be high but will have a low overall effect on environment due to compliance with relevant regulation and infrequent occurrence. Negligible to low effect of noise from construction and operation will be achieved by following best practices in operation and maintenance of construction and road equipment (e.g., equipment fitted with silencers), in addition a road speed limits will be enforced and the road surface will be kept in good working condition.

4.1.5 Hydrology

Environmental Setting

The proposed exploration access road falls within several established water management areas with the southern tip in the Quoich watershed, and the road is predominantly located in the Back River watershed with a northwest portion in the Thelon watershed (Figure 4.1-1). The LSA was defined to include sub basins for each watercourse crossing. Given that the proposed exploration access road is proposed to be constructed within the Back River, Quoich River, and Thelon River watersheds, the RSA was defined to consider the effects of the proposed exploration access road with other developments, activities and natural factors that influence surface water quantity within these watersheds. However, due to the size of these watersheds, the RSA was limited to drainage areas, downstream of which potential effects would no longer be measurable.

Based on a review of desktop data and a preliminary field reconnaissance, the road alignment crosses thirty-nine watercourses and has one hundred and fifty-three localized drainages. None of the water crossings on the current alignment are located on Transport Canada's schedule of navigable waters.

A total of eleven watercourses are considered to be potential migration routes and/or potentially provide spawning or nursery habitat for large-bodied or small-bodied fish. The remaining twenty-eight watercourses are smaller and range from partially open flowing channels, to braided channels that have limited connectivity where no water was visible during field programs.

Impacts, Mitigation, and Monitoring

Potential to affect surface water quantity (hydrology), including:

- cross-drainage structures for the exploration road may alter stream hydraulics;
- cross-drainage structures for the exploration road may alter stream geomorphology;
- freezing and plugging of culverts in the winter may result in
  - inadequate drainage during spring thaw and freshet;

- over-topping and erosion of road surface releasing silt onto terrain and soils;
- pooling of water adjacent to road flanks;
- potential instability and thaw settlement of road shoulders;
- thaw settlement beneath and adjacent to culverts; and
- ice lens growth.

- cross-drainage structures for exploration road may prevent navigability.

The effects to the protection of surface water quantity for aquatic and terrestrial ecosystems and for human use as a result of the construction, operation and closure of the proposed exploration access road are anticipated to be negligible.

A number of environmental design features and mitigations have been included in the design (e.g., design of cross-drainage structures to prevent hydraulic barrier to fish passage, convey peak flow) to limit the effect on the aquatic environment. Bridges or arch culverts are proposed for the eleven watercourses that are considered to be potential migration routes and/or potentially provide spawning or nursery habitat for large-bodied or small-bodied fish (i.e., three bridge crossings and eight arch culverts). The remaining twenty-eight watercourses are smaller and range from partially open, flowing channels to boulder fields where no water was visible will be crossed with inset corrugated piped culverts.

Engineering for the final culvert design and locations for localized drainage culverts is ongoing. Localized drainage culverts are standard corrugated piped culverts that will be placed in areas along the road that may have susceptibility to erosion or ponding, and are intended to drain local water that may have potential of washing out or creating slumping of the road. Refer to Section 3.4 for specific information on culvert and bridge location and design.

Finalization of the watercourse crossing design, specific location, and localized drainage culvert identification is scheduled during spring 2015, during the high water season.

4.1.6 Potential for Acid Generation/Metal leaching

Environmental Setting

Geochemical testing of the borrow esker material was done in 2014 using static test methods to assess its chemical composition, its potential to generate acid rock drainage (ARD), and its potential to leach metals to the receiving environment upon exposure to ambient conditions (Appendix C).

Impacts, Mitigation, and Monitoring

Based on testing, the sampled esker locations showed no potential to generate acid drainage based on low sulphide content and sufficient buffering capacity. The sampled esker material also demonstrated low metal leaching potential. Leaching test metal concentrations were below Metal Mining Effluent Regulation (MMER) effluent discharge criteria (MMER 2012), while arsenic, copper, and lead were above Canadian Water Quality Guidelines (CWQG) (CCME 2015a); however they are within the same order of magnitude as the respective water quality guideline and are thus not expected to be a concern to receiving environment water quality. Iron concentrations above the CWQG are likely related to colloidal iron (total iron) rather than dissolved iron.

Exceedances in laboratory leach tests do not necessarily imply non-compliance of contact water quality, rather the results serve to highlight chemicals of environmental interest as actual natural drainage quality will depend on material exposure, drainage patterns and site climate that affect the ratio of leaching solution to solid material and water-rock contact time (Appendix C).

Vault waste rock will be used for construction of the proposed exploration access road in areas proximal to Meadowbank. Vault waste rock has variable ARD potential and non-PAG material will be targeted for construction use. A selection criterion of total sulphur <0.2% will be used to screen non-acid generating waste rock (Appendix C) for use on the access road. Further testing is underway for Vault waste rock to ensure proper segregation of non-PAG material and finalize the plan for its use for road construction.

4.2 Aquatic Environment

4.2.1 Water Quality

Environmental Setting

The LSA includes the proposed exploration access road corridor and the area 100 m to either side of the centre line of the road. The RSA includes the road and the area 1,000 m to either side of the centre line of the road. Where the footprint for a borrow area falls within and outside of the RSA boundary, the RSA boundary was expanded to include the entire footprint of the borrow area.

Lakes along the proposed exploration access road were generally similar in water and sediment quality characteristics, and similar to other lakes in the region. The lakes can be characterized by having low ionic strength, very soft hardness, poor acid buffering capacity (i.e., low alkalinity), neutral pH, and low nutrient concentrations typical of oligotrophic waterbodies. Water quality parameters generally did not exceed CWQG for the protection of aquatic life (CCME 2015a) or Canadian Drinking Water Quality Guidelines (CDWQG; Health Canada 2012). Sediments in the lakes were naturally elevated in arsenic, chromium, and copper, which exceeded sediment quality guidelines for these metals (CCME 2015b).

Impacts, Mitigation, and Monitoring

Potential to affect surface water and sediment quality in adjacent waterbodies includes:

- altered flow due to stockpiling of rock;
- surface runoff from road drainage;
- releases of sediment, acid, or metals during road construction and installation of watercourse crossing structures and their decommissioning;
- introduction of blasting residues (nitrogen-containing compounds) from surface water flow through borrow pit development;
- dust deposition during construction and operation of the exploration access road; and
- spills and leaks from equipment or spills from accidents.

All effects to the protection of surface water quality for aquatic and terrestrial ecosystems and for human use are anticipated to be negative. However proposed mitigation will reduce these impacts.

Based on the geochemical characterization of the borrow and quarry material the main potential impacts to surface water will be mitigated by using non-PAG road material. Furthermore, a number of environmental design features and mitigation strategies will be implemented in the construction and operation and closure of the proposed exploration access road including the use of best management practices to control sediment and erosion during construction and closure, in-stream work to be completed in winter, use of non-acid generating material at watercourse crossings, mitigating dust generation, and planned monitoring programs. Agnico Eagle has an Emergency Response and Spill Contingency Plan and a Road Management Plan in place. Therefore, no significant adverse environmental effects on the surface water and sediment quality are expected from the construction, operation and decommissioning of the road and known impacts are mitigatable.

4.2.2 Fish and Fish Habitat

Environmental Setting

The LSA and RSA for fish and fish habitat was the same as for water quality (Section 4.2.1).

The proposed exploration access road is located in three major watersheds, including the Back River to the north, Thelon River to the south west, and Quoich River to the southeast. Thirty nine watercourses were assessed by aerial reconnaissance, ground surveys and desktop (GIS) analyses and these watercourse were classified as river, boulder, or grammoid habitats. Baseline field assessments of the proposed crossing locations were performed from August 30 to September 2, 2014. Five fish species (Arctic grayling, Arctic char, burbot, slimy sculpin, and ninespine stickleback) were identified during electrofishing that occurred at seven proposed road crossing locations.

Impacts, Mitigation, and Monitoring

Potential to affect fish and fish habitat includes:

- the potential disturbance of fish habitat during the installation of the crossing structures,
- sediment releases during the installation of the crossing structures and construction of the road surface,
- the use of explosives near fish bearing waters,
- introduction of dust during operation of the road,
- potential for the crossing structure's to have the potential to block or delay fish movement,
- the potential over exploitation of fish populations due to improved road access, and
- the removal of the road surface and crossing structure's during decommissioning of the road.

A recommended crossing structure that would mitigate potential impacts to fish and fish habitat was provided for each assessed crossing location and the proposed road alignment has been re-routed to avoid contact with lakes and ponds.

Effects to the fish and fish habitat resources as a result of the construction, operation, and closure of the exploration access road are predicted to be negligible and mitigatable. The proposed exploration access road is closed to the public and will have controlled access at the Meadowbank mine site, and will only be available to exploration personnel and contractors.

Environmental design features and mitigations included in the design of the proposed exploration access road and crossing structures include the use of best management practices to control sediment and erosion during construction and decommissioning, in-stream work to avoid crucial periods for fish, maintaining fish passage by installing appropriate crossing structures, and limiting in-stream footprints. These environmental design features and mitigations, together with the planned monitoring programs outlined in the Road Management Plan, are anticipated to limit potential effects to fish and fish habitat ,and no significant residual effects to fish and fish habitat are expected from the construction, operation and decommissioning of the road.

4.3 Terrestrial Environment

Environmental Setting

In 2014 a Terrestrial Baseline Characterization Report (TBCR) for the proposed exploration road (including proposed esker borrow sites and spur roads) (Dougan and Associates 2014) was prepared based on the findings of field studies and an analysis of records from the annual Baker Lake Hunter Harvest Study, a wildlife log sheet posted at the Amaruq exploration camp, and an analysis of Caribou satellite-collaring data. The TBCR did not identify any Species at Risk (SARA). The TBCR included habitat suitability maps for each ecosystem component, based on Ecological Land Classification (ELC) mapping for the study area:

- vegetation (wildlife habitat);
- ungulates;
- predatory mammals;
- small mammals;
- raptors;
- waterfowl; and
- upland breeding birds.

The spatial scale of the terrestrial assessment encompassed a LSA is a 3 km corridor with a total area of 20,401 ha, while the RSA is a 50 km corridor with a total area of 466,599 ha. Each of these study areas are measured from the centerline of all of the construction works, which include the exploration road, esker borrow sites, and esker borrow site access roads.

See Figure 4.3-1 for the vegetation communities and impact assessment study areas and Figure 4.3-2 for the caribou ranges and impact assessment study areas.

Impacts, Mitigation, and Monitoring

The main sources of potential effects of the proposed exploration access road on the above during the construction phase will be the development exploration road, esker borrow sites, and esker borrow site access roads, ground traffic, and increased human presence. During the operation stage, sensory disturbances to wildlife will occur and the creation and deposition of dust within 50m of the road may result in habitat degradation and contaminant loading in vegetation adjacent to the roadway. Effects during the closure and post-closure phase will be reduced compared to effects during the construction and operation phases, as the road bed, esker access roads, and esker borrow pits will be revegetated and use of the road by vehicles will be discontinued.

Natural succession of vegetation communities and thus habitat restoration will begin, and sensory disturbances to wildlife will cease.

The assessment found that there are two main areas where effects will occur:

- In accordance with the terrain mapping, approximately 73 ha is expected to be disturbed for the proposed access road and borrow areas. As a result, construction of the road and other project components results in a physical loss of habitat. The amount of high suitability habitat lost varies as each ecosystem component has different habitat requirements, but overall habitat losses are small in comparison to the RSA and the landscape as a whole. This effect will occur during the construction phase, continue through operation, and be reversed upon closure when the road will be rehabilitated.
- Sensory disturbances occurring during construction and road operation will result in effective habitat loss for the wildlife ecosystem components. The amount of effective habitat loss is measured in a zone of influence which is different for each ecosystem component depending on their sensitivity to disturbance. Ungulates, predatory mammals, and raptors will be most affected by sensory disturbance are. Literature suggests that small mammals, waterfowl, and upland breeding birds are less affected by sensory disturbance by proximity to roads. This effect will occur during the construction and operations phases and end at closure when use of the road will cease.

Measures taken to mitigate effects on wildlife habitat include:

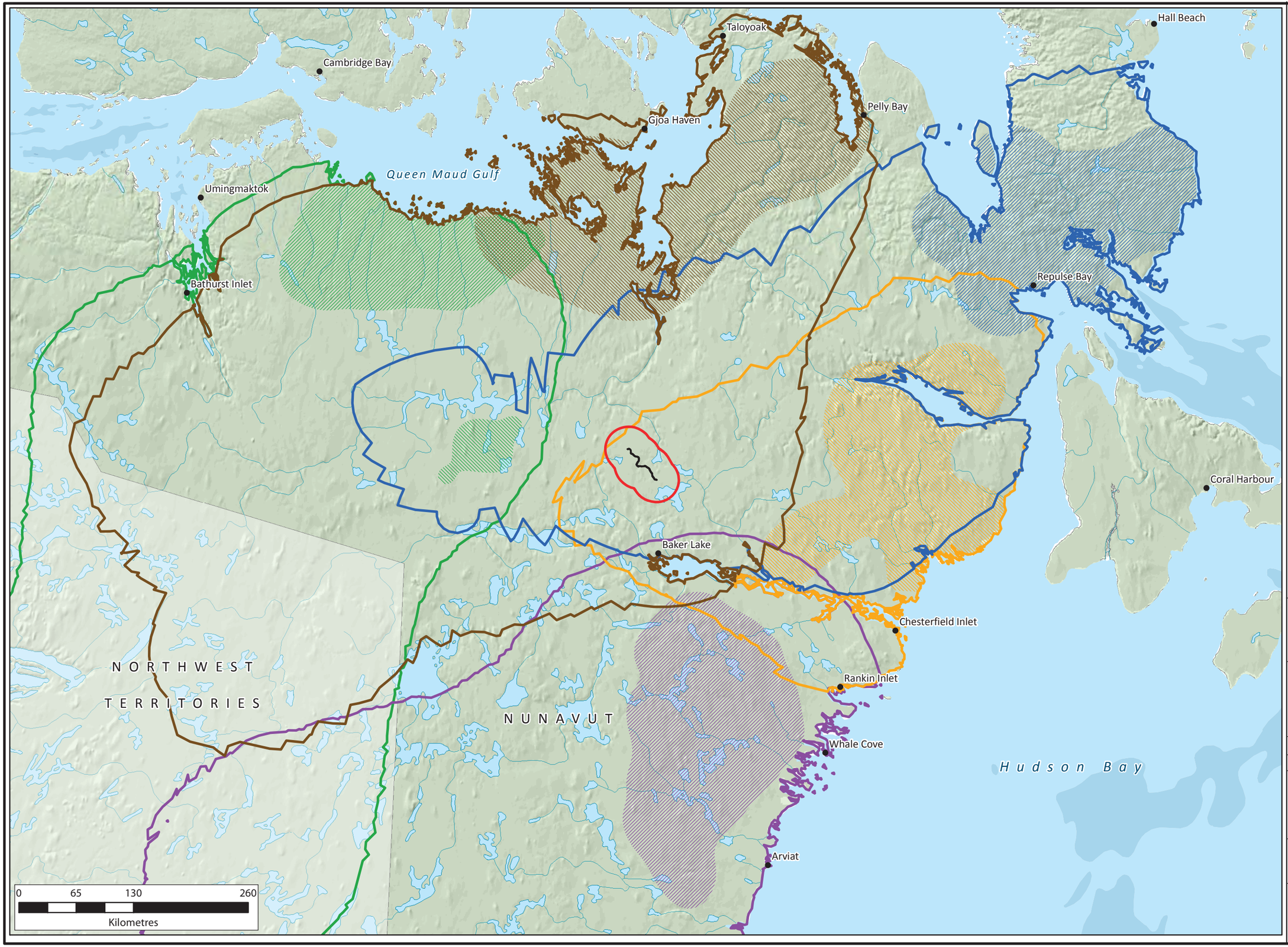
- choosing an efficient route for the road,
- minimizing the construction footprints, and
- completion of the majority of the construction work in the winter season.

Various mitigation measures to reduce sensory disturbances will be implemented, including:

- ensuring vehicles are properly muffled,
- limiting personnel access into adjacent habitat; and
- enforcing a 50 km/h speed limit.

With these mitigation measures the effects of the habitat losses and sensory disturbances will be not significant. The proposed exploration access road is closed to the public and will have controlled access at the Meadowbank mine site, and will only be available to Project personnel and contractors.

There are a number of other impacts which have the potential to occur, which include deposition dust and contamination through exhaust and other road by-products, hunting, off-road vehicle access, increased predation, and vehicle collisions. The assessment found that these effects would be negligible. Continued monitoring, the implementation of the mitigation measures and best management practices for construction and road operations will ensure that potential impacts to the terrestrial environment as a result of the construction, operation, and closure of the road are minimized and mitigatable.



Legend

- Proposed Exploration Road
- RSA Boundary

GN/GNWT Annual Home Ranges*

- Ahiak Herd
- Wager Bay Herd
- Lorillard Herd
- Qamanirjuaq Herd
- Beverly Herd

GN/GNWT Calving Grounds*

- Ahiak Herd
- Qamanirjuaq Herd
- Lorillard Herd
- Wager Bay Herd
- Beverly Herd - North
- Beverly Herd - South

*Home ranges and calving grounds are part of a publication. The ESA citation is as follows: Nagy, J. A., D. L. Johnson, N. C. Larter, M. W. Campbell, A. E. Derocher, A. Kelly, M. Dumond, D.Allaire, and B. Croft. 2011. Subpopulation structure of caribou (Rangifer tarandus L.) in arctic and subarctic Canada. Ecological Applications [doi:10.1890/10-1410.1].

Amaruq Exploration Road

Caribou Home Ranges, Calving Grounds, and Impact Assessment Study Area

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PROJECT: DA14-053-03

CLIENT: Agnico Eagle Mines Limited

N
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UTM Zone 14 NAD83

DATE: MARCH 2015

SCALE: 1:4,000,000

DRAWN BY: Caslys

CHECKED BY: MAY

Figure:

4.3-2

4.4 Social and Economic Environment

Environmental Setting

Construction of the proposed exploration access road will require at least 100 people. This estimate includes two construction crews of 40 people plus 20 people to provide additional support including running the camp at the Amaruq exploration site. Maintenance workforce requirements will be minimal (two people based at Amaruq and two people based at Meadowbank). For projected workforce details refer to Table 3.1-1a and Table 3.1-1b.

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 Eagles other northern operations.

Impacts, Mitigation, and Monitoring

The positive socio-economic effects that are expected as a result of the construction of the proposed exploration access road are summarized as follows:

- Building the access road will help Agnico Eagle to evaluate the Amaruq Exploration Project, complete the infill drilling for the feasibility studies, and to provide guidance on underground exploration decline development potential. Furthermore, it will to assist in decision making on how to optimize the skilled workforce of northern mining personnel with the intention of closing the gap between closure of the Meadowbank mine. By advancing the underground exploration decline and assessing the potential future development of the Amaruq site.
- Increasing employment activity at the Amaruq Exploration Project from seasonal to a year-round basis would provide ongoing employment to Nunavut workers.
- Construction of the proposed road is projected to employ 100 people for approximately 20 months, with many expected to be Inuit from the Kivalliq Region.
- The existence of an exploration access road between the exploration site and Meadowbank mine will result in an improved ability to respond effectively in the event of an accident or emergency. A substantive safety risk remains with only helicopter and winter road access to the site. During periods of fog, such as in the fall, early winter, and spring, the helicopters cannot be used to access the site.
- The proposed exploration access road will facilitate access to potential exploration targets along the road path, increasing feasibility of further exploration in this area.

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.

4.4.1 Archaeology and Heritage Sites

Environmental Setting

The site file search obtained from the Nunavut Department of Culture and Heritage confirmed that seven archaeological sites are on record within proximity (within approximately 3 kilometres) of the proposed exploration access road area, consisting of six archaeological sites recorded during the June 2014 archaeological impact assessment for the proposed 2014 drilling program and proposed winter road (Nunami - Stantec 2014), and one site recorded during the 2011 archaeological assessment. The site file search confirmed that no new sites had been recorded in the proposed exploration access road area area subsequent to the June 2014 archaeological field studies.

The seven archaeological sites on record within close proximity of the proposed exploration access road area include six stone feature sites and one precontact artifact find. The stone sites are each represented by between one and nine features; some of these sites appear to be historic or contemporary in age, and some sites appear to be of greater antiquity. Stone features identified include stone circles, collapsed inuksuit, hearths, blinds, possible traps and/or caches and uprights/marker stones. Highly weathered wood pieces were identified at one site. The seventh site is a precontact archaeological site represented by a single surficial artifact find consisting of a burin made of white chert.

Of these seven sites (see Figure 4.4-1, taken from Nunami - Stantec 2014), four are within approximately 1 km of the proposed exploration access road as described in Table 4.4-1.

Within the region, a number of archaeological sites have been identified further to the south of the p proposed exploration access road. Numerous sites were identified during studies conducted for the Meadowbank mine and associated components, including the Meadowbank AWAR from Baker Lake, the tank farm at Baker Lake, and exploration programs. All sites previously recorded in association with the Meadowbank mine were stone features and/or historic in nature. Although some stone feature sites appeared to be of significant antiquity to represent prehistoric period sites, no prehistoric lithic finds (stone tools or debitage) had been recorded relative to Meadowbank mine components prior to the finding of the burin in 2014.

Table 4.4-1: Archaeological Sites

Site	Description	Approximate Distance from Exploration Access Road
Site LiLb-1	Two stone features identified on the southwest edge of a wide, cobbled esker A circular hearth was observed, as well as a second feature that may represent a collapsed inukshuk. The site does not appear to be of significant antiquity, but likely represents an indigenous historic site.	700 metres
Site LhLb-2	A stone feature site that consists of nine stone features situated on a prominent bedrock landform overlooking the Meadowbank River to the south; at this location, the river is very wide and is effectively a lake. Two possible traps, two possible collapsed inuksuit, a house or blind, and three stone uprights/marker rocks were observed. The site occupies a prominent location and the uprights would have been visible from a significant distance. Two curved wooden pieces were observed approximately 150 meters to the northeast.	400 metres
Site LhLb-3	Approximately 200 metres to the east of site LhLb-2, prehistoric is located on the same landform just above the start of a narrows of the Meadowbank River. A single stone tool, a burin manufactured from white chert, was recovered and provides evidence of prehistoric occupation of this region.	200 metres
Site LgLa-2	A stone feature site that consists of a single tent ring situated on a rise in low rocky terrain. The ring is well defined, and is likely indigenous historic in age.	300 metres

Other studies conducted in the region, have resulted in finds indicating a long period of human occupation in the region. A significant number of sites in the region have been identified along major watercourses such as the Kazan River to the south of Baker Lake and the Thelon River, which is located to the southwest of the proposed exploration access road. Archaeological sites are common along these major river systems and provide evidence of the long history of occupation of the barrenlands. These major rivers would have served as travel corridors and areas of resource availability. However, the lifeways of prehistoric barrenlands peoples was intimately tied to one main resource, caribou. As such, archaeological sites indicative of land use well away from major rivers are present, and likely relate to life following the caribou. The Meadowbank River, is located north of the Thelon River, and would have been easily reached from this major drainage by following a series of lakes and drainages; the close proximity of this major river, which could have served as a means of accessing boreal resources periodically, such as wood, increases the archaeological potential of the region. The Meadowbank River itself would be a source of resources, including fish and caribou at narrows, and could have served as a travel route between the Thelon River, Baker Lake, and the north.

In June 2014, helicopter overflight of the proposed 2014 Amaruq winter road was conducted to identify areas with the potential to contain archaeological sites. Two areas that generally overlap with the currently proposed exploration access road were observed. The first area consists of the north end of the proposed exploration access road, immediately south of the Amaruq property, which was visually observed during helicopter overflight only. The area was observed to be of low to moderate archaeological potential. The second location was a water

crossing, which was directly observed; see Nunami- Stantec (2014). Because the 2014 proposed winter road was on the water in this location, no ground-truthing was conducted, but the proposed exploration access road right-of-way in this location is of moderate archaeological potential.

Impacts, Mitigation, and Monitoring

Prior to construction, a detailed helicopter overflight and ground trothing will be used to collect additional observational data in specific areas that have the greatest potential to host additional archaeological sites. Detailed inspection of the targeted study locations will include ground traverse and visual inspection to identify additional archaeological sites, including stone feature sites, historic period sites or other cultural remains such as stone tools or lithic debitage.

The potential for unrecorded archaeological sites to be present within the proposed exploration access road right-of-way ranges from low in some areas (such as poorly drained terrain and boulder fields), to high in other areas (particularly areas adjacent to narrows, lakes, and along glacial terrain features). Borrow source locations have moderate to high archaeological potential, given that glacial features were attractive to precontact and historic inhabitants due to their use as a travel routes, as elevated landforms for viewing the surrounding terrain, and as sources of lithic material. Pre-construction archaeological assessment of all areas with moderate to high archaeological potential in the access road footprint (including borrow sources) will likely result in the identification of additional archaeological sites.

Upon identification of archaeological sites, the heritage value of the site will be evaluated, and recommendations will be formulated by qualified technicians or professionals for site specific mitigation measures that will reduce or eliminate impacts to each site. Avoidance is the preferred mitigation measure where possible; it is expected that in most cases archaeological sites that are identified within close proximity of the access road footprint will be avoided; buffers of a minimally of 30 to 50 m will be determined based on the size and nature of each identified archaeological site.

In some cases, avoidance of an archaeological site may not be possible due to access road engineering requirements. If avoidance of archaeological sites is not feasible, alternate measures will be formulated and implemented to mitigate impacts to the site. These alternate mitigation measures could include detailed site mapping, mapping of stone features, archaeological excavation, and/or community consultation; acceptable mitigation measures would be formulated in discussion with personnel at the Nunavut Department of Culture and Heritage. Site-specific mitigation measures would be formulated for each individual identified site based on the nature and heritage value of the site. These mitigation measures would need to be implemented and completed to the specifications of the Department of Culture and Heritage prior to any access road related impacts to the site.

Implementation of appropriate mitigation measures that are acceptable to the regulators, such as site avoidance or further investigation at archaeological sites that cannot be avoided, will reduce or eliminate impacts to archaeological sites as a result of the proposed exploration access road.

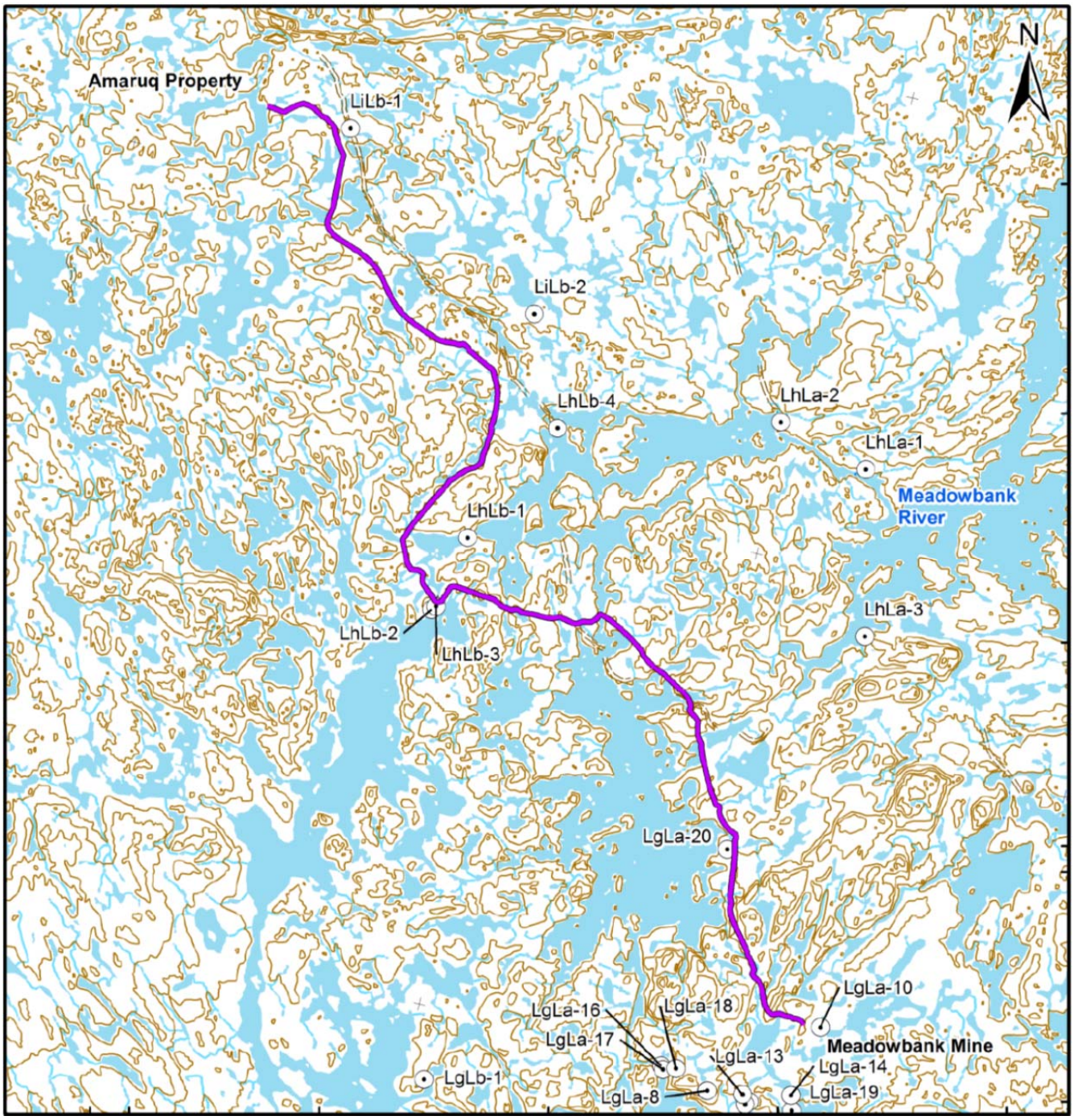

Figure 4.4-1: Identification of Archaeological sites in proximity to the proposed road route

4.4.2 Traditional Knowledge

Environmental Setting

Results of the Baseline Traditional Knowledge Report v.2 (Agnico Eagle 2014) indicated that the general area around the Amaruq deposit and the proposed exploration access road is important both for practicing traditional land use (TLU) activities and for providing access to important TLU sites in the past. The region was used for trapping, hunting, fishing and plant harvesting by the local people. Today, the proposed access road area is currently used as a travel corridor between Baker Lake and the Back River area to access important TLU sites, and harvesting occurs opportunistically in the general area. Access is via trails used by ATVs in the summer and snowmobiles in the winter, and many of these trails are likely to intersect the proposed Amaruq Exploration Access Road. However, with the development of the Meadowbank Mine in 2008 and the Meadowbank all weather access road, increased access to traditional land use areas for hunting, fishing or camping purposes has increased, resulting in greater use of the region north of Baker Lake (Agnico Eagle 2014).

The proposed exploration access road is not located near designated sensitive environmental areas, parks, recreational areas, sport or commercial fisheries, protected wildlife areas or other designated protected areas.

Impacts, Mitigation, and Monitoring

The proposed exploration access road is closed to the public and will have controlled access at the Meadowbank mine site, and will only be available to exploration personnel and contractors. Additionally, the proposed road does not connect to any Kivalliq or other communities. Agnico Eagle plans to consult with land users to identify important trails that potentially intersect the road, and will install ATV or snowmobile crossing areas for vehicles along the proposed exploration access road. Therefore, there is no link between the proposed road and access to traditional use areas.

A decrease in the availability of resources for harvesting, including for wildlife, vegetation and fish due to effects of the proposed exploration access road is not anticipated. With the implementation of appropriate mitigation measures and with the additional biophysical surveys planned for summer 2015, the availability of resources for harvesting is not expected to change due to the effects of the road, relative to baseline conditions. In addition, changes in the use of culturally important sites due to effects of the road are not anticipated. With the implementation of appropriate mitigation measures and with the additional archaeology surveys planned for summer 2015, the use of culturally important sites is not expected to change due to the effects of the road, relative to baseline conditions. Additional field surveys are planned prior to road construction to reduce uncertainties and to ensure the protection of wildlife and cultural sites along the proposed exploration access road alignment.

Agnico Eagle is committed to providing ongoing consultation with community members and to provide opportunities for participation in biophysical and cultural surveys prior to construction of the proposed Amaruq Exploration Access Road. In addition, Agnico Eagle proposes the following monitoring activities to help manage the potential effects of the proposed road on resources that support TLU activities:

- Agnico Eagle will undertake water-monitoring to document any residual effects resulting from the proposed road, including deposits of dust in nearby waterbodies.

- Agnico Eagle will work with local community members to develop a road management plan that will enforce maximum speed limits and ensure that wildlife has right-of-way on the roads and that no harassment of wildlife is allowed.
- Agnico Eagle will work with local community members to develop a wildlife monitoring program that will focus on caribou, wolves, muskox and waterfowl.
- Wildlife monitoring is anticipated to take place weekly and would include logging wildlife observations, estimated numbers, and nearest kilometre marking along the proposed exploration access road.

4.5 Cumulative Effects

Environmental Setting

The NIRB defines a cumulative effects assessment as the assessment of impacts on the biophysical and socio-economic environment that results from the incremental effects of a development when added to other past, present, and reasonably foreseeable future developments, regardless of what agency or person undertakes such other developments. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (NIRB 2007).

To quantify past and present development, the following sources were checked for information on development and other human activity:

- NIRB permitted and licensed activities within Nunavut;
- KIA Land Management Application;
- Aboriginal Affairs and Northern Development Canada: permitted and licensed activities within Northwest Territories and Nunavut;
- Aboriginal Affairs and Northern Development Canada: Nunavut Mineral Exploration, Mining and GeoScience Overview, (AANDC 2013).
- Treasury Board of Canada: Federal Contaminated Sites Inventory;
- Kiggavik Project Final Environmental Impact Assessment;
- location of hunting camps from operator websites;
- Amaruq Baseline Traditional Knowledge Report (Agnico Eagle 2014);
- websites of companies holding land use permits; and
- knowledge of the area and Project status.

The following proposed projects were selected as a suite of major developments that may occur in the cumulative effects study areas in the foreseeable future:

- Manitoba to Nunavut Road;
- Greyhound Lake Project;

- Kiggavik Uranium Project;
- Hope Bay Project;
- Hackett River Project;
- Back River Gold Project; and
- Bathurst Inlet Port and Road.

Not all of the above projects meet the NIRB (2007) definition of having been proposed and scoped to a reasonable level of detail, or being under regulatory review. However, they were included to provide a range of development types and to avoid under-estimating cumulative effects.

Broad cumulative effects categories were established for effects to caribou, terrestrial environment, aquatic resources, traditional land use and soci-economics. For each category unique study areas were then establish as shown in (Table 4.5-1).

Table 4.5-1: Cumulative Effects Categories and Study Areas

Cumulative Effects Category	Study area
Effects to Caribou	Ranges of the Lorrilard, Wager Bay, and Ahiak caribou herds
Effects to Terrestrial Environment	Terrestrial Regional Study Area
Effects to Aquatic Resources (Water and Fish)	Baker Lake, Thelon, Quoich and Back Water Management Area
Effects to Traditional Land Use	Kivalliq region
Effects to Socio-Economics	Kivalliq region

The Ahaik, Lorillard and Wager Bay caribou ranges all overlap with the proposed exploration access road. Cumulative effects categories were defined by development type for active and inactive operations see Table 4.5-2 for effects to Caribou. Similar assessments were undertaken for each cumulative effect category.

Table 4.5-2: Active and Inactive Development Type effecting Caribou Ranges

	Ahaik Caribou Range		Lorillard Caribou Range		Wager Bay Caribou Range	
Development Type	**Active**	**Inactive**	**Active**	**Inactive**	**Active**	**Inactive**
Camp		5		3		4
Community	1		3		1	
Contaminated Site		3				2
Fuel Storage		1		1		1
Mine	1		1		1	
Mineral Exploration	3	46	2	17	3	20
Miscellaneous		2		3		2
Quarrying				1		
Tourism/Caribou Hunting & Fishing	2		1		1	
Tourism/Fishing	1					
Total	**8**	**57**	**7**	**25**	**5**	**29**

Impacts, Mitigation, and Monitoring

Overall, the potential for cumulative effects associated with the construction, operation and closure of the proposed exploration access road is considered to be low. 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.

5.0 MANAGEMENT

Agnico Eagle prides itself on the fact that as a Company it can rely on a highly experienced senior management team that have remained together for many years (the senior management team members each average approximately 20 years of service with Agnico Eagle). As a Company, Agnico Eagle has an excellent track record as a local employer; in being a valued member of the communities in which they operate; in managing the environmental impact of our mining operations; in providing a safe work place and in reporting our performance to all of our stakeholders.

Agnico Eagle also has in place an Environmental Policy and a Health and Safety Policy to ensure core values for operating safely, protecting the environment, treating people and communities with respect, and making a profit are achieved.

In support of this application Agnico Eagle as prepared the following plans:

- Road Management Plan;
- Emergency Response and Spill Contingency Plan; and
- Conceptual Closure and Reclamation Plan.

All management plans identified have taken into account established Nunavut guidelines and standards.

5.1 Operations and Maintenance

A fundamental priority of Agnico Eagle is ensuring the operating conditions for road use are established to protect the integrity of the road and safety of its users. Agnico Eagle has prepared a Road Management Plan for the proposed exploration access road that takes into account established operating and transportation management, monitoring conditions, monitoring and maintenance inspections, access management including traffic management, safety and restrictions and wildlife management to allow the exploration access road to function with minimal impact on the environment. The Road Management Plan also takes into account operations and maintenance and inspection of borrow pits, where applicable.

5.2 Emergency Response and Spill Contingency Measures

An effective Emergency Response and Spill Contingency Plan needs to be in place during all phases of road construction, operation, and closure. At a minimum the Land Use authorization and water licence when issued will require a plan be in place. Agnico Eagle has prepared a Emergency Response and Spill Contingency Plan in accordance with the NWB Guidelines for Spill Contingency Planning and the Government of Nunavut Spill Contingency Regulations and Guidelines.

5.3 Reclamation and Closure

The exploration access road will be constructed, inspected, and maintained by Agnico Eagle. Consequently, Agnico Eagle has sole responsibility for the construction, operation, and decommissioning of this road, including the road bed, spur roads, bridges, culverts, open bottom arch culverts and the borrow sites used in the construction of the road. Agnico Eagle has prepared a stand-alone conceptual Closure and Reclamation plan for the exploration access road and its associated infrastructure in support of this Type B Water Licence application.

A separate Closure and Reclamation Plan exists as requirements of existing facilities already licenced by the NWB.

The proposed exploration access road will be decommissioned and reclaimed by Agnico Eagle if exploration on the Amaruq property fails to support further exploration activity or future satellite ore deposit development. Closure and reclamation of the road would be initiated within a year following the completion of closure and reclamation of the Amaruq camp and exploration sites.

It is Agnico Eagle's responsibility to decommission and reclaim the exploration access road once its activity in the area is complete. For a third party to take over the road, that third party would have to complete its own arrangements with the land owners (the KIA and crown) and then complete its own permitting process covering future use. Agnico Eagle does not own the land on which the exploration access road is to be constructed and, thus, it cannot transfer future ownership or use privileges to any third party. Agnico Eagle must complete its obligation to decommission and reclaim the exploration access road unless directed otherwise by a combination of the land owners and regulatory agencies who issued permits/authorizations for the road.

6.0 CONSULTATION

Agnico Eagle has a strong partnership/relationship consultation record with individuals, communities, special interest groups, and regulators in Nunavut in the Kivalliq Region as well as other regions of Nunavut. Agnico Eagle actively supports local and community engagement in all facets of their projects from grass roots exploration to mine development, this in turn has yielded a strong foundation for effective and engaging consultation on Agnico Eagle's multiple projects in the region.

The potential for construction of an exploration access road was first introduced to the public in August 2014 with the local Hunters and Trappers Organization after the Agnico Eagle board approved the budget to begin the evaluation of an exploration access road. This was followed by a site visit with federal representatives and a traditional knowledge workshop with local elders. Agnico Eagle proposed the exploration access road to the public during the pre-hearing conference for the Meadowbank Mine Type A renewal. Subsequent and ongoing consultation relating to the proposed exploration access road is summarized in Table 6.1-1.

During the regulatory approval process and prior to construction of the exploration access road, ongoing consultation on the exploration access road, future exploration activity, and Agnico Eagle's position in the region will be communicated through regular meetings with communities affected by Agnico Eagle projects, regulators, and special interest groups which may include: local Elders, Youth groups, and Regional Wildlife organization.

Community input on Agnico Eagle projects early on in the planning and conceptual phases has allowed not only Agnico Eagle to support ongoing successful sustainable operations in the region, but also communities, individuals and a broad range of parties to benefit from Agnico Eagles presence. The plan is to continue meeting with stakeholders throughout the final design and prior to the construction of the exploration access road.

Table 6.1-1: Summary of Consultation

Date	Description	Attendees
August 2014	Meeting with Hunters and Trappers Organization representatives to present upcoming work on the proposed exploration access road at the Meadowbank Mine Site	Hunters and Trappers Organization and Agnico Eagle
August 27, 2014	Pre-construction access road reconnaissance and fly over proposed route and stopped at Amaruq Exploration site with federal representatives	Environment Canada and Agnico Eagle
November 5, 2014	During the Meliadine Aquatic Effects Monitoring Program workshop, Agnico Eagle introduced the access road to local, territorial and federal representatives	Environment Canada, Aboriginal Affairs and Northern Development Canada, Hunters and Trappers Organization, and Agnico Eagle
December 2014	Traditional Knowledge workshop with Elders held in Baker Lake	Baker Lake Elders and Agnico Eagle
January 2015	Meadowbank NWB Type A public meetings as part of the pre-hearing conference; Agnico Eagle presented preliminary exploration results at the Amaruq Exploration site and the available information on the proposed exploration access road	Public presentations open to the Kivalliq; KIA, AANDC, Baker Lake Hamlet, Chesterfield Inlet, Agnico Eagle
March 24th 2015 (planned)	Meet with federal and territorial regulators in Iqaluit to discuss regulatory projects for Agnico Eagle	
April 2015 (planned for the week of April 13 to 17 or 20 to 24th)	Meet with DFO	
April 2015 (planned for the week of April 13 to 17 or 20 to 24th)	Consult with KIA	
Summer 2015 (planned)	Host community sessions in Baker Lake, Chesterfield Inlet, Rankin Inlet, Whale Cover, and Arviat	

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APPENDIX A

List of Applicable Acts, Regulations, and Guidelines that Govern the Road

Table A-1: Approvals and Authorizations Required for the Amaruq Exploration Access Road

Authorization	Authority	Basis
Conformity determination with Keewatin Regional Land Use Plan	Nunavut Planning Commission	Allows Project to proceed to screening
Article 12, Environmental Screening/ Assessment	Nunavut Impact Review Board	Allows Project to proceed to authorizations to build and operate the road
Type B Water License	Nunavut Water Board	Allows for use of water and disposal of waste in constructing, operating and closing the road
Inuit Impact and Benefits Agreement	Kivalliq Inuit Association	Impacts are compensated and benefits provided to Inuit
Water Compensation Agreement	Kivalliq Inuit Association	Compensation for Inuit Water Rights under NLCA Section 20
Land Use Permit	Kivalliq Inuit Association	Allows construction of the road on IOL
Right-of-way Lease	Kivalliq Inuit Association	Allows lease right-of-way for completed and surveyed road across IOL
Quarry Permit	Kivalliq Inuit Association	Borrow pits proximal to the right-of-way for obtaining material to build the road.
Land Use Permit	Aboriginal Affairs and Northern Development Canada	Allows construction of the road across crown land
Right-of-way Lease	Aboriginal Affairs and Northern Development Canada	Allows lease right-of-way for completed and surveyed road across Crown Land.
Quarry Permit	Aboriginal Affairs and Northern Development Canada	Various borrow pit sites proximal to the right-of-way for obtaining material to build the road.
Fisheries Authorization	Department of Fisheries and Oceans	A Project Authorization will not be required as there is no harm to fish or fish habitat. Agnico Eagle intends to follow DFO operational statements for the installation of clear span bridges and culverts.
Navigable Waters Determinations	Transport Canada	The determination by Agnico Eagle if streams and rivers crossed by the Road are navigable. The report on navigability will be sent to Transport Canada.
Explosive Magazine Permit Renewal	Workers' Safety and Compensation Commission	Permits an explosive magazine on-site and at other approved locations
Class 2 Permit for Heritage Sites (obtained by qualified professional archaeologist)	Department of Culture and Heritage, Government of Nunavut	Unavoidable impacts of the road on heritage sites have been mitigated

APPENDIX B

NIRB Project Specific Information Requirements Summary Table

NIRB PSIR PART 2 FORM

Table 1:

	P - Positive; **N** - Negative and non-mitigatable; **M** - Negative and mitigatable; **U** - Unknown; and (blank if none)	**ENVIRONMENTAL COMPONENTS**	**PHYSICAL**	designated environmental areas (ie. Parks, Wildlife Protected areas)	ground stability	permafrost	hydrology/ limnology	water quality	climate conditions	eskers and other unique or fragile landscapes	surface and bedrock geology	sediment and soil quality	tidal processes and bathymetry	air quality	noise levels	**BIOLOGICAL**	vegetation	wildlife, including habitat and migration patterns	birds, including habitat and migration patterns	aquatic species, incl. habitat and migration/spawning	wildlife protected areas	**SOCIO-ECONOMIC**	archaeological and cultural historic sites	employment	community wellness	community infrastructure	human health
	PROJECT ACTIVITIES																										
CONSTRUCTION	Arch Culverts					**M**	**M**	**M**												**M**			**M**	**P**			
	ARD and Metal Leaching							**M**												**M**							
	Baseline data Collection																						**P**	**P**			
	Bridges					**M**	**P**	**M**												**P**				**P**			
	Consulation																						**P**	**P**	**P**		**P**
	Dust							**M**				**M**		**M**			**M**							**P**			
	Employement and Training																						**P**	**P**	**P**		**P**
	Equipment Mobilization				**M**	**M**			**P**					**M**			**M**			**M**			**M**	**P**			
	Esker Borrow Material Use				**M**	**M**		**M**		**N**		**M**		**M**	**M**		**M**	**M**	**M**				**M**	**P**			
	Explosives and Blasting				**M**	**M**			**M**	**N**		**M**		**N**	**N**			**M**	**M**	**M**			**M**				
	Fuel Storage					**M**		**M**				**M**					**M**	**M**	**M**	**M**	**M**		**M**				
	Health and Safety																							**P**	**P**	**P**	**P**
	Localized Drainage Culverts					**M**	**M**	**M**												**M**			**M**	**P**			
	Quarry Use (under Mine Licence)																										
	Waste Disposal (backhauled)																										
	Water Use						**M**								**M**					**M**							
	Winter Construction				**P**	**P**			**P**					**M**			**N**	**N**	**M**	**P**			**M**	**P**	**P**	**P**	
OPERATIONS	ARD and Metal Leaching							**M**												**M**							
	Baseline data Collection																						**P**	**P**			
	Bridges																			**P**							
	Consulation																							**P**	**P**	**P**	
	Arch Culverts					**M**	**M**	**M**												**M**			**M**	**P**			
	Dust													**M**			**M**							**P**	**M**		
	Employment and Training																							**P**	**P**	**P**	
	Esker Borrow Material Use				**M**	**M**	**M**	**M**		**N**		**M**		**M**	**M**		**M**	**N**	**M**				**M**	**P**			
	Fuel Delivery											**M**					**M**			**M**							
	Health and Safety																							**P**	**P**	**P**	**P**
	Localized Drainage Culverts					**M**	**M**	**M**												**M**			**M**	**P**			
	Ongoing Exploration																						**P**	**P**			
	Quarry Use (under Mine Licence)																										
	Road Transportation																							**P**		**P**	
	Supply Delivery																							**P**		**P**	
	Traditional Use																									**P**	
	Closure Eskers				**P**	**P**								**M**				**M**						**P**			
	Consulation																								**P**		
	Demobilization Equipment and Supplies																							**P**			
DECOMMISIONING	Dust													**M**			**M**							**P**			
	Employment and Training																							**P**	**U**	**N**	
	Health and Safety																							**P**	**P**	**P**	
	Removal Arch Culverts						**P**	**P**												**P**				**P**	**U**	**N**	
	Removal Bridges						**P**	**P**												**P**				**P**	**U**	**N**	
	Removal Localized Drainage Culverts						**P**	**P**												**P**				**P**	**U**	**N**	
	Scarifying Road																**P**	**P**	**P**					**P**	**U**	**N**	
	Traditional Use																								**U**	**N**	**N**
	Winter Remediation				**P**	**P**								**M**	**M**		**N**	**N**	**M**				**M**				

APPENDIX C

Technical Memorandum: Geochemical Assessment of Proposed Construction Material for the Road to the Amaruq Deposit, Meadowbank Mine, Nunavut

TECHNICAL MEMORANDUM

DATE 23 December 2014 **PROJECT No.** 14-12623

TO Ryan Vanengen
Agnico-Eagle Mines Ltd. (AEM)

CC Erika Voyer, AEM

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GEOCHEMICAL ASSESSMENT OF PROPOSED CONSTRUCTION MATERIAL FOR THE ROAD TO THE AMARUQ DEPOSIT, MEADOWBANK MINE, NUNAVUT

1.0 INTRODUCTION

Agnico-Eagle Mines Ltd. (AEM) proposes to construct and operate an exploration road to the Amaruq Project site located 50 km north of the Meadowbank Mine. In September 2014, AEM and Golder Associates Ltd. (Golder) initiated a geochemical study of materials proposed for use in construction of the road that included the following:

a) A geochemical characterization program for the proposed road construction material collected from a number of borrow source locations (eskers), and,

b) An overview of available data from the Meadowbank Vault deposit, an additional proposed material borrow source location for road construction proximal to the Meadowbank mine.

The geochemical characterization was carried out following methods that apply to mining wastes for comparative purposes only (MEND, 2009).

The objective of the program is to evaluate the chemical characteristics of the esker material and the Vault waste rock that is targeted for use in road construction. Static testing methods were used to assess the chemical composition of the esker material, its potential to generate acid rock drainage (ARD) and its potential to leach metals (ML) to the receiving environment upon exposure to ambient conditions. Results of this static testing program are meant to guide the selection of appropriate material for use as road fill, with particular emphasis on potential ARD/ML that could affect water quality in nearby water courses, in order to minimize potential effects to nearby lakes and streams.

This report discusses the static test results for the esker material, describes the methods utilized as part of the static testing program, and presents the interpreted test results.

1.1 Regional and Site Geology

The local geology of the Meadowbank mine area is part of the Rae subprovince of the Canadian Shield Churchill Province (AMEC 2005), and consists of folded and variably metamorphosed Archean sedimentary rocks, quartzites, iron formation, and felsic to ultramafic volcanic rocks. Specifically, the deposits themselves consist of metasedimentary quartzite (QTZ group), banded iron formation of oxide-facies (IF group), felsic to intermediate sericitized and chloritized volcaniclastic tuffs and agglomerates (IV group), and mafic to ultramafic amphibolites and komatiites (UM group) (Sherlock et al., 2000; CRL, 2003).

The Vault deposit is located at the southern end of the road alignment and is currently being mined. It is mostly comprised of IV group rocks. These rocks contain massive lava flows and interbedded volcaniclastic sediments. Major mineral constituents are quartz and feldspar, with minor epidote, biotite, chlorite, and muscovite (Sherlock et al., 2000; CRL, 2003). The stratigraphy of the Vault deposit also includes fine-grained, feldspar-quartz-chlorite-sericite schists, oxide-facies iron formation, and medium-grained quartz-feldspar-sericite-chlorite schist (AMEC 2005). The chlorite-sericite alteration of the Vault deposit geology is thought to either reflect the original composition of the rocks pre-metamorphism, or be the product of local alteration caused by the mineralization process.

Overburden in the Meadowbank mine area consists of glacial till with an average thickness of 2.75 m; however local deposits have been noted to be over 10 m thick (CRL 2003). The glacial till varies from silty sand to gravel with minor boulders (Golder 2002). In the Golder (2005), sampled overburden is described as silty to sand-sized with between 25 to 50% pebble to boulder-sized particles.

1.2 Vault Deposit Operations ARD Database

AEM is considering the use of waste rock from the Vault deposit for construction of the southern portion of the road which will start at the Vault deposit. Data collected for internal control during operations at Vault was provided by AEM for comparison with the Vault geochemical database (Golder, 2005) to evaluate which Vault material might be appropriate for use in road construction. The Vault database from AEM included results for 11198 samples analyzed at the on-site laboratory for total sulphur, buffering capacity (NP), acid potential (AP), the ratio of NP to AP (NPR) and total carbon. The focus of the evaluation of these data was to define the minimum sulphur concentration below which Vault waste rock has no ARD potential. Note that metal leaching potential was not evaluated as relevant information was not available in the Vault operations database. Results of the ARD evaluation are reported in Section 3.2.

1.3 Sample Collection

A total of 24 samples were collected from six eskers by AEM staff with input from Golder. Five samples were collected from Esker 1 and 3, four samples were collected from Esker 2, 5, and 6, and two samples were collected from Esker 4. All samples were described as sand to gravel with sand based on grain size analysis (E. Voyer, pers. commun. November 10, 2014).

Samples were packaged by AEM staff and shipped from Meadowbank to SGS Canada Ltd. (SGS) of Lakefield, Ontario for geochemical testing.

2.0 ANALYTICAL METHODS

The test program incorporated a comprehensive set of standard geochemical methods to characterize the ARD and ML potential of the Esker samples collected by AEM. The static testing program included the following components:

- Potential to generate acidic drainage analyzed through acid base accounting (ABA) by the Modified Sobek method and the net acid generation test (NAG);
- Whole rock and trace element chemical composition; and,
- Readily leachable metals through short-term metal leach testing by a modified version of the shake flask extraction (SFE; Modified ASTM D3987).

All analyses were performed at SGS. Methods are discussed briefly in the following sections.

2.1 Potential for Acid Rock Drainage

The potential of geologic material to oxidize and generate acidic drainage was evaluated through acid-base accounting (ABA) and net acid generation (NAG) tests.

2.1.1 Acid Base Accounting (ABA)

ABA tests were conducted following the Modified Sobek method and included determination of the following parameters:

- Paste pH;
- Total sulphur and total carbon by induction furnace, (ASTM E 1915-01 methodology);
- Acid leachable sulphate sulphur and sulphide sulphur by difference;
- Carbonate (as %C) by pyrolysis; and,
- Bulk neutralization potential (NP; by the 1996 Modified NP method (MEND 2009)).

The following sections describe neutralization potential (NP) and acid potential (AP) in terms of acid rock drainage prediction.

Neutralization Potential (NP)

The NP is a bulk measurement of the acid-buffering capacity of a sample provided by various minerals of different reactivity and effective neutralization capacities. It is measured by digestion of a pulverized portion of the sample using a strong acid. This process consumes all minerals affected by the acid, including minerals that may not normally be reactive under ambient conditions and minerals that would not neutralize to pH-neutral conditions (such as silicate minerals; Blowes and Ptacek 1994). Because the type and occurrence of neutralizing minerals present in the sample will have a determining effect on whether the ARD potential of a sample will be realized, NP was evaluated using two different analytical techniques to more accurately determine the amount of available NP:

***1996 Modified NP Determination*:** Represents the bulk NP of the sample, including contributions from some reactive aluminosilicate minerals, if present. It is calculated from the amount of base consumed to neutralize acid remaining from the sample acid-digested at room temperature. This test method is modified from the Standard (Sobek) NP method which more aggressively dissolves neutralization minerals and may thus overestimate NP because of the higher digestion temperature (boiling).

***Carbonate NP*:** Represents the NP available from reactive carbonate minerals, including siderite and other divalent metal carbonates (which provide no net neutralization). It was calculated based on the carbonate ($\%CO_3$) content of the sample, assuming all carbonate is in the form of carbonate minerals.

Acid Potential (AP)

The AP is calculated from the sulphide sulphur content of the sample, on the basis that the entire sulphide content of the rock will oxidize to generate acid. The sulphide content of the sample is calculated as the difference between laboratory-measured total sulphur and sulphate sulphur.

Values of AP, NP and CaNP are reported as kg equivalent calcium carbonate per tonne of material.

2.1.2 Net Acid Generation (NAG)

Net acid generation (NAG) tests are used in combination with ABA to assess the ARD potential of a sample. The NAG test (Amira, 2002) uses hydrogen peroxide to induce complete oxidation of sulphide minerals and concurrent buffering by available minerals in the sample. Unlike ABA results, NAG tests do not provide an estimate of NP relative to AP, but rather the net effect of sulphide oxidation and buffering reactions within a sample. This test is particularly useful for samples containing low AP and low NP or where results from other tests yield conflicting predictions. Results of NAG pH are used to verify ARD potential, while NAG leachate chemical composition can be used to assess the potential degree of metal release upon sulphide oxidation.

2.1.3 ARD Screening criteria

For this study, ABA results were compared to the federal guidance Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (MEND, 2009). The suggested screening criteria for inferring ARD potential is based on the net potential ratio (NPR) which is the ratio of NP to AP (or CaNP to AP for CaNPR). The screening criteria are summarized in Table 1.

Table 1: Acid-Base Accounting Screening Criteria (MEND 2009)

Potential for ARD	Initial Screening Criteria	Description	Classification
Likely	NPR < 1	Likely to generate acidity, unless sulphide minerals are non-reactive	PAG: Potentially Acid Generating
Uncertain	1 ≤ NPR ≤2	Neither clearly acid-generating nor acid consuming	Uncertain
Low	NPR > 2	Acid consuming	Non-PAG: non Potentially Acid Generating

According to MEND (2009), samples with NPR values less than 1 are considered potentially acid generating (PAG). Samples with NPR values between 1 and 2 are considered “possibly acid generating” if NP is insufficiently reactive or is depleted at a rate faster than the sulphide oxidation rate. Samples with NPR values greater than 2 have low potential to generate acid unless there is a significant preferential exposure of sulphide minerals along fracture planes, or extremely reactive sulphides in combination with insufficiently reactive NP.

Results of NAG tests were compared to criteria defined by AMIRA (2002) to identify the ARD potential of the test material, as summarized in the following table.

Table 2: Net Acid Generation Criteria (AMIRA, 2002)

NAG pH	NAG Acidity (to pH 4.5) kg H_2SO_4/t	Potential for Acid Generation
≥ 4.5	0	Non acid-generating.
< 4.5	≤ 5 [1]	Low potential to be acid-generating.
< 4.5	> 5 [1]	Potentially acid-generating.

Note: The NAG criteria used may vary from site to site with a cut-off up to 10 kg H_2SO_4/t (Source: AMIRA 2002).

2.2 Chemical Composition

The chemical composition of each sample was determined through whole rock and trace element analysis to establish the content of major rock-forming elements and trace metals, respectively. The following components were included in the chemical analyses:

- Metals, arsenic and selenium by inductively coupled plasma-mass spectroscopy (ICP-MS), with samples extracted using a concentrated strong acid solution of perchloric, nitric, hydrochloric and hydrofluoric acids; and,
- Whole rock analysis for major metals by borate fusion / x-ray fluorescence (XRF).

This information is used to assess the variation in chemical composition and to identify parameters for which concentrations are considered enriched compared with values that are considered to be representative of background (CCME guidelines). Results for the Esker material are compared against Canadian Soil Quality Guidelines (CEQG) for the Protection of Environmental and Human Health (industrial land use) (CCME 2007).

2.3 Metal Leaching Potential

Metal leaching tests are used to assess the potential of the waste rock to release readily-soluble metals to the receiving environment by simulating interaction between water and solids.

Samples were subjected to short-term leach tests using a modified version of the shake flask extraction (Modified ASTM D3987). Crushed samples (< 9.5 mm) were mixed with distilled water (4:1 solution to solid ratio) and the pulp was placed in a flask and shaken for 24 hours using a variable speed shaker table. Leachate was collected from the pump through a 0.45-μm filter and analyzed for pH, sulphate, and dissolved metals. The pH reported herein was measured after the shaking was complete and prior to filtration of the sample.

The results of the short-term leach tests were compared to Metal Mining Effluent Regulations (MMER) (DFO 2006) and Canadian Environmental Quality Guidelines (CEQG) for the Protection of Freshwater Aquatic Life (CCME 2007). These comparisons are an initial screening tool in the identification of potential constituents of concern. Short-term leach tests provide an estimate of which metals have a potential to leach from a particular material. However, actual drainage chemistry at site will almost certainly differ from short-term leach test results due to the inability of short-term leach tests to accurately simulate natural conditions, in particular transient processes such as sulphide oxidation. Short term leach test results are therefore only considered as indicators of potential constituents of interest rather than accurate representations of future drainage compositions.

2.4 Quality Assurance / Quality Control (QA/QC)

The objective of a quality assurance/quality control (QA/QC) program is to assess analytical precision and defensibility of reported results. A total of 10 sample splits were prepared by SGS and submitted for duplicate analysis for the SFE test.

To assess analytical precision, the relative percent difference (RPD) was calculated for each duplicate and its original sample based on USEPA Guidelines for Inorganic Data Review (USEPA, 1994). In keeping with this guidance, the results are compared to an RPD of 35%.

3.0 RESULTS

Static test results for samples collected from the proposed borrow source locations (eskers) are discussed in the following sections, followed by a summary of the evaluation of ABA data from the Vault deposit. Tabulated results and figures are presented in Attachment A, the QA/QC assessment is provided in Attachment B, and laboratory analytical certificates are included in Attachment C. The results tables include summary statistics for each esker sample group, including: minimum, maximum, average, median, 75th percentile and standard deviation.

3.1 Esker Material

3.1.1 Acid Generation Potential

The results provide information on the ARD potential of each sample as determined based on sulphide content, net neutralization potential (NNP = NP - AP), net potential ratio (NPR = NP/AP), and Carbonate NPR (CaNPR = CaNP/AP). The bulk ARD characteristics were calculated for each esker group, including bulk NNP (sum NP – sum AP), bulk NPR (sum NP / sum AP), and the resulting bulk ARD potential.

A summary of the ARD potential for each sample group is presented in Table 3.

Table 3: Summary of Esker Material ARD Potential

Proposed Location	Sample Count	Sample Count		Median Paste pH	Median NAG pH	Average Sulphide Sulphur (%)	Overall ARD Designation
		Non PAG	PAG				
Esker 1	5	5	0	7.6	6.6	0.01	Non PAG
Esker 2	4	4	0	7.2	6.2	<0.01	Non PAG
Esker 3	5	5	0	7.7	6.7	0.012	Non PAG
Esker 4	2	2	0	8.2	7.5	<0.01	Non PAG
Esker 5	4	4	0	7.5	6.5	<0.01	Non PAG
Esker 6	4	4	0	7.2	6.4	0.018	Non PAG

The esker samples show no potential to generate acid drainage. The low ARD potential stems from the low sulphide content and sufficient buffering capacity of the sample material. Sulphide sulphur content ranges from <0.01 to 0.018% and total sulphur ranges from <0.005 to 0.068%. The dominant species in most samples is sulphide sulphur as sulphate is almost always below the analytical method detection limit (MDL) (<0.01%), with the exception of one sample from Esker 6 which is contains equal amounts of sulphide sulphur and sulphate.

Paste pH is circum-neutral to alkaline and ranges from 6.7 to 8.9, suggesting the presence of a limited amount of natural buffering capacity. Bulk buffering capacity (NP) ranges from 2.3 to 8 tonnes $CaCO_3$ /100 tonnes, while carbonate buffering capacity (CaNP) ranges from 0.17 to 5.3. NP values are mostly greater than CaNP values, suggesting that buffering capacity is comprised of reactive carbonate minerals as well as less reactive aluminosilicates.

ARD classification (MEND 2009) is shown graphically for all samples in Figure 1. Based on the low sulphide sulphur content and high NPR values, all samples are classified as non acid generating (non PAG).

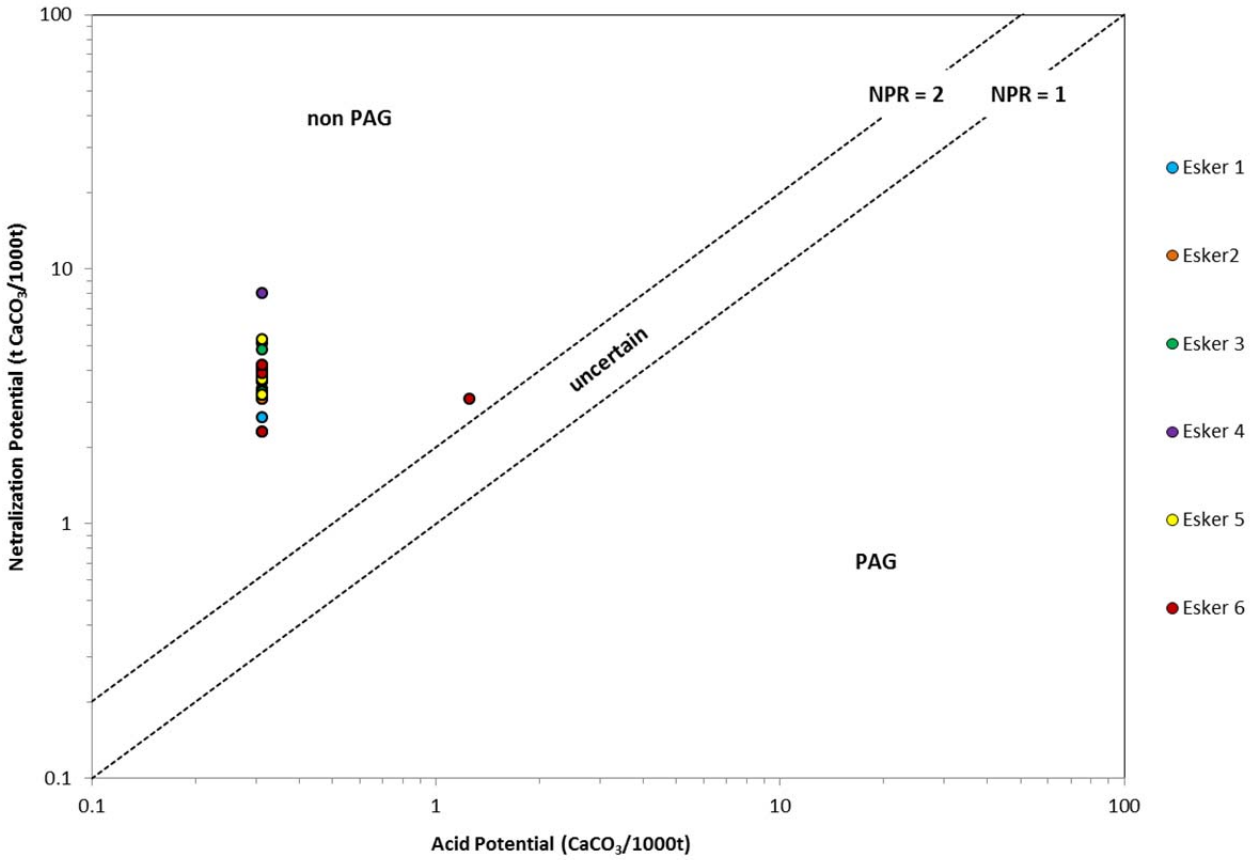

Figure 1: AP versus NP for Esker Samples

NAG pH values are circum-neutral and range from 6.1 to 8.3, with the exception of one sample from Esker 6 that reports a NAG pH of 4.3, however, this Esker 6 sample still has a low potential to generate acid based on its NAG acidity (to pH 4.5) value being less than 5 kg H_2SO_4/t.

3.1.2 Chemical Composition

Major constituents are similar for all esker samples and include silica and aluminum with minor iron, potassium, sodium, magnesium, and calcium. Major oxides show little variation within each sample group as demonstrated by the low standard deviation values, suggesting that the materials in the eskers have a relatively homogeneous chemical composition.

Trace element composition was evaluated against CEQG Soil Quality Guidelines for the Protection of Environmental and Human Health, Industrial Land Use (CCME, 2007). The results of these comparisons are summarized in Table 4. Trace metal content is also fairly homogeneous across samples and eskers with few exceptions. Arsenic, chromium, nickel, and copper naturally exceed CCME soil guidelines in some of the eskers.

Table 4: Summary of Trace Element Composition

Proposed Location	Sample Count	Parameter Concentrations Above CCME Industrial Soil Guideline [1,2]
Esker 1	5	**As,** Cr
Esker 2	4	As
Esker 3	5	**Cr, Ni**
Esker 4	2	**Cr, Ni**
Esker 5	4	**Cr, Ni**
Esker 6	4	Cu, Ni

Notes: [1] Where at least one sample exceeds CCME soil guidelines; and,
[2] bold values indicate parameters where median concentration exceeds CCME soil guidelines.

3.1.3 Metal Leaching Potential

Leach test results are compared with effluent regulations (MMER; DFO 2006) and CEQG guidelines for the protection of aquatic life (CCME 2007). Results are summarized in Table 3 below and include a summary of parameters exceeding screening criteria.

Exceedances in leachates from laboratory tests do not necessarily imply non-compliance of contact water quality. The quality of drainage water will depend on a number of factors that are difficult to reproduce in static leach tests such as the SFE test, including, but not necessarily limited to, material exposure, drainage patterns and site climate which affect the ratio of leaching solution to solid material and water-rock contact time. Rather, results discussed below underline the propensity of the till material to release metals in dissolved form when in contact with water.

Table 5: Summary of SFE Parameters Exceeding Screening Criteria

Proposed Location	Sample Count	Median Final pH	CEQG[1]	MMER[2]
Esker 1	5	7.2	pH (<6.5), As, Cu, Fe, Pb	n.e.
Esker 2	4	6.5	pH (<6.5), Cu[3], Fe, Pb[3]	n.e
Esker 3	5	7.1	Cu[3], Fe, Pb[3]	n.e.
Esker 4	2	7.8	As, Cu, Fe	n.e.
Esker 5	4	7.1	Cu[3], Fe[3]	n.e.
Esker 6	4	7.0	pH (<6.5), Cu, Fe	n.e

Notes: [1] Canadian Environmental Quality Guidelines for the protection of aquatic life (CCME 2007);
[2] Metal Mining Effluent Regulations (DFO 2006); and,
[3] Exceedance not observed in all duplicate samples
n.e. = no exceedances

The SFE pH values are below the CEQG range (pH<6.5) for some samples from eskers 1, 2 and 6. Values for all samples range from 6.2 to 8.7. For most samples, the neutral to alkaline pH values corroborate the available buffering capacity. Four samples reporting mildly acidic pH values (pH<6.5) may reflect either less available buffering capacity or the release of some stored metal acidity.

Arsenic, copper, iron, and lead concentrations naturally exceed CEQG guidelines. Arsenic concentrations are above the CEQG guidance (0.005 mg/L) in two samples from Esker 1 (0.0057 mg/L) and Esker 4 (0.0063 mg/L). Copper and lead report average concentrations above CEQG guidelines for some eskers; however, the averages are only slightly higher than CEQG and as such, these parameters are not expected to be of concern to receiving water quality. Further, not all duplicate pairs both report concentrations above criteria for copper and lead, further supporting the marginality of exceedances.

Iron presents average values two to three times higher than CEQG and exceeds the CEQG guidance (0.3 mg/L) in all samples. Chemical principles dictate that the dissolved iron concentration should be lower in the pH range of the SFE tests. In neutral to slightly alkaline pH conditions, the reported elevated concentrations of iron are likely to include a portion of colloidal (particulate) iron in the leachate sample. Colloidal particles are typically smaller than the 0.45-µm filter pore size used to collect leach test water for analysis and thus this solid-phase fraction can be reported as a dissolved phase concentration.

All parameters meet mine effluent criteria (MMER; DFO 2006) with the exception of pH in samples from Eskers 3 and 5.

3.2 Quality Assurance / Quality Control (QA/QC) Assessment

A total of 10 samples were analyzed as duplicates as described in Section 2.4. The QA/QC assessment results are presented in Attachment B.

Analytical precision was assessed through calculated relative percent differences (RPD) following USEPA Guidelines for Inorganic Data Review (USEPA, 1994). The USEPA guidance suggests that duplicates from solid samples be compared to an RPD of 35% and duplicates from liquid samples be compared to an RPD of 20% where both samples are above 5 times the method detection limit. Aqueous metal leach data from the SFE test are compared to an RPD of 35% since the duplicates are generated from solid sample splits rather than duplicates of the leachate water. Where one or both samples is not within 5 times the detection limit, these samples are compared with respect to whether they are within the detection limit of each other, and designated as "> MDL" where they are not.

Six or more (>50%) duplicates show RPD values above 35% or >MDL for arsenic, barium, calcium, cobalt, lithium, magnesium, manganese, lead, titanium, and zinc. The variability in concentration between the duplicate pairs is likely attributable to the low detected concentrations (Fritz 1994), where analytical precision is typically lower at lowest concentrations. Notwithstanding this, this variability does not alter the interpretation of the results. Therefore, although some parameters show relatively low analytical precision (below USEPA guidelines), no systematic error is suspected, nor does this affect the interpretation of results.

3.3 Vault Data Analysis

Operational data from the Vault deposit provided by AEM ("Vault Operational Data (AEM, 2014)") was compared to static test database collected by Golder during project start-up ("Vault Static Test Database (Golder, 2005)") in order to recommend a minimum sulphur cut-off concentration to be used to identify material that is non PAG. The NPR values for both datasets were compared to test the fit of both data sets and to determine the total sulphur content at which material may be considered as potentially acid generating per MEND (2009).

NPR values are plotted against total sulphur in Figure 2. The datasets correlate and in general, material with a total sulphur content below 0.2% reports an NPR > 2 and thus, is designated as non PAG. Therefore, <0.2% is recommended as an appropriate criterion for selecting non PAG Vault material for use in road construction.

With regards to the leaching potential of the Vault material, leachable parameters from the Vault Operational Data (AEM, 2014) database include aluminum, arsenic, and copper. When comparing the solid and leachable concentrations of these parameters against total sulphur, no correlation can be found that would serve as useful selection criteria in terms of metal leaching potential.

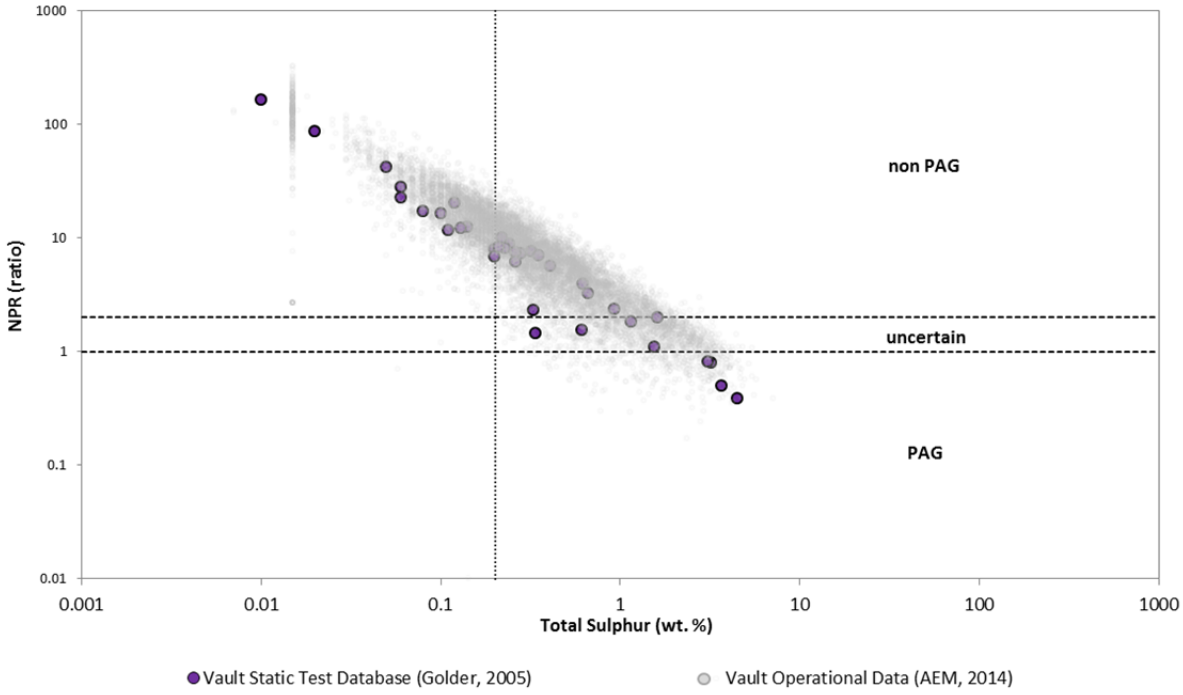

Figure 2: Comparison of Vault Static Test Database (Golder, 2005) and Vault Operational Data (AEM, 2014)

4.0 SUMMARY AND RECOMMENDATIONS

The geochemical characterization program conducted to date is limited to the use of static tests. With these results, it is possible to develop observations with regards to the general chemical characteristics of the materials tested. The following considerations are preliminary and are subject to re-evaluation upon further sampling if warranted, should the size or quantity of material extracted from a borrow area be substantially larger than anticipated. Observations include:

- All esker samples tested show no potential to generate ARD. This stems from the low sulphide content and sufficient buffering capacity, and is corroborated by neutral to alkaline paste pH, NAG pH and SFE pH values. As such, there is no concern for ARD generation from similar esker material used for road construction.
- For Vault waste rock, an appropriate selection criterion of total sulphur <0.2% is recommended to identify non PAG waste rock material to be used for road construction. Vault waste rock material with total sulphur less than 0.2% consistently shows NPR values above 2 and is thus this material would not be likely to generate ARD.
- Metal concentrations in leaching tests for the esker samples are below MMER (DFO 2006) criteria. However, some samples report metal leachate concentrations that are naturally above the CEQG guideline for the protection of aquatic life (CCME 2007), namely arsenic, copper, and lead. Concentrations are within

the same order of magnitude as the respective CEQG guideline and thus are not expected to be a concern to receiving water quality. Road material and borrow area contact water quality monitoring should be carried out post construction to verify this.

- Iron concentrations reported for all esker samples exceed the CCME criterion (0.3 mg/L) by two to three orders of magnitude. Given the neutral pH values of the test leachates, it is likely that elevated iron concentrations are related to colloidal iron (total iron) rather than in dissolved form.
- Based on a comparison of the two Vault datasets, no correlation was found between total sulphur and metal concentrations. Therefore, a selection criterion could not be developed with respect to metal leaching from Vault waste rock. Actual contact water quality from Vault waste rock and open pit could be considered to evaluate the leaching potential of this rock.

A strategy should be adopted whereby esker locations on higher topographic features are favoured over potential locations in low-lying areas. This strategy would utilize locations where the material can be stripped to the surrounding ground elevation rather than digging below grade and minimize the potential for water to accumulate at these locations. This strategy would reduce the requirement for future water management at the quarry locations.

5.0 LIMITATIONS

This report was prepared for the exclusive use of Agnico-Eagle Mines Ltd. (AEM). The report, which specifically includes all tables, figures and appendices, is based on samples, data and information collected by AEM and is based solely on the conditions of the properties at the time of sampling. It is supplemented by a previous investigation completed by Golder Associates Ltd. as well as information and operational data provided by AEM.

Except where specifically stated to the contrary, the information contained in these reports was provided to Golder Associates Ltd. by others and has not been independently verified or otherwise examined by Golder Associates Ltd. to determine its accuracy or completeness. Golder Associates Ltd. has relied in good faith on this information and does not accept responsibility for any deficiency, misstatements, or inaccuracies contained in the reports as a result of omissions, misinterpretation, fraudulent acts or the persons interviewed or contacted or errors or omissions in the reviewed documentation.

The assessment of geochemical characteristics for potential borrow sites for this project has been made using the results of chemical analysis of discrete till samples from a limited number of surface locations, collected by the client but not visited by Golder. Subsurface conditions may vary from these sample locations. Additional study, including further surface and subsurface investigation, can reduce the inherent uncertainties associated with this type of study. However, it is never possible, even with exhaustive sampling and testing, to dismiss the possibility that part of a site may have considerably different characteristics, such as different lithologies at depth.

The services performed as described in this report were conducted in a manner consistent with that level of care and skill normally exercised by other members of the geoscience profession currently practising under similar conditions, subject to the time limits and financial and physical constraints applicable to the services. Any use which a third party makes of this report, or any reliance on, or decisions to be made based of it, are the responsibilities of such third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The content of this report is based on information collected during our investigation, our present understanding of the site conditions, and our professional judgement in light of such information at the time of this report. This report provides a professional opinion and therefore no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, including excavations, borings, or other studies, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

6.0 CLOSURE

We trust this technical memorandum meets your current requirements. Please contact us should you have any questions or comments.

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Attachments: Attachment A – Compiled Data Tables and Figures
Attachment B – Quality Assurance / Quality Control Assessment
Attachment C – SGS Laboratory Certificates of Analysis

REFERENCES

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ATTACHMENT A

Compiled Data Tables and Figures

Attachment A: Whole Rock Analysis
IVR Road
Agnico-Eagle Mines Ltd.

Sample ID	Location	Primary composition	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Cr_2O_3	V_2O_5	LOI	Sum
			%	%	%	%	%	%	%	%	%	%	%	%	%	%
E1-1	Esker 1	Gravel and sand	75	11	5.3	1.9	0.84	1.8	2.1	0.36	0.11	0.040	0.030	< 0.01	2.2	101
E1-2	Esker 1	Sand with gravel	75	12	4.7	1.7	0.52	2.0	2.6	0.39	0.11	0.030	0.020	0.010	2.1	101
E1-3	Esker 1	Sand with gravel	77	11	3.8	1.3	0.45	1.7	2.7	0.36	0.070	0.020	0.030	< 0.01	2.8	101
E1-4	Esker 1	Sand and gravel	78	11	4.2	1.5	0.47	1.6	2.2	0.32	0.080	0.020	0.020	< 0.01	2.2	101
E1-5	Esker 1	Gravel with sand	79	10	4.0	1.5	0.48	1.6	2.2	0.34	0.080	0.030	0.020	0.020	1.9	101
		MINIMUM	75	10	3.8	1.3	0.45	1.6	2.1	0.32	0.070	0.020	0.020	< 0.01	1.9	101
		MAXIMUM	79	12	5.3	1.9	0.84	2.0	2.7	0.39	0.11	0.040	0.030	0.020	2.8	101
		MEDIAN	77	11	4.2	1.5	0.48	1.7	2.2	0.36	0.080	0.030	0.020	0.010	2.2	101
		AVERAGE	77	11	4.4	1.6	0.55	1.7	2.4	0.35	0.090	0.028	0.024	0.012	2.3	101
		STANDARD DEVIATION	1.5	0.67	0.55	0.20	0.15	0.15	0.23	0.023	0.017	0.0075	0.0049	0.0040	0.31	0.16
		75TH PERCENTILE	78	11	4.7	1.7	0.52	1.8	2.6	0.36	0.11	0.030	0.030	0.010	2.2	101
E2-1	Esker 2	Sand with gravel	73	13	4.2	1.2	1.4	2.9	3.3	0.41	0.11	0.050	0.020	< 0.01	1.7	101
E2-2	Esker 2	Sand with gravel	74	12	4.3	1.3	1.1	2.4	3.2	0.40	0.12	0.030	0.020	0.010	2.1	101
E2-3	Esker 2	Sand with gravel	73	13	4.4	1.3	1.3	2.9	3.3	0.41	0.13	0.040	0.030	< 0.01	2.0	101
E2-4	Esker 2	Sand and gravel	75	12	4.0	0.99	1.1	2.8	3.2	0.37	0.10	0.030	0.030	< 0.01	1.6	101
		MINIMUM	73	12	4.0	0.99	1.1	2.4	3.2	0.37	0.10	0.030	0.020	< 0.01	1.6	101
		MAXIMUM	75	13	4.4	1.3	1.4	2.9	3.3	0.41	0.13	0.050	0.030	0.010	2.1	101
		MEDIAN	74	12	4.2	1.2	1.2	2.8	3.2	0.41	0.12	0.035	0.025	nc	1.9	101
		AVERAGE	74	12	4.2	1.2	1.2	2.7	3.3	0.40	0.12	0.038	0.025	nc	1.8	101
		STANDARD DEVIATION	0.82	0.33	0.16	0.12	0.13	0.22	0.076	0.016	0.011	0.0083	0.0050	nc	0.21	0.15
		75TH PERCENTILE	74	13	4.3	1.3	1.3	2.9	3.3	0.41	0.12	0.043	0.030	nc	2.0	101
E3-1	Esker 3	Sand	71	13	4.3	2.9	1.1	2.9	3.2	0.34	0.10	0.060	0.040	0.010	2.4	101
E3-2	Esker 3	Sand	70	13	4.7	3.2	1.1	2.9	3.0	0.35	0.10	0.040	0.040	< 0.01	2.4	101
E3-3	Esker 3	Sand with gravel	70	13	4.5	3.0	1.1	3.1	2.7	0.35	0.090	0.060	0.030	< 0.01	2.4	101
E3-4	Esker 3	Sand	70	13	4.6	2.9	1.2	2.9	2.9	0.36	0.090	0.050	0.030	0.010	2.7	101
E3-5	Esker 3	Sand	69	13	4.9	3.4	1.1	2.8	3.0	0.37	0.10	0.050	0.040	< 0.01	2.5	100
		MINIMUM	69	13	4.3	2.9	1.1	2.8	2.7	0.34	0.090	0.040	0.030	< 0.01	2.4	100
		MAXIMUM	71	13	4.9	3.4	1.2	3.1	3.2	0.37	0.10	0.060	0.040	0.010	2.7	101
		MEDIAN	70	13	4.6	3.0	1.1	2.9	3.0	0.35	0.10	0.050	0.040	nc	2.4	101
		AVERAGE	70	13	4.6	3.1	1.1	2.9	3.0	0.35	0.096	0.052	0.036	nc	2.5	101
		STANDARD DEVIATION	0.66	0.14	0.19	0.19	0.034	0.11	0.16	0.010	0.0049	0.0075	0.0049	nc	0.11	0.37
		75TH PERCENTILE	70	13	4.7	3.2	1.1	2.9	3.0	0.36	0.10	0.060	0.040	nc	2.5	101
E4-1	Esker 4	Sand with gravel	67	12	5.1	6.0	1.7	2.6	2.3	0.35	0.090	0.070	0.080	< 0.01	3.3	101
E4-2	Esker 4	Sand with gravel	71	12	4.6	3.6	1.2	2.8	2.5	0.38	0.090	0.050	0.050	< 0.01	3.0	101
		MINIMUM	67	12	4.6	3.6	1.2	2.6	2.3	0.35	0.090	0.050	0.050	<0.01	3.0	101
		MAXIMUM	71	12	5.1	6.0	1.7	2.8	2.5	0.38	0.090	0.070	0.080	<0.01	3.3	101
		MEDIAN	69	12	4.9	4.8	1.4	2.7	2.4	0.37	0.090	0.060	0.065	nc	3.1	101
		AVERAGE	69	12	4.9	4.8	1.4	2.7	2.4	0.37	0.090	0.060	0.065	nc	3.1	101
		STANDARD DEVIATION	1.7	0.050	0.25	1.2	0.23	0.095	0.11	0.015	0.0	0.0100	0.015	nc	0.16	0.10
		75TH PERCENTILE	70	12	5.0	5.4	1.5	2.8	2.4	0.37	0.090	0.065	0.073	nc	3.2	101
E5-1	Esker 5	Sand with gravel	75	12	3.2	1.9	0.74	2.7	2.9	0.29	0.080	0.030	0.030	< 0.01	2.1	101
E5-2	Esker 5	Sand	73	12	3.7	2.4	0.81	2.6	3.0	0.30	0.080	0.040	0.030	< 0.01	2.5	101
E5-3	Esker 5	Sand with gravel	73	12	3.6	2.3	1.1	2.9	3.0	0.32	0.090	0.040	0.040	< 0.01	2.1	100
E5-4	Esker 5	Sand and gravel	74	12	3.2	1.8	0.88	2.8	3.0	0.29	0.080	0.030	0.030	0.010	1.9	99
		MINIMUM	73	12	3.2	1.8	0.74	2.6	2.9	0.29	0.080	0.030	0.030	< 0.01	1.9	99
		MAXIMUM	75	12	3.7	2.4	1.1	2.9	3.0	0.32	0.090	0.040	0.040	0.010	2.5	101
		MEDIAN	74	12	3.4	2.1	0.85	2.7	3.0	0.30	0.080	0.035	0.030	nc	2.1	101
		AVERAGE	74	12	3.4	2.1	0.88	2.7	3.0	0.30	0.083	0.035	0.033	nc	2.1	100
		STANDARD DEVIATION	1.0	0.33	0.24	0.27	0.13	0.11	0.064	0.012	0.0043	0.0050	0.0043	nc	0.24	0.78
		75TH PERCENTILE	74	12	3.6	2.3	0.93	2.8	3.0	0.31	0.083	0.040	0.033	nc	2.2	101
E6-1	Esker 6	Gravel with sand	76	12	3.1	1.4	0.84	2.7	3.3	0.25	0.070	0.020	0.030	< 0.01	1.7	101
E6-2	Esker 6	Sand with gravel	75	12	3.0	1.4	0.88	2.6	3.2	0.29	0.090	0.030	0.020	< 0.01	2.3	101
E6-3	Esker 6	Gravel and sand	76	11	3.5	2.0	0.90	2.4	2.9	0.30	0.090	0.030	0.040	< 0.01	2.0	102
E6-4	Esker 6	Gravel and sand	76	11	2.9	1.6	0.92	2.5	2.9	0.28	0.070	0.030	0.030	< 0.01	2.3	101
		MINIMUM	75	11	2.9	1.4	0.84	2.4	2.9	0.25	0.070	0.020	0.020	<0.01	1.7	101
		MAXIMUM	76	12	3.5	2.0	0.92	2.7	3.3	0.30	0.090	0.030	0.040	<0.01	2.3	102
		MEDIAN	76	12	3.0	1.5	0.89	2.5	3.1	0.29	0.080	0.030	0.030	nc	2.1	101
		AVERAGE	76	12	3.1	1.6	0.89	2.5	3.1	0.28	0.080	0.028	0.030	nc	2.1	101
		STANDARD DEVIATION	0.42	0.41	0.20	0.24	0.030	0.12	0.19	0.019	0.010	0.0043	0.0071	nc	0.23	0.27
		75TH PERCENTILE	76	12	3.2	1.7	0.91	2.6	3.3	0.29	0.090	0.030	0.033	nc	2.3	101

CCME Soil Quality Guidelines for the Protection of Environmental and Human Health (Industrial Use)[1]					12	2000				22		87	91		50					
Sample ID	**Location**	**Primary composition**	**Ag**	**Al**	**As**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**	**Co**	**Cr**	**Cu**	**Fe**	**Hg**	**K**	**Li**	**Mg**	**Mn**	**Mo**
			µg/g	**µg/g**	**ug/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**
E1-1	Esker 1	Gravel and sand	0.15	44000	12	450	1.0	13	5200	0.17	11	80	13	32000	< 0.05	17000	19	9400	400	1.1
E1-2	Esker 1	Sand with gravel	0.23	48000	**14**	510	1.1	18	3300	0.19	10	**88**	18	29000	< 0.05	21000	17	8400	350	0.80
E1-3	Esker 1	Sand with gravel	0.15	39000	**14**	510	1.2	11	2500	0.18	8.3	81	11	23000	< 0.05	21000	17	6500	300	1.0
E1-4	Esker 1	Sand and gravel	0.13	40000	**16**	400	1.1	11	3000	0.15	8.8	70	11	25000	< 0.05	17000	17	7100	310	0.70
E1-5	Esker 1	Gravel with sand	< 0.01	21000	**13**	170	0.50	12	2000	0.070	9.1	44	12	23000	< 0.05	5600	14	6500	310	1.0
		MINIMUM	<0.01	21000	12	170	0.50	11	2000	0.070	8.3	44	11	23000	<0.05	5600	14	6500	300	0.70
		MAXIMUM	0.23	48000	16	510	1.2	18	5200	0.19	11	88	18	32000	<0.05	21000	19	9400	400	1.1
		MEDIAN	0.15	40000	14	450	1.1	12	3000	0.17	9.1	80	12	25000	nc	17000	17	7100	310	1.0
		AVERAGE	0.13	38400	14	408	0.98	13	3200	0.15	9.4	73	13	26400	nc	16320	17	7580	334	0.92
		STANDARD DEVIATION	0.071	9265	1.3	126	0.25	2.6	1094	0.043	0.96	15	2.6	3555	nc	5651	1.6	1144	37	0.15
		75TH PERCENTILE	0.15	44000	14	510	1.1	13	3300	0.18	10	81	13	29000	nc	21000	17	8400	350	1.0
E2-1	Esker 2	Sand with gravel	0.020	44000	5.9	520	1.4	6.8	8100	0.14	5.7	24	6.8	24000	< 0.05	20000	13	5400	340	0.70
E2-2	Esker 2	Sand with gravel	0.17	48000	**13**	660	1.6	12	6800	0.21	7.4	60	12	26000	< 0.05	26000	15	6200	330	0.80
E2-3	Esker 2	Sand with gravel	0.18	49000	5.0	660	1.7	7.1	7300	0.23	5.4	50	7.1	25000	< 0.05	25000	13	5600	370	0.70
E2-4	Esker 2	Sand and gravel	0.18	48000	6.0	640	1.8	7.8	7000	0.21	4.8	51	7.8	24000	< 0.05	26000	14	4600	320	0.70
		MINIMUM	0.020	44000	5	520	1.40	7	6800	0.140	4.8	24	7	24000	<0.05	20000	13	4600	320	0.70
		MAXIMUM	0.18	49000	13	660	1.8	12	8100	0.23	7	60	12	26000	<0.05	26000	15	6200	370	0.8
		MEDIAN	0.18	48000	6	650	1.7	7	7150	0.21	5.6	51	7	24500	nc	25500	14	5500	335	0.7
		AVERAGE	0.14	47250	7	620	1.63	8	7300	0.20	5.8	46	8	24750	nc	24250	14	5450	340	0.73
		STANDARD DEVIATION	0.068	1920	3.2	58	0.15	2.1	495	0.034	0.97	13	2.1	829	nc	2487	0.8	572	19	0.04
		75TH PERCENTILE	0.18	48250	8	660	1.7	9	7500	0.22	6	53	9	25250	nc	26000	14	5750	348	0.7
E3-1	Esker 3	Sand	0.090	50000	5.4	650	1.5	7.9	6300	0.16	12	**120**	7.9	26000	< 0.05	26000	18	15000	500	0.50
E3-2	Esker 3	Sand	0.13	48000	4.3	610	1.5	9.9	6500	0.16	13	**110**	9.9	27000	< 0.05	24000	18	16000	430	0.40
E3-3	Esker 3	Sand with gravel	0.12	49000	4.1	570	1.4	8.3	6500	0.17	11	**100**	8.3	27000	< 0.05	22000	18	15000	430	0.50
E3-4	Esker 3	Sand	0.10	51000	4.4	590	1.4	7.4	6700	0.18	12	**110**	7.4	27000	< 0.05	23000	17	15000	440	1.1
E3-5	Esker 3	Sand	0.14	49000	5.7	640	1.5	11	6500	0.18	14	**130**	11	29000	< 0.05	24000	20	17000	470	1.5
		MINIMUM	0.090	48000	4	570	1.40	7	6300	0.160	11.0	100	7	26000	<0.05	22000	17	15000	430	0.40
		MAXIMUM	0.14	51000	6	650	1.5	11	6700	0.18	14	130	11	29000	<0.05	26000	20	17000	500	1.5
		MEDIAN	0.12	49000	4	610	1.5	8	6500	0.17	12.0	110	8	27000	nc	24000	18	15000	440	0.5
		AVERAGE	0.12	49400	5	612	1.46	9	6500	0.17	12.4	114	9	27200	nc	23800	18	15600	454	0.80
		STANDARD DEVIATION	0.019	1020	0.6	30	0.05	1.3	126	0.009	1.02	10	1.3	980	nc	1327	1.0	800	27	0.43
		75TH PERCENTILE	0.13	50000	5	640	1.5	10	6500	0.18	13	120	10	27000	nc	24000	18	16000	470	1.1
E4-1	Esker 4	Sand with gravel	0.11	53000	6.9	490	1.1	16	11000	0.16	21	**250**	16	32000	< 0.05	18000	18	31000	570	0.50
E4-2	Esker 4	Sand with gravel	0.13	46000	4.8	510	1.5	7.5	6600	0.19	14	**160**	7.5	27000	< 0.05	19000	15	19000	460	0.50
		MINIMUM	0.110	46000	5	490	1.10	8	6600	0.160	14.0	160	8	27000	<0.05	18000	15	19000	460	0.50
		MAXIMUM	0.13	53000	7	510	1.5	16	11000	0.19	21	250	16	32000	<0.05	19000	18	31000	570	0.5
		MEDIAN	0.12	49500	6	500	1.3	12	8800	0.18	17.5	205	12	29500	nc	18500	17	25000	515	0.5
		AVERAGE	0.12	49500	6	500	1.30	12	8800	0.18	17.5	205	12	29500	nc	18500	17	25000	515	0.50
		STANDARD DEVIATION	0.010	3500	1.1	10	0.20	4.3	2200	0.015	3.50	45	4.3	2500	nc	500	1.5	6000	55	0.00
		75TH PERCENTILE	0.13	51250	6	505	1.4	14	9900	0.18	19	228	14	30750	nc	18750	17	28000	543	0.5
E5-1	Esker 5	Sand with gravel	0.20	46000	3.0	540	1.3	6.8	4300	0.16	7.1	83	6.8	19000	< 0.05	23000	14	9400	320	0.50
E5-2	Esker 5	Sand	0.12	48000	4.1	560	1.3	7.9	4800	0.16	9.9	**100**	7.9	23000	< 0.05	25000	15	12000	370	0.70
E5-3	Esker 5	Sand with gravel	0.13	48000	4.1	550	1.4	8.1	6400	0.16	8.7	**94**	8.1	21000	< 0.05	24000	15	12000	360	0.60
E5-4	Esker 5	Sand and gravel	0.11	47000	2.2	560	1.5	5.7	5100	0.17	6.5	80	5.7	19000	< 0.05	24000	13	8900	320	0.60
		MINIMUM	0.110	46000	2	540	1.30	6	4300	0.160	6.5	80	6	19000	<0.05	23000	13	8900	320	0.50
		MAXIMUM	0.20	48000	4	560	1.5	8	6400	0.17	10	100	8	23000	<0.05	25000	15	12000	370	0.7
		MEDIAN	0.13	47500	4	555	1.4	7	4950	0.16	7.9	89	7	20000	nc	24000	15	10700	340	0.6
		AVERAGE	0.14	47250	3	553	1.38	7	5150	0.16	8.1	89	7	20500	nc	24000	14	10575	343	0.60
		STANDARD DEVIATION	0.035	829	0.8	8	0.08	1.0	776	0.004	1.34	8	1.0	1658	nc	707	0.8	1436	23	0.07
		75TH PERCENTILE	0.15	48000	4	560	1.4	8	5425	0.16	9	96	8	21500	nc	24250	15	12000	363	0.6
E6-1	Esker 6	Gravel with sand	0.11	45000	7.4	550	1.4	5.8	4600	0.15	6.5	70	5.8	18000	< 0.05	26000	13	6300	320	0.50
E6-2	Esker 6	Sand with gravel	0.080	49000	2.4	560	1.4	170	5200	0.14	6.0	66	**170**	18000	< 0.05	26000	15	6700	310	0.40
E6-3	Esker 6	Gravel and sand	0.11	44000	3.7	510	1.4	7.2	5200	0.15	8.3	80	7.2	20000	< 0.05	22000	16	9800	310	0.50
E6-4	Esker 6	Gravel and sand	0.080	45000	3.1	540	1.2	4.9	5400	0.13	6.2	86	4.9	17000	< 0.05	23000	15	7600	300	0.40
		MINIMUM	0.080	44000	2	510	1.20	5	4600	0.130	6.0	66	5	17000	<0.05	22000	13	6300	300	0.40
		MAXIMUM	0.11	49000	7	560	1.4	170	5400	0.15	8	86	170	20000	<0.05	26000	16	9800	320	0.5
		MEDIAN	0.10	45000	3	545	1.4	7	5200	0.15	6.4	75	7	18000	nc	24500	15	7150	310	0.5
		AVERAGE	0.10	45750	4	540	1.35	47	5100	0.14	6.8	76	47	18250	nc	24250	15	7600	310	0.45
		STANDARD DEVIATION	0.015	1920	1.9	19	0.09	71.0	300	0.008	0.91	8	71.0	1090	nc	1785	1.1	1355	7	0.05
		75TH PERCENTILE	0.11	46000	5	553	1.4	48	5250	0.15	7	82	48	18500	nc	26000	15	8150	313	0.5

Notes:
1- CEQG Soil Quality Guidelines for the Protection of Environmental and Human Health, Industrial Land Use (CCME, 2007).
Bolded and shaded values = values above CCME Industrial Soil Guideline
nc = not calculated

CCME Soil Quality Guidelines for the Protection of Environmental and Human Health (Industrial Use)[1]				50	600		2.9				1	300	130		360
Sample ID	**Location**	**Primary composition**	**Na**	**Ni**	**Pb**	**Sb**	**Se**	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Y**	**Zn**
			µg/g	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**
E1-1	Esker 1	Gravel and sand	12000	48	9.5	< 0.8	< 0.7	0.70	120	890	0.37	2.0	52	6.4	46
E1-2	Esker 1	Sand with gravel	13000	42	11	2.3	< 0.7	0.90	110	900	0.42	2.2	52	7.2	43
E1-3	Esker 1	Sand with gravel	12000	32	11	< 0.8	1.1	0.90	88	840	0.48	2.0	45	5.6	40
E1-4	Esker 1	Sand and gravel	11000	39	11	< 0.8	0.90	0.70	94	660	0.38	1.8	44	5.5	37
E1-5	Esker 1	Gravel with sand	510	33	7.1	< 0.8	1.4	< 0.5	32	420	0.16	1.7	30	7.5	35
		MINIMUM	510	32	7.1	<0.8	<0.7	<0.5	32	420	0.16	1.7	30	5.5	35
		MAXIMUM	13000	48	11	2.3	1.4	0.90	120	900	0.48	2.2	52	7.5	46
		MEDIAN	12000	39	11	nc	0.90	0.70	94	840	0.38	2.0	45	6.4	40
		AVERAGE	9702	39	9.9	nc	0.96	0.74	89	742	0.36	1.9	45	6.4	40
		STANDARD DEVIATION	4639	5.9	1.5	nc	0.27	0.15	31	183	0.11	0.17	8.0	0.81	4.0
		75TH PERCENTILE	12000	42	11	nc	1.1	0.90	110	890	0.42	2.0	52	7.2	43
E2-1	Esker 2	Sand with gravel	12000	17	14	< 0.8	1.3	1.3	130	1400	0.42	2.5	29	15	44
E2-2	Esker 2	Sand with gravel	16000	30	14	< 0.8	1.0	1.2	150	1400	0.50	2.4	37	9.8	40
E2-3	Esker 2	Sand with gravel	18000	22	14	< 0.8	1.6	1.5	140	1600	0.50	2.5	29	11	44
E2-4	Esker 2	Sand and gravel	19000	13	14	< 0.8	1.1	1.5	130	1500	0.49	2.6	26	12	40
		MINIMUM	12000	13	14.0	<0.8	1.000	1.200	130	1400	0.42	2.4	26	9.8	40
		MAXIMUM	19000	30	14	<0.8	1.6	1.50	150	1600	0.50	2.6	37	15.0	44
		MEDIAN	17000	20	14	nc	1.20	1.40	135	1450	0.50	2.5	29	11.5	42
		AVERAGE	16250	21	14.0	nc	1.25	1.38	138	1475	0.48	2.5	30	12.0	42
		STANDARD DEVIATION	2681	6.3	0.0	nc	0.23	0.13	8	83	0.03	0.07	4.1	1.93	2.0
		75TH PERCENTILE	18250	24	14	nc	1.4	1.50	143	1525	0.50	2.5	31	12.8	44
E3-1	Esker 3	Sand	19000	**89**	11	< 0.8	0.90	0.90	160	1200	0.41	1.3	42	5.5	45
E3-2	Esker 3	Sand	19000	**95**	11	< 0.8	1.3	0.80	160	1200	0.40	1.4	45	6.1	46
E3-3	Esker 3	Sand with gravel	21000	**82**	11	< 0.8	1.1	0.80	160	1300	0.35	1.4	42	6.3	46
E3-4	Esker 3	Sand	19000	**77**	11	< 0.8	1.1	0.90	160	1300	0.36	1.4	43	6.0	47
E3-5	Esker 3	Sand	18000	**110**	11	< 0.8	1.6	0.80	160	1300	0.39	1.4	47	6.2	50
		MINIMUM	18000	77	11.0	<0.8	0.900	0.800	160	1200	0.35	1.3	42	5.5	45
		MAXIMUM	21000	110	11	<0.8	1.6	0.90	160	1300	0.41	1.4	47	6.3	50
		MEDIAN	19000	89	11	nc	1.10	0.80	160	1300	0.39	1.4	43	6.1	46
		AVERAGE	19200	91	11.0	nc	1.20	0.84	160	1260	0.38	1.4	44	6.0	47
		STANDARD DEVIATION	980	11.5	0.0	nc	0.24	0.05	0	49	0.02	0.04	1.9	0.28	1.7
		75TH PERCENTILE	19000	95	11	nc	1.3	0.90	160	1300	0.40	1.4	45	6.2	47
E4-1	Esker 4	Sand with gravel	17000	**240**	8.4	< 0.8	1.3	0.70	150	1200	0.28	1.3	53	7.0	46
E4-2	Esker 4	Sand with gravel	19000	**130**	7.9	< 0.8	1.7	0.90	120	1200	0.34	1.4	45	6.3	45
		MINIMUM	17000	130	7.9	<0.8	1.300	0.700	120	1200	0.28	1.3	45	6.3	45
		MAXIMUM	19000	240	8	<0.8	1.7	0.90	150	1200	0.34	1.4	53	7.0	46
		MEDIAN	18000	185	8	nc	1.50	0.80	135	1200	0.31	1.4	49	6.7	46
		AVERAGE	18000	185	8.2	nc	1.50	0.80	135	1200	0.31	1.4	49	6.7	46
		STANDARD DEVIATION	1000	55.0	0.3	nc	0.20	0.10	15	0	0.03	0.05	4.0	0.35	0.5
		75TH PERCENTILE	18500	213	8	nc	1.6	0.85	143	1200	0.33	1.4	51	6.8	46
E5-1	Esker 5	Sand with gravel	18000	50	7.2	1.2	1.5	0.90	120	1000	0.33	1.5	27	6.1	34
E5-2	Esker 5	Sand	17000	**79**	8.3	< 0.8	0.90	0.80	120	1000	0.33	1.5	33	5.8	36
E5-3	Esker 5	Sand with gravel	19000	**63**	7.6	< 0.8	1.6	0.90	120	1200	0.32	1.8	33	7.5	35
E5-4	Esker 5	Sand and gravel	18000	45	8.0	< 0.8	1.7	0.80	140	1200	0.31	1.6	28	6.6	34
		MINIMUM	17000	45	7.2	<0.8	0.900	0.800	120	1000	0.31	1.5	27	5.8	34
		MAXIMUM	19000	79	8	1.2	1.7	0.90	140	1200	0.33	1.8	33	7.5	36
		MEDIAN	18000	57	8	nc	1.55	0.85	120	1100	0.33	1.6	31	6.4	35
		AVERAGE	18000	59	7.8	nc	1.43	0.85	125	1100	0.32	1.6	30	6.5	35
		STANDARD DEVIATION	707	13.2	0.4	nc	0.31	0.05	9	100	0.01	0.12	2.8	0.64	0.8
		75TH PERCENTILE	18250	67	8	nc	1.6	0.90	125	1200	0.33	1.7	33	6.8	35
E6-1	Esker 6	Gravel with sand	17000	31	10	< 0.8	1.6	1.0	110	1000	0.37	2.8	24	6.5	33
E6-2	Esker 6	Sand with gravel	17000	32	6.6	< 0.8	1.9	1.1	140	1200	0.29	1.4	27	6.5	35
E6-3	Esker 6	Gravel and sand	15000	**56**	7.3	< 0.8	2.4	0.80	120	1300	0.29	1.7	29	7.2	34
E6-4	Esker 6	Gravel and sand	15000	44	6.7	< 0.8	1.7	0.70	110	1100	0.27	1.3	25	5.4	31
		MINIMUM	15000	31	6.6	<0.8	1.600	0.700	110	1000	0.27	1.3	24	5.4	31
		MAXIMUM	17000	56	10	<0.8	2.4	1.10	140	1300	0.37	2.8	29	7.2	35
		MEDIAN	16000	38	7	nc	1.80	0.90	115	1150	0.29	1.6	26	6.5	34
		AVERAGE	16000	41	7.7	nc	1.90	0.90	120	1150	0.31	1.8	26	6.4	33
		STANDARD DEVIATION	1000	10.2	1.4	nc	0.31	0.16	12	112	0.04	0.60	1.9	0.64	1.5
		75TH PERCENTILE	17000	47	8	nc	2.0	1.03	125	1225	0.31	2.0	28	6.7	34

Notes:
1- CEQG Soil Quality Guidelines for the Protection of Environmental and Human Health, Industrial Land Use (CCME, 2007).
Bolded and shaded values = values above CCME Industrial Soil Guideline
nc = not calculated

Attachment A: ABA and NAG pH Results
IVR Road
Agnico-Eagle Mines Ltd.

Sample ID	Location	Primary composition	Paste pH	NAG pH	Total Carbon	Carbonate	CaNP	Total Sulphur	Sulphate	Sulphide Sulphur	NP	AP	Net NP	NPR	ARD Potential
			-	-	%	%	t $CaCO_3$/ 1000 t	%	%	%	t $CaCO_3$/1000t			Ratio	%
E1-1	Esker 1	Gravel and sand	7.8	7.7	0.16	0.17	2.8	0.0070	< 0.01	< 0.01	3.6	0.31	3.3	12	non PAG
E1-2	Esker 1	Sand with gravel	7.6	6.8	0.072	0.045	0.75	< 0.005	< 0.01	< 0.01	3.4	0.31	3.1	11	non PAG
E1-3	Esker 1	Sand with gravel	6.7	6.1	0.46	0.020	0.33	0.0060	< 0.01	< 0.01	2.6	0.31	2.3	8.4	non PAG
E1-4	Esker 1	Sand and gravel	7.5	6.4	0.14	0.020	0.33	< 0.005	< 0.01	< 0.01	2.3	0.31	2.0	7.4	non PAG
E1-5	Esker 1	Gravel with sand	7.6	6.6	0.072	0.030	0.50	0.0070	< 0.01	0.010	3.1	0.31	2.8	9.9	non PAG
		BULK ARD POTENTIAL									**15**	**1.6**	**13**	**9.6**	**non PAG**
		MINIMUM	6.7	6.1	0.072	0.020	0.33	<0.005	<0.01	< 0.01	2.3	0.31	2.0	7.4	
		MAXIMUM	7.8	7.7	0.46	0.17	2.8	0.0070	<0.01	0.010	3.6	0.31	3.3	12	
Esker 1		**MEDIAN**	7.6	6.6	0.14	0.030	0.50	0.0060	nc	nc	3.1	0.31	2.8	9.9	
		AVERAGE	7.5	6.7	0.18	0.057	0.95	0.0060	nc	nc	3.0	0.31	2.7	9.7	
		STANDARD DEVIATION	0.39	0.54	0.14	0.057	0.95	0.00089	nc	nc	0.49	0.0	0.49	1.6	
		75TH PERCENTILE	7.6	6.8	0.16	0.045	0.75	0.0070	nc	nc	3.4	0.31	3.1	11	
E2-1	Esker 2	Sand with gravel	7.3	6.2	0.18	0.010	0.17	< 0.005	< 0.01	< 0.01	3.1	0.31	2.8	10	non PAG
E2-2	Esker 2	Sand with gravel	7.1	6.3	0.31	0.015	0.25	< 0.005	< 0.01	< 0.01	4.2	0.31	3.9	14	non PAG
E2-3	Esker 2	Sand with gravel	6.9	6.1	0.26	0.025	0.42	< 0.005	< 0.01	< 0.01	3.6	0.31	3.3	12	non PAG
E2-4	Esker 2	Sand and gravel	7.4	6.5	0.20	0.050	0.83	< 0.005	< 0.01	< 0.01	5.1	0.31	4.8	17	non PAG
		BULK ARD POTENTIAL									**16**	**1.3**	**15**	**13**	**non PAG**
		MINIMUM	6.9	6.1	0.18	0.010	0.17	<0.005	<0.01	<0.01	3.1	0.31	2.8	10	
		MAXIMUM	7.4	6.5	0.31	0.050	0.83	<0.005	<0.01	<0.01	5.1	0.31	4.8	17	
Esker 2		**MEDIAN**	7.2	6.2	0.23	0.020	0.33	nc	nc	nc	3.9	0.31	3.6	13	
		AVERAGE	7.2	6.3	0.24	0.025	0.42	nc	nc	nc	4.0	0.31	3.7	13	
		STANDARD DEVIATION	0.19	0.15	0.052	0.015	0.26	nc	nc	nc	0.74	0.0	0.74	2.4	
		75TH PERCENTILE	7.3	6.4	0.27	0.031	0.52	nc	nc	nc	4.4	0.31	4.1	14	
E3-1	Esker 3	Sand	7.3	6.7	0.13	0.015	0.25	< 0.005	< 0.01	< 0.01	3.2	0.31	2.9	10	non PAG
E3-2	Esker 3	Sand	8.1	7.0	0.094	0.010	0.17	< 0.005	< 0.01	< 0.01	4.1	0.31	3.8	13	non PAG
E3-3	Esker 3	Sand with gravel	7.7	6.3	0.19	0.035	0.58	0.024	< 0.01	0.020	4.8	0.31	4.2	7.7	non PAG
E3-4	Esker 3	Sand	7.4	6.5	0.25	0.020	0.33	< 0.005	< 0.01	< 0.01	3.3	0.31	3.0	11	non PAG
E3-5	Esker 3	Sand	7.9	7.0	0.095	0.010	0.17	< 0.005	< 0.01	< 0.01	4.0	0.31	3.7	13	non PAG
		BULK ARD POTENTIAL									**19**	**1.6**	**18**	**12**	**non PAG**
		MINIMUM	7.3	6.3	0.094	0.010	0.17	<0.005	<0.01	<0.01	3.2	0.31	2.9	7.7	
		MAXIMUM	8.1	7.0	0.25	0.035	0.58	0.024	<0.01	0.020	4.8	0.31	4.2	13	
Esker 3		**MEDIAN**	7.7	6.7	0.13	0.015	0.25	nc	nc	nc	4.0	0.31	3.7	11	
		AVERAGE	7.7	6.7	0.15	0.018	0.30	nc	nc	nc	3.9	0.31	3.5	11	
		STANDARD DEVIATION	0.32	0.25	0.060	0.0093	0.15	nc	nc	nc	0.58	0.0	0.49	2.0	
		75TH PERCENTILE	7.9	7.0	0.19	0.020	0.33	nc	nc	nc	4.1	0.31	3.8	13	
E4-1	Esker 4	Sand with gravel	8.9	8.3	0.20	0.32	5.3	< 0.005	< 0.01	< 0.01	8.0	0.31	7.7	26	non PAG
E4-2	Esker 4	Sand with gravel	7.6	6.8	0.35	0.030	0.50	< 0.005	< 0.01	< 0.01	4.1	0.31	3.8	13	non PAG
		BULK ARD POTENTIAL									**12**	**0.63**	**11**	**19**	**non PAG**
		MINIMUM	7.6	6.8	0.20	0.030	0.50	<0.005	<0.01	<0.01	4.1	0.31	3.8	13	
		MAXIMUM	8.9	8.3	0.35	0.32	5.3	<0.005	<0.01	<0.01	8.0	0.31	7.7	26	
Esker 4		**MEDIAN**	8.2	7.5	0.28	0.18	2.9	nc	nc	nc	6.1	0.31	5.7	20	
		AVERAGE	8.2	7.5	0.28	0.18	2.9	nc	nc	nc	6.1	0.31	5.7	20	
		STANDARD DEVIATION	0.68	0.79	0.072	0.15	2.4	nc	nc	nc	2.0	0.0	2.0	6.3	
		75TH PERCENTILE	8.6	7.9	0.31	0.25	4.1	nc	nc	nc	7.0	0.31	6.7	23	
E5-1	Esker 5	Sand with gravel	7.4	6.4	0.15	0.015	0.25	< 0.005	< 0.01	< 0.01	3.2	0.31	2.9	10	non PAG
E5-2	Esker 5	Sand	7.1	6.6	0.21	0.020	0.33	< 0.005	< 0.01	< 0.01	3.8	0.31	3.5	12	non PAG
E5-3	Esker 5	Sand with gravel	7.8	7.4	0.12	0.10	1.7	< 0.005	< 0.01	< 0.01	5.3	0.31	5.0	17	non PAG
E5-4	Esker 5	Sand and gravel	7.7	6.4	0.13	0.015	0.25	< 0.005	< 0.01	< 0.01	3.7	0.31	3.4	12	non PAG
		BULK ARD POTENTIAL									**16**	**1.3**	**15**	**13**	**non PAG**
		MINIMUM	7.1	6.4	0.12	0.015	0.25	<0.005	<0.01	<0.01	3.2	0.31	2.9	10	
		MAXIMUM	7.8	7.4	0.21	0.10	1.7	<0.005	<0.01	<0.01	5.3	0.31	5.0	17	
Esker 5		**MEDIAN**	7.5	6.5	0.14	0.018	0.29	nc	nc	nc	3.8	0.31	3.4	12	
		AVERAGE	7.5	6.7	0.15	0.038	0.63	nc	nc	nc	4.0	0.31	3.7	13	
		STANDARD DEVIATION	0.25	0.39	0.036	0.036	0.60	nc	nc	nc	0.78	0.0	0.78	2.5	
		75TH PERCENTILE	7.7	6.8	0.17	0.040	0.67	nc	nc	nc	4.2	0.31	3.9	14	
E6-1	Esker 6	Gravel with sand	7.4	4.3	0.094	0.020	0.33	0.068	0.030	0.040	3.1	1.3	1.9	2.5	non PAG
E6-2	Esker 6	Sand with gravel	7.1	6.7	0.26	0.040	0.67	< 0.005	< 0.01	< 0.01	3.9	0.31	3.6	13	non PAG
E6-3	Esker 6	Gravel and sand	7.8	6.7	0.090	0.020	0.33	0.0050	< 0.01	< 0.01	2.3	0.31	2.0	7.4	non PAG
E6-4	Esker 6	Gravel and sand	6.7	6.2	0.34	0.020	0.33	< 0.005	< 0.01	< 0.01	4.2	0.31	3.9	14	non PAG
		BULK ARD POTENTIAL									**14**	**2.2**	**11**	**6.2**	**non PAG**
		MINIMUM	6.7	4.3	0.090	0.020	0.33	< 0.005	<0.01	<0.01	2.3	0.31	1.9	2.5	
		MAXIMUM	7.8	6.7	0.34	0.040	0.67	0.068	0.030	0.040	4.2	1.3	3.9	14	
Esker 6		**MEDIAN**	7.2	6.4	0.18	0.020	0.33	0.0050	nc	nc	3.5	0.31	2.8	10	
		AVERAGE	7.2	6.0	0.20	0.025	0.42	0.021	nc	nc	3.4	0.55	2.8	9.0	
		STANDARD DEVIATION	0.41	0.96	0.11	0.0087	0.14	0.027	nc	nc	0.74	0.41	0.92	4.4	
		75TH PERCENTILE	7.5	6.7	0.28	0.025	0.42	0.021	nc	nc	4.0	0.55	3.7	13	

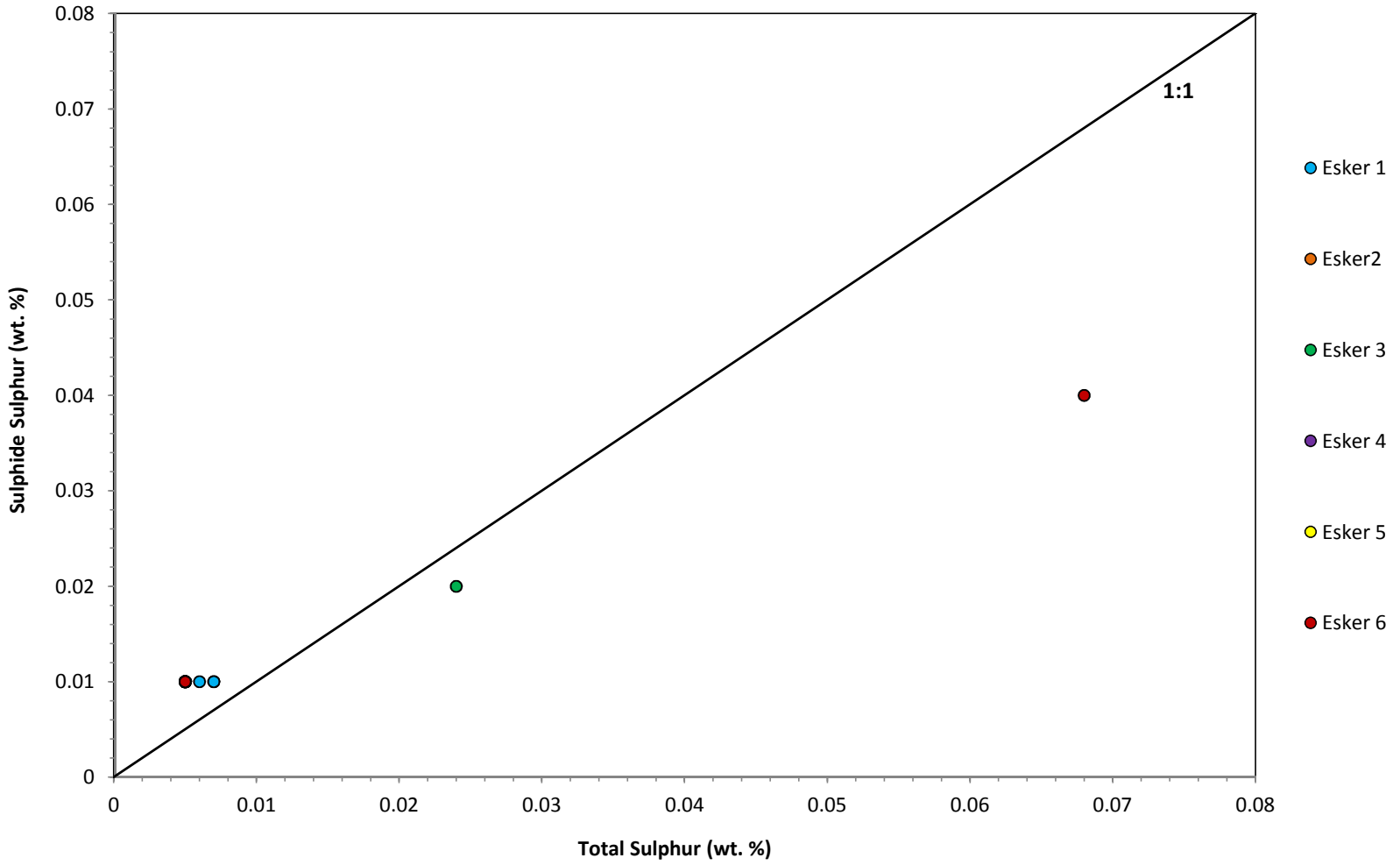
Notes:
NP = Neutralization Potential, CaNP = Carbonate NP, AP = Acid potential, Net NP = Net Neutralization Potential (NP-AP), NPR = Net Potential Ratio (NP/AP), CaNPR = Carbonate NPR, ARD = Acid Rock Drainage potential (based on MEND 2009)
nc = not calculated

CCME (for the Protection of Freshwater Aquatic Life)[1]			**6.5-9**				**0.000026**	**0.0001**		**0.005**		**1.5**				**0.00009**			**0.002**	**0.3**
MMER (monthly mean concentration)[2]			**6-9.5**							**0.5**									**0.3**	
Sample ID	**Location**	**Primary composition**	**Final pH (after 18 hours)**	**Conduct-ivity**	**Alkalinity**	**SO4**	**Hg**	**Ag**	**Al**	**As**	**Ba**	**B**	**Be**	**Bi**	**Ca**	**Cd**	**Co**	**Cr**	**Cu**	**Fe**
			-	uS/cm	mg/L as $CaCO_3$	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
E1-1	Esker 1	Gravel and sand	7.2	84	35	< 2	< 0.00001	0.000018	0.45	0.0018	0.0069	0.25	< 0.000007	< 0.000007	2.5	0.0000050	0.00039	0.00099	0.0018	**0.30**
E1-2	Esker 1	Sand with gravel	7.2	46	23	< 2	< 0.00001	0.000034	1.0	0.0046	0.0040	0.33	< 0.000007	< 0.000007	0.080	0.0000070	0.00093	0.0017	**0.0032**	**0.45**
E1-3	Esker 1	Sand with gravel	**6.2**	61	30	< 2	< 0.00001	0.000038	1.1	0.0035	0.0071	0.47	0.000019	< 0.000007	0.33	0.000039	0.00077	0.0028	**0.0035**	**0.67**
E1-4	Esker 1	Sand and gravel	6.8	45	24	< 2	< 0.00001	0.000061	1.6	**0.0057**	0.0045	0.40	0.000011	< 0.000007	0.10	0.000024	0.00088	0.0023	**0.0057**	**0.62**
E1-5	Esker 1	Gravel with sand	7.5	48	23	< 2	< 0.00001	0.000038	0.70	0.0041	0.011	0.30	0.000015	< 0.000007	0.34	0.000010	0.0015	0.0024	**0.0031**	**0.71**
		MINIMUM	6.2	45	23	<2	<0.00001	0.000018	0.45	0.0018	0.0040	0.25	<0.000007	<0.000007	0.080	0.0000050	0.00039	0.00099	0.0018	0.30
		MAXIMUM	7.5	84	35	<2	<0.00001	0.000061	1.6	0.0057	0.011	0.47	0.000019	<0.000007	2.5	0.000039	0.0015	0.0028	0.0057	0.71
		MEDIAN	7.2	48	24	nc	nc	0.000038	1.0	0.0041	0.0069	0.33	0.000011	nc	0.33	0.000010	0.00088	0.0023	0.0032	0.62
		AVERAGE	7.0	57	27	nc	nc	0.000038	0.98	0.0039	0.0066	0.35	0.000012	nc	0.67	0.000017	0.00089	0.0020	0.0034	0.55
		STANDARD DEVIATION	0.45	15	4.8	nc	nc	0.000014	0.40	0.0013	0.0024	0.079	0.0000047	nc	0.91	0.000013	0.00035	0.00063	0.0012	0.15
		75TH PERCENTILE	7.2	61	30	nc	nc	0.000038	1.1	0.0046	0.0071	0.40	0.000015	nc	0.34	0.000024	0.00093	0.0024	0.0035	0.67
E2-1	Esker 2	Sand with gravel	6.7	60	30	< 2	< 0.00001	0.000031	0.81	0.0013	0.0089	0.41	0.000027	< 0.000007	0.70	< 0.000003	0.00074	0.0019	0.0020	**0.68**
E2-2	Esker 2	Sand with gravel	**6.2**	51	26	< 2	< 0.00001	0.000029	0.57	0.0035	0.0067	0.43	0.000022	0.000011	0.97	< 0.000003	0.00099	0.0016	**0.0038**	**0.66**
E2-3	Esker 2	Sand with gravel	**6.3**	72	37	< 2	< 0.00001	0.000020	1.2	0.0019	0.012	0.49	0.000032	0.000014	0.82	0.000040	0.00076	0.0023	**0.0042**	**1.2**
E2-4	Esker 2	Sand and gravel	6.8	56	25	< 2	< 0.00001	0.000045	0.98	0.0020	0.011	0.38	0.000039	< 0.000007	0.53	0.000028	0.00064	0.0018	**0.0021**	**0.71**
		MINIMUM	6.2	51	25	<2	<0.00001	0.000020	0.57	0.0013	0.0067	0.38	0.000022	<0.000007	0.53	<0.000003	0.00064	0.0016	0.0020	0.66
		MAXIMUM	6.8	72	37	<2	<0.00001	0.000045	1.2	0.0035	0.012	0.49	0.000039	0.000014	0.97	0.000040	0.00099	0.0023	0.0042	1.2
		MEDIAN	6.5	58	28	nc	nc	0.000030	0.90	0.0020	0.0097	0.42	0.000030	0.0000090	0.76	0.000016	0.00075	0.0018	0.0029	0.69
		AVERAGE	6.5	60	30	nc	nc	0.000031	0.90	0.0022	0.0096	0.43	0.000030	0.0000098	0.76	0.000019	0.00078	0.0019	0.0030	0.80
		STANDARD DEVIATION	0.26	7.8	4.7	nc	nc	0.0000090	0.24	0.00081	0.0020	0.039	0.0000063	0.0000029	0.16	0.000016	0.00013	0.00026	0.00097	0.20
		75TH PERCENTILE	6.7	63	32	nc	nc	0.000035	1.0	0.0024	0.011	0.45	0.000034	0.000012	0.86	0.000031	0.00081	0.0020	0.0039	0.82
E3-1	Esker 3	Sand	6.7	46	24	< 2	< 0.00001	0.000019	0.92	0.0017	0.0069	0.43	0.000016	< 0.000007	0.25	0.000010	0.0019	0.0097	**0.0023**	**1.0**
E3-2	Esker 3	Sand	7.4	56	28	< 2	< 0.00001	0.000046	0.75	0.0022	0.012	0.36	0.000028	< 0.000007	0.41	0.0000070	0.0019	0.0085	**0.0046**	**0.97**
E3-3	Esker 3	Sand with gravel	7.1	48	26	< 2	< 0.00001	0.000060	0.60	0.0012	0.0040	0.37	0.0000090	< 0.000007	0.19	< 0.000003	0.00065	0.0029	0.0017	**0.41**
E3-4	Esker 3	Sand	6.8	63	29	< 2	< 0.00001	0.000049	0.88	0.0012	0.0093	0.41	0.000020	< 0.000007	0.46	< 0.000003	0.0013	0.0062	0.0019	**0.87**
E3-5	Esker 3	Sand	7.6	50	23	< 2	< 0.00001	0.000045	0.66	0.0018	0.010	0.37	0.000025	< 0.000007	0.36	0.0000040	0.0016	0.0072	**0.0028**	**0.77**
		MINIMUM	6.7	46	23	<2	<0.00001	0.000019	0.60	0.0012	0.0040	0.36	0.0000090	<0.000007	0.19	<0.000003	0.00065	0.0029	0.0017	0.41
		MAXIMUM	7.6	63	29	<2	<0.00001	0.000060	0.92	0.0022	0.012	0.43	0.000028	<0.000007	0.46	0.000010	0.0019	0.0097	0.0046	1.0
		MEDIAN	7.1	50	26	nc	nc	0.000046	0.75	0.0017	0.0093	0.37	0.000020	nc	0.36	0.0000040	0.0016	0.0072	0.0023	0.87
		AVERAGE	7.1	53	26	nc	nc	0.000044	0.76	0.0016	0.0084	0.39	0.000020	nc	0.33	0.0000054	0.0015	0.0069	0.0027	0.81
		STANDARD DEVIATION	0.35	6.2	2.3	nc	nc	0.000013	0.12	0.00038	0.0027	0.028	0.0000067	nc	0.10	0.0000027	0.00045	0.0023	0.0010	0.22
		75TH PERCENTILE	7.4	56	28	nc	nc	0.000049	0.88	0.0018	0.010	0.41	0.000025	nc	0.41	0.0000070	0.0019	0.0085	0.0028	0.97
E4-1	Esker 4	Sand with gravel	8.7	104	44	< 2	< 0.00001	0.000020	0.43	**0.0063**	0.0052	0.17	< 0.000007	< 0.000007	5.7	0.0000040	0.0013	0.0052	**0.0060**	**0.51**
E4-2	Esker 4	Sand with gravel	6.8	56	27	< 2	< 0.00001	0.000071	0.56	0.00080	0.0055	0.36	0.0000090	< 0.000007	0.42	< 0.000003	0.0011	0.0055	0.0014	**0.47**
		MINIMUM	6.8	56	27	<2	<0.00001	0.000020	0.43	0.00080	0.0052	0.17	<0.000007	<0.000007	0.42	<0.000003	0.0011	0.0052	0.0014	0.47
		MAXIMUM	8.7	104	44	<2	<0.00001	0.000071	0.56	0.0063	0.0055	0.36	0.0000090	<0.000007	5.7	0.0000040	0.0013	0.0055	0.0060	0.51
		MEDIAN	7.8	80	36	nc	nc	0.000046	0.50	0.0036	0.0053	0.26	nc	nc	3.0	nc	0.0012	0.0053	0.0037	0.49
		AVERAGE	7.8	80	36	nc	nc	0.000046	0.50	0.0036	0.0053	0.26	nc	nc	3.0	nc	0.0012	0.0053	0.0037	0.49
		STANDARD DEVIATION	0.95	24	8.5	nc	nc	0.000026	0.065	0.0028	0.00015	0.091	nc	nc	2.6	nc	0.00010	0.00014	0.0023	0.020
		75TH PERCENTILE	8.2	92	40	nc	nc	0.000058	0.53	0.0049	0.0054	0.31	nc	nc	4.3	nc	0.0012	0.0054	0.0049	0.50
E5-1	Esker 5	Sand with gravel	7.0	33	16	< 2	< 0.00001	0.000037	1.6	0.0019	0.0039	0.31	0.000016	< 0.000007	0.050	0.0000070	0.00068	0.0043	0.0019	**0.48**
E5-2	Esker 5	Sand	6.6	52	26	< 2	< 0.00001	0.000034	0.73	0.0010	0.0068	0.43	0.000028	< 0.000007	0.15	< 0.000003	0.0013	0.0047	**0.0023**	**0.50**
E5-3	Esker 5	Sand with gravel	7.2	56	28	< 2	< 0.00001	0.000028	0.48	0.0013	0.0073	0.34	0.000015	< 0.000007	0.55	0.0000070	0.00100	0.0026	**0.0025**	**0.41**
E5-4	Esker 5	Sand and gravel	7.3	58	27	< 2	< 0.00001	0.000039	0.59	0.0012	0.0077	0.40	0.000021	< 0.000007	0.25	0.000015	0.00087	0.0033	0.0019	**0.41**
		MINIMUM	6.6	33	16	<2	<0.00001	0.000028	0.48	0.0010	0.0039	0.31	0.000015	<0.000007	0.050	<0.000003	0.00068	0.0026	0.0019	0.41
		MAXIMUM	7.3	58	28	<2	<0.00001	0.000039	1.6	0.0019	0.0077	0.43	0.000028	<0.000007	0.55	0.000015	0.0013	0.0047	0.0025	0.50
		MEDIAN	7.1	54	27	nc	nc	0.000036	0.66	0.0013	0.0070	0.37	0.000019	nc	0.20	0.0000070	0.00093	0.0038	0.0021	0.45
		AVERAGE	7.0	50	24	nc	nc	0.000035	0.86	0.0014	0.0064	0.37	0.000020	nc	0.25	0.0000080	0.00097	0.0037	0.0021	0.45
		STANDARD DEVIATION	0.26	9.9	4.8	nc	nc	0.0000042	0.45	0.00034	0.0015	0.045	0.0000051	nc	0.19	0.0000044	0.00023	0.00081	0.00028	0.038
		75TH PERCENTILE	7.2	57	27	nc	nc	0.000038	0.95	0.0015	0.0074	0.40	0.000023	nc	0.33	0.0000090	0.0011	0.0044	0.0024	0.48
E6-1	Esker 6	Gravel with sand	7.3	68	33	< 2	< 0.00001	0.000023	0.60	0.0013	0.0050	0.40	0.000014	< 0.000007	0.27	< 0.000003	0.00083	0.0022	0.0011	**0.33**
E6-2	Esker 6	Sand with gravel	6.7	74	38	< 2	< 0.00001	0.000057	1.0	0.0011	0.0059	0.29	0.000015	< 0.000007	0.82	0.000010	0.00061	0.0023	0.0019	**0.64**
E6-3	Esker 6	Gravel and sand	7.3	70	34	< 2	< 0.00001	0.000024	0.68	0.0013	0.010	0.35	0.000026	< 0.000007	0.78	0.0000030	0.00085	0.0019	0.0015	**0.43**
E6-4	Esker 6	Gravel and sand	**6.2**	40	17	< 2	0.000010	0.000059	1.3	0.0013	0.0040	0.46	0.000013	< 0.000007	0.070	0.000014	0.00056	0.0033	**0.0027**	**0.56**
		MINIMUM	6.2	40	17	<2	< 0.00001	0.000023	0.60	0.0011	0.0040	0.29	0.000013	<0.000007	0.070	< 0.000003	0.00056	0.0019	0.0011	0.33
		MAXIMUM	7.3	74	38	<2	0.000010	0.000059	1.3	0.0013	0.010	0.46	0.000026	<0.000007	0.82	0.000014	0.00085	0.0033	0.0027	0.64
		MEDIAN	7.0	69	34	nc	nc	0.000041	0.86	0.0013	0.0055	0.37	0.000015	nc	0.53	0.0000065	0.00072	0.0023	0.0017	0.49
		AVERAGE	6.9	63	31	nc	nc	0.000041	0.91	0.0013	0.0063	0.37	0.000017	nc	0.49	0.0000075	0.00071	0.0024	0.0018	0.49
		STANDARD DEVIATION	0.46	13	8.0	nc	nc	0.000017	0.29	0.000087	0.0023	0.065	0.0000052	nc	0.32	0.0000047	0.00013	0.00052	0.00061	0.12
		75TH PERCENTILE	7.3	71	35	nc	nc	0.000058	1.1	0.0013	0.0069	0.41	0.000018	nc	0.79	0.000011	0.00083	0.0025	0.0021	0.58

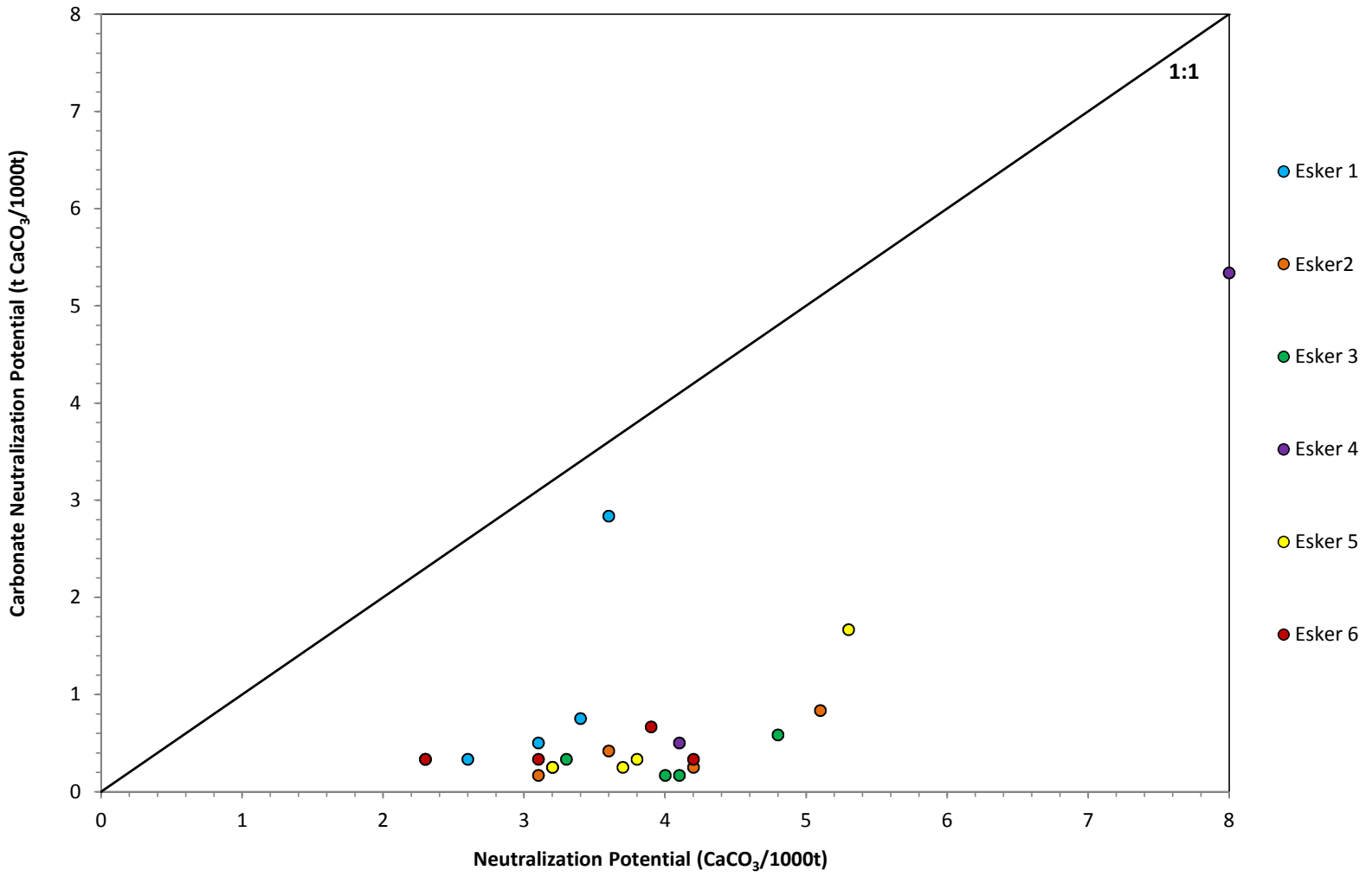
Notes:
1- CCME Freshwater Guidelines, CEQG (2007), based on total metal concentrations
2 - MMER (DFO 2006) criteria are based on total metal concentrations and are maximum authorized monthly mean concentrations
Bolded values = values above CCME Freshwater Guideline
Bolded and shaded values = values above MMER Guideline
nc = not calculated

CCME (for the Protection of Freshwater Aquatic Life)[1]							**0.073**		**0.025**	**0.001**		**0.001**					**0.0008**	**0.015**		
MMER (monthly mean concentration)[2]									**0.5**	**0.2**										**0.5**
Sample ID	**Location**	**Primary composition**	**K**	**Li**	**Mg**	**Mn**	**Mo**	**Na**	**Ni**	**Pb**	**Sb**	**Se**	**Si**	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**
			mg/L	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
E1-1	Esker 1	Gravel and sand	4.0	0.00088	0.86	0.010	0.0018	9.7	0.00060	0.00037	0.0010	< 0.001	5.7	0.000030	0.0061	0.0045	0.0000050	0.000093	0.00061	< 0.001
E1-2	Esker 1	Sand with gravel	0.85	0.00052	0.10	0.035	0.0011	9.1	0.0012	0.00087	0.0015	< 0.001	5.2	0.000030	0.00050	0.0076	< 0.000005	0.00016	0.0013	0.0020
E1-3	Esker 1	Sand with gravel	1.7	0.00093	0.18	0.027	0.00035	12	0.0013	0.00078	0.0010	< 0.001	11	0.000030	0.0010	0.014	0.0000060	0.00020	0.0012	0.0070
E1-4	Esker 1	Sand and gravel	0.96	0.00050	0.13	0.030	0.00072	8.3	0.0013	**0.0017**	0.0010	< 0.001	6.7	0.000050	0.00070	0.0076	0.0000060	0.00013	0.0014	0.0030
E1-5	Esker 1	Gravel with sand	1.4	0.00065	0.20	0.046	0.00099	7.7	0.0020	**0.0023**	0.00090	< 0.001	5.6	0.000010	0.0010	0.0093	< 0.000005	0.00013	0.0013	0.0030
		MINIMUM	0.85	0.00050	0.10	0.010	0.00035	7.7	0.00060	0.00037	0.00090	<0.001	5.2	0.000010	0.00050	0.0045	< 0.000005	0.000093	0.00061	<0.001
		MAXIMUM	4.0	0.00093	0.86	0.046	0.0018	12	0.0020	0.0023	0.0015	<0.001	11	0.000050	0.0061	0.014	0.0000060	0.00020	0.0014	0.0070
		MEDIAN	1.4	0.00065	0.18	0.030	0.00099	9.1	0.0013	0.00087	0.0010	nc	5.7	0.000030	0.0010	0.0076	0.0000050	0.00013	0.0013	0.0030
		AVERAGE	1.8	0.00070	0.29	0.029	0.00099	9.3	0.0013	0.0012	0.0011	nc	6.8	0.000030	0.0019	0.0086	0.0000054	0.00014	0.0012	0.0032
		STANDARD DEVIATION	1.1	0.00018	0.29	0.011	0.00047	1.3	0.00044	0.00071	0.00021	nc	2.0	0.000013	0.0021	0.0032	0.00000049	0.000037	0.00028	0.0020
		75TH PERCENTILE	1.7	0.00088	0.20	0.035	0.0011	9.7	0.0013	0.0017	0.0010	nc	6.7	0.000030	0.0010	0.0093	0.0000060	0.00016	0.0013	0.0030
E2-1	Esker 2	Sand with gravel	1.0	0.00067	0.18	0.032	0.00048	11	0.0011	**0.0017**	0.00060	< 0.001	7.6	0.000020	0.0011	0.026	0.000012	0.00013	0.0010	0.0040
E2-2	Esker 2	Sand with gravel	0.91	0.0011	0.20	0.030	0.00027	8.0	0.0013	**0.0013**	0.00060	< 0.001	8.5	0.000090	0.0015	0.013	0.000089	0.00033	0.0015	0.0030
E2-3	Esker 2	Sand with gravel	2.1	0.00097	0.34	0.047	0.00039	13	0.0011	**0.0014**	0.00070	< 0.001	10	0.000090	0.0022	0.037	0.000014	0.00022	0.0014	0.0030
E2-4	Esker 2	Sand and gravel	1.6	0.00080	0.18	0.032	0.00075	9.4	0.00090	**0.0014**	0.00070	< 0.001	7.6	0.000040	0.0012	0.030	0.000030	0.00020	0.0012	0.0030
		MINIMUM	0.91	0.00067	0.18	0.030	0.00027	8.0	0.00090	0.0013	0.00060	<0.001	7.6	0.000020	0.0011	0.013	0.000012	0.00013	0.0010	0.0030
		MAXIMUM	2.1	0.0011	0.34	0.047	0.00075	13	0.0013	0.0017	0.00070	<0.001	10	0.000090	0.0022	0.037	0.000089	0.00033	0.0015	0.0040
		MEDIAN	1.3	0.00088	0.19	0.032	0.00044	10	0.0011	0.0014	0.00065	nc	8.0	0.000065	0.0014	0.028	0.000022	0.00021	0.0013	0.0030
		AVERAGE	1.4	0.00090	0.23	0.035	0.00047	11	0.0011	0.0014	0.00065	nc	8.5	0.000060	0.0015	0.026	0.000036	0.00022	0.0013	0.0033
		STANDARD DEVIATION	0.49	0.00018	0.067	0.0068	0.00018	2.0	0.00014	0.00013	0.000050	nc	1.1	0.000031	0.00043	0.0087	0.000031	0.000072	0.00020	0.00043
		75TH PERCENTILE	1.7	0.0010	0.24	0.036	0.00055	12	0.0012	0.0015	0.00070	nc	9.0	0.000090	0.0017	0.031	0.000045	0.00024	0.0014	0.0033
E3-1	Esker 3	Sand	0.31	0.00090	0.40	0.12	0.00033	9.6	0.0037	**0.0013**	0.00060	< 0.001	9.2	0.000030	0.00040	0.018	< 0.000005	0.000057	0.0022	0.0040
E3-2	Esker 3	Sand	0.81	0.0011	0.49	0.069	0.00056	10	0.0046	**0.0016**	0.00050	< 0.001	7.3	0.000050	0.00060	0.014	0.0000060	0.000087	0.0021	0.0040
E3-3	Esker 3	Sand with gravel	0.85	0.00058	0.19	0.032	0.00053	9.0	0.0016	0.00075	0.00060	< 0.001	6.3	0.000020	0.00040	0.0067	< 0.000005	0.00011	0.0012	0.0020
E3-4	Esker 3	Sand	0.47	0.00084	0.41	0.060	0.00030	11	0.0029	**0.0015**	0.00060	< 0.001	8.1	0.000020	0.00080	0.016	0.0000070	0.000070	0.0017	0.0040
E3-5	Esker 3	Sand	0.42	0.00083	0.33	0.063	0.00073	8.2	0.0045	**0.0012**	0.00060	< 0.001	7.2	0.000020	0.00050	0.013	0.0000080	0.000077	0.0018	0.0040
		MINIMUM	0.31	0.00058	0.19	0.032	0.00030	8.2	0.0016	0.00075	0.00050	<0.001	6.3	0.000020	0.00040	0.0067	<0.000005	0.000057	0.0012	0.0020
		MAXIMUM	0.85	0.0011	0.49	0.12	0.00073	11	0.0046	0.0016	0.00060	<0.001	9.2	0.000050	0.00080	0.018	0.0000080	0.00011	0.0022	0.0040
		MEDIAN	0.47	0.00084	0.40	0.063	0.00053	9.6	0.0037	0.0013	0.00060	nc	7.3	0.000020	0.00050	0.014	0.0000060	0.000077	0.0018	0.0040
		AVERAGE	0.57	0.00084	0.36	0.068	0.00049	9.6	0.0035	0.0013	0.00058	nc	7.6	0.000028	0.00054	0.014	0.0000062	0.000079	0.0018	0.0036
		STANDARD DEVIATION	0.22	0.00016	0.098	0.027	0.00016	0.98	0.0011	0.00028	0.000040	nc	0.97	0.000012	0.00015	0.0039	0.0000012	0.000016	0.00034	0.00080
		75TH PERCENTILE	0.81	0.00090	0.41	0.069	0.00056	10	0.0045	0.0015	0.00060	nc	8.1	0.000030	0.00060	0.016	0.0000070	0.000087	0.0021	0.0040
E4-1	Esker 4	Sand with gravel	2.5	0.0012	2.4	0.023	0.0015	8.7	0.0087	0.00056	0.00070	< 0.001	5.4	0.000030	0.014	0.0038	0.000015	0.00013	0.0025	0.0030
E4-2	Esker 4	Sand with gravel	1.1	0.00058	0.37	0.035	0.00029	9.5	0.0038	0.00046	0.00090	< 0.001	6.7	0.000050	0.00060	0.0096	0.000012	0.000052	0.0012	0.0030
		MINIMUM	1.1	0.00058	0.37	0.023	0.00029	8.7	0.0038	0.00046	0.00070	<0.001	5.4	0.000030	0.00060	0.0038	0.000012	0.000052	0.0012	0.0030
		MAXIMUM	2.5	0.0012	2.4	0.035	0.0015	9.5	0.0087	0.00056	0.00090	<0.001	6.7	0.000050	0.014	0.0096	0.000015	0.00013	0.0025	0.0030
		MEDIAN	1.8	0.00090	1.4	0.029	0.00089	9.1	0.0063	0.00051	0.00080	nc	6.0	0.000040	0.0072	0.0067	0.000014	0.000090	0.0019	0.0030
		AVERAGE	1.8	0.00090	1.4	0.029	0.00089	9.1	0.0063	0.00051	0.00080	nc	6.0	0.000040	0.0072	0.0067	0.000014	0.000090	0.0019	0.0030
		STANDARD DEVIATION	0.72	0.00033	1.0	0.0058	0.00060	0.43	0.0025	0.000050	0.000100	nc	0.61	0.000010	0.0066	0.0029	0.0000015	0.000038	0.00063	0.0
		75TH PERCENTILE	2.2	0.0011	1.9	0.032	0.0012	9.3	0.0075	0.00054	0.00085	nc	6.3	0.000045	0.010	0.0081	0.000014	0.00011	0.0022	0.0030
E5-1	Esker 5	Sand with gravel	0.40	0.00039	0.18	0.031	0.00062	6.3	0.0018	0.00045	0.0010	< 0.001	6.2	0.000060	0.00050	0.012	0.0000060	0.00012	0.0019	0.0020
E5-2	Esker 5	Sand	0.39	0.00065	0.17	0.052	0.00018	10.0	0.0022	0.00079	0.00070	< 0.001	7.3	0.000030	0.00040	0.014	< 0.000005	0.000081	0.0011	0.0020
E5-3	Esker 5	Sand with gravel	1.4	0.00062	0.29	0.038	0.00078	9.8	0.0018	0.00077	0.00070	< 0.001	6.4	0.00011	0.00090	0.010	< 0.000005	0.000094	0.00093	0.0020
E5-4	Esker 5	Sand and gravel	1.1	0.00085	0.20	0.034	0.00065	9.8	0.0024	0.00066	0.00080	< 0.001	7.3	0.000020	0.00060	0.0081	< 0.000005	0.000081	0.0011	0.0020
		MINIMUM	0.39	0.00039	0.17	0.031	0.00018	6.3	0.0018	0.00045	0.00070	<0.001	6.2	0.000020	0.00040	0.0081	<0.000005	0.000081	0.00093	0.0020
		MAXIMUM	1.4	0.00085	0.29	0.052	0.00078	10.0	0.0024	0.00079	0.0010	<0.001	7.3	0.00011	0.00090	0.014	0.0000060	0.00012	0.0019	0.0020
		MEDIAN	0.74	0.00064	0.19	0.036	0.00064	9.8	0.0020	0.00072	0.00075	nc	6.9	0.000045	0.00055	0.011	nc	0.000088	0.0011	0.0020
		AVERAGE	0.82	0.00063	0.21	0.039	0.00056	9.0	0.0021	0.00067	0.00080	nc	6.8	0.000055	0.00060	0.011	nc	0.000094	0.0013	0.0020
		STANDARD DEVIATION	0.44	0.00016	0.048	0.0079	0.00023	1.5	0.00026	0.00013	0.00012	nc	0.51	0.000035	0.00019	0.0020	nc	0.000016	0.00038	0.0
		75TH PERCENTILE	1.2	0.00070	0.23	0.041	0.00068	9.9	0.0023	0.00078	0.00085	nc	7.3	0.000073	0.00068	0.012	nc	0.00010	0.0013	0.0020
E6-1	Esker 6	Gravel with sand	1.2	0.00062	0.15	0.022	0.00078	13	0.0015	0.00058	0.00070	< 0.001	6.7	0.000060	0.00060	0.0070	< 0.000005	0.00012	0.00072	0.0010
E6-2	Esker 6	Sand with gravel	3.0	0.00053	0.89	0.026	0.00053	12	0.0018	0.00044	0.00060	< 0.001	5.8	0.000060	0.0028	0.0078	0.0000090	0.00012	0.00092	0.0010
E6-3	Esker 6	Gravel and sand	3.1	0.00084	0.33	0.022	0.00076	12	0.0014	0.00048	0.00060	< 0.001	6.7	0.000040	0.0016	0.0100	< 0.000005	0.000099	0.00091	0.0020
E6-4	Esker 6	Gravel and sand	0.67	0.00045	0.16	0.021	0.00032	7.9	0.0015	0.00042	0.00070	< 0.001	9.8	0.000050	0.00070	0.012	< 0.000005	0.00011	0.0012	0.0020
		MINIMUM	0.67	0.00045	0.15	0.021	0.00032	7.9	0.0014	0.00042	0.00060	<0.001	5.8	0.000040	0.00060	0.0070	<0.000005	0.000099	0.00072	0.0010
		MAXIMUM	3.1	0.00084	0.89	0.026	0.00078	13	0.0018	0.00058	0.00070	<0.001	9.8	0.000060	0.0028	0.012	0.0000090	0.00012	0.0012	0.0020
		MEDIAN	2.1	0.00057	0.24	0.022	0.00065	12	0.0015	0.00046	0.00065	nc	6.7	0.000055	0.0012	0.0089	nc	0.00012	0.00092	0.0015
		AVERAGE	2.0	0.00061	0.38	0.023	0.00060	11	0.0016	0.00048	0.00065	nc	7.2	0.000053	0.0014	0.0093	nc	0.00011	0.00095	0.0015
		STANDARD DEVIATION	1.1	0.00015	0.30	0.0020	0.00019	2.0	0.00015	0.000062	0.000050	nc	1.5	0.0000083	0.00088	0.0021	nc	0.0000095	0.00018	0.00050
		75TH PERCENTILE	3.0	0.00068	0.47	0.023	0.00077	13	0.0016	0.00051	0.00070	nc	7.5	0.000060	0.0019	0.011	nc	0.00012	0.00100	0.0020

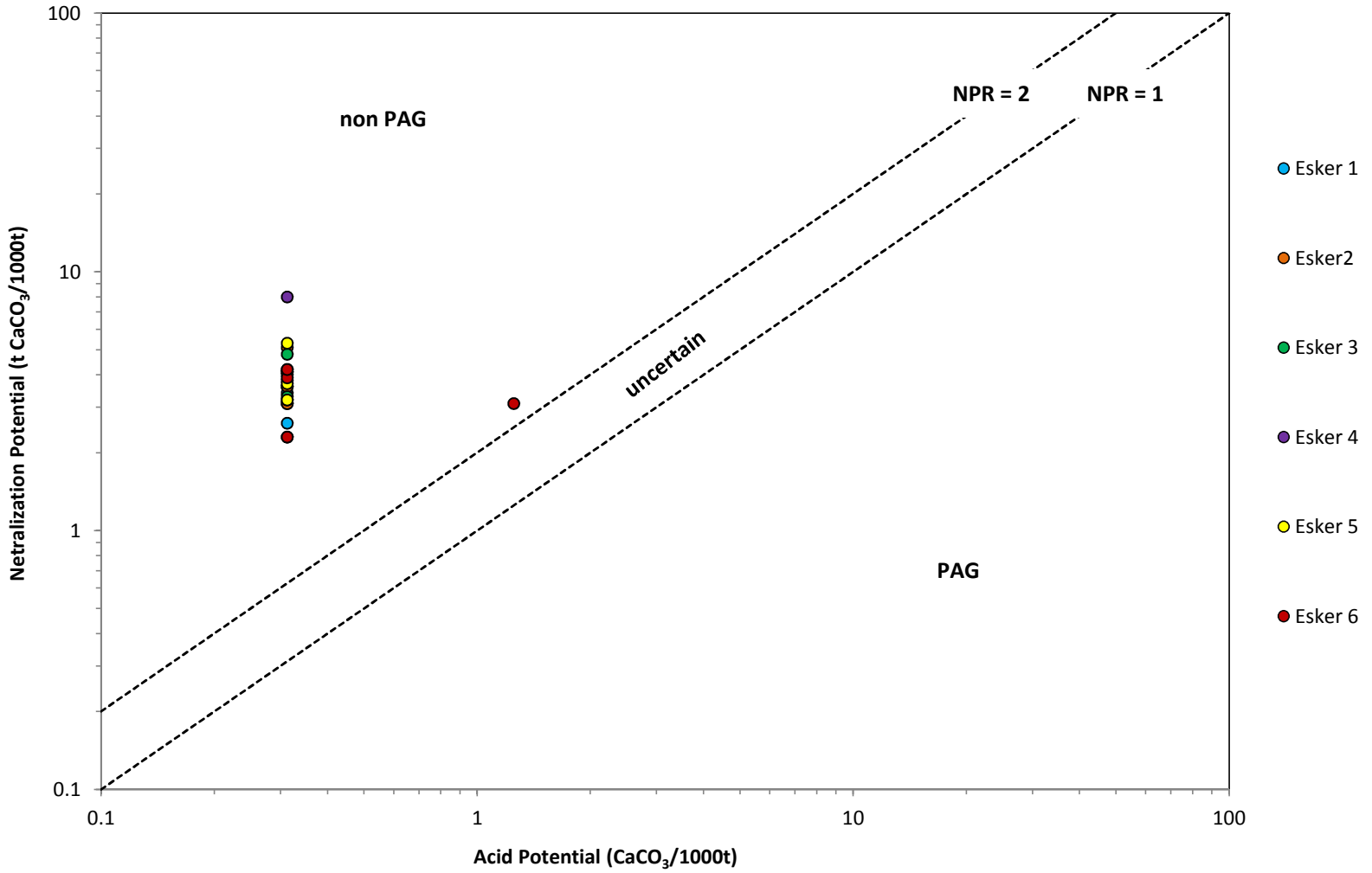
Notes:
1- CCME Freshwater Guidelines, CEQG (2007), based on total metal concentrations
2 - MMER (DFO 2006) criteria are based on total metal concentrations and are maximum authorized monthly mean concentrations
Bolded values = values above CCME Freshwater Guideline
Bolded and shaded values = values above MMER Guideline
nc = not calculated



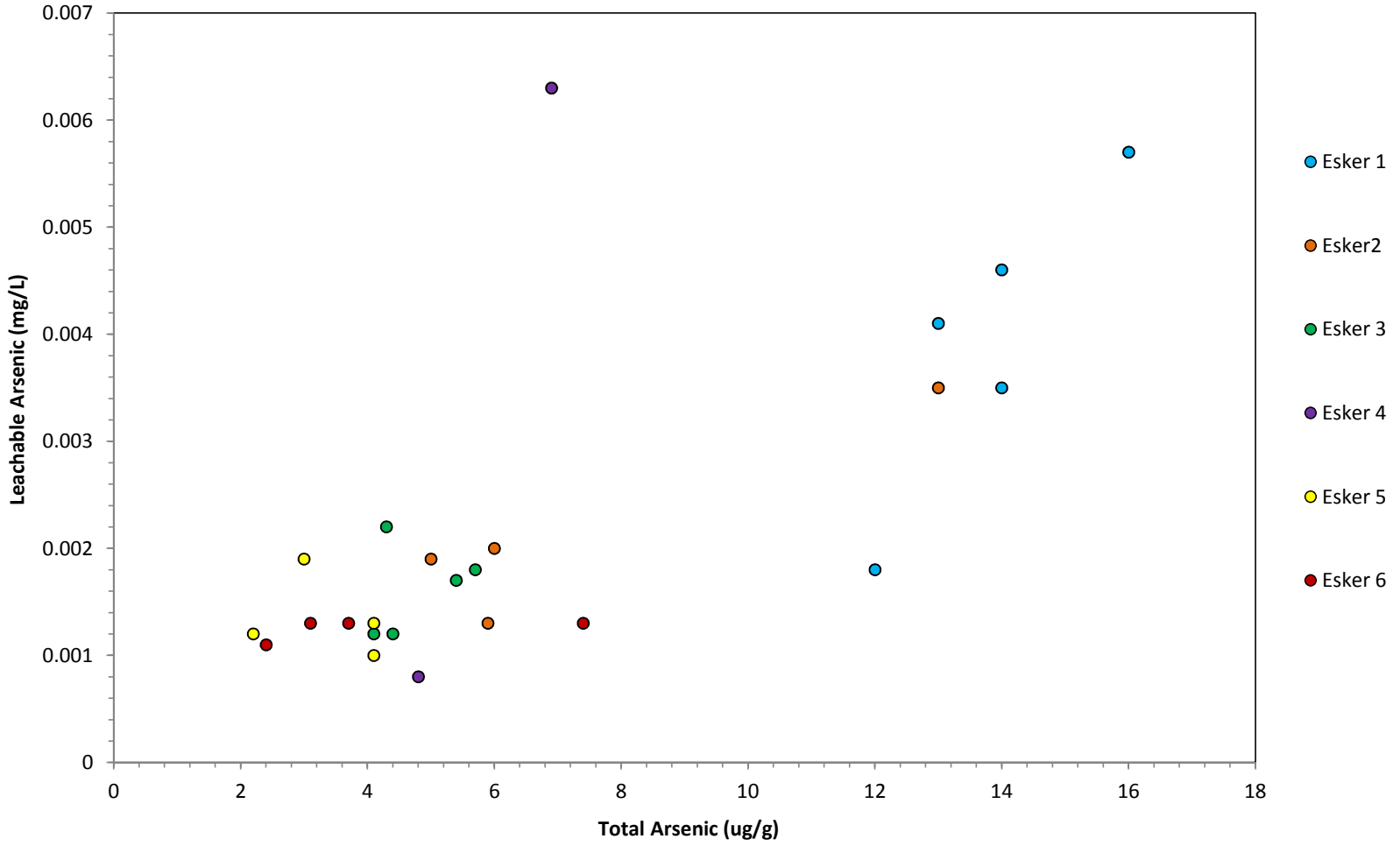
Golder Associates	**IVR Road** **Agnico Eagle Mines Ltd.**	**Total Sulphur versus Sulphide Sulphur** **Esker Static Testing**			
Notes: Values < MDL are plotted as MDL		Prepared	NW	Date	Dec-14	Project N°	14-12623
		Checked	JMC				
		Reviewed	VJB			Figure	**A-1**



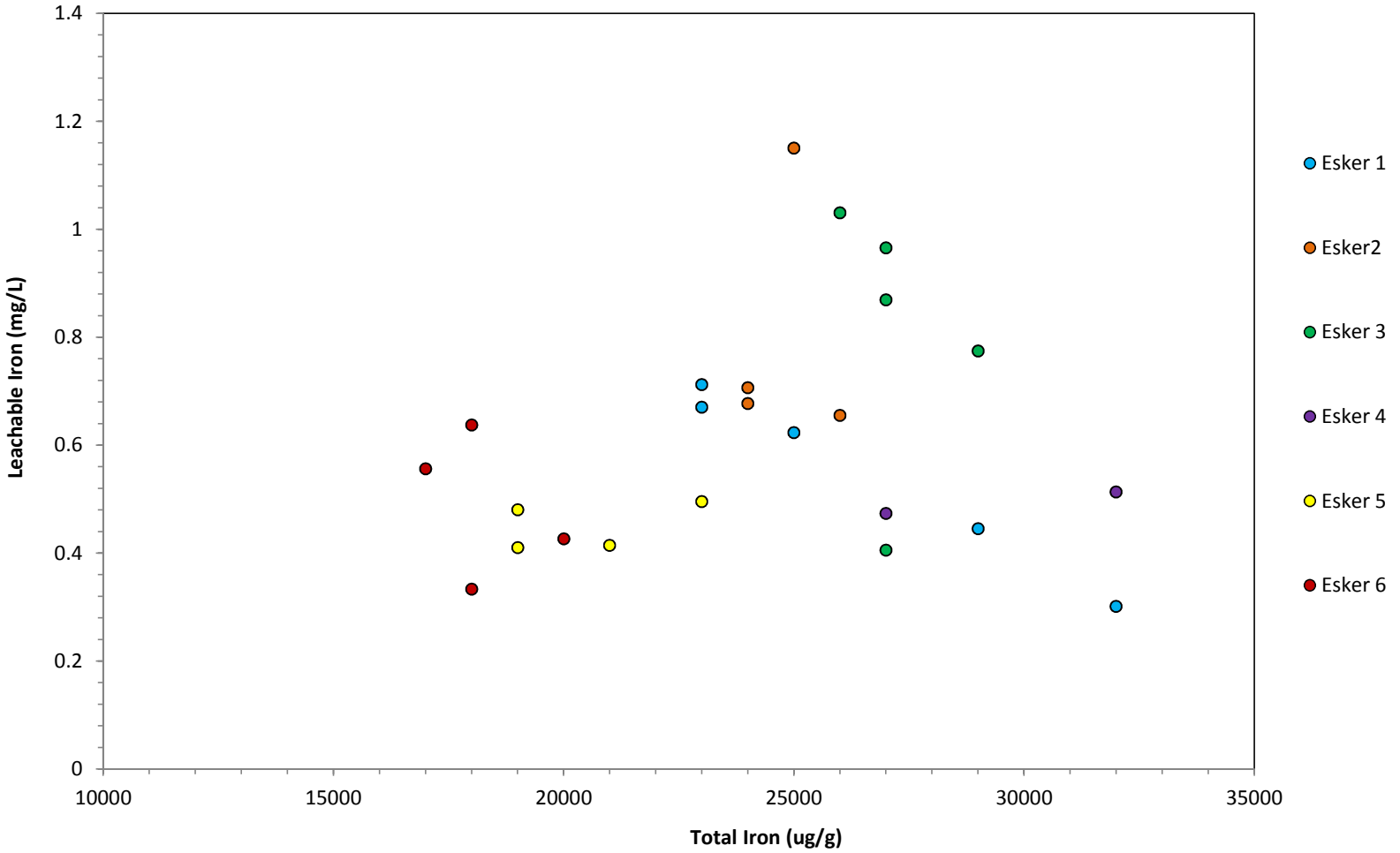
Golder Associates	**IVR Road** **Agnico Eagle Mines Ltd.**	**Neutralization Potential versus Carbonate Neutralization Potential** **Esker Static Testing**		
Notes: Values < MDL are plotted as MDL	Prepared NW	Date Dec-14	Project N° 14-12623	
	Checked JMC			
	Reviewed VJB		Figure **A-2**	



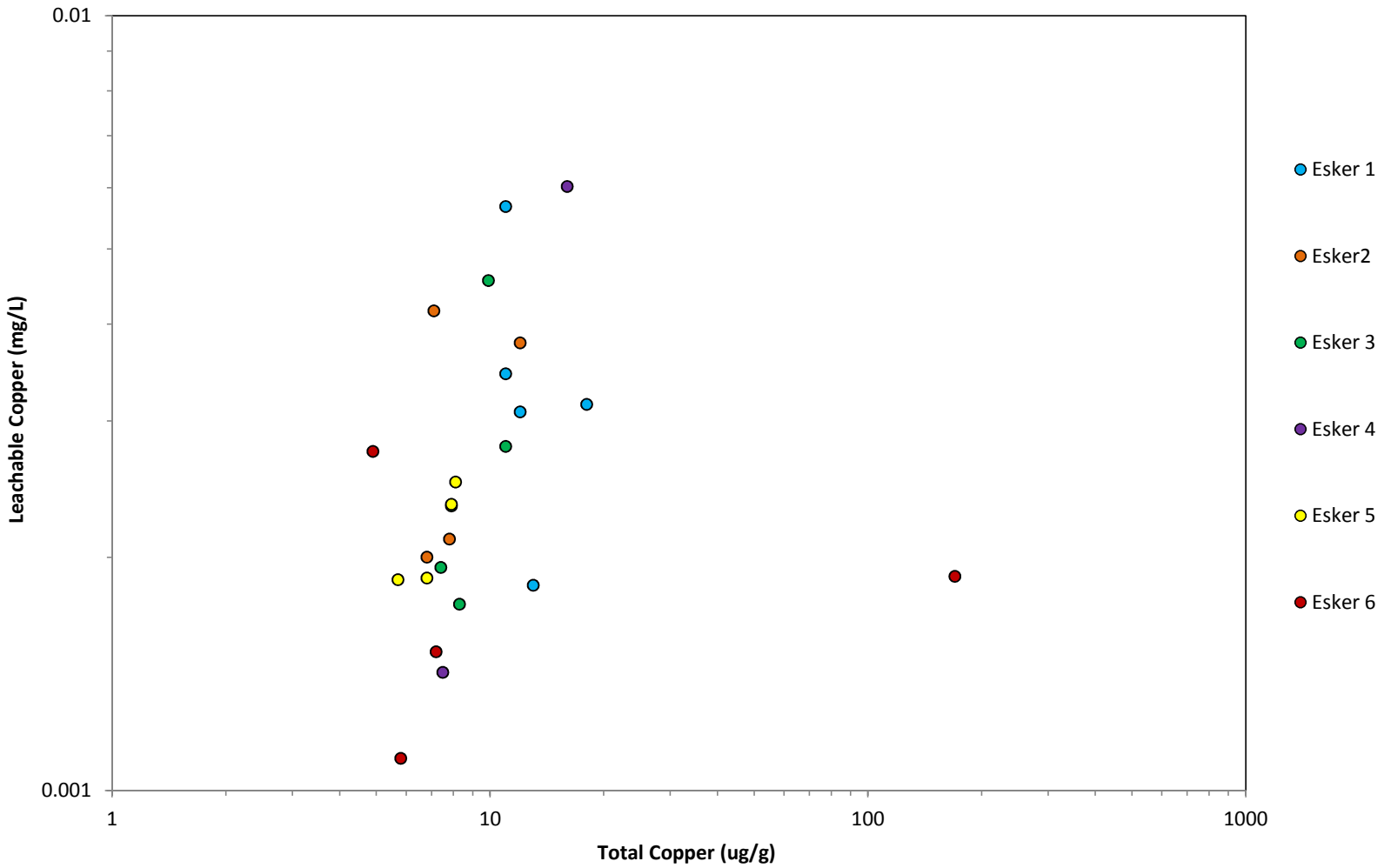
Golder Associates	IVR Road Agnico Eagle Mines Ltd.	Acid Potential versus Neutralization Potential Esker Static Testing			
Notes: Values < MDL are plotted as MDL		Prepared	NW	Date: Dec-14	Project N°: 14-12623
		Checked	JMC		
		Reviewed	VJB		Figure: A-3



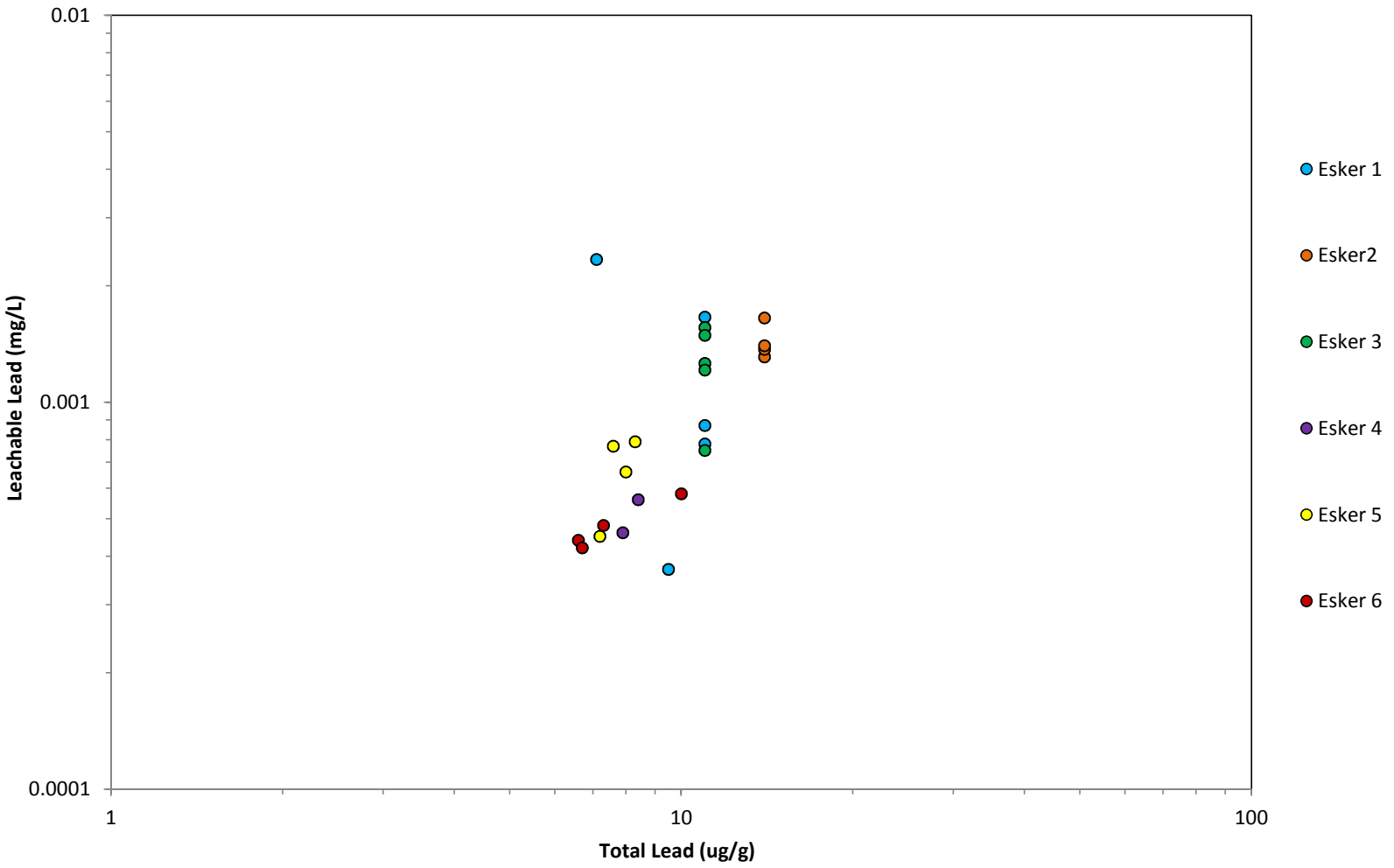
Golder Associates	**IVR Road** **Agnico Eagle Mines Ltd.**	**Total Arsenic versus Leachable Arsenic** **Esker Static Testing**			
Notes: Values < MDL are plotted as MDL	Prepared	NW	Date Dec-14	Project N°	14-12623
	Checked	JMC			
	Reviewed	VJB		Figure	**A-4**



Golder Associates	**IVR Road** **Agnico Eagle Mines Ltd.**	**Total Iron versus Leachable Iron** **Esker Static Testing**			
Notes: Values < MDL are plotted as MDL	Prepared	NW	Date Dec-14	Project N°	14-12623
	Checked	JMC			
	Reviewed	VJB		Figure	**A-5**



Golder Associates	**IVR Road** **Agnico Eagle Mines Ltd.**	**Total Copper versus Leachable Copper** **Esker Static Testing**			
Notes: Values < MDL are plotted as MDL		Prepared	NW	Date	Dec-14	Project N°	14-12623
		Checked	JMC				
		Reviewed	VJB			Figure	**A-6**



Golder Associates	IVR Road Agnico Eagle Mines Ltd.	Total Lead versus Leachable Lead Esker Static Testing			
Notes: Values < MDL are plotted as MDL	Prepared	NW	Date	Dec-14	Project N° 14-12623
	Checked	JMC			
	Reviewed	VJB			Figure A-7

ATTACHMENT B

Quality Assurance / Quality Control Assessment

CCME (for the Protection of Freshwater Aquatic Life)[1]		6.5-9				0.000026	0.0001		0.005		1.5				0.00009			0.002	0.3					0.073		0.025	0.001		0.001				0.0008	0.015		
Sample ID	Location	Final pH	Alkalinity	Conductivity	SO4	Hg	Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn
		units	mg/L CaCO3	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MDL[2]		---	2	2	2	0.00001	0.000002	0.01	0.0002	0.00002	0.0002	0.000007	0.000007	0.02	0.000003	0.000004	0.00003	0.00002	0.002	0.002	0.000006	0.003	0.00001	0.00001	0.01	0.0001	0.00001	0.0002	0.001	0.02	0.00001	0.0002	0.00005	0.000005	0.000002	0.00001	0.001
E2-1	Esker 2	6.7	30	60	< 2	< 0.00001	0.000031	0.81	0.0013	0.0089	0.41	0.000027	< 0.000007	0.70	< 0.000003	0.00074	0.0019	0.0020	***0.68***	1.0	0.00067	0.18	0.032	0.00048	11	0.0011	***0.0017***	0.00060	< 0.001	7.6	0.000020	0.0011	0.026	0.000012	0.00013	0.0010	0.0040
E2-1-DUP	Esker 2	6.6	33	63	< 2	0.000010	0.000028	0.86	0.0020	0.0054	0.38	0.000026	0.000021	0.16	0.000043	0.00034	0.0019	***0.0022***	***0.51***	1.1	0.00046	0.12	0.015	0.00081	13	0.00070	0.00058	0.00040	< 0.001	7.0	0.000070	0.00070	0.021	0.0000080	0.00016	0.0010	0.0020
RPD[3]		-	9.5	4.9	-	-	10	6	**42**	**49**	7	<MDL	-	**126**	-	**75**	2	11	28	6	**38**	**37**	**71**	**51**	12	**44**	**96**	<MDL	-	7	**>MDL**	**>MDL**	19	<MDL	19	0	**>MDL**
E2-2	Esker 2	***6.2***	26	51	< 2	< 0.00001	0.000029	0.57	0.0035	0.0067	0.43	0.000022	0.000011	0.97	< 0.000003	0.00099	0.0016	***0.0038***	***0.66***	0.91	0.0011	0.20	0.030	0.00027	8.0	0.0013	***0.0013***	0.00060	< 0.001	8.5	0.000090	0.0015	0.013	0.000089	0.00033	0.0015	0.0030
E2-2-DUP	Esker 2	***6.0***	31	68	< 2	0.000010	0.000033	0.73	***0.0090***	0.018	0.44	0.000080	0.00016	0.68	0.0000080	0.0018	0.0049	***0.0064***	***0.88***	1.6	0.0023	0.32	0.059	0.00044	14	0.0032	0.0028	0.00040	< 0.001	7.4	0.00012	0.0015	0.050	0.000024	0.00046	0.0025	0.0060
RPD[3]		-	18	29	-	-	13	25	**88**	**91**	2	**>MDL**	**>MDL**	**35**	-	**57**	**102**	**51**	29	**55**	**66**	**46**	**67**	**48**	**51**	**84**	**72**	<MDL	-	13	29	0	**117**	**>MDL**	34	**49**	**>MDL**
E2-3	Esker 2	***6.3***	37	72	< 2	< 0.00001	0.000020	1.2	0.0019	0.012	0.49	0.000032	0.000014	0.82	0.000040	0.00076	0.0023	***0.0042***	***1.2***	2.1	0.00097	0.34	0.047	0.00039	13	0.0011	***0.0014***	0.00070	< 0.001	10	0.000090	0.0022	0.037	0.000014	0.00022	0.0014	0.0030
E2-3-DUP	Esker 2	***6.2***	32	72	4.4	0.000010	0.000034	0.50	0.0020	0.0041	0.32	0.000020	0.000029	0.12	0.0000080	0.00038	0.0016	***0.0051***	***0.49***	1.6	0.00035	0.076	0.021	0.00053	12	0.0010	0.00066	0.00060	< 0.001	6.1	0.000070	0.00090	0.019	0.0000060	0.00016	0.00098	0.016
RPD[3]		-	14	0	-	-	**52**	**84**	5	**100**	**42**	**>MDL**	**>MDL**	**149**	**>MDL**	**66**	**39**	20	**80**	31	**95**	**127**	**75**	30	10	10	**70**	<MDL	-	**52**	25	**>MDL**	**64**	**>MDL**	30	34	**>MDL**
E2-4	Esker 2	6.8	25	56	< 2	< 0.00001	0.000045	0.98	0.0020	0.011	0.38	0.000039	< 0.000007	0.53	0.000028	0.00064	0.0018	***0.0021***	***0.71***	1.6	0.00080	0.18	0.032	0.00075	9.4	0.00090	***0.0014***	0.00070	< 0.001	7.6	0.000040	0.0012	0.030	0.000030	0.00020	0.0012	0.0030
E2-4-DUP	Esker 2	6.7	32	71	< 2	< 0.00001	0.000046	0.93	0.0021	0.0084	0.38	0.000036	0.000032	0.30	0.0000080	0.00044	0.0017	***0.0022***	***0.63***	2.9	0.00062	0.16	0.022	0.00082	13	0.00080	0.00096	0.00040	< 0.001	7.5	0.000060	0.0011	0.026	0.000013	0.00020	0.0011	0.0060
RPD[3]		-	25	24	-	-	2	5	5	23	0	8	-	**55**	**>MDL**	**37**	6	3	12	**60**	26	12	**38**	9	34	12	**37**	**>MDL**	-	1	**>MDL**	9	14	**>MDL**	0	9	**>MDL**
E3-1	Esker 3	6.7	24	46	< 2	< 0.00001	0.000019	0.92	0.0017	0.0069	0.43	0.000016	< 0.000007	0.25	0.000010	0.0019	0.0097	***0.0023***	***1.0***	0.31	0.00090	0.40	0.12	0.00033	9.6	0.0037	***0.0013***	0.00060	< 0.001	9.2	0.000030	0.00040	0.018	< 0.000005	0.000057	0.0022	0.0040
E3-1-DUP	Esker 3	6.7	24	42	< 2	< 0.00001	0.000031	0.97	0.0029	0.0029	0.26	0.000020	0.000018	0.050	< 0.000003	0.00083	0.0083	***0.0022***	***0.65***	0.21	0.00040	0.34	0.047	0.00060	5.6	0.0031	0.00058	0.00050	< 0.001	6.4	0.000060	0.00050	0.014	< 0.000005	0.000066	0.0030	0.0020
RPD[3]		-	0	9.1	-	-	**48**	5	**52**	**82**	**49**	<MDL	-	**>MDL**	-	**78**	16	6	**45**	**40**	**78**	16	**84**	**58**	**52**	18	**74**	<MDL	-	**36**	**>MDL**	<MDL	30	-	15	31	**>MDL**
E3-4	Esker 3	6.8	29	63	< 2	< 0.00001	0.000049	0.88	0.0012	0.0093	0.41	0.000020	< 0.000007	0.46	< 0.000003	0.0013	0.0062	0.0019	***0.87***	0.47	0.00084	0.41	0.060	0.00030	11	0.0029	***0.0015***	0.00060	< 0.001	8.1	0.000020	0.00080	0.016	0.0000070	0.000070	0.0017	0.0040
E3-4-DUP	Esker 3	6.8	34	60	< 2	< 0.00001	0.000065	1.7	0.0018	0.0030	0.34	0.000022	0.000017	0.46	< 0.000003	0.00051	0.0054	***0.0021***	***0.49***	0.37	0.00035	0.25	0.025	0.00052	9.8	0.0021	0.00042	0.00040	< 0.001	7.1	0.000040	0.0062	0.012	< 0.000005	0.000074	0.0017	0.0040
RPD[3]		-	16	4.9	-	-	28	**61**	**40**	**103**	19	<MDL	-	0	-	**90**	13	7	**56**	23	**83**	**48**	**83**	**54**	12	32	**112**	<MDL	-	13	**>MDL**	**>MDL**	26	-	6	2	<MDL
E3-5	Esker 3	7.6	23	50	< 2	< 0.00001	0.000045	0.66	0.0018	0.010	0.37	0.000025	< 0.000007	0.36	0.0000040	0.0016	0.0072	***0.0028***	***0.77***	0.42	0.00083	0.33	0.063	0.00073	8.2	0.0045	***0.0012***	0.00060	< 0.001	7.2	0.000020	0.00050	0.013	0.0000080	0.000077	0.0018	0.0040
E3-5-DUP	Esker 3	7.5	28	65	< 2	< 0.00001	0.000063	1.1	0.0031	0.0033	0.30	0.000018	0.000013	0.050	< 0.000003	0.00054	0.0051	***0.0023***	***0.41***	0.78	0.00033	0.27	0.018	0.0011	11	0.0030	0.00038	0.00040	< 0.001	5.8	0.000050	0.00040	0.0078	< 0.000005	0.000088	0.0021	0.0020
RPD[3]		-	20	26	-	-	33	**53**	**53**	**101**	21	<MDL	-	**>MDL**	-	**97**	33	18	**61**	**61**	**86**	20	**111**	**40**	30	**40**	**104**	<MDL	-	22	**>MDL**	<MDL	**49**	-	13	18	**>MDL**
E4-2	Esker 4	6.8	27	56	< 2	< 0.00001	0.000071	0.56	0.00080	0.0055	0.36	0.0000090	< 0.000007	0.42	< 0.000003	0.0011	0.0055	0.0014	***0.47***	1.1	0.00058	0.37	0.035	0.00029	9.5	0.0038	0.00046	0.00090	< 0.001	6.7	0.000050	0.00060	0.0096	0.000012	0.000052	0.0012	0.0030
E4-2-DUP	Esker 4	6.7	34	77	< 2	0.000010	0.000094	1.1	0.0019	0.0034	0.30	0.000016	0.000014	0.070	0.000019	0.00068	0.0070	0.0017	***0.59***	1.3	0.00026	0.23	0.023	0.00041	9.5	0.0037	0.00043	0.00050	< 0.001	6.0	0.000080	0.00040	0.014	< 0.000005	0.000075	0.0019	0.0020
RPD[3]		-	23	32	-	-	28	**67**	**>MDL**	**47**	15	<MDL	-	**>MDL**	-	**46**	25	18	23	18	**76**	**47**	**40**	34	0	3	7	**>MDL**	-	10	**46**	<MDL	**39**	-	**36**	**42**	<MDL
E5-2	Esker 5	6.6	26	52	< 2	< 0.00001	0.000034	0.73	0.0010	0.0068	0.43	0.000028	< 0.000007	0.15	< 0.000003	0.0013	0.0047	***0.0023***	***0.50***	0.39	0.00065	0.17	0.052	0.00018	10.0	0.0022	0.00079	0.00070	< 0.001	7.3	0.000030	0.00040	0.014	< 0.000005	0.000081	0.0011	0.0020
E5-2-DUP	Esker 5	6.5	30	62	< 2	< 0.00001	0.000025	0.72	0.0013	0.0027	0.40	0.000018	0.000012	0.080	< 0.000003	0.00036	0.0029	0.0018	***0.29***	0.68	0.00027	0.12	0.013	0.00022	14	0.0012	0.00026	0.00030	< 0.001	6.4	0.000070	0.00030	0.0084	< 0.000005	0.000067	0.00083	0.0010
RPD[3]		-	14	18	-	-	31	1	26	**87**	6	**>MDL**	-	**>MDL**	-	**115**	**48**	26	**53**	**55**	**83**	**36**	**117**	20	32	**59**	**101**	**>MDL**	-	13	**>MDL**	<MDL	**47**	-	19	26	<MDL
E5-4	Esker 5	7.3	27	58	< 2	< 0.00001	0.000039	0.59	0.0012	0.0077	0.40	0.000021	< 0.000007	0.25	0.000015	0.00087	0.0033	0.0019	***0.41***	1.1	0.00085	0.20	0.034	0.00065	9.8	0.0024	0.00066	0.00080	< 0.001	7.3	0.000020	0.00060	0.0081	< 0.000005	0.000081	0.0011	0.0020
E5-4-DUP	Esker 5	7.0	18	38	< 2	< 0.00001	0.000048	0.90	0.0015	0.0049	0.28	0.000033	0.000013	0.26	0.0000040	0.00055	0.0040	0.0018	***0.51***	1.2	0.00052	0.28	0.021	0.00076	12	0.0026	0.00046	0.00040	< 0.001	7.0	0.000060	0.00080	0.013	0.000011	0.00010	0.0014	0.0020
RPD[3]		-	**40**	**42**	-	-	21	**42**	22	**44**	33	**>MDL**	-	4	**>MDL**	**44**	20	2	22	11	**47**	32	**46**	16	16	8	**36**	**>MDL**	-	3	**>MDL**	<MDL	**49**	-	25	20	<MDL

Notes:

1- CCME Freshwater Guidelines, CEQG (2007), based on total metal concentrations

value above criteria

2- MDL: Method detection limit

3- RPD: Relative Percent cifference. The RPD is calculated per USEPA (1994) and reported as follows:

##	The RPD is greater than 35% (USEPA control limit). An RPD is calculated only when both concentrations are greater or equal to five times the method detection limit (MDL) .
>MDL	The absolute difference between two sample values is greater than the MDL value. This applies where one or both samples are between the MDL and 5x the MDL.
-	One or both values are below the MDL and the evaluation is not be completed.

ATTACHMENT C

SGS Laboratory Certificates of Analysis

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22-October-2014

Agnico Eagle Mines Limited
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Baker Lake
, Nunavut
X0C 0A0,

Phone: (819) 759-3555
Fax:(819) 759-3663

Date Rec. : 06 October 2014
LR Report: **CA12161-OCT14**
Reference: OP-408779

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
5: E1-1	Sep-14	75.3	11.0	5.34	1.91	0.84	1.83	2.12	0.36	0.11	0.04	0.03	< 0.01	2.20	101.0
6: E1-2	Sep-14	75.2	12.0	4.70	1.66	0.52	1.97	2.58	0.39	0.11	0.03	0.02	0.01	2.14	101.3
7: E1-3	Sep-14	76.5	11.4	3.84	1.33	0.45	1.71	2.68	0.36	0.07	0.02	0.03	< 0.01	2.84	101.2
8: E1-4	Sep-14	78.4	10.5	4.22	1.47	0.47	1.57	2.17	0.32	0.08	0.02	0.02	< 0.01	2.17	101.4
9: E1-5	Sep-14	78.8	10.1	3.95	1.45	0.48	1.60	2.23	0.34	0.08	0.03	0.02	0.02	1.93	101.0
10: E2-1	Sep-14	73.1	12.6	4.19	1.18	1.44	2.86	3.34	0.41	0.11	0.05	0.02	< 0.01	1.72	101.1
11: E2-2	Sep-14	74.0	12.0	4.27	1.29	1.09	2.37	3.17	0.40	0.12	0.03	0.02	0.01	2.09	100.8
12: E2-3	Sep-14	72.8	12.7	4.40	1.29	1.25	2.92	3.31	0.41	0.13	0.04	0.03	< 0.01	2.00	101.2
13: E2-4	Sep-14	74.9	12.0	3.95	0.99	1.14	2.80	3.18	0.37	0.10	0.03	0.03	< 0.01	1.57	101.0
14: E3-1	Sep-14	70.6	13.2	4.31	2.91	1.07	2.89	3.20	0.34	0.10	0.06	0.04	0.01	2.40	101.1
15: E3-2	Sep-14	70.4	13.1	4.68	3.17	1.13	2.85	2.99	0.35	0.10	0.04	0.04	< 0.01	2.40	101.3
16: E3-3	Sep-14	70.4	12.9	4.46	2.95	1.09	3.10	2.73	0.35	0.09	0.06	0.03	< 0.01	2.37	100.6
17: E3-4	Sep-14	70.4	13.2	4.61	2.91	1.17	2.93	2.89	0.36	0.09	0.05	0.03	0.01	2.67	101.3
18: E3-5	Sep-14	68.8	13.3	4.86	3.38	1.12	2.76	3.03	0.37	0.10	0.05	0.04	< 0.01	2.50	100.4
19: E4-1	Sep-14	67.3	12.2	5.13	5.97	1.65	2.62	2.25	0.35	0.09	0.07	0.08	< 0.01	3.28	101.0
20: E4-2	Sep-14	70.6	12.3	4.64	3.62	1.20	2.81	2.46	0.38	0.09	0.05	0.05	< 0.01	2.96	101.2
21: E5-1	Sep-14	75.4	11.8	3.21	1.91	0.74	2.70	2.85	0.29	0.08	0.03	0.03	< 0.01	2.07	101.0
22: E5-2	Sep-14	73.3	12.4	3.73	2.43	0.81	2.56	3.01	0.30	0.08	0.04	0.03	< 0.01	2.53	101.2
23: E5-3	Sep-14	72.7	12.3	3.56	2.27	1.08	2.86	3.00	0.32	0.09	0.04	0.04	< 0.01	2.13	100.3

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LR Report : **CA12161-OCT14**

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
24: E5-4	Sep-14	73.7	11.6	3.17	1.76	0.88	2.76	2.98	0.29	0.08	0.03	0.03	0.01	1.86	99.2
25: E6-1	Sep-14	75.9	12.1	3.06	1.35	0.84	2.71	3.31	0.25	0.07	0.02	0.03	< 0.01	1.74	101.4
26: E6-2	Sep-14	75.0	12.3	3.01	1.39	0.88	2.58	3.24	0.29	0.09	0.03	0.02	< 0.01	2.28	101.1
27: E6-3	Sep-14	76.1	11.4	3.45	1.96	0.90	2.41	2.88	0.30	0.09	0.03	0.04	< 0.01	1.96	101.5
28: E6-4	Sep-14	75.8	11.4	2.92	1.63	0.92	2.45	2.94	0.28	0.07	0.03	0.03	< 0.01	2.29	100.8

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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29-October-2014

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E1-1	6: E1-2	7: E1-3	8: E1-4	9: E1-5	10: E2-1	11: E2-2	12: E2-3	13: E2-4	14: E3-1	15: E3-2
Sample Date & Time			Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Mercury [µg/g]	23-Oct-14	08:31	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Silver [µg/g]	28-Oct-14	15:25	0.15	0.23	0.15	0.13	< 0.01	0.02	0.17	0.18	0.18	0.09	0.13
Aluminum [µg/g]	28-Oct-14	12:40	44000	48000	39000	40000	21000	44000	48000	49000	48000	50000	48000
Arsenic [µg/g]	28-Oct-14	15:24	12	14	14	16	13	5.9	13	5.0	6.0	5.4	4.3
Barium [µg/g]	28-Oct-14	15:24	450	510	510	400	170	520	660	660	640	650	610
Beryllium [µg/g]	28-Oct-14	15:24	1.0	1.1	1.2	1.1	0.50	1.4	1.6	1.7	1.8	1.5	1.5
Bismuth [µg/g]	28-Oct-14	15:24	0.17	0.14	0.19	0.14	0.14	0.15	0.36	0.17	0.18	< 0.09	< 0.09
Calcium [µg/g]	28-Oct-14	12:40	5200	3300	2500	3000	2000	8100	6800	7300	7000	6300	6500
Cadmium [µg/g]	28-Oct-14	15:24	0.17	0.19	0.18	0.15	0.07	0.14	0.21	0.23	0.21	0.16	0.16
Cobalt [µg/g]	28-Oct-14	15:24	11	10	8.3	8.8	9.1	5.7	7.4	5.4	4.8	12	13
Chromium [µg/g]	28-Oct-14	15:24	80	88	81	70	44	24	60	50	51	120	110
Copper [µg/g]	28-Oct-14	15:24	13	18	11	11	12	6.8	12	7.1	7.8	7.9	9.9
Iron [µg/g]	28-Oct-14	12:40	32000	29000	23000	25000	23000	24000	26000	25000	24000	26000	27000
Potassium [µg/g]	28-Oct-14	12:40	17000	21000	21000	17000	5600	20000	26000	25000	26000	26000	24000
Lithium [µg/g]	28-Oct-14	15:25	19	17	17	17	14	13	15	13	14	18	18
Magnesium [µg/g]	28-Oct-14	12:40	9400	8400	6500	7100	6500	5400	6200	5600	4600	15000	16000
Manganese [µg/g]	28-Oct-14	15:25	400	350	300	310	310	340	330	370	320	500	430

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Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E1-1	6: E1-2	7: E1-3	8: E1-4	9: E1-5	10: E2-1	11: E2-2	12: E2-3	13: E2-4	14: E3-1	15: E3-2
Molybdenum [µg/g]	28-Oct-14	15:25	1.1	0.8	1.0	0.7	1.0	0.7	0.8	0.7	0.7	0.5	0.4
Sodium [µg/g]	28-Oct-14	12:39	12000	13000	12000	11000	510	12000	16000	18000	19000	19000	19000
Nickel [µg/g]	28-Oct-14	15:25	48	42	32	39	33	17	30	22	13	89	95
Lead [µg/g]	28-Oct-14	15:25	9.5	11	11	11	7.1	14	14	14	14	11	11
Antimony [µg/g]	28-Oct-14	15:25	< 0.8	2.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	28-Oct-14	15:25	< 0.7	< 0.7	1.1	0.9	1.4	1.3	1.0	1.6	1.1	0.9	1.3
Tin [µg/g]	28-Oct-14	15:25	0.7	0.9	0.9	0.7	< 0.5	1.3	1.2	1.5	1.5	0.9	0.8
Strontium [µg/g]	28-Oct-14	15:25	120	110	88	94	32	130	150	140	130	160	160
Titanium [µg/g]	28-Oct-14	15:25	890	900	840	660	420	1400	1400	1600	1500	1200	1200
Thallium [µg/g]	28-Oct-14	15:25	0.37	0.42	0.48	0.38	0.16	0.42	0.50	0.50	0.49	0.41	0.40
Uranium [µg/g]	28-Oct-14	15:25	2.0	2.2	2.0	1.8	1.7	2.5	2.4	2.5	2.6	1.3	1.4
Vanadium [µg/g]	28-Oct-14	15:25	52	52	45	44	30	29	37	29	26	42	45
Yttrium [µg/g]	28-Oct-14	15:25	6.4	7.2	5.6	5.5	7.5	15	9.8	11	12	5.5	6.1
Zinc [µg/g]	28-Oct-14	15:25	46	43	40	37	35	44	40	44	40	45	46

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	**16: E3-3**	**17: E3-4**	**18: E3-5**	**19: E4-1**	**20: E4-2**	**21: E5-1**	**22: E5-2**	**23: E5-3**	**24: E5-4**	**25: E6-1**	**26: E6-2**	**27: E6-3**	**28: E6-4**
Sample Date & Time	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Mercury [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Silver [µg/g]	0.12	0.10	0.14	0.11	0.13	0.20	0.12	0.13	0.11	0.11	0.08	0.11	0.08
Aluminum [µg/g]	49000	51000	49000	53000	46000	46000	48000	48000	47000	45000	49000	44000	45000
Arsenic [µg/g]	4.1	4.4	5.7	6.9	4.8	3.0	4.1	4.1	2.2	7.4	2.4	3.7	3.1
Barium [µg/g]	570	590	640	490	510	540	560	550	560	550	560	510	540
Beryllium [µg/g]	1.4	1.4	1.5	1.1	1.5	1.3	1.3	1.4	1.5	1.4	1.4	1.4	1.2
Bismuth [µg/g]	< 0.09	< 0.09	0.11	0.16	0.12	0.17	0.14	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	0.47
Calcium [µg/g]	6500	6700	6500	11000	6600	4300	4800	6400	5100	4600	5200	5200	5400
Cadmium [µg/g]	0.17	0.18	0.18	0.16	0.19	0.16	0.16	0.16	0.17	0.15	0.14	0.15	0.13
Cobalt [µg/g]	11	12	14	21	14	7.1	9.9	8.7	6.5	6.5	6.0	8.3	6.2
Chromium [µg/g]	100	110	130	250	160	83	100	94	80	70	66	80	86
Copper [µg/g]	8.3	7.4	11	16	7.5	6.8	7.9	8.1	5.7	5.8	170	7.2	4.9
Iron [µg/g]	27000	27000	29000	32000	27000	19000	23000	21000	19000	18000	18000	20000	17000
Potassium [µg/g]	22000	23000	24000	18000	19000	23000	25000	24000	24000	26000	26000	22000	23000
Lithium [µg/g]	18	17	20	18	15	14	15	15	13	13	15	16	15
Magnesium [µg/g]	15000	15000	17000	31000	19000	9400	12000	12000	8900	6300	6700	9800	7600
Manganese [µg/g]	430	440	470	570	460	320	370	360	320	320	310	310	300

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LR Report : **CA12162-OCT14**

Analysis	16: E3-3	17: E3-4	18: E3-5	19: E4-1	20: E4-2	21: E5-1	22: E5-2	23: E5-3	24: E5-4	25: E6-1	26: E6-2	27: E6-3	28: E6-4
Molybdenum [µg/g]	0.5	1.1	1.5	0.5	0.5	0.5	0.7	0.6	0.6	0.5	0.4	0.5	0.4
Sodium [µg/g]	21000	19000	18000	17000	19000	18000	17000	19000	18000	17000	17000	15000	15000
Nickel [µg/g]	82	77	110	240	130	50	79	63	45	31	32	56	44
Lead [µg/g]	11	11	11	8.4	7.9	7.2	8.3	7.6	8.0	10	6.6	7.3	6.7
Antimony [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	1.2	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	1.1	1.1	1.6	1.3	1.7	1.5	0.9	1.6	1.7	1.6	1.9	2.4	1.7
Tin [µg/g]	0.8	0.9	0.8	0.7	0.9	0.9	0.8	0.9	0.8	1.0	1.1	0.8	0.7
Strontium [µg/g]	160	160	160	150	120	120	120	120	140	110	140	120	110
Titanium [µg/g]	1300	1300	1300	1200	1200	1000	1000	1200	1200	1000	1200	1300	1100
Thallium [µg/g]	0.35	0.36	0.39	0.28	0.34	0.33	0.33	0.32	0.31	0.37	0.29	0.29	0.27
Uranium [µg/g]	1.4	1.4	1.4	1.3	1.4	1.5	1.5	1.8	1.6	2.8	1.4	1.7	1.3
Vanadium [µg/g]	42	43	47	53	45	27	33	33	28	24	27	29	25
Yttrium [µg/g]	6.3	6.0	6.2	7.0	6.3	6.1	5.8	7.5	6.6	6.5	6.5	7.2	5.4
Zinc [µg/g]	46	47	50	46	45	34	36	35	34	33	35	34	31

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ABA - Modified Sobek

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15-October-2014

Date Rec. : 06 October 2014
LR Report: **CA12164-OCT14**
Reference: OP-408779

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E1-1	6: E1-2	7: E1-3	8: E1-4	9: E1-5	10: E2-1	11: E2-2	12: E2-3	13: E2-4	14: E3-1	15: E3-2
Sample Date & Time			Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Paste pH	10-Oct-14	16:23	7.81	7.63	6.71	7.46	7.64	7.28	7.10	6.87	7.35	7.26	8.12
Fizz Rate [---]	10-Oct-14	16:23	1	1	1	1	1	1	1	1	1	1	1
Sample weight [g]	10-Oct-14	16:23	1.96	2.11	2.00	2.13	1.91	2.14	2.00	2.12	1.92	2.11	2.12
HCl added [mL]	10-Oct-14	16:23	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	10-Oct-14	16:23	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	10-Oct-14	16:23	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	10-Oct-14	16:23	18.59	18.57	18.95	19.01	18.82	18.67	18.31	18.46	18.04	18.64	18.26
Final pH	10-Oct-14	16:23	1.03	1.11	1.05	1.09	1.06	1.08	1.05	1.21	1.10	1.15	1.14
NP [t CaCO3/1000 t]	10-Oct-14	16:23	3.6	3.4	2.6	2.3	3.1	3.1	4.2	3.6	5.1	3.2	4.1
AP [t CaCO3/1000 t]	---	---	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	---	---	3.29	3.09	2.29	1.99	2.79	2.79	3.89	3.29	4.79	2.89	3.79
NP/AP [ratio]	---	---	11.6	11.0	8.39	7.42	9.92	10.0	13.5	11.6	16.5	10.3	13.2
Sulphur (total) [%]	14-Oct-14	12:11	0.007	< 0.005	0.006	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	---	---	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulphide [%]	14-Oct-14	12:11	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon (total) [%]	09-Oct-14	14:45	0.156	0.072	0.459	0.136	0.072	0.177	0.307	0.260	0.196	0.131	0.094
Carbonate [%]	09-Oct-14	14:45	0.170	0.045	0.020	0.020	0.030	0.010	0.015	0.025	0.050	0.015	0.010

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*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

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ABA - Modified Sobek

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CERTIFICATE OF ANALYSIS
Final Report

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Sample Date & Time	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Paste pH	7.70	7.42	7.93	8.91	7.55	7.42	7.13	7.78	7.67	7.38	7.05	7.77	6.66
Fizz Rate [---]	1	1	2	1	1	1	1	1	1	1	1	1	1
Sample weight [g]	1.97	2.06	2.02	2.05	2.02	2.08	2.02	2.01	1.96	2.00	2.08	2.01	2.04
HCl added [mL]	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	18.11	18.65	18.40	16.70	18.36	18.67	18.46	17.88	18.54	18.77	18.38	19.07	18.30
Final pH	1.06	1.15	1.18	1.22	1.10	1.03	1.01	1.10	1.10	1.05	1.04	1.00	0.98
NP [t CaCO3/1000 t]	4.8	3.3	4.0	8.0	4.1	3.2	3.8	5.3	3.7	3.1	3.9	2.3	4.2
AP [t CaCO3/1000 t]	0.62	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	1.25	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	4.18	2.99	3.69	7.69	3.79	2.89	3.49	4.99	3.39	1.85	3.59	1.99	3.89
NP/AP [ratio]	7.68	10.6	12.9	25.8	13.2	10.3	12.3	17.1	11.9	2.48	12.6	7.42	13.5
Sulphur (total) [%]	0.024	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.068	< 0.005	0.005	< 0.005
Acid Leachable SO4-S [%]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01	< 0.01
Sulphide [%]	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04	< 0.01	< 0.01	< 0.01
Carbon (total) [%]	0.193	0.248	0.095	0.203	0.347	0.153	0.209	0.116	0.129	0.094	0.263	0.090	0.341
Carbonate [%]	0.035	0.020	0.010	0.320	0.030	0.015	0.020	0.100	0.015	0.020	0.040	0.020	0.020

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*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

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Date Rec. : 06 October 2014
LR Report: **CA12165-OCT14**
Reference: OP-408779

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CERTIFICATE OF ANALYSIS

Final Report

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Sample Date & Time			Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Sample weight [g]	16-Oct-14	09:38	200	200	200	200	200	200	200	200	200	200	200
Volume D.I. Water [mL]	16-Oct-14	09:38	800	800	800	800	800	800	800	800	800	800	800
Initial pH	16-Oct-14	09:38	6.16	6.03	6.07	6.38	6.48	6.13	6.17	6.10	6.09	6.21	6.81
Final pH	16-Oct-14	09:38	7.21	7.24	6.23	6.82	7.52	6.69	6.18	6.30	6.81	6.67	7.35
pH [no unit]	21-Oct-14	11:05	8.51	8.34	8.02	7.96	9.29	8.90	8.51	8.43	9.15	8.97	9.06
Alkalinity [mg/L as CaCO3]	21-Oct-14	11:05	35	23	30	24	23	30	26	37	25	24	28
Conductivity [µS/cm]	21-Oct-14	11:05	84	46	61	45	48	60	51	72	56	46	56
Sulphate [mg/L]	25-Oct-14	10:03	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Mercury [mg/L]	22-Oct-14	08:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	24-Oct-14	15:32	0.000018	0.000034	0.000038	0.000061	0.000038	0.000031	0.000029	0.000020	0.000045	0.000019	0.000046
Aluminum [mg/L]	20-Oct-14	16:25	0.45	1.00	1.11	1.64	0.70	0.81	0.57	1.23	0.98	0.92	0.75
Arsenic [mg/L]	24-Oct-14	15:32	0.0018	0.0046	0.0035	0.0057	0.0041	0.0013	0.0035	0.0019	0.0020	0.0017	0.0022
Barium [mg/L]	24-Oct-14	15:32	0.00691	0.00396	0.00707	0.00451	0.0107	0.00886	0.00668	0.0122	0.0105	0.00692	0.0116
Boron [mg/L]	24-Oct-14	15:32	0.247	0.325	0.473	0.396	0.295	0.407	0.433	0.487	0.382	0.429	0.362
Beryllium [mg/L]	24-Oct-14	15:32	< 0.000007	< 0.000007	0.000019	0.000011	0.000015	0.000027	0.000022	0.000032	0.000039	0.000016	0.000028
Bismuth [mg/L]	24-Oct-14	15:32	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000011	0.000014	< 0.000007	< 0.000007	< 0.000007
Calcium [mg/L]	20-Oct-14	16:25	2.48	0.08	0.33	0.10	0.34	0.70	0.97	0.82	0.53	0.25	0.41
Cadmium [mg/L]	24-Oct-14	15:32	0.000005	0.000007	0.000039	0.000024	0.000010	< 0.000003	< 0.000003	0.000040	0.000028	0.000010	0.000007
Cobalt [mg/L]	24-Oct-14	15:32	0.000386	0.000933	0.000769	0.000883	0.00148	0.000743	0.000994	0.000755	0.000639	0.00188	0.00185
Chromium [mg/L]	24-Oct-14	15:32	0.00099	0.00174	0.00281	0.00225	0.00240	0.00188	0.00161	0.00232	0.00177	0.00973	0.00846

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SFE-24hr 4:1 L/S ratio

LR Report : **CA12165-OCT14**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E1-1	6: E1-2	7: E1-3	8: E1-4	9: E1-5	10: E2-1	11: E2-2	12: E2-3	13: E2-4	14: E3-1	15: E3-2
Copper [mg/L]	24-Oct-14	15:32	0.00184	0.00315	0.00345	0.00567	0.00308	0.00200	0.00378	0.00416	0.00211	0.00233	0.00455
Iron [mg/L]	20-Oct-14	16:25	0.301	0.445	0.670	0.623	0.712	0.677	0.655	1.15	0.706	1.03	0.965
Potassium [mg/L]	20-Oct-14	16:25	3.99	0.853	1.73	0.960	1.44	1.04	0.908	2.14	1.56	0.312	0.811
Lithium [mg/L]	24-Oct-14	15:32	0.000878	0.000519	0.000933	0.000503	0.000650	0.000671	0.00114	0.000965	0.000804	0.000902	0.00107
Magnesium [mg/L]	20-Oct-14	16:25	0.862	0.102	0.178	0.129	0.196	0.181	0.202	0.340	0.179	0.397	0.487
Manganese [mg/L]	24-Oct-14	15:32	0.0102	0.0346	0.0272	0.0296	0.0455	0.0318	0.0295	0.0466	0.0315	0.115	0.0687
Molybdenum [mg/L]	24-Oct-14	15:32	0.00176	0.00113	0.00035	0.00072	0.00099	0.00048	0.00027	0.00039	0.00075	0.00033	0.00056
Sodium [mg/L]	20-Oct-14	16:25	9.69	9.13	11.6	8.34	7.73	11.4	8.02	13.2	9.39	9.58	10.3
Nickel [mg/L]	24-Oct-14	15:32	0.0006	0.0012	0.0013	0.0013	0.0020	0.0011	0.0013	0.0011	0.0009	0.0037	0.0046
Lead [mg/L]	24-Oct-14	15:32	0.00037	0.00087	0.00078	0.00166	0.00234	0.00165	0.00131	0.00137	0.00140	0.00126	0.00156
Antimony [mg/L]	24-Oct-14	15:32	0.0010	0.0015	0.0010	0.0010	0.0009	0.0006	0.0006	0.0007	0.0007	0.0006	0.0005
Selenium [mg/L]	24-Oct-14	15:32	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	20-Oct-14	16:25	5.71	5.19	10.7	6.67	5.58	7.55	8.50	10.3	7.55	9.21	7.29
Tin [mg/L]	24-Oct-14	15:32	0.00003	0.00003	0.00003	0.00005	0.00001	0.00002	0.00009	0.00009	0.00004	0.00003	0.00005
Strontium [mg/L]	20-Oct-14	16:25	0.0061	0.0005	0.0010	0.0007	0.0010	0.0011	0.0015	0.0022	0.0012	0.0004	0.0006
Titanium [mg/L]	24-Oct-14	15:32	0.00451	0.00757	0.0142	0.00762	0.00929	0.0255	0.0130	0.0369	0.0296	0.0184	0.0143
Thallium [mg/L]	24-Oct-14	15:32	0.000005	< 0.000005	0.000006	0.000006	< 0.000005	0.000012	0.000089	0.000014	0.000030	< 0.000005	0.000006
Uranium [mg/L]	24-Oct-14	15:32	0.000093	0.000163	0.000202	0.000126	0.000129	0.000129	0.000330	0.000216	0.000201	0.000057	0.000087
Vanadium [mg/L]	24-Oct-14	15:32	0.00061	0.00129	0.00121	0.00139	0.00131	0.00100	0.00152	0.00138	0.00117	0.00216	0.00208
Zinc [mg/L]	24-Oct-14	15:32	< 0.001	0.002	0.007	0.003	0.003	0.004	0.003	0.003	0.003	0.004	0.004

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Sample Date & Time	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Sample weight [g]	200	200	200	200	200	200	200	200	200	200	200	200	200
Volume D.I. Water [mL]	800	800	800	800	800	800	800	800	800	800	800	800	800
Initial pH	6.71	6.39	6.57	8.10	6.43	6.24	6.20	6.68	6.33	6.33	6.38	6.48	5.84
Final pH	7.14	6.83	7.63	8.71	6.80	6.96	6.63	7.18	7.33	7.29	6.73	7.30	6.18
pH [no unit]	8.67	9.59	9.64	8.96	8.97	7.57	9.10	8.70	9.57	9.26	7.83	8.76	7.55
Alkalinity [mg/L as CaCO3]	26	29	23	44	27	16	26	28	27	33	38	34	17
Conductivity [µS/cm]	48	63	50	104	56	33	52	56	58	68	74	70	40
Sulphate [mg/L]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Mercury [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Silver [mg/L]	0.000060	0.000049	0.000045	0.000020	0.000071	0.000037	0.000034	0.000028	0.000039	0.000023	0.000057	0.000024	0.000059
Aluminum [mg/L]	0.60	0.88	0.66	0.43	0.56	1.62	0.73	0.48	0.59	0.60	1.04	0.68	1.31
Arsenic [mg/L]	0.0012	0.0012	0.0018	0.0063	0.0008	0.0019	0.0010	0.0013	0.0012	0.0013	0.0011	0.0013	0.0013
Barium [mg/L]	0.00398	0.00926	0.0101	0.00518	0.00547	0.00389	0.00675	0.00731	0.00772	0.00504	0.00589	0.0101	0.00402
Boron [mg/L]	0.367	0.414	0.366	0.173	0.355	0.314	0.429	0.340	0.395	0.397	0.286	0.351	0.463
Beryllium [mg/L]	0.000009	0.000020	0.000025	< 0.000007	0.000009	0.000016	0.000028	0.000015	0.000021	0.000014	0.000015	0.000026	0.000013
Bismuth [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
Calcium [mg/L]	0.19	0.46	0.36	5.65	0.42	0.05	0.15	0.55	0.25	0.27	0.82	0.78	0.07
Cadmium [mg/L]	< 0.000003	< 0.000003	0.000004	0.000004	< 0.000003	0.000007	< 0.000003	0.000007	0.000015	< 0.000003	0.000010	0.000003	0.000014
Cobalt [mg/L]	0.000649	0.00134	0.00155	0.00128	0.00108	0.000682	0.00132	0.000996	0.000867	0.000825	0.000612	0.000847	0.000557
Chromium [mg/L]	0.00292	0.00618	0.00716	0.00518	0.00546	0.00428	0.00467	0.00263	0.00326	0.00222	0.00229	0.00191	0.00329

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE-24hr 4:1 L/S ratio

LR Report : **CA12165-OCT14**

Analysis	16: E3-3	17: E3-4	18: E3-5	19: E4-1	20: E4-2	21: E5-1	22: E5-2	23: E5-3	24: E5-4	25: E6-1	26: E6-2	27: E6-3	28: E6-4
Copper [mg/L]	0.00174	0.00194	0.00278	0.00602	0.00142	0.00188	0.00234	0.00250	0.00187	0.00110	0.00189	0.00151	0.00274
Iron [mg/L]	0.405	0.869	0.774	0.513	0.473	0.480	0.495	0.414	0.410	0.333	0.637	0.426	0.556
Potassium [mg/L]	0.853	0.472	0.415	2.51	1.08	0.401	0.390	1.41	1.08	1.18	2.99	3.05	0.670
Lithium [mg/L]	0.000578	0.000842	0.000831	0.00123	0.000575	0.000389	0.000654	0.000624	0.000846	0.000622	0.000526	0.000841	0.000447
Magnesium [mg/L]	0.194	0.410	0.331	2.42	0.367	0.181	0.173	0.294	0.204	0.146	0.889	0.331	0.156
Manganese [mg/L]	0.0319	0.0604	0.0625	0.0233	0.0348	0.0310	0.0515	0.0379	0.0337	0.0219	0.0262	0.0223	0.0210
Molybdenum [mg/L]	0.00053	0.00030	0.00073	0.00149	0.00029	0.00062	0.00018	0.00078	0.00065	0.00078	0.00053	0.00076	0.00032
Sodium [mg/L]	9.01	11.0	8.17	8.66	9.52	6.30	9.97	9.84	9.82	13.0	12.3	12.4	7.91
Nickel [mg/L]	0.0016	0.0029	0.0045	0.0087	0.0038	0.0018	0.0022	0.0018	0.0024	0.0015	0.0018	0.0014	0.0015
Lead [mg/L]	0.00075	0.00149	0.00121	0.00056	0.00046	0.00045	0.00079	0.00077	0.00066	0.00058	0.00044	0.00048	0.00042
Antimony [mg/L]	0.0006	0.0006	0.0006	0.0007	0.0009	0.0010	0.0007	0.0007	0.0008	0.0007	0.0006	0.0006	0.0007
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	6.32	8.08	7.21	5.43	6.65	6.18	7.33	6.42	7.28	6.73	5.78	6.67	9.78
Tin [mg/L]	0.00002	0.00002	0.00002	0.00003	0.00005	0.00006	0.00003	0.00011	0.00002	0.00006	0.00006	0.00004	0.00005
Strontium [mg/L]	0.0004	0.0008	0.0005	0.0137	0.0006	0.0005	0.0004	0.0009	0.0006	0.0006	0.0028	0.0016	0.0007
Titanium [mg/L]	0.00674	0.0159	0.0128	0.00376	0.00961	0.0116	0.0135	0.0100	0.00814	0.00697	0.00784	0.00998	0.0124
Thallium [mg/L]	< 0.000005	0.000007	0.000008	0.000015	0.000012	0.000006	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000009	< 0.000005	< 0.000005
Uranium [mg/L]	0.000106	0.000070	0.000077	0.000128	0.000052	0.000119	0.000081	0.000094	0.000081	0.000120	0.000124	0.000099	0.000113
Vanadium [mg/L]	0.00120	0.00166	0.00178	0.00249	0.00124	0.00191	0.00108	0.00093	0.00111	0.00072	0.00092	0.00091	0.00123
Zinc [mg/L]	0.002	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

0000275320

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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15-October-2014

Agnico Eagle Mines Limited
Attn : Erika Voyer

Baker Lake
, Nunavut
X0C 0A0,

Phone: (819) 759-3555
Fax:(819) 759-3663

Date Rec. : 06 October 2014
LR Report: **CA12166-OCT14**
Reference: OP-408779

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Sample weight g	Vol H2O2 mL	Final pH	NaOH Normality	Vol NaOH to PH 4.5 mL	Vol NaOH to PH 7.0 mL	NAG (pH 4.5) kg H2SO4/tonne	NAG (pH 7.0) kg H2SO4/tonne
3: Analysis Approval Date		10-Oct-14	10-Oct-14	10-Oct-14	10-Oct-14	10-Oct-14	10-Oct-14	10-Oct-14	10-Oct-14
4: Analysis Approval Time		16:24	16:24	16:24	16:24	16:24	16:24	16:24	16:24
5: E1-1	Sep-14	1.5	150	7.69	0.10	0.00	0.00	0.0	0.0
6: E1-2	Sep-14	1.5	150	6.80	0.10	0.00	0.08	0.0	0.3
7: E1-3	Sep-14	1.5	150	6.09	0.10	0.00	0.43	0.0	1.4
8: E1-4	Sep-14	1.5	150	6.41	0.10	0.00	0.22	0.0	0.7
9: E1-5	Sep-14	1.5	150	6.61	0.10	0.00	0.15	0.0	0.5
10: E2-1	Sep-14	1.5	150	6.15	0.10	0.00	0.49	0.0	1.6
11: E2-2	Sep-14	1.5	150	6.34	0.10	0.00	0.30	0.0	1.0
12: E2-3	Sep-14	1.5	150	6.13	0.10	0.00	0.43	0.0	1.4
13: E2-4	Sep-14	1.6	150	6.51	0.10	0.00	0.32	0.0	1.0
14: E3-1	Sep-14	1.5	150	6.68	0.10	0.00	0.10	0.0	0.3
15: E3-2	Sep-14	1.5	150	6.99	0.10	0.00	0.03	0.0	0.1
16: E3-3	Sep-14	1.5	150	6.33	0.10	0.00	0.17	0.0	0.6
17: E3-4	Sep-14	1.5	150	6.54	0.10	0.00	0.22	0.0	0.7
18: E3-5	Sep-14	1.5	150	6.95	0.10	0.00	0.05	0.0	0.2
19: E4-1	Sep-14	1.5	150	8.34	0.10	0.00	0.00	0.0	0.0
20: E4-2	Sep-14	1.5	150	6.75	0.10	0.00	0.08	0.0	0.3
21: E5-1	Sep-14	1.5	150	6.40	0.10	0.00	0.29	0.0	1.0

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NAG Test

LR Report : **CA12166-OCT14**

Sample ID	Sample Date & Time	Sample weight g	Vol H2O2 mL	Final pH	NaOH Normality	Vol NaOH to PH 4.5 mL	Vol NaOH to PH 7.0 mL	NAG (pH 4.5) kg H2SO4/tonne	NAG (pH 7.0) kg H2SO4/tonne
22: E5-2	Sep-14	1.5	150	6.60	0.10	0.00	0.13	0.0	0.4
23: E5-3	Sep-14	1.5	150	7.36	0.10	0.00	0.00	0.0	0.0
24: E5-4	Sep-14	1.5	150	6.44	0.10	0.00	0.26	0.0	0.9
25: E6-1	Sep-14	1.5	150	4.34	0.10	0.05	0.57	0.2	1.9
26: E6-2	Sep-14	1.5	150	6.69	0.10	0.00	0.17	0.0	0.5
27: E6-3	Sep-14	1.5	150	6.67	0.10	0.00	0.18	0.0	0.6
28: E6-4	Sep-14	1.5	150	6.20	0.10	0.00	0.38	0.0	1.2

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

0000265101

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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17-December-2014

Agnico Eagle Mines Limited
Attn : Erika Voyer

Baker Lake,
, X0C 0A0
Phone: (819) 759-3555, Fax:(819) 759-3663

Date Rec. : 04 December 2014
LR Report: **CA12185-DEC14**
Reference: Reassay

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E2-1	6: E2-2	7: E2-3	8: E2-4	9: E3-1	10: E3-4	11: E3-5	12: E4-2	13: E5-2	14: E5-4
Sample Date & Time			Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14	Sep-14
Sample weight [g]	09-Dec-14	15:59	200	200	200	200	200	200	200	200	200	200
Volume D.I. Water [mL]	09-Dec-14	15:59	800	800	800	800	800	800	800	800	800	800
Initial pH	09-Dec-14	15:59	5.69	5.49	5.39	5.60	6.03	6.04	6.18	5.89	5.83	6.03
Final pH	09-Dec-14	15:59	6.58	6.00	6.19	6.70	6.69	6.77	7.52	6.71	6.49	7.03
pH [no unit]	11-Dec-14	11:20	8.49	8.84	8.57	9.44	8.10	9.37	9.48	9.39	9.41	7.78
Alkalinity [mg/L as CaCO3]	11-Dec-14	11:20	33	31	32	32	24	34	28	34	30	18
Conductivity [µS/cm]	11-Dec-14	11:20	63	68	72	71	42	60	65	77	62	38
Sulphate [mg/L]	10-Dec-14	13:41	< 2	< 2	4.4	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Mercury [mg/L]	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Silver [mg/L]	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.000046	0.000031	0.000065	0.000063	0.000094	0.000025	0.000048
Aluminum [mg/L]	10-Dec-14	14:36	0.86	0.73	0.50	0.93	0.97	1.65	1.14	1.12	0.72	0.90
Arsenic [mg/L]	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.0021	0.0029	0.0018	0.0031	0.0019	0.0013	0.0015
Barium [mg/L]	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.00836	0.00291	0.00295	0.00332	0.00338	0.00267	0.00492
Boron [mg/L]	10-Dec-14	14:36	0.380	0.441	0.319	0.381	0.260	0.343	0.297	0.304	0.403	0.282
Beryllium [mg/L]	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.000036	0.000020	0.000022	0.000018	0.000016	0.000018	0.000033
Bismuth [mg/L]	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.000032	0.000018	0.000017	0.000013	0.000014	0.000012	0.000013
Calcium [mg/L]	10-Dec-14	14:36	0.16	0.68	0.12	0.30	0.05	0.46	0.05	0.07	0.08	0.26
Cadmium [mg/L]	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.000008	< 0.000003	< 0.000003	< 0.000003	0.000019	< 0.000003	0.000004
Cobalt [mg/L]	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.000438	0.000825	0.000511	0.000537	0.000675	0.000357	0.000554
Chromium [mg/L]	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.00167	0.00830	0.00540	0.00511	0.00702	0.00285	0.00397

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SFE-24hr 4:1 L/S ratio

LR Report : **CA12185-DEC14**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: E2-1	6: E2-2	7: E2-3	8: E2-4	9: E3-1	10: E3-4	11: E3-5	12: E4-2	13: E5-2	14: E5-4
Copper [mg/L]	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.00217	0.00220	0.00208	0.00232	0.00170	0.00180	0.00184
Iron [mg/L]	10-Dec-14	14:36	0.513	0.877	0.491	0.626	0.650	0.488	0.410	0.594	0.288	0.512
Potassium [mg/L]	10-Dec-14	14:36	1.10	1.59	1.57	2.91	0.207	0.374	0.781	1.29	0.683	1.21
Lithium [mg/L]	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.000619	0.000395	0.000348	0.000332	0.000259	0.000272	0.000523
Magnesium [mg/L]	10-Dec-14	14:36	0.124	0.324	0.076	0.159	0.338	0.251	0.271	0.227	0.120	0.281
Manganese [mg/L]	10-Dec-14	14:36	0.0151	0.0590	0.0212	0.0215	0.0467	0.0249	0.0180	0.0232	0.0134	0.0212
Molybdenum [mg/L]	10-Dec-14	14:36	0.00081	0.00044	0.00053	0.00082	0.00060	0.00052	0.00109	0.00041	0.00022	0.00076
Sodium [mg/L]	10-Dec-14	14:36	12.8	13.5	12.0	13.3	5.61	9.75	11.0	9.52	13.8	11.5
Nickel [mg/L]	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.0008	0.0031	0.0021	0.0030	0.0037	0.0012	0.0026
Lead [mg/L]	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.00096	0.00058	0.00042	0.00038	0.00043	0.00026	0.00046
Antimony [mg/L]	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.0004	0.0005	0.0004	0.0004	0.0005	0.0003	0.0004
Selenium [mg/L]	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	10-Dec-14	14:36	7.03	7.43	6.07	7.45	6.39	7.09	5.76	6.00	6.42	7.04
Tin [mg/L]	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.00006	0.00006	0.00004	0.00005	0.00008	0.00007	0.00006
Strontium [mg/L]	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.0011	0.0005	0.0062	0.0004	0.0004	0.0003	0.0008
Titanium [mg/L]	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.0257	0.0136	0.0122	0.0078	0.0142	0.0084	0.0134
Thallium [mg/L]	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.000013	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000011
Uranium [mg/L]	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.000202	0.000066	0.000074	0.000088	0.000075	0.000067	0.000104
Vanadium [mg/L]	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.00107	0.00295	0.00170	0.00213	0.00190	0.00083	0.00136
Zinc [mg/L]	10-Dec-14	14:36	0.002	0.006	0.016	0.006	0.002	0.004	0.002	0.002	0.001	0.002

Reassay - previous SGS lab report CA12165-OCT4

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

0000310109

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3
Sample Date/Time				Sep-14	Sep-14	Sep-14
Analysis	**Units**					
Sample weight	g	9-Dec-14	15:59	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39
Final pH		9-Dec-14	15:59	6.58	6.00	6.19
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076
Manganese	mg/L	10-Dec-14	14:36	0.0151	0.0590	0.0212
Molybdenum	mg/L	10-Dec-14	14:36	0.00081	0.00044	0.00053
Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3
Sample Date/Time				Sep-14	Sep-14	Sep-14
Analysis	**Units**					
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.0016
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491	0.626
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57	2.91
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
Manganese	mg/L	10-Dec-14	14:36	0.0151	0.0590	0.0212	0.021
Molybdenum	mg/L	10-Dec-14	14:36	0.00081	0.00044	0.00053	0.0008
Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.0016
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491	0.626
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57	2.91
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
Manganese	mg/L	10-Dec-14	14:36	0.0151	0.0590	0.0212	0.021
Molybdenum	mg/L	10-Dec-14	14:36	0.00081	0.00044	0.00053	0.0008
Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
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Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
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Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
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Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
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Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

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Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
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Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
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Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491	0.626
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57	2.91
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
Manganese	mg/L	10-Dec-14	14:36	0.0151	0.0590	0.0212	0.021
Molybdenum	mg/L	10-Dec-14	14:36	0.00081	0.00044	0.00053	0.0008
Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.0016
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491	0.626
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57	2.91
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
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Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.0016
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
Iron	mg/L	10-Dec-14	14:36	0.513	0.877	0.491	0.626
Potassium	mg/L	10-Dec-14	14:36	1.10	1.59	1.57	2.91
Lithium	mg/L	10-Dec-14	14:36	0.000455	0.00227	0.000345	0.0006
Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
Manganese	mg/L	10-Dec-14	14:36	0.0151	0.0590	0.0212	0.021
Molybdenum	mg/L	10-Dec-14	14:36	0.00081	0.00044	0.00053	0.0008
Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
Tin	mg/L	10-Dec-14	14:36	0.00007	0.00012	0.00007	0.0000

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
Final pH		9-Dec-14	15:59	6.58	6.00	6.19	6.70
pH	no unit	11-Dec-14	11:20	8.49	8.84	8.57	9.44
Alkalinity	mg/L as CaCO3	11-Dec-14	11:20	33	31	32	32
Conductivity	µS/cm	11-Dec-14	11:20	63	68	72	71
Sulphate	mg/L	10-Dec-14	13:41	< 2	< 2	4.4	< 2
Mercury	mg/L	10-Dec-14	13:48	0.00001	0.00001	0.00001	< 0.000
Silver	mg/L	10-Dec-14	14:36	0.000028	0.000033	0.000034	0.0000
Aluminum	mg/L	10-Dec-14	14:36	0.86	0.73	0.50	0.93
Arsenic	mg/L	10-Dec-14	14:36	0.0020	0.0090	0.0020	0.002
Barium	mg/L	10-Dec-14	14:36	0.00538	0.0179	0.00406	0.0083
Boron	mg/L	10-Dec-14	14:36	0.380	0.441	0.319	0.381
Beryllium	mg/L	10-Dec-14	14:36	0.000026	0.000080	0.000020	0.0000
Bismuth	mg/L	10-Dec-14	14:36	0.000021	0.000161	0.000029	0.0000
Calcium	mg/L	10-Dec-14	14:36	0.16	0.68	0.12	0.30
Cadmium	mg/L	10-Dec-14	14:36	0.000043	0.000008	0.000008	0.0000
Cobalt	mg/L	10-Dec-14	14:36	0.000337	0.00178	0.000380	0.0004
Chromium	mg/L	10-Dec-14	14:36	0.00192	0.00494	0.00157	0.0016
Copper	mg/L	10-Dec-14	14:36	0.00224	0.00639	0.00506	0.0021
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Magnesium	mg/L	10-Dec-14	14:36	0.124	0.324	0.076	0.159
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Sodium	mg/L	10-Dec-14	14:36	12.8	13.5	12.0	13.3
Nickel	mg/L	10-Dec-14	14:36	0.0007	0.0032	0.0010	0.000
Lead	mg/L	10-Dec-14	14:36	0.00058	0.00279	0.00066	0.0009
Antimony	mg/L	10-Dec-14	14:36	0.0004	0.0004	0.0006	0.000
Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
Silicon	mg/L	10-Dec-14	14:36	7.03	7.43	6.07	7.45
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Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Strontium	mg/L	10-Dec-14	14:36	0.0007	0.0015	0.0009	0.001
Titanium	mg/L	10-Dec-14	14:36	0.0211	0.0497	0.0190	0.025
Thallium	mg/L	10-Dec-14	14:36	0.000008	0.000024	0.000006	0.0000
Uranium	mg/L	10-Dec-14	14:36	0.000156	0.000463	0.000159	0.0002
Vanadium	mg/L	10-Dec-14	14:36	0.00100	0.00251	0.00098	0.001
Zinc	mg/L	10-Dec-14	14:36	0.002	0.006	0.016	0.006

Report No. **CA12185-DEC14**
Customer **Agnico Eagle Mines Limited**
Attention **Erika Voyer**
Reference **Reassay**
SFE Leach
Title **Final Report**

Sample ID		Analysis Approval Date	Analysis Approval Time	E2-1	E2-2	E2-3	E2-4
Sample Date/Time				Sep-14	Sep-14	Sep-14	Sep-14
Analysis	**Units**						
Sample weight	g	9-Dec-14	15:59	200	200	200	200
Volume D.I. Water	mL	9-Dec-14	15:59	800	800	800	800
Initial pH		9-Dec-14	15:59	5.69	5.49	5.39	5.60
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Selenium	mg/L	10-Dec-14	14:36	< 0.001	< 0.001	< 0.001	< 0.00
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