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VOLUME 7 - HUMAN ENVIRONMENT

Whale Tail Pit Project Meadowbank Division

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REPORT

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EXECUTIVE SUMMARY – VOLUME 7 HUMAN ENVIRONMENT

Volume 7, Human Environment, for the Whale Tail Pit and Haul Road Project (the Project), assesses the significance of the Project's effects on archaeological and heritage resources, traditional land use, and socio-economics. Where Project effects are identified, mitigation measures are developed to minimize adverse effects, while benefit enhancement measures are crafted to maximize positive effects. The significance of the Project's residual effects is then determined based on the assessment criteria described in Volume 3, Methods.

Public / Inuit Qaujimajatuqangit Concerns

Public concerns, including those based on Inuit Qaujimajatuqangit (IQ), have been considered in determining the focus of Volume 7. Inuit Qaujimajatuqangit has been incorporated throughout the assessment in the description of the existing human environment. Inuit perspectives on the cultural value of archaeological and heritage sites, the importance of the lands and resources traditionally used, and the complex interaction between the traditional and wage economies are considered when determining the magnitude and significance of the Project's residual effects on features of the human environment. Inuit Qaujimajatuqangit also guides the development of mitigation and benefit enhancement measures that are appropriate for the Project's social and cultural context.

Heritage Resources

The Heritage Resources Assessment recorded 19 heritage resource sites within or adjacent to the archaeology Local Study Area (LSA). Of these, nine were perceived to be of highly significant value, eight of moderately significant value, and two of lowly significant value. Sites included campsites, caches, blinds, a marker, and a gravesite. The assessment considered the potential of Project construction, operations, and closure to disturb cultural deposits and features, damaging artifacts, hindering, or increasing access to archaeological deposits, and destroying contextual information essential for interpreting site function and age. Following discussions with community stakeholders including Elders and the Hunting and Trapping Organization (HTO), the route of the road and location of the borrow pit areas were altered to minimize impacts to heritage sites. The assessment determined that 15 of the 19 archaeological sites, including the gravesite, are outside the LSA, and not impacted by Project development. The remaining four sites (two campsites, a blind and a marker) are within the haul road or borrow source boundaries, and will be disturbed by Project construction.

The marker site will be recorded and documented; however, as it has been evaluated as having limited scientific interpretive value, no further mitigation has been recommended, pending the approval of the Nunavut Department of Culture and Heritage. The remaining three sites will mitigated through systematic data recovery measures such as detailed site mapping, mapping of individual stone features, collection of artifacts, shovel testing, archaeological excavation, and/or community consultation, as appropriate. Given that these sites will be mitigated, the Heritage Resources Assessment concludes that there are no primary pathways between Project construction, operations and closure, and heritage resources. Residual Project effects to archaeological sites relative to baseline conditions are not expected.

Traditional Land and Resource Use

The Traditional Land and Resource Use (TLRU) Assessment identifies the importance of caribou, fur bearers, birds, fish, and plants and berries in the traditional way of life of the Inuit. The importance of cultural and spiritual areas (trails, camps, cabins, caches, graves) in the preservation of traditional values, and the transfer of traditional knowledge and IQ between generations, is also highlighted.

The assessment determined that Project activities could have four primary effect pathways on TLRU: affecting opportunities for wildlife harvesting, fishing, plant harvest, and using culturally important sites through disturbances to preferred use areas, changes to the availability of land and resources, and social and economic factors affecting participation in TLRU. Mitigation measures aimed at limiting the Project' effect on the availability of wildlife, vegetation and fish will be employed, constructing and maintaining marked crossings for traditional land use, limiting the cascading effects on continued opportunities for traditional harvesting of these resources. Avoidance of archaeological and heritage resources, and mitigation of those that are unavoidable, are similarly anticipated to limit the associated Project effect on continued opportunities to use culturally important sites.

The Project is not expected to change opportunities for harvesting furbearers, as no environmentally significant effects are anticipated for Arctic wolf, wolverine, or grizzly bear, and preferred Arctic fox trapping areas are typically in close proximity to Baker Lake. Similarly, the Project is not expected to significantly affect continued opportunities for harvesting birds, as preferred harvesting areas were not documented in the vicinity of the Project. The Project will, however, change caribou movement patterns, potentially affecting opportunities for traditional harvesting of caribou. Given the uncertainty around the nature of the Project's effect on caribou migration and movement, and the importance of the species in the traditional way of life, the residual effect on continued opportunities for caribou harvesting is low to moderate in magnitude, local to regional in extent, short- to medium-term in duration, and assessed as significant.

The Project is not expected to result in changes to opportunities for traditional fishing, as significant environmental effects to fish habitat and abundance in preferred fishing locations are not anticipated.

Project-generated dust and changes to hydrology are expected to be restricted to the terrestrial LSA and reversible, confining the effect on the quality of traditional plants to the Project area. With the implementation of dust control measures and ongoing monitoring, these effects are expected to be minimal. Given the abundance of traditionally harvested plant communities in the region, the localization of vegetation effects, and the limited traditional use of the Project area for plant harvesting, the Project's residual effect on continued opportunities for traditional plant harvesting is low in magnitude, local in extent, medium- to long-term in duration, and, therefore, assessed as not significant.

Socio-Economics

The Socio-Economic Assessment describes the Project's potential interactions with population demographics, economic activity, business development, employment, education and training, individual and community wellbeing, housing, and infrastructure. As an extension of an existing mine, the Whale Tail Pit is expected to continue many of the socio-economic benefits of the Meadowbank Mine, including contributions to the territorial economy, local business development, local employment and incomes, and contributions to education, training, and community investment. The Project can have both positive and negative effects on worker and community health and safety, providing health and safety training and awareness, while at the same time presenting risks of accidents and emergencies. The Project has the potential to result in adverse changes in family and community cohesion, indirectly contributing to substance abuse and addiction, associated family and intergenerational conflict, domestic violence and crime, and to inequalities between families and communities. Involvement in the wage economy sustained by the Project also has the potential to change cultural practices and values, and may influence participation in community activities. The existing Meadowbank Mine workforce transitioning to the Project has experience in managing their finances, and it is unlikely that they would change their current behavior or lifestyle as a result of the Project. However, the behaviour of new employees may be impacted.

The Project will extend employment opportunities at Meadowbank Mine by an additional 3 to 4 years and by around 200 additional direct employment opportunities. Many of these opportunities will be targeted to the local population in Baker Lake and other Kivalliq communities. Most indirect employment opportunities occurring in Nunavut are expected to be filled by the existing labour force working in industries currently supplying Meadowbank Mine. The Project will maintain current pick-up points in Kivalliq communities, and any incidental employment that arises via attrition will be filled with priority given to residents of the Kivalliq Region, and, secondarily, Nunavut. Given the approach to recruitment, the Project is not expected to induce intra- or inter-territorial migration, population increase, or demographic change.

The Project is anticipated to have a number of positive effects that have been assessed as significant, specifically a positive effect on the GDP, tax revenues, local business development, employment and training, incomes, and well-being related to disposable incomes, community contributions, and the continuation of the Inuit Impact Benefit Agreement (IIBA). The Project's positive GDP effect is over 10% of the current GDP of Nunavut. Project-related tax generation and royalties paid will amount to government revenue in Nunavut equivalent to about 4% of the territory's total annual budgeted revenue.

The Project's primary income effect will be the continuation of high paying wage employment from Meadowbank Mine. Employment incomes for current employees are not expected to change significantly, but will be extended by the Project beyond Meadowbank Mine's closure in 2018. The Project will also generate new incomes associated with a limited amount of new employment, and will sustain indirect and induced incomes, through to closure. The Project's overall effect of continued incomes, community contributions and the Meadowbank IIBA is expected to have a positive effect on the wellbeing of individuals and communities. Community and IIBA contributions are substantial, and support community development and wellbeing initiatives. Both will occur throughout the Kivalliq Region, but will be concentrated in Baker Lake over the operational life of the Project.

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ᐅᖃᓕᒫᖅ 7, ᐃᓄᐃᑦ ᑎᑎᕆᑦ ᐊᐸᑎ, Whale Tail ᐃᓗᑦᑐᖅᓯᒪᔨᖏᑦ ᐊᒻᒪᓗ ᐅᓯᑲᑦᑕᓂᖅᓂᖏᑦ ᐊᑦᕋᐅᒧᑦ ᐱᓕᓇᖅ (ᐱᓕᓇᖅ), ᖃᐅᔨᓴᐃᔨᖅ ᐊᖏᓂᖅᓯᒪᑕ ᐱᓕᓇᐸᑦ ᖃᓄᐃᖅᓯᕐᓂᕐᓂᖅᓯᒪᓂ ᐃᑦᑕᑦᓂᑕᖃᖏᖅᓯᐅᔨᓂᖅ, ᐱᖅᓯᓯᓴᐅᔨᔪᓯᓂᑦ ᓄᓇᒥᐅ ᐊᑐᖃᑦᑕᑦᓂᖏᖏᑦ, ᐊᒻᒪᓗ ᐃᓄᐃᑦ-ᐱᑭᖅᐸᑦᓂᐊᓂᖏᓐᓂᓂᖅ. ᐱᓕᓇᖅ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ ᐃᓕᑕᓇᓴᐅᔨᔨᑦ, ᐊᖏᓂᓗᐊᖏᑎᖅᓂᕐᓂᐅᓐᓂᑦ ᐱᖓᓱᖅᑎᐅᔨᓯᒪᔨᑦ ᒥᑭᓯᓴᓂᖅᓂᕐᓂᖏᓐᓂᑦ ᐊᖏᔪᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᐅᔨᔨᑦ, ᐃᖅᓴᐃᓂᐅᔨᔨᑦ ᐱᐅᔨᐊᖏᖅᓂᑕᐅᓂᓪᓗᑦ ᐊᖏᔪᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᖅᓯᒪᓂᑦ ᐱᐅᔨᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ. ᐊᖏᓂᖅᓯᒪᑕ ᐱᓕᓇᐸᑦ ᖵᒪᕆᑎᓂᓗᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ ᐱᓕᓇᐸᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ ᐃᓕᓴᐅᓂᖅᓯᒪᓂᑦ ᐱᐅᔨᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ. ᐊᖏᓂᖅᓯᒪᑕ ᐱᓕᓇᐸᑦ ᖵᒪᕆᑎᓂᓗᑦ ᖃᓄᐃᖅᓯᓂᖅᓂᕐᓂᓂᖅᓯᒪᓂᑦ ᐃᓕᑕᓇ

ᐱᖅᑯᓯᒃᑯᑦ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᐱᕙᐅᔪᓂᒃ ᐊᑐᕐᓂᖅ

ᐱᖅᑯᓯᒃᑯᑦ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᐱᕙᐅᔪᓂᒃ ᐊᑐᕐᓂᖅ (TLRU) ᖃᐅᔨᓴᐃᓂᖅ ᐃᓕᑕᖅᓯᔪᖅ ᐱᒻᒪᕆᐅᓂᖏᓐᓂᒃ ᑐᒃᑐᐃᑦ, ᒥᖅᑯᓖᑦ, ᑎᖏᐊᑦ, ᐃᖃᓗᐃᑦ, ᐊᒻᒪᓗ ᐱᕈᖅᑐᐃᑦ ᐊᒻᒪᓗ ᐸᐅᕐᖓᐃᑦ ᐱᖅᑯᓯᕆᔭᐅᔫᒃᑯᑦ ᐃᓅᓯᖏᑦᑕ ᐃᓅᔪᐃᑦ. ᐱᒻᒪᕆᐅᓂᖓ ᐱᖅᑯᓯᖅ ᐊᒻᒪᓗ ᐅᒃᐱᕐᓂᕐᒨᖓᔪᑦ (ᐊᑉᕐᑯᑏᑦ, ᑕᖕᒦᕐᕚᑦ, ᐃᒡᓗᕐᔪᐊᕐᓛᑦ, ᐱᖀᓇᕝᕚᑦ, ᐃᓗᕚᑦ) ᐊᓯᐅᔾᑕᐃᓕᓂᕐᓄᑦ ᐱᖅᑯᓯᒃᑯᑦ ᐃᒃᐱᒋᓂᕆᔭᐅᔪᑦ, ᐊᒻᒪᓗ ᑐᓂᐅᑎᒋᔭᐅᓂᖓ ᐱᖅᑯᓯᕐᒥᒃ ᖃᐅᔨᒪᓂᖅ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖓᑦ (IQ) ᑭᖑᕚᓄᑦ, ᓇᓗᓇᐃᖅᑕᐅᓯᒪᖏᔪᖅ.

ᖃᐅᔨᓴᐃᓂᖅ ᖃᐅᔨᓚᐅᖅᑐᖅ ᐱᓕᕆᐊᕐᒥᑦ ᖃᓄᐃᓕᐅᕐᓂᐅᔪᑦ ᓯᑕᒪᓗᐊᓂᒃ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖃᕈᓐᓇᕐᓂᖓᓂᒃ ᐊᑉᕐᑯᑎᓄᑦ TLRU-ᒧᑦ: ᐊᒃᑐᖅᓯᓗᓂ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᓂᕐᔪᑎᓂᒃ ᒪᖃᐃᓐᓂᕐᒧᑦ, ᐃᖃᓗᒃᓯᐅᕐᓂᕐᒧᑦ, ᐱᕈᖅᑐᓂᒃ ᐱᖃᑦᑕᕐᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᐊᑐᕐᓂᕐᒧᑦ ᐱᖅᑯᓯᒃᑯᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐃᓂᐅᔪᓂᒃ ᐃᓗᐃᓵᖅᑕᐅᓂᒃᑯᑦ ᐊᑐᖅᑕᐅᔪᒪᓂᖅᓴᐅᔪᑦ, ᐊᓯᐊᖑᕐᓂᖏᑦ ᒪᓂᒪᓂᖓ ᓄᓇᐅᑉ ᐊᒻᒪᓗ ᐱᕙᐅᔪᑦ, ᐊᒻᒪᓗ ᐃᓅᖃᑎᒌᖕᓂᕐᒧᑦ ᐱᕈᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᐱᔾᔪᑕᐅᔪᑦ ᐊᒃᑐᖅᓯᓂᖏᑦ ᐃᓚᐅᖃᑕᐅᓂᕐᒧᑦ TLRU-ᒥᑦ. ᐊᖏᓗᐊᖏᒋᐊᖅᑎᑦᑎᓂᐅᔪᑦ ᑐᕌᖓᔪᑦ ᑭᒡᓕᖃᖅᑎᓐᓂᕐᒧᑦ ᐱᓕᕆᐊᑉ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖓ ᒪᓂᒪᓂᖏᓐᓄᑦ ᓂᕐᔪᑏᑦ, ᐱᕈᖅᑐᐃᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ, ᓴᓇᓗᑎᒃ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕆᖃᑦᑕᕐᓗᒋᑦ ᓇᓗᓇᐃᑯᑦᑎᖅᓯᒪᔪᑦ ᐃᑳᖅᑕᕐᕕᐅᔪᑦ ᐱᖅᑯᓯᒃᑯᑦ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ, ᑭᒡᓕᓕᐅᕐᓗᓂ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖃᕈᓐᓇᖅᐸᓪᓕᐊᓂᐅᔪᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᐱᖅᑯᓯᒃᑯᑦ ᒪᖃᐃᓐᓂᕐᒥᒃ ᑕᒪᒃᑯᓂᖓᓗ ᐱᕙᐅᖅᑕᖅᑐᓂᒃ. ᐃᑦᑕᕐᓂᑕᖅᐸᐅᔭᓄᐊᖅᑕᐃᓕᓂᖅ ᐊᒻᒪᓗ ᐱᖅᑯᓯᕆᔭᐅᔫᒃᑯᑦ ᐱᕙᐅᖅᑕᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐊᖏᓗᐊᖏᒋᐊᖅᑎᑦᑎᓂᖅ ᐊᒃᑐᖅᑕᐃᓕᓂᖅ ᐊᔭᕋᖅᑐᓂᒃ, ᐊᔾᔨᒋᔭᖓ ᓂᕆᐅᒋᔭᐅᔪᑦ ᑭᒡᓕᖃᖅᑎᓐᓂᕐᒧᑦ ᐊᒃᑐᐊᔪᑦ ᐱᓕᕆᐊᒧᑦ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᐅᔪᑦ ᑲᔪᓯᔪᒥᒃ ᐱᕕᖃᕐᓂᐅᔪᓄᑦ ᐊᑐᕐᓂᕐᒧᑦ ᐱᖅᑯᓯᒃᑯᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐃᓂᐅᔪᒥᒃ.

ᐱᓕᕆᐊᖅ ᓂᕆᐅᒋᔭᐅᖏᑦᑐᖅ ᐊᓯᐊᖑᖅᓯᓂᐊᕐᓂᕐᒧᑦ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᒪᖃᐃᓐᓂᕐᒧᑦ ᒥᖅᑯᓕᖕᓂᑦ, ᐊᕙᑎᒨᖓᔪᒥᒃ ᐊᖏᔪᒥᒃ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖏᓐᓄᑦ ᑎᑭᒐᓂᐊᓄᑦ, ᖃᕝᕕᖕᓄᑦ, ᐅᑲᓕᓐᓄᑦ ᐊᒃᓴᓄᑦ, ᐊᒻᒪᓗ ᑎᑭᒐᓂᐊᓂᒃ ᑮᓴᖅᑎᑦᑕᖅᑕᕐᓂᕐᒧᑦ ᐃᓂᐅᔪᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖅᓴᐅᖓᒧᑦ ᖃᓂᑦᑐᕋᓚᐅᖓᑕ ᖃᒪᓂᑦᑐᐊᕐᒧᑦ. ᐊᔾᔨᑦᓚᖓ, ᐱᓕᕆᐊᖅ ᓂᕆᐅᒋᔭᐅᖏᑦᑐᖅ ᐊᖏᔪᒥᒃ ᐊᒃᑐᖅᓯᓂᖃᖅᑕᕐᓂᐊᖏᓪᓗᓂ ᑲᔪᓯᔪᒥᒃ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᒪᖃᐃᓐᓂᕐᒧᑦ ᑎᖏᐊᓂᒃ, ᐱᔭᐅᔪᒪᓂᖅᓴᐅᔪᓂᒃ ᒪᖃᐃᓐᓂᕐᒧᑦ ᐃᓂᐅᔪᑦ ᑎᑎᕋᐅᓯᐅᖅᓯᒪᔪᓐᓇᖏᑦᑐᑦ ᐱᓕᕆᐊᖅ. ᐱᓕᕆᐊᖅ, ᑭᓯᐊᓂ, ᐊᓯᐊᖑᖅᓯᑎᑦᑎᓂᐊᖅᑐᖅ ᑐᒃᑐᐃᑦ ᓈᓂᕆᖃᑦᑕᖅᑕᖏᓐᓂᒃ, ᐊᒃᑐᖅᓯᑐᐃᓐᓇᕆᐊᖃᖅᑐᓂ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᐱᖅᑯᓯᒃᑯᑦ ᒪᖃᐃᓐᓂᕐᒥᒃ ᑐᒃᑐᓂᒃ. ᓇᓗᓇᕐᓂᖓᑎᓪᓗᒍ ᖃᓄᐃᓐᓂᖓᑕ ᐱᓕᕆᐊᑉ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖓ ᑐᒃᑐᐃᑦ ᓅᑦᑕᖃᑦᑕᓂᖏᓐᓄᑦ, ᐊᒻᒪᓗ ᐱᒻᒪᕆᐅᓂᖓᑕ ᐅᒪᔪᐃᑦ ᐱᖅᑯᓯᒃᑯᑦ ᐃᓅᓯᕆᔭᐅᓂᖏᓐᓄᑦ, ᕿᒪᒃᑎᑦᑕᖅᑐᓂᒃ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᐅᔪᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐱᕕᖃᕐᓂᐅᔪᓄᑦ ᑐᒃᑐᒥᒃ ᒪᖃᐃᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᑦᑎᒃᑑᔪᖅ ᕿᑎᐊᓃᖅᓱᓂ ᐊᖏᓂᖃᖅᑐᓂᒃ, ᖃᓂᑦᑐᒥᑦ ᐅᖓᓯᖕᓂᖅᓴᒧᑦ ᐅᖓᓯᒃᑎᒋᓂᖓ, ᓇᐃᑦᑑᒥᑦ-ᕿᑎᐊᓄᑦ ᑕᑭᑎᒋᓂᖓ, ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᔪᖅ ᐊᖏᔫᓂᖓᓄᑦ.

ᐱᓕᕆᐊᖅ ᓂᕆᐅᒋᔭᐅᖏᑦᑐᖅ ᐊᓯᐊᖑᖅᓯᑎᑦᑎᓂᐊᕐᓂᖓᓄᑦ ᐱᕕᖃᕐᓂᐅᔪᓄᑦ ᐱᖅᑯᓯᒃᑯᑦ ᐃᖃᓗᒃᓯᐅᕐᓂᕐᒧᑦ, ᐊᖏᔪᒥᒃ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᑕᕐᓂᓕᒃ ᐃᖃᓗᐃᑦ ᐃᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᖃᑉᓯᐅᓂᖏᓐᓄᑦ ᐃᖃᓗᒃᓯᐅᕙᐅᔪᒪᓂᖅᓴᐅᔪᓄᑦ.

ᐱᓕᕆᐊᕐᒥᑦ-ᐱᔪᑦ ᐳᔪᖃᑖᑦ ᐊᒻᒪᓗ ᐊᓯᐊᖑᖅᓯᓂᐅᔪᑦ ᐃᒪᕐᓄᑦ ᓂᕆᐊᒋᔭᐅᔪᑦ ᓄᓇᒥᐅᓂᐊᕐᓂᖓᓄᑦ LSA-ᒥᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑐᙱᕐᓂᐊᖅᑐᓂ, ᑖᒃᑯᓂᖓ ᐃᓐᓇᐅᓗᓂ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖅ ᖃᓄᐃᓐᓂᖓᓄᑦ ᐱᕈᖅᑐᐃᑦ ᐱᓕᕆᐊᑉ ᐃᓂᖓᓂᑦ. ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐳᔪᖃᑖᖏᒥᑦ ᐊᐅᓚᑦᑎᓂᕐᒨᖓᔪᑦ ᐊᒻᒪᓗ ᑲᔪᓯᔪᒥᒃ ᖃᐅᔨᓯᐊᖃᑦᑕᕐᓂᖅ, ᑕᒪᒃᑯᐊ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᐅᔪᑦ ᓂᕆᐊᒋᔭᐅᔪᑦ ᒥᑭᑦᑑᓂᐊᕐᓂᖏᓐᓂᒃ. ᐊᒥᓱᓂᒃ ᐅᑎᖅᑐᕐᓗᒋᑦ ᐱᕈᖅᑐᓂᒃ ᑲᑎᖅᓱᐃᖃᑦᑕᕐᓂᐅᔪᑦ ᖃᓂᑦᑐᒥᑦ, ᑖᓂᓐᓂᖏᑦ ᐱᕈᖅᑐᐃᑦ ᖃᓄᐃᙵᓂᖏᑦ, ᐊᒻᒪᓗ ᑭᒡᓕᖃᕐᓂᖓ ᐱᖅᑯᓯᒃᑯᑦ ᐊᑐᖃᑦᑕᕐᓂᖏᑦ ᐱᓕᕆᐊᖅ ᐃᓂᖓᓂ ᐱᕈᖅᑐᐃᑦ ᑲᑎᖅᓱᐃᓂᕐᒧᑦ, ᐱᓕᕆᐊᖅ ᕿᒪᒃᑎᑦᑐᓂ ᖃᓄᐃᙵᓕᖅᑎᑦᑎᓂᖓ ᑲᔪᓯᔪᓄᑦ ᐱᕕᖃᕐᓂᐅᔪᑦ ᐱᕈᖅᑐᐃᑦ ᑲᑎᖅᓱᐃᓂᕐᒧᑦ ᐊᑦᑎᒃᑑᔪᖅ ᐊᒥᓱᓂᖓ, ᖃᓂᑦᑑᔪᓂ, ᕿᑎᐊᓂᑦ-ᐊᑯᓂᐅᑎᒋᓂᖓ, ᐊᒻᒪᓗ, ᑕᐃᒪᓐᓇᒧᑦ, ᖃᐅᔨᓴᐃᓂᖅ ᐊᖏᔫᖏᑦᑐᖅ.

ᐃᓄᐃᑦ-ᐱᕈᖅᐸᓪᓕᐊᙵᔪᑦ

ᐃᓄᐃᑦ-ᐱᕈᖅᐸᓪᓕᐊᔪᓂᒃ ᖃᐅᔨᓴᐃᓂᖅ ᐅᖃᐅᓯᖃᖅᑐᖅ ᐱᓕᕆᐊᑉ ᐊᒃᑐᐊᓂᖃᖃᑦᑕᕐᓂᖓ ᐃᓄᖕᓂᒃ, ᐱᕈᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᖃᓄᐃᓕᐅᕐᓂᕐᒥᒃ, ᓇᖕᒥᓂᖃᖅᑐᓕᐅᕆᓂᕐᒥᒃ, ᐱᓕᕆᐊᒃᓴᖃᖅᑎᑦᑎᓂᕐᒥᒃ, ᐃᓕᓐᓂᐊᕐᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐊᔾᔨᒌᙵᓂᖅᓴᓂᕐᒥᒃ, ᐃᓄᖕᒧᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᒥᐅᑦ ᖃᓄᐃᖕᖏᑦᑎᐊᕐᓂᖏᓐᓄᑦ, ᐃᒡᔪᓕᕆᓂᖅ, ᐊᒻᒪᓗ ᐱᖁᑎᒋᔭᐅᔪᓄᑦ. ᐅᐃᒍᕆᐊᖅᓯᓂᖅ ᑕᐃᒪᐅᔪᒥᒃ ᐅᔾᔨᖕᓂᐊᕐᓂᐅᔪᒥᒃ, Whale Tail ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ ᑲᔪᓯᑦᑎᓂᐊᕐᓂᖓᓄᑦ ᐃᓄᐃᑦ-ᐱᕈᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ ᐃᑲᔪᐃᓂᕐᒥᒃ ᐊᐳᖅᑎᓈᖅᑐᒥᑦ ᐅᔾᔨᖕᓂᐊᕐᓂᖅ, ᐃᓚᐅᑉᐳᓂ ᑐᓂᕈᑕᐅᔪᑦ ᓄᓇᕗᑦ ᐱᕈᖅᐸᓪᓕᐊᓂᖓᓄᑦ, ᓄᓇᓕᖕᒥᑦ ᓇᖕᒥᓂᖃᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒥᒃ, ᓄᓇᓕᖕᒥᑦ ᐱᓕᕆᐊᖃᖅᑎᑦᑎᓂᕐᒥᒃ ᐊᒻᒪᓗ ᕿᓇᐅᔭᓕᐅᕐᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᑐᓂᕐᕈᑎᖃᕐᓂᖅ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ, ᐊᔾᔨᒌᙵᓂᖅᓴᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᓄᓇᓕᒃ ᐱᕐᑯᑎᑖᖃᑕᐅᓂᕐᒧᑦ. ᐱᓕᕆᐊᖅ ᑕᒪᐃᓐᓂᒃ ᐱᔪᒥᒃ ᐊᒻᒪᓗ ᐱᐅᖕᒋᑦᑐᒥᒃ ᖃᓄᐃᖓᓕᖅᑎᑦᑎᓂᖃᕈᙵᖅᑐᖅ ᐱᓕᕆᔨᒥᒃ ᐊᒻᒪᓗ ᓄᓇᓕᐅᑉ ᐋᓂᐊᖃᖅᑕᐃᓕᒪᓂᖓᓂᒃ ᐊᒻᒪᓗ ᐊᑦᑕᓇᖅᑐᖃᙱᓐᓂᕆᔭᖓᓂᒃ, ᑐᓂᓯᓗᓂ ᐋᓐᓂᐊᖃᖅᑕᐃᓕᒪᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐊᑦᑕᓇᖅᑐᖃᙱᓐᓂᕐᒧᑦ ᐊᔾᔨᒌᙵᓂᖅᓴᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐅᔾᔮᖅᑐᕐᓂᕐᒥᒃ, ᐊᑕᐅᑦᑎᒃᑯᑦ ᑐᓂᓯᓗᓂ ᐅᓗᑎᐊᓇᖅᑐᓂᒃ ᐱᓂᕐᓗᐊᕿᔪᓂᒃ ᐊᒻᒪᓗ ᑐᐊᕙᓇᖅᑐᓕᑎᓂᕐᒥᒃ. ᐱᓕᕆᐊᖅ ᐊᕐᕆᔪᕐᒥᒃ ᐊᓯᐊᖑᖅᓯᓂᖃᖅᑎᑦᑎᔾᔭᓇᖅᑐᖅ ᖃᑉᘓᑎᒌᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᒧᑦ, ᑕᐃᑲᙳᐅᕆᑦᑐᖅ ᐱᔪᓂᒃ ᐋᖓᔮᕐᓇᖅᑐᓕᕆᓗᕿᓂᕐᒥᒃ ᐊᒻᒪᓗ ᑕᒻᑯᓂᙳᑦ ᐊᔪᓕᖅᓯᒪᓂᐅᔪᓂᒃ, ᐊᒃᑐᐊᓂᖃᖅᑐᓂᒃ ᖃᑉᘓᑎᒌᓄᑦ ᐊᒻᒪᓗ ᑭᖑᕚᓄᑦ ᐃᕗᐃᓗᑦᑎᐅᑎᔪᓂᒃ, ᓂᖓᖃᑦᑕᕐᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐱᕋᔭᖕᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᐊᔾᔨᖏᖕᓂᖃᕈᖕᓃᖅᑎᑦᑎᓗᓂ ᖃᑉᘓᑎᒌᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᓄᑦ. ᐃᓚᐅᖃᑕᐅᓂᖅ ᕿᓇᐅᔭᓕᐅᕐᓂᕐᒧᑦ ᐱᕈᖅᐸᓪᓕᐊᓂᕐᒥᒃ ᐱᓕᕆᐊᕐᒥᑦ ᐱᔪᕐᒥᒃ ᐊᓯᐊᙳᖅᓯᓂᖃᖅᑎᑦᑎᔾᔭᓇᕐᒥᔪᖅ ᐱᖅᑯᓯᕆᓴᐅᔪᒃᑯᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᕐᒥᒃ ᐊᒻᒪᓗ ᐃᒃᐱᒋᓂᕆᓴᐅᔪᕐᒥᒃ, ᐊᒻᒪᓗ ᐱᒋᐊᖅᑎᑦᑎᔾᔭᓇᖅᐳᓂ ᐃᓚᐅᖃᑕᐅᓂᕐᒥᒃ ᓄᓇᓕᖕᒥᑦ ᖃᓄᐃᓕᐅᕐᓂᐅᔪᓂᒃ. ᑕᐃᒪᐅᔪᖅ ᐊᐳᖅᑎᓈᖅᑐᕐᒥᑦ ᐅᔾᔨᖕᓂᐊᕐᕕᖕᒥᑦ ᐱᓕᕆᔪᐃᑦ ᐱᓕᕆᐊᕐᒧᐊᖅᓯᒪᔪᑦ ᐱᓕᕆᐊᖃᕐᓂᕈᖅᓯᒪᔪᑦ ᐊᐅᓚᑦᑎᓂᕐᒥᒃ ᑮᓇᐅᔭᓕᐊᕐᓂᕐᓂᒃ, ᐊᒻᒪᓗ ᒫᓐᓇᐅᔪᖅ ᐃᓕᖅᑯᓯᕆᓴᕐᓂᕐᓂᒃ ᐊᓯᐊᙳᖅᓯᓂᐊᖕᒋᑦᑐᖅᓴᐅᓕᖅᐳᑎᒃ ᐅᕙᓂᑦ ᐃᓅᓯᖕᒐᑦ ᐱᔾᔪᕐᒥᒃ ᐱᓕᕆᐊᕐᒥᑦ. ᑭᓯᐊᓂ, ᐃᓕᖅᑯᓯᕆᓕᖅᑖᕐᒋᑦ ᓅᑦ ᐱᓕᕆᔾᔫᑦ ᐊᒃᑐᖅᑕᐅᑐᐃᓐᓇᕆᐊᖃᖅᑐᑦ.

ᐱᓕᕆᐊᖅ ᐅᐃᒍᕆᐊᖅᓯᓂᐊᖅᑐᖅ ᐱᓕᕆᐊᖃᕐᓂᕐᒧᑦ ᐱᕕᖃᕐᓂᐅᔪᓂᒃ ᐊᐳᖅᑎᓈᖅᑐᒥᑦ ᐃᓚᓯᒃᑲᓐᓂᕐᓗᓂ ᐱᖓᓱᓂᑦ ᓯᑕᒪᓄᑦ ᐅᑭᐅᓄᑦ ᐊᒻᒪᓗ 200 ᖃᓂᑕᖓᓂᑦ ᐱᓕᕆᐊᒃᓴᓂᒃ ᓴᖅᑭᑦᑎᒃᑲᓐᓂᕐᓗᓂ. ᐊᒥᓱᐃᑦ ᐱᕕᖃᕐᓂᐅᔪᑦ ᑐᕌᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᓕᖕᒥᐅᓄᑦ ᖃᒪᓂᑦᑐᐊᕐᒥᑦ ᐊᒻᒪᓗ ᐊᓯᖕᒋᓐᓄᑦ ᑭᕙᓪᓕᕐᒥᑦ ᓄᓇᓕᖕᒋᓐᓄᑦ. ᑕᐃᑲᙳᐅᕆᑦᑐᖅ ᐱᓕᕆᐊᒃᓱᒃᑖᑦᓚᐃᑦ ᓄᓇᕗᒻᒥ ᓂᕆᐅᒋᔭᐅᔪᑦ ᐃᓅᒃᑕᐅᓂᐊᕐᓂᕐᒋᓐᓄᑦ ᑕᐃᒪᐅᔪᓄᑦ ᐱᓕᕆᔩᐅᔪᓂᑦ ᐱᓕᕆᑉᕙᒃᔪᐊᕐᓂᑦ ᑐᓂᓯᔪᑦ ᐊᐳᖅᑎᓈᖅᑐᒧᑦ. ᐱᓕᕆᐊᖅ ᐱᓕᕆᐊᖃᕐᓂᐊᖅᑐᖅ ᒫᓐᓇᐅᔪᖅ ᐱᓕᕆᔩᓂᒃ ᐊᐃᒃᓯᖃᑦᑕᕐᓂᕐᒥᒃ ᑭᕙᓪᓕᐅᐸ ᓄᓇᓕᖕᒋᓐᓂᑦ, ᐊᒻᒪᓗ ᓱᓇᑐᐃᓐᓇᐃᑦ ᐱᓕᕆᐊᒃᓵᙹᖅᑐᑦ ᐃᓅᒃᑕᐅᑎᖃᑦᑕᕐᓂᐊᖅᑕᖓᑦ ᓯᕗᓪᓕᖅᐸᐅᑎᓗᒋᑦ ᑭᕙᓪᓕᕐᒥᐅᓄᑦ, ᐊᒻᒪᓗ, ᑑᓕᐅᓗᒍ, ᓄᓇᕗᒻᒥᐅᓄᑦ. ᑕᒪᓐᓇ ᐊᑐᕐᓗᒍ ᐱᓕᕆᐋᖅᑐᕐᓂᖅ, ᐱᓕᕆᐊᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ ᐱᒋᐊᖅᑎᑦᑎᓂᕐᒥᒃ ᓄᓇᕗᒨᖅᑲᑦᑕᕐᓂᕐᒥᒃ ᓄᓇᕗᑦ ᓯᓚᑖᓂᙵᖅᑐᓂᒃ, ᐃᓄᖕᒋᑦ ᐊᒥᓲᖕᒋᓐᓂᕐᒥᓄᑦ, ᐅᕙᓃᓐᓂᑦ ᐃᓄᐃᑦ ᖃᐸᐅᓂᖕᒋᑦ ᐊᓯᐊᖑᕐᓗᓂ.

ᐱᓕᕆᐊᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ ᖃᐸᐊᕐᔪᖕᓂᒃ ᐱᐅᔪᓂᒃ ᖃᓄᐃᖓᓕᖅᑎᑦᑎᓂᖃᕐᓂᐊᕐᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᒃ ᐊᕐᕌᓂᖕᒋᓐᓄᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᐱᐅᔪᓂᒃ ᖃᓄᐃᖓᓕᖅᑎᑦᑎᓂᖅ GDP-ᒧᑦ, ᑖᒃᐲᔭᐃᔭᕐᓂᕐᒧᑦ ᑮᓇᐅᔭᓕᐊᓄᑦ, ᓄᓇᓕᖕᒥᑦ ᓇᖕᒥᓂᖅᑖᖅᑐᖅᐸᓪᓕᐊᓂᕐᒥᒃ, ᐱᓕᕆᐊᒃᓴᓂᒃ ᐊᒻᒪᓗ ᐊᔪᕈᖕᓃᖅᓴᓂᐅᔪᓂᒃ, ᑮᓇᐅᔭᓕᐊᓂᒃ, ᐊᒻᒪᓗ ᖃᓄᐃᖕᖏᑦᑎᐊᕐᓂᕐᒨᖓᔪᓂᒃ ᑮᓇᐅᔭᓕᐊᖑᔪᓄᑦ, ᓄᓇᓕᖕᒧᑦ ᑐᓂᕐᕈᑎᒃᑲᑦᑕᕐᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᑲᔪᓯᓂᖓ ᐃᓄᐃᑦ ᐊᒃᑐᖅᑕᐅᓂᖕᒋᓐᓄᑦ ᐃᑲᔫᑎᒧᑦ ᐊᖏᖃᑎᒌᒍᑎᒃᑯᑦ (IIBA). ᐱᓕᕆᐊᑉ ᐱᔪᒥᒃ GDP-ᖃᕐᓂᖓ ᐊᒃᑐᖅᓯᔪᖅ 10%-ᖑᔪᒥᒃ ᒫᓐᓇᐅᔪᖅ GDP-ᖓᓂᑦ ᓄᓇᕗᑦ. ᐱᓕᕆᐊᕐᒨᖓᔪᑦ ᑖᒃᐲᔭᐃᔭᕐᓂᕐᒧᑦ ᑮᓇᐅᔭᓕᐊᖑᔪᑦ ᐊᒻᒪᓗ ᐊᑭᓕᐅᑕᐅᔪᑦ ᓚᕙᒪᒃᑯᑦ ᑮᓇᐅᔭᓕᐊᖑᕐᓂᒃ ᓄᓇᕗᒻᒥ ᐃᑲᔪᐃᓂᐊᖅᑐᑦ 4%-ᓗᐊᒧᑦ ᓄᓇᕗᒻᒥᑦ ᑲᑎᓗᒃᑖᖅᓱᕆᑦ ᑮᓇᐅᔭᖅᑑᑎᓕᐊᖑᔫᐸ ᑮᓇᐅᔭᓕᐊᖓᓄᑦ.

ᐱᓕᕆᐊᑉ ᑮᓇᐅᔭᓕᐊᓗᐊᖓ ᐊᒃᑐᖅᓯᓂᐅᔪᖅ ᑲᔪᓯᓂᐅᓂᐊᖅᑐᖅ ᖁᑦᑎᒃᑐᒥᒃ ᑮᓇᐅᔭᓕᐅᖅᑎᑦᑎᓂᐊᕐᓂᕐᒧᑦ ᐱᓕᕆᔪᓂᒃ ᐊᐳᖅᑎᓈᖅᑐᒥᑦ ᐅᔾᔨᖕᓂᐊᕐᕖᖕᒥᑦ. ᐱᓕᕆᐊᖅᓱᕆᑎᒃ ᑮᓇᐅᔭᓕᐊᖑᔪᖅ ᒫᓐᓇᐅᔪᖅ ᐱᓕᕆᔨᓄᑦ ᐊᓯᐊᖑᓂᖅᔪᐊᕐᓂᐊᕐᓂᖓᓄᑦ ᓂᕆᐅᒋᔭᐅᕆᑦᑐᖅ, ᑭᓯᐊᓂ ᐅᐃᒍᕆᐊᖅᑕᐅᓂᐊᖅᑐᖅ ᐱᓕᕆᐊᑉ ᐊᐳᖅᑎᓈᖅᑐᒥᑦ ᐅᔾᔨᖕᓂᐊᕐᕕᐅᑉ ᐅᒃᑯᐊᕐᕕᒃᓴᖓᑕ 2018 ᐅᖓᑖᓄᑦ. ᐱᓕᕆᐊᖅ ᓄᑖᓂᒃ ᑮᓇᐅᔭᓕᐅᕐᓂᖅᑕᖃᕐᓂᐊᕐᒥᔪᖅ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ ᑭᓪᓕᖃᖅᑐᓄᑦ ᑮᓇᐅᔭᓕᐊᓂᒃ ᓄᑖᓄᑦ ᐱᓕᕆᐊᓄᑦ, ᐊᒻᒪᓗ ᑕᐃᑲᙳᐅᕆᑦᑐᖅ ᑮᓇᐅᔭᓕᐅᕐᓂᖅᑕᖃᖅᑎᑦᑎᓗᓂ, ᐅᒃᑯᐊᖅᐸᓪᓕᐊᓂᒃᑯᑦ. ᐱᓕᕆᐊᑉ ᑕᒪᐃᓄᓗᒃᑖᖅ ᖃᓄᐃᖕᖏᑦᑎᐊᕐᓂᖓ ᑲᔪᓯᓂᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᒃᑯᑦ, ᓄᓇᓕᖕᒧᑦ ᑐᓂᕐᕈᑎᖃᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐳᖅᑎᓈᖅᑐᒧᑦ IIBA-ᑯᑦ ᓂᕆᐅᒋᔭᐅᔪᖅ ᐱᐅᔪᒥᒃ ᖃᓄᐃᖕᖏᑦᑎᐊᕐᓂᖃᕐᓂᕐᒧᑦ ᖃᓄᐃᖕᒋᑦᑎᐊᕐᓂᖓᓄᑦ ᐃᓄᐃᑦ ᐊᒻᒪᓗ ᓄᓇᓖᑦ. ᓄᓇᓕᖕᒧᑦ ᐊᒻᒪᓗ IIBA-ᒧᑦ ᑐᓂᕐᕈᑕᐅᔪᑦ ᐊᕐᕌᔪᑦ, ᐊᒻᒪᓗ ᓄᓇᓕᖕᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒥᒃ ᐃᑲᔪᐃᓐᓂᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖕᒋᑦᑎᐊᕐᓂᕐᒥᑦ ᐱᓕᕆᐊᒃᓴᐃᑦ. ᑕᒪᕐᒥᒃ ᑕᐃᒪᐅᓂᐊᖅᑐᑦ ᑭᕙᓪᓕᓗᒃᑖᕐᒥᑦ, ᑭᓯᐊᓂ ᖃᒪᓂᑦᑐᐊᕐᒧᐊᖑᓂᐊᖅᑐᑦ ᐊᐅᓛᕐᓂᖓᓂᑦ ᐱᓕᕆᐊᖅ.

SOMMAIRE DE GESTION – VOLUME 7 - L'ENVIRONNEMENT HUMAIN

Le Volume 7, L'environnement humain, du Projet de gisement Whale Tail et de route de transport (le Projet) évalue l'importance des effets du Projet sur les ressources archéologiques et patrimoniales, l'utilisation traditionnelle de la terre et les paramètres socio-économiques. Lorsque des effets du Projet sont identifiés, des mesures d'atténuation sont développées afin de réduire les effets négatifs, alors que des mesures de renforcement des bénéfices sont élaborées afin de maximiser les effets positifs. L'importance des effets résiduels du Projet est alors déterminée à partir des critères d'évaluation décrits au Volume 3 : Les méthodes d'évaluation.

Préoccupations du public / Inuit Qaujimajatuqangit

Les préoccupations du public, incluant celles basées sur l'Inuit Qaujimajatuqangit (IQ), ont été prises en considération lors de la détermination de l'orientation du Volume 7. L'Inuit Qaujimajatuqangit a été intégré tout au long de l'évaluation dans la description de l'environnement humain actuel. Les perspectives inuites sur la valeur culturelle des sites archéologiques et patrimoniaux, l'importance des terres et des ressources utilisées traditionnellement et l'interaction complexe entre l'économie traditionnelle et l'économie basée sur les salaires sont considérées lors de la détermination de l'ampleur et de l'importance des effets résiduels du Projet sur les caractéristiques de l'environnement humain. L'Inuit Qaujimajatuqangit guide également le développement des mesures d'atténuation et des mesures de renforcement des bénéfices qui sont appropriées pour les contextes social et culturel du Projet.

Ressources patrimoniales

L'évaluation des ressources patrimoniales a répertorié 19 sites de ressources patrimoniales au sein, ou à proximité, de la zone d'étude locale (ZEL) archéologique. Parmi ceux-ci, neuf ont été perçus comme comportant une valeur significative élevée, huit de valeur significative modérée et deux de valeur significative faible. Les sites incluent des campements, des caches, des affûts de chasse, un repère et un lieu de sépulture. L'évaluation a pris en considération le potentiel de la construction, des opérations et de la fermeture à perturber les vestiges et éléments culturels, à endommager les artéfacts, à entraver ou augmenter l'accès aux vestiges archéologiques et à détruire de l'information contextuelle essentielle à l'interprétation de la fonction et de l'âge des sites. À la suite de discussions avec les parties prenantes de la collectivité, dont les aînés et l'Organisation des chasseurs et des trappeurs (HTO - Hunting and Trapping Organization) locale, le tracé de la route et l'emplacement des aires d'emprunts de la fosse ont été modifiés afin de réduire les impacts sur les sites patrimoniaux. L'évaluation a permis de déterminer que 15 des 19 sites archéologiques, incluant le lieu de sépulture, sont situés à l'extérieur de la ZEL, et ne sont pas touchés par le développement du Projet. Les quatre autres sites (deux campements, un affût et un repère) sont situés à l'intérieur des limites de la route de transport ou des sources d'emprunt, et seront perturbés par la construction du Projet.

Le site du repère sera enregistré et documenté; cependant, comme il a été évalué comme ayant une valeur interprétative et scientifique limitée, aucune mesure d'atténuation supplémentaire n'a été recommandée, en attente de l'approbation du ministère de la Culture et du Patrimoine du Nunavut. Les trois sites restants profiteront d'une atténuation par le biais de mesures de récupération systématique des données telles que la cartographie détaillée du site, la cartographie des éléments de pierre individuels, la collecte d'artéfacts, les tests avec pelle, l'excavation archéologique et/ou la consultation de la collectivité, selon ce qui convient. Puisque ces sites seront atténués, l'évaluation des ressources patrimoniales conclut qu'il n'y a pas de trajectoires significatives entre la construction, les opérations et la fermeture du Projet et les ressources patrimoniales. Aucun effet résiduel découlant du Projet n'est prévu sur les sites archéologiques, relativement aux conditions de base.

Utilisation traditionnelle des terres et des ressources

L'évaluation de l'utilisation traditionnelle des terres et des ressources (UTTR) identifie l'importance du caribou, des animaux à fourrure, des oiseaux, des poissons, et des plantes et baies dans la façon de vivre traditionnelle des Inuits. L'importance des aires culturelles et spirituelles (sentiers, campements, cabanes, caches, tombes) dans la préservation des valeurs traditionnelles et le transfert des connaissances traditionnelles et des IQ entre les générations est également soulignée.

L'évaluation a déterminé que les activités du Projet pourraient engendrer quatre trajectoires principales d'effets sur l'UTTR : affecter les opportunités de récolte d'animaux sauvages, de pêche, de récolte de plantes et d'utilisation de sites importants culturellement en raison de la perturbation des aires de prédilection, une modification dans la disponibilité des terres et des ressources, ainsi que des facteurs sociaux et économiques affectant la participation à l'UTTR. Des mesures d'atténuation visant à limiter les effets du Projet sur la disponibilité de la faune, de la végétation et du poisson seront utilisées. Il y aura également construction et entretien de passages bien identifiés pour l'utilisation traditionnelle des terres, ce qui limitera les effets en cascade sur la non-interruption des opportunités de récolte traditionnelle de la faune, des plantes (et baies) et du poisson. Le contournement des ressources archéologiques et patrimoniales, ainsi que l'atténuation sur celles qui ne peuvent être évitées, est également prévu afin de limiter les effets associés du Projet sur la non-interruption des opportunités d'utilisation des sites culturellement importants.

Le Projet ne devrait pas modifier les opportunités de récolte des animaux à fourrure, puisqu'aucun effet environnemental important n'est anticipé sur le loup arctique, le carcajou ou l'ours grizzly, et les aires de prédilection pour le piégeage du renard arctique sont typiquement situés à proximité de Baker Lake. De manière similaire, le Projet ne devrait pas affecter de façon importante la non-interruption des opportunités de la chasse des oiseaux, puisque les zones de prédilection pour cette chasse n'ont pas été répertoriées à proximité du Projet. En revanche, le Projet modifiera les modèles de déplacement du caribou, affectant potentiellement les opportunités de récolte traditionnelle du caribou. Étant donné l'incertitude autour de la nature des effets du Projet sur la migration et le déplacement des caribous, ainsi que l'importance de l'espèce dans le mode de vie traditionnel, l'effet résiduel sur la non-interruption des opportunités de la chasse au caribou est de faible à modéré en terme d'ampleur, d'une étendue locale à régionale, d'une durée de court à moyen terme, et évalué comme important.

Le Projet ne devrait pas entraîner de modifications dans les opportunités de pêche traditionnelle, puisque des effets environnementaux importants sur l'habitat et l'abondance des poissons dans les aires de prédilection de la pêche ne sont pas anticipés.

La poussière générée par le Projet ainsi que les changements aux paramètres hydrologiques devraient se limiter à la ZEL terrestre et être réversibles, confinant l'effet sur la qualité des plantes traditionnelles à la zone du Projet. Grâce à la mise en œuvre de mesures de contrôle de la poussière et d'une surveillance continue, ces effets devraient être minimes. Étant donné l'abondance des communautés de plantes traditionnelles récoltées dans la région, la localisation des effets sur la végétation et l'utilisation traditionnelle limitée de la zone du Projet à des fins de récolte de plantes, l'effet résiduel du Projet sur la non-interruption des opportunités de récolte de plantes traditionnelles est faible en terme d'ampleur, d'une étendue locale, d'une durée de moyen à long terme et a été ainsi évalué comme non important.

Facteurs socio-économiques

L'évaluation socio-économique décrit les interactions potentielles du Projet avec les paramètres démographiques, l'activité économique, le développement des affaires, l'emploi, l'éducation et la formation, les individus, ainsi que le mieux-être, le logement et l'infrastructure de la collectivité. En tant que prolongement de la mine actuelle, il est anticipé que le gisement Whale Tail poursuive plusieurs des avantages socio-économiques de la mine Meadowbank, incluant les contributions à l'économie du territoire, au développement des commerces locaux, à l'emploi et aux salaires des résidents locaux, ainsi que des contributions à l'éducation, à la formation et à l'investissement dans la collectivité. La Projet peut comporter autant d'effets positifs que négatifs sur la santé et la sécurité des travailleurs et de la collectivité, fournissant une formation et de la sensibilisation sur la santé et la sécurité, tout en présentant simultanément des risques d'accidents et de situations d'urgence. La Projet comporte le potentiel d'entraîner des changements négatifs au niveau de la cohésion de la famille et de la collectivité, contribuant indirectement à l'abus et à la dépendance de substances, à des conflits familiaux et intergénérationnels, à de la violence conjugale et à des crimes, ainsi qu'à des inégalités entre les familles et les collectivités. L'engagement dans une économie de salaires soutenu par le Projet comporte également le potentiel de modifier les pratiques et les valeurs culturelles, et peut influencer la participation à des activités communautaires. La main-d'œuvre actuelle de Meadowbank faisant la transition vers le Projet a de l'expérience dans la gestion de ses finances, et il est peu probable qu'elle modifie ses habitudes actuelles ou son mode de vie en raison du Projet. Cependant, le comportement des nouveaux employés pourrait être influencé.

Le Projet prolongera les possibilités d'emplois de la mine Meadowbank de 3 à 4 années supplémentaires et d'environ 200 occasions d'emplois directes additionnelles. Plusieurs de ces occasions seront offertes surtout à la population locale de Baker Lake et des autres collectivités de la région de Kivalliq. La plupart des possibilités d'emplois indirectes se produisant au Nunavut devraient être comblées par la main-d'œuvre actuelle dans les industries fournissant présentement la mine Meadowbank. Le Projet maintiendra les points de cueillette actuels des collectivités de la région de Kivalliq, et tout emploi accessoire se présentant en raison d'un manque d'effectifs sera comblé en priorité par les résidents de la région de Kivalliq, puis, au besoin, par les résidents d'autres collectivités du Nunavut. Étant donnée l'approche en matière de recrutement, le Projet ne devrait pas provoquer de migration intra ou interterritoriale, d'augmentation de la population ou de modification des paramètres démographiques.

Il est anticipé que le Projet aura un certain nombre d'effets positifs qui ont été évalués comme importants, particulièrement un effet positif sur le PIB, les recettes fiscales, le développement du commerce local, l'emploi et la formation, le revenu des individus, ainsi que le mieux-être associé au revenu disponible, les contributions à la collectivité et la poursuite de l'Entente sur les répercussions et les avantages pour les Inuits (ERAI). L'effet positif du Projet sur le PIB est une augmentation de plus de 10 % du PIB actuel du Nunavut. La génération de taxes et de redevances associées au Projet qui seront payées mènera à un revenu pour le gouvernement du Nunavut équivalent à environ 4 % de la recette totale budgétée annuellement pour le territoire.

Le principal effet du Projet sur le revenu sera la conservation d'emplois à salaire élevé issus de la mine Meadowbank. Les revenus d'emploi des employés actuels ne devraient pas changer de manière importante, mais seront prolongés par le Projet au-delà de la fermeture de la mine de Meadowbank en 2018. Le Projet générera également de nouveaux revenus associés à un nombre limité de nouveaux emplois et soutiendra des revenus indirects et induits, et ce, jusqu'à la fermeture. L'effet global du Projet sur la préservation des revenus, les contributions à la collectivité et l'ERAI de Meadowbank devrait avoir un effet positif sur le mieux-être des individus et des collectivités. Les contributions à la collectivité et à l'ERAI sont substantielles et supportent le développement de la collectivité et les initiatives en matière de mieux-être. Les deux toucheront la totalité de la région de Kivalliq, mais seront surtout concentrées à Baker Lake au cours de la durée de vie opérationnelle du Projet.

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LIST OF ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited
AWAR	all-weather access road
CLARC	Community Lands and Resources Committee
EIS	Environmental Impact Statement
EFAP	Employee and Family Assistance Program
FEIS	Final Environmental Impact Statement
GDP	Gross Domestic Product
GN	Government of Nunavut
GN - CGS	Government of Nunavut – Department of Community and Government Services
GN - DOH	Government of Nunavut – Department of Health
HTO	Hunter and Trapper Organization
IDS	Interdisciplinary Systems Ltd.
IIBA	Inuit Impact Benefit Agreement
IQ	Inuit Qaujimajatuqangit
KIA	Kivalliq Inuit Association
LSA	Local Study Area
MTS	Mine Training Society
NCJ	Nunavut Court of Justice
NBS	Nunavut Bureau of Statistics
NEAS	Nunavut Eastern Arctic Shipping
NIRB	Nunavut Impact Review Board
NSSI	Nunavut Sealink and Supply Inc.
NTI	Nunavut Tunngavik Incorporated
RCMP	Royal Canadian Mounted Police
RSA	Regional Study Area
ROW	right of way
SMP	Socio-Economic Management and Monitoring Plan
the Project	Whale Tail Pit and Haul Road
TLRU	Traditional Land and Resource Use
VC	valued component

LIST OF UNITS

%	percent
$M	million dollars
km	kilometre
m	metre

7.0 HUMAN ENVIRONMENT

7.1 Introduction

The purpose of this section is to address the Guidelines issued by the Nunavut Impact Review Board (NIRB) for the Meadowbank Mine (Cumberland 2005a), and specifically those relating to the impact of the Whale Tail Pit and Haul Road (the Project) on heritage resources, traditional way of life, and socio-economics. Volume 2, Appendix 2-B list the specific requirements set out in the guidelines, and relating to the baseline and impact assessment of these components.

Volume 7 includes a discussion on valued components (VCs), incorporation of Inuit Qaujimajatuqangit (IQ), description of the study areas, and an assessment of effects to heritage resources, traditional way of life, and socio-economic conditions in the respective discipline study areas. The effects assessment evaluates construction, operations, and closure of the Whale Tail Pit and Haul Road.

7.1.1 Volume Structure

- **Section 7.1:** Introduction
- **Section 7.2:** Heritage Resources
- **Section 7.3:** Traditional Land and Resource Use/Inuit Qaujimajatuqangit
- **Section 7.4:** Socio-economics

7.1.2 Valued Components

Valued components were used to assess effects on the human environment from the extension of the Meadowbank Mine, through development of the Whale Tail Pit and Haul Road. The VCs have been selected based on discussions with stakeholders, public meetings (November 2014, 2015), and IQ (Cumberland 2005a; Table 7.1-1 and Table 7.1-2). Additional factors considered when selecting human environment VCs included:

- socio-economic and cultural components identified by NIRB during scoping of the Final Environmental Impact Statement (FEIS) (Cumberland 2005b), Agnico Eagle community and stakeholder consultation, and as outlined in the Project Guidelines (NIRB 2004);
- socio-economic and cultural components identified by regional monitoring groups as important to communities and governments; and
- experience with environmental and socio-economic assessments and monitoring programs in Nunavut.

Table 7.1-1: Summary of Cultural Valued Components

Valued Component	Rationale for Inclusion
Heritage Resources	■ Identified as a VC in the NIRB (2004) Guidelines for the Meadowbank EIS and included as a VC in the FEIS (Cumberland 2005a) ■ Territorial and Federal Legislation protects archaeological and palaeontological sites (Nunavut Archaeological and Palaeontological Sites Regulations 2001of the *Nunavut Act*; Territorial Land Use Regulations 2013 of the *Territorial Lands Act*; *Canada Oil and Gas Operations Act* in the Canada Oil and Gas Geophysical Operations Regulations 2012) ■ Inuit Qaujimajatuqangit identified heritage resources as VC with a request that archaeological surveys be conducted and identified archaeological and grave sites not be disturbed (Agnico Eagle 2014a; Cumberland 2005a; NIRB 2015a; Volume 7, Appendix 7-A)
Traditional Land and Resource Use ■ Wildlife harvesting (hunting and trapping) ■ Fishing ■ Plant Harvesting ■ Use of Culturally Important Sites	■ The maintenance of cultural ties to traditional and subsistence activities is essential to the social and emotional wellbeing of Inuit people today[a]. ■ Traditional activities are important to the traditional economy, for maintaining social relationships and cultural identity among Inuit populations[b]. ■ IQ encompasses knowledge of the land and its resources and the passing down of this knowledge through generations, the skills in applying this knowledge to livelihoods, and a value system rooted in responsible resource use, respect, sharing, collaboration, collective decision-making, and the development of skills[c]. ■ IQ provides cultural grounding and a sense of purpose and wellbeing; the ability to continue traditional land use activities and to retain traditional knowledge and skills is an integral part of IQ[d]. ■ Project activities have the potential to affect traditional land and resource use activities, including hunting, trapping, fishing and plant harvesting due to disturbance to preferred land use areas, changes in the availability of wildlife, fish and vegetation resources, and changes in access to traditional land use areas. Project activities may also affect the use of culturally important sites or areas, including historical resources, spiritually important sites and travel routes, due to disturbance to these sites or areas and changes in access to these sites or areas. ■ Project activities have the potential to affect opportunities for participation in traditional land and resource use activities.

[a] Dana and Anderson 2014; Freeman 2011.

[b] Nuttall et al. (2005).

[c] NIRB (2013, 2007, n.d.); Cumberland (2005b).

[d] Tagalik (2012).

VC = valued component; FEIS = Final Environmental Impact Statement; EIS = Environmental Impact Statement; NIRB = Nunavut Impact Review Board.

Table 7.1-2: Summary of Socio-Economic Valued Components

Valued Component	Topics Included	Rationale for Inclusion
Economic Development	■ Project Expenditures ■ Gross Domestic Product ■ Government Revenues ■ Business Development	Represents a key Project benefit, and measures the fiscal effect of the Project on local and territorial economies
Employment and Training	■ Employment ■ Incomes ■ Workforce Training ■ Community Education	Represents a key Project benefit, and measures the ability of the Project to create long-term capacity in the labour force
Individual and Community Wellbeing	■ Population, Demographics, and Migration ■ Health and Safety ■ Accidents and Emergencies ■ Family and Community Cohesion ■ Disturbances to Quality of Life	Identifies the way in which the Project will interact with people in their day to day lives
Infrastructure and Services	■ Housing ■ Physical Infrastructure ■ Social and Healthcare Services ■ Protective and Emergency Services	Identifies the Project's role in affecting demand for social and physical infrastructure and services

The VCs presented in Table 7.1-2 were then confirmed to be appropriate for the Whale Tail Pit and Haul Road, through an additional IQ study carried out in 2014 (Agnico Eagle 2014a), and consultation conducted in 2016 (Agnico Eagle 2016a-e). While not identified as VCs in the FEIS (Cumberland 2005b), the topics of governance and non-traditional land use are considered in this Addendum, as appropriate.

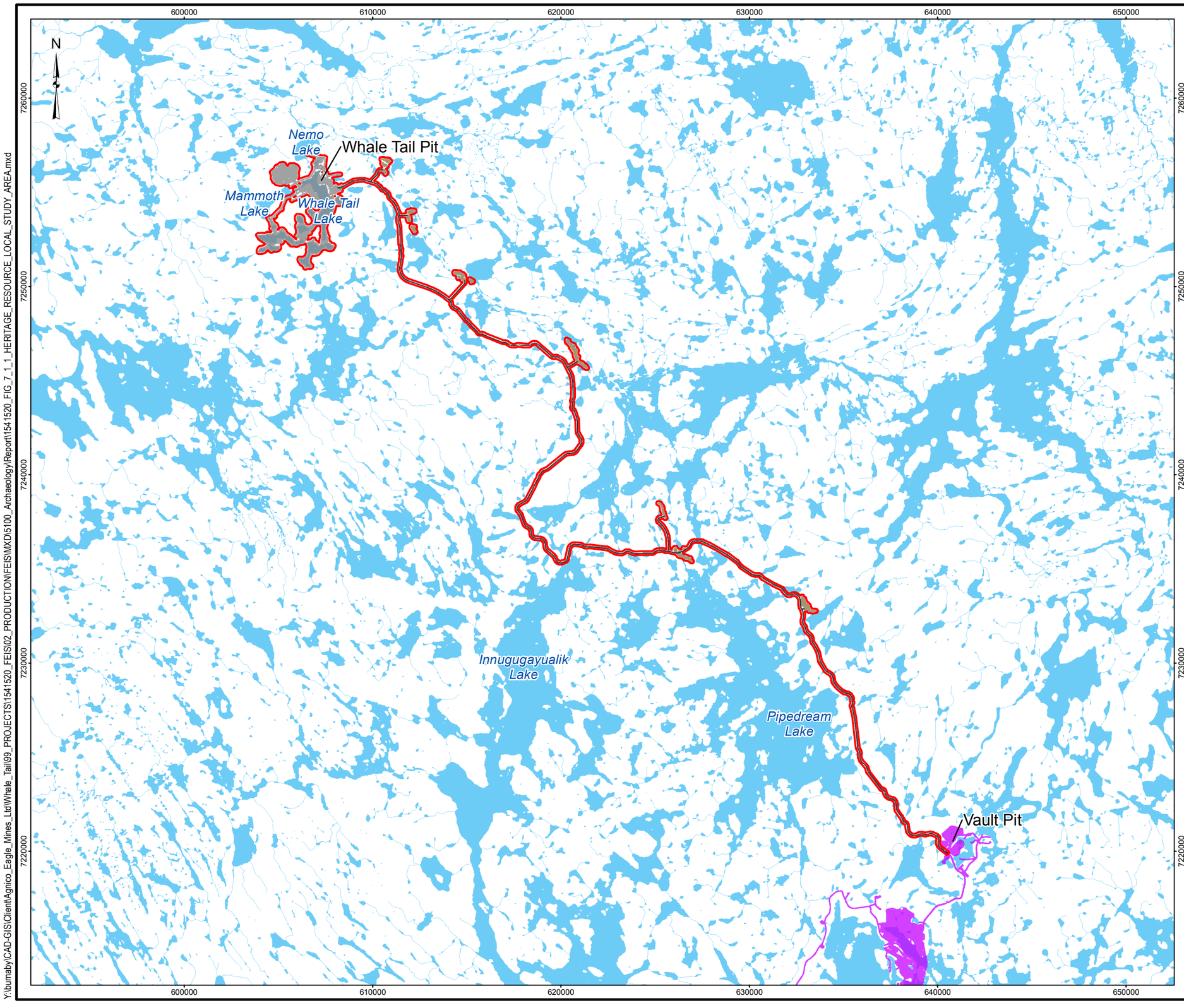
7.1.3 Spatial and Temporal Boundaries

7.1.3.1 Heritage Resources

Spatial Boundaries

The Local Study Area (LSA) for heritage resources is defined as the area that encloses the proposed haul road and Whale Tail Pit footprint (Figure 7.1-1). For the haul road, the LSA includes an area extending 25 metre (m) on either side of the road center line (a 50 m wide corridor), as well as proposed borrow locations on esker numbers 1 to 6 adjacent to the haul road. For the Whale Tail Pit, the LSA includes the footprint for the various Project facilities where Project activities will occur (e.g., Whale Tail Pit, waste rock storage facility, ore stockpile facility, overburden storage, camps, dikes, and other associated infrastructure).

Given the site-specific and stationary nature of heritage resources, this is the maximum area where direct and indirect Project effects to heritage resources could reasonably occur. There are no expected direct effects to heritage resources outside the LSA. As a result, a Regional Study Area (RSA) for heritage resources has not been defined, and all discussion will remain at the LSA scale.



LEGEND

- HERITAGE RESOURCE LOCAL STUDY AREA
- WHALE TAIL
  - BORROW SOURCE
  - INFRASTRUCTURE
  - PROPOSED HAUL ROAD
- MEADOWBANK
  - INFRASTRUCTURE/ALL WEATHER ROAD
  - WATERCOURSE
  - WATERBODY

NOTE

ARCHAEOLOGICAL SITES ARE PROTECTED BY TERRITORIAL AND FEDERAL LEGISLATION. SITE LOCATIONS ARE NOT SHOWN IN ACCORDANCE WITH THE ARCHAEOLOGICAL SITE DATA LICENSE AGREEMENT FOR PUBLICALLY AVAILABLE DOCUMENTS.

REFERENCE

1. WHALE TAIL INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED ON DECEMBER 21, 2015.
2. MEADOWBANK INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED ON NOVEMBER 12, 2015.
3. WATERCOURSE AND WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
4. INSET MAP DATA OBTAINED FROM ESRI

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

4 0 4
KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

HERITAGE RESOURCE LOCAL STUDY AREA

Golder Associates

PROJECT		1541520	FILE No.	
DESIGN	PY	24 Feb. 2016	SCALE AS SHOWN	REV. A
GIS	CDB	24 Feb. 2016		
CHECK	JR	29 Feb. 2016		
REVIEW	DRW	29 Feb. 2016		

FIGURE 7.1-1

Y:\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Whale_Tail\99_PROJECTS\1541520_FEIS\02_PRODUCTION\FEIS\MXD\5100_Archaeology\Report\1541520_FIG_7_1_1_HERITAGE_RESOURCE_LOCAL_STUDY_AREA.mxd

Temporal Boundaries

The temporal boundary for construction, operations, and closure of the Project is approximately seven years. This includes one year for construction, three to four years for operations, and two years for closure.

Potential direct effects to heritage resources are associated primarily with the construction and operations phase during ground altering activities and the removal of soil, vegetation, and bedrock. Heritage resources are non-renewable and can be permanently damaged or destroyed during these activities.

7.1.3.2 Traditional Land and Resource Use/ Inuit Qaujimajatuqangit

Traditional Land and Resource Use (TLRU) relies upon the availability of resources used for traditional harvesting, which are associated with the terrestrial and freshwater VCs (i.e., wildlife, vegetation, and fish). Therefore, the TLRU assessment of continued opportunities for traditional wildlife harvesting and traditional plant harvesting considers the terrestrial study areas used for wildlife and vegetation (Volume 5, Section 5.1.3.1.2), and the TLRU assessment of continued opportunities for traditional fishing considers the freshwater study areas used for fish (Volume 6, Section 6.1.3).

Effects on TLRU related to use of culturally important sites considers the effects on cultural sites and features, and effects on the acoustic environment, which are associated with the heritage resources and noise and disturbance VCs, respectively. Therefore, the TLRU assessment of continued opportunities for the use of culturally important sites considers the study areas used for heritage resources (Volume 7, Section 7.1.3) and noise and disturbance (Volume 4, Section 4.1.3).

For the purposes of the assessment of potential effects of the proposed Project on TLRU, the temporal boundary for construction, operations, and closure of the Project is about seven years. This includes one year construction, three to four years operations, and two years closure (Volume 3, Section 3.3.2).

7.1.3.3 Socio-economics

The spatial boundaries for the socio-economic effects assessment are delineated as either local or regional. Local effects are those expected to occur within the Kivalliq Region, particularly in Baker Lake (or the Hamlet). Regional socio-economic effects are those that occur at the territorial level (i.e., Nunavut).

The socio-economic assessment determines the effect of the Project on baseline conditions, and identifies the role of the Project in relation to Agnico Eagle's other Kivalliq projects (Meadowbank Mine and the Meliadine Project). Depending on the timing of the Project, it will have a different impact on the territorial economy and employment of Agnico Eagle workers in relation to the closure and operations of Meadowbank Mine and the Meliadine Project (respectively). Three development scenarios are compared for the assessment of economic and employment effects (Table 7.1-3): 1) the Project advances as currently planned; 2) the Project is delayed by a year, creating a gap in Agnico Eagle's Kivalliq operations in 2019; and 3) the Project does not move forward.

Table 7.1-3: Development Scenarios Used in Socio-Economic Modelling and Effects Assessment

Scenario 1: Project advances as planned, no gap between Meadowbank Mine closure and operations at Whale Tail Pit

Project	Ops Labour	2016	2017	2018	2019	2020	2021	2022
Meadowbank	693			Q4				
Meliadine	700							
Whale Tail Pit[a]	931		Q3		Q3		Q4	

Scenario 2: Project is delayed by one year, gap (2019) between Meadowbank Mine closure and operations at Whale Tail Pit and Meliadine Project

Project	Ops Labour	2016	2017	2018	2019	2020	2021	2022
Meadowbank	693			Q4				
Meliadine	700				Gap Year			
Whale Tail Pit[a]	931			Q3	Gap Year	Q3		Q4

Scenario 3: Project does not move forward, gap (2019) between Meadowbank Mine closure and operations at Meliadine Project

Project	Ops Labour	2016	2017	2018	2019	2020	2021	2022
Meadowbank	693			Q4				
Meliadine	700				Gap Year			

[a] Estimated to be a three to four year extension to Meadowbank Mine.

Construction
Operations
Closure

7.2 Heritage Resources

7.2.1 Incorporation of Inuit Qaujimajatuqangit

The following reports were reviewed for IQ-specific information related to heritage Resources:

- Inuit Qaujimajatuqangit Baseline Report 2015 (Volume 7, Appendix 7-A);
- Public Information Meeting Summary Report (NIRB 2015a);
- Proposed All-weather Exploration Road from the Meadowbank Mine to the Amaruq Site, Baseline Traditional Knowledge Report (Agnico Eagle 2014a); and
- Meadowbank Gold Baseline Traditional Knowledge Report (Cumberland 2005a).

7.2.1.1 Existing Environment and Baseline Information

Inuit Qaujimajatuqangit information helped focus and prioritize data collection methods and inform heritage resource baseline data. Through community meetings and engagement, culturally special places, locations of known or potential archaeological sites, as well as grave sites were identified in the LSA and broader region. Areas identified as culturally sensitive include a prominent esker northeast of the proposed haul road, of which small areas will be used as a borrow source, locations overlooking lakes, and at least one known grave site near the Whale Tail Pit (Agnico Eagle 2014a). As recommended during consultation, an archaeological survey has been carried out prior to any development of the haul road and Whale Tail Pit, and that local people and elders with knowledge of the land will participate with the archaeological teams (Agnico Eagle 2014a; NIRB 2015a; Volume 7, Appendix 7-A).

Local assistants participated in all baseline field studies and assisted with the identification and interpretation of archaeological sites and graves (Tischer 2014, 2015). Agnico Eagle also invited members from Baker Lake and the Hunter and Trapper Organization (HTO) to visit three archaeological sites recorded during baseline studies (two campsites: LhLa-4, LhLb-7, and one gravesite/campsite: LiLc-2) to discuss any concerns and share any knowledge or interpretations of the sites (NIRB 2015a; Tischer 2014).

7.2.1.2 Valued Component Selection

Through IQ data collection, heritage resources were identified as a VC (Volume 7, Appendix 7-A). It was expressed that valued archaeological sites and graves are important to the community and should not be disturbed (Agnico Eagle 2014a). Types of archaeological features that were mentioned by Baker Lake community members and the HTO include tent rings, caches, inuksuit, artifacts, camping areas, and spiritual areas (Agnico Eagle 2014a; Cumberland 2005a). Graves were specifically identified as features that should be located and avoided.

7.2.1.3 Impact Assessment

The impact assessment for heritage resources focused on the presence of archaeological sites, their distance from the proposed Project footprint, and the predicted level of impact. Heritage resource value or significance was considered when determining Project effects and mitigation measures. Both scientific and IQ perspectives were considered in the assessment.

Factors considered when evaluating the scientific significance of a site include site type, size, complexity, age, number and type of artifacts, and presence of intact, buried components. Beyond these tangible attributes, Inuit

perspectives of site value were also important criteria for evaluating sites. This perspective was incorporated through community meetings/engagement, and community member participation during baseline studies (Agnico Eagle 2014a; NIRB 2015a; Volume 7, Appendix 7-A). Subsequent field visits were made to those archaeological sites identified as having the greatest value to community representatives. During site visits, information regarding features/materials observed at each site was recorded, and any information regarding use by Baker Lake community members was documented, including any memories or stories passed down through elders.

7.2.1.4 Mitigation and Monitoring

Inuit Qaujimajatuqangit informed the development of mitigation and monitoring programs as they relate to heritage resources (Agnico Eagle 2014a; Cumberland 2005a; NIRB 2015a; Volume 7, Appendix 7-A). The main concerns raised were that archaeological and grave sites should not be disturbed. As indicated in Agnico Eagle's Amaruq Exploration Access Road Management Plan (2015a), Project design and construction will incorporate avoidance where possible to protect heritage resources. Where this is not possible, mitigation of archaeological sites directly affected by the Project will take place prior to construction. Mitigation measures required to reduce impacts to archaeological sites will be determined in consultation with the Nunavut Department of Culture and Heritage, and with the community of Baker Lake (specifically elders and the HTO Members).

7.2.2 Existing Environment and Baseline Information

Heritage resource baseline studies related to the Meadowbank Mine have been ongoing since 1999 (Webster 2004; Prager 2006; Tischer 2007, 2010, 2012). Baseline studies specifically related to the proposed Whale Tail haul road and pit have been carried out over four years (Tischer 2013, 2014, 2015, 2016).

7.2.2.1 Methods

Methods are detailed in the baseline assessments for the Project (Tischer 2013, 2014, 2015, 2016). In summary, methods included:

- a literature review of existing archaeological/IQ studies, as well as a database search for previously recorded archaeological sites in the LSA and immediately adjacent areas;
- a desktop overview to identify areas of potential that may contain undocumented archaeological sites within the LSA and adjacent areas (including topographic map and satellite imagery review); and
- a field study including helicopter aerial assessments of the LSA as well as ground inspection of high potential target areas to identify and record archaeological sites, if present.

Identified archaeological sites were documented in the following manner:

- archaeological feature and artifact locations were documented using a Global Positioning System to record Universal Transverse Mercator coordinates;
- digital photographs of each site were taken; and
- archaeological site record forms, describing site characteristics (including a sketch map), were completed for each site and submitted to the Nunavut Department of Culture and Heritage and the Canadian Museum of History for inclusion in the archaeological sites database.

Final permit reports summarizing previous research, assessment methods, and results were completed and submitted to the Nunavut Department of Culture and Heritage and Agnico Eagle.

7.2.2.2 Results

Between 2013 and 2016, one archaeological overview and three archaeological inventory studies of the proposed Project were undertaken by Nunami-Stantec. The results are summarized as follows:

- Permit 13-15A (Tischer 2013): Archaeological field work was conducted in the Whale Tail exploration area, including an assessment of five drill locations and adjacent priority areas. No archaeological sites were identified.
- In 2014, Nunami-Stantec (Tischer 2014) prepared an Archaeological Overview of the proposed all-weather access road (AWAR). This report included a summary of previous archaeological studies carried out in the region and described four previously recorded archaeological sites located within 1 kilometre (km) of the proposed road.
- Permit 14-017A (Tischer 2015): Archaeological field work was carried out in the Whale Tail exploration area and along a proposed winter road between Meadowbank Mine and the Whale Tail exploration area. Eight archaeological sites were identified and one previously recorded site was revisited.
- Permit 15-026A (Tischer 2016): Further field work was carried out in the Whale Tail exploration area and along the proposed haul road/borrow pit locations. Fifteen new archaeological sites were identified and three previously recorded sites were revisited.

As a result of baseline studies carried out in relation to the Project (Tischer 2013, 2015, 2016), a total of 19 archaeological sites have been identified within or adjacent to the LSA (Table 7.2-1). These archaeological sites suggest a long history of land use in the region by Inuit peoples. This is consistent with information provided by Baker Lake community members during the field studies and IQ engagement meetings. Eight archaeological sites were identified during assessment of the haul road, nine during assessment of borrow sources, and two during assessment of the Whale Tail Pit study area.

Table 7.2-1: Heritage Resources Recorded Within or Adjacent to Local Study Area

Project Component	Site	Site Type	Site Type Class	Description	Perceived Significance Value	Relationship to Project
Haul Road	LhLa-4	Campsite	Indigenous historic	Multiple features, including two tent rings, two hearths and wooden artifacts	High	Within haul road ROW (km 18.3)
Haul Road	LhLa-5	Marker	Indigenous historic?	Two rocks appear to be markers at a crossing of the Meadowbank River	Low	Within haul road ROW (km 23.8)
Haul Road	LhLa-10	Campsite	Indigenous historic? Prehistoric?	Multiple stone features were observed, including tent rings	High	Approximately 1.5 km southwest of haul road ROW (km 21)
Haul Road	LhLb-2	Campsite	Indigenous historic? Prehistoric?	Multiple stone features (caches, uprights, blinds)	High	Over 200 m southeast of haul road ROW (approx. km 32.5)
Haul Road	LhLb-3	Campsite	Prehistoric	Lithic artifact scatter as well as a possible tent ring; scatter extends at least 10 m to the south of the tent ring	High	Approx. 100 m southwest of haul road ROW (approx. km 32.5)
Haul Road	LhLb-5	Blind	Indigenous historic? Prehistoric?	Blind or shelter consists of a wall of cobbles and an area cleared of stone	Moderate	Approx. 100 m southwest of haul road ROW (approx. km 32.5)
Haul Road	LhLb-6	Cache	Indigenous historic? Prehistoric?	Three caches on a bedrock outcrop; lichen growth suggests the features are relatively old	Moderate	Over 200 m southeast of haul road ROW (approx. km 32.5)
Haul Road	LgLa-20	Campsite	Indigenous historic?	One tent ring on a rise in low rocky terrain	Moderate	Approx. 300 m west of haul road ROW
Borrow Pits	LhLa-6	Campsite	Prehistoric	A tent ring, likely of considerable age based on lichen growth; a scatter of lithic artifacts was observed 15 m south of the ring	High	Within Esker #2A
Borrow Pits	LhLa-7	Blind	Indigenous historic? Prehistoric?	Low, north facing hunting blind	Moderate	Within Esker #2A
Borrow Pits	LhLa-8	Cache	Prehistoric	Large cache appears to be very old based on lichen growth and developed sod	Moderate	Adjacent to Esker #2A

Table 7.2-1: Heritage Resources Recorded Within or Adjacent to Local Study Area (continued)

Project Component	Site	Site Type	Site Type Class	Description	Perceived Significance Value	Relationship to Project
Borrow Pits	LhLa-9	Cache	Indigenous historic?	Relatively recent cache; caribou antler observed in the cache	Low	Over 500 m south of Esker #2A
Borrow Pits	LhLb-7	Campsite	Indigenous historic? Prehistoric?	Multiple stone features, including tent rings (n=8), hearths (n=3), and a cache	High	Immediately adjacent to Esker #3
Borrow Pits	LhLb-8	Campsite	Indigenous historic? Prehistoric?	Two large tent rings	High	Immediately adjacent to Esker #3
Borrow Pits	LhLb-9	Campsite	Indigenous historic	Two large, poorly defined tent rings	Moderate	Immediately adjacent to Esker #3
Borrow Pits	LiLb-1	Campsite	Indigenous historic?	One hearth and one cairn or collapsed inukshuk	Moderate	Over 500 m to the east of the haul road ROW (km 61) between Esker #5 and 6
Borrow Pits	LiLb-3	Blind	Indigenous historic? Prehistoric?	A low hunting blind facing south on an esker	Moderate	Adjacent to Esker #4C
Whale Tail Pit	LiLc-1	Campsite	Indigenous historic	One well defined, square tent ring, one possible hearth, and wood pieces	High	Approx. 600 m north of the Whale Tail Freshwater Intake
Whale Tail Pit	LiLc-2	Campsite/ Grave	Indigenous historic	Burial cairn comprised of human remains covered by a pile of cobbles; tent rings (n=3?) and a scatter of historic wood and metal artifact are present	High	Over 1.5 km south of the Whale Tail Dike

ROW = right of way; km = kilometre; m = metre.

In summary, the types of heritage resources documented in baseline studies include:

- one marker site consisting of two stone uprights demarcating a crossing at the narrows of the Meadowbank River;
- three cache sites (two single and one multiple) located on prominent landforms overlooking the Meadowbank River;
- three hunting blind sites (also located on prominent landforms) consisting of large cobbles forming a low wall in the shape of an arc (n=2), or a circular pattern (n=1);
- 11 campsites consisting of a combination of stone tent rings, hearths, stone uprights, cairns, possible inuksuit, caches, wooden artifacts, and lithic scatters; and
- one burial cairn/campsite consisting of a grave, tent rings, and a wood and metal artifact scatter.

Three sites have been interpreted as prehistoric and contain either lithic artifact scatters from stone tool production or obviously old stone features that exhibit lichen and sod development. Eight sites were identified as potentially historic or prehistoric because they contained stone features, but no artifacts to assist with an age estimate. Eight sites were identified as historic based on the presence of more recent wood and metal artifacts, square tent outlines indicating use of canvas tents, or obviously recent stone features with little lichen or sod development.

7.2.3 Potential Project-related Effects Assessment

Potential pathways through which the Project could affect heritage resources are presented in Volume 3, Appendix 3-C, Table 3-C-8. There are no primary pathways anticipated for heritage resources.

The following pathways are anticipated to be secondary in relation to heritage resources and were carried through to the effects assessment:

- Construction activities that involve ground disturbance have the potential to impact archaeological sites by disturbing cultural deposits and features, damaging artifacts, hindering or increasing access to archaeological deposits, and destroying contextual information that is essential for interpreting site function and age.
- Operational activities that involve ground disturbance have the potential to impact archaeological sites by disturbing cultural deposits and features, damaging artifacts, hindering or increasing access to archaeological deposits, and destroying contextual information that is essential for interpreting site function and age.
- Closure activities that involve ground disturbance have the potential to impact archaeological sites by disturbing cultural deposits and features, damaging artifacts, hindering or increasing access to archaeological deposits, and destroying contextual information that is essential for interpreting site function and age.

The results of the archaeological baseline studies indicate there are 19 archaeological sites in the vicinity of the LSA (Tischer 2013, 2014, 2015, 2016). Of these 19 archaeological sites, the majority (n=15; 79 percent [%]) are located outside the LSA and will not be affected by the Project. Two sites are located greater than 500 m from

proposed Project components associated with the Whale Tail Pit (including burial cairn/campsite LiLc-2). Six sites (LgLa-20, LhLa-9, -10, LhLb-2, -6, and LiLb-1) are located greater than 200 m from haul road/borrow source boundaries. Seven sites (LhLa-8, LhLb-3, -5, -7, -8, -9, and LiLb-3) are located within 100 m of the haul road/borrow source boundaries.

The remaining four sites (LhLa-4, -5, -6, and -7) are located within the haul road or borrow source boundaries and potential Project effects are adverse. LhLa-5, which consists of two marker rocks, was evaluated as having limited scientific interpretive value. Recording and documentation is considered sufficient mitigation of this site. Pending approval from the Nunavut Department of Culture and Heritage, no further mitigation is recommended for this site. The remaining three heritage sites have been considered in Project planning, and appropriate mitigation measures as outlined in the Archaeological Management Plan (Volume 8, Appendix 8-E.8) will be implemented prior to construction of the proposed haul road and Whale Tail Pit (Table 7.2-2). With the implementation of appropriate mitigation measures, it is anticipated that there will be no or minimal Project effects to archaeological sites relative to baseline conditions.

Table 7.2-2: Heritage Resources within the Local Study Area Proposed for Mitigation

Site	Site Type	Description	Perceived Interpretive Value	Relationship to Project	Mitigation Measure
LhLa-4	Campsite	Multiple features, including two tent rings, two hearths, and wooden artifacts	High	Within haul road ROW (km 18.3)	Systematic Data Recovery
LhLa-6	Campsite	A tent ring, likely of considerable age based on lichen growth; a scatter of lithic artifacts was observed 15 m south of the ring	High	Within Esker #2A	Systematic Data Recovery
LhLa-7	Blind	Low, north facing hunting blind	Moderate	Within Esker #2A	Systematic Data Recovery

ROW = right of way; km = kilometre; m = metre.

7.2.4 Residual Impact Classification

Pathways for heritage resources have been assessed as secondary and are not assessed further. Potential residual effects to heritage resources are not considered significant after mitigation measures are applied.

7.2.5 Cumulative Effects Assessment

Pathways for heritage resources have been assessed as secondary and are not assessed further. Potential cumulative effects to heritage resources are not considered significant after mitigation measures applied.

7.2.6 Uncertainty

Future proposed changes to the Project footprint, if contemplated, or other ancillary activities will be assessed relative to the heritage resources VC through desktop review and field studies (where warranted) by a qualified archaeologist. Any data gaps will be addressed prior to ground disturbance activities by a qualified archaeologist. Agnico Eagle is committed to providing ongoing consultation with the community of Baker Lake (specifically Elders and the HTO Members) and to provide opportunities for participation in heritage resource

surveys and mitigation measures. These activities will address uncertainty with respect to potential Project effects to the heritage resources VC.

7.2.7 Mitigation and Monitoring

As indicated in the Archaeological Management Plan (Tishcer 2016), mitigation measures will be formulated to reduce or eliminate impacts to identified archaeological sites. Avoidance is the preferred mitigation measure where possible. Agnico Eagle was provided with site-specific locational information to use in Project planning and design to result in site avoidance where possible. It is anticipated that in most cases archaeological sites identified within close proximity to the haul road footprint will be avoided. Buffers of a minimum of 30 m extending from the nearest artifact or feature, as required by the *Territorial Lands Act,* will be determined based on the size and nature of each identified archaeological site. Sites identified within 100 m of Project boundaries will be marked with temporary fencing as a precaution (e.g., Road: LhLb-3, LhLb-5; Borrow: LhLa-8, LhLb-7, -8, -9, and LiLb-3). The condition of the sites will be periodically inspected to confirm they are in good condition.

Further, as per Agnico Eagle's Amaruq Exploration Access Road Management Plan (2015a), all road construction equipment will remain within the boundaries of the borrow pits to ensure nearby archaeological sites are not inadvertently damaged. Exploration activities in the Whale Tail Pit area are ongoing. Agnico Eagle has committed to avoid all archaeological sites in this area. This includes the grave site (LiLc-2), which is not in an area planned for disturbance. In a response prepared for NIRB (2015b), Agnico Eagle has committed to a minimum buffer of 100 m around this site.

In some cases avoidance of an archaeological site may not be possible due to engineering requirements (e.g., LhLa-4, -6, and -7). 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 can include systematic data recovery involving detailed site mapping, mapping of individual stone features, collection of artifacts, shovel testing, archaeological excavation, and/or community consultation. The objective of this mitigation is to offset adverse effects and generate positive effects by creating a detailed record of heritage resources that contribute to the archaeological and cultural record. As indicated in the Archaeological Management Plan (Volume 8, Appendix 8-E.8), acceptable mitigation measures will be formulated in consultation with Agnico Eagle, their archaeological consultants, the Department of Culture and Heritage (Government of Nunavut [GN]), and the community of Baker Lake (specifically elders and the HTO Members). Site-specific mitigation measures will be formulated for each individual site based on the nature and heritage value of the site. These mitigation measures will be implemented and completed to the specifications of the Department of Culture and Heritage prior to any construction related impacts to the site (Volume 8, Appendix 8-E.8).

As outlined in Agnico Eagle's Amaruq Exploration Access Road Management Plan (2015a) and Archaeological Management Plan (Volume 8, Appendix 8-E.8), should additional sites be identified at any time during construction or operations, work in the immediate area will cease, a professional archaeologist consulted and the Department of Culture and Heritage informed of the discovery. Construction will resume only after an evaluation of the site has been completed and proper mitigation measures devised (e.g., avoidance or systematic data recovery) in consultation with the Department of Culture and Heritage and community members.

Agnico Eagle is committed to providing an education program for mine staff and contractors that will provide general awareness training for the Proponent and Contractors that includes general guidelines for the appropriate response to the inadvertent discovery of known or suspected archaeological sites. This will aid in limiting direct and indirect effects to the heritage resources VC during construction, operations, and closure of the Project.

Agnico Eagle is committed to an ongoing program to monitor the condition of known archaeological sites adjacent to the Project footprint to reduce the potential for inadvertent impacts to the heritage resources VC during construction, operations, or closure.

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 Project.

7.3 Traditional Land and Resource Use / Inuit Qaujimajatuqangit

The preservation of traditional ways of life is critical to the quality of life for Inuit peoples, for maintaining social relationships, cultural identity, and the traditional economy (Nuttall et al. 2005). Traditional ways of life relates to the practice of subsistence activities, the retention of traditional skills, values and language (Cumberland 2005a). Inuit Qaujimajatuqangit encompasses not only knowledge of the land and its resources, and the passing down of this knowledge through generations, but also skills in applying this knowledge to livelihoods and a value system that rests on responsible resource use, respect, sharing, collaboration, collective decision-making, and the development of skills (Cumberland 2005a; NIRB n.d.). Inuit Qaujimajatuqangit provides a cultural grounding and sense of purpose and wellbeing, and is considered to be a significant contributing factor to the sustainability of Inuit people (Tagalik 2012). While participation in the formal wage economy is critical to the economic and social well-being of the community, this needs to be balanced with the ability to continue to practice subsistence activities, and to retain traditional skills, values, and language (Cumberland 2005a). This assessment will address the VC of TLRU as a component of traditional ways of life.

Project effects on continued opportunities for TLRU considers disturbance to preferred areas used for harvesting of resources, and changes in the availability of traditional resources used for harvesting (i.e., wildlife, fish, vegetation). Therefore, the TLRU assessment considers the results of the assessments of other VCs related to effects on the availability of resources. Beyond these tangible attributes of TLRU, this assessment also considers social and cultural perspectives of Nunavummiut, such as patterns of TLRU, and IQ principles and values, including the cultural and spiritual importance of traditional land use areas, resources and historic features, and Project-specific concerns related to traditional land use and resources. Therefore IQ principles and values are incorporated throughout the assessment.

7.3.1 Existing Environment and Baseline Information

The IQ baseline report describes in detail baseline information on TLRU (Volume 7, Appendix 7-A). This section summarizes the methods used to collect baseline information, and the results that are presented in the IQ baseline report, including TLRU, IQ and values, and Project-specific concerns and issues raised through Baker Lake community consultation and engagement activities. Concerns, recommendations, or requests for mitigation related to TLRU and IQ that were raised during consultation meetings, TK workshops, or group discussions between 2014 and 2016 for the Amaruq Exploration Access Road and for the Project are listed in Table 7.3-1 and have been integrated into the assessment, where appropriate.

Table 7.3-1: Community Concerns and Requests for Mitigation Related to Traditional Land and Resource Use

Topic of Concern	Issue/Concern and Requests for Mitigation Identified	FEIS Amendment Reference to Mitigation Measures
Access	■ The potential effects of the Project on traditional winter trail use to Gjoa Haven[h]	Agnico Eagle will work with the HTO and Elders to identify safe traditional land use crossing locations and construct ramps with signage.
Wildlife	■ Wildlife may no longer use certain areas for feeding due to dust generated from the haul road[d]	The potential effects of dust on wildlife will be minimized with the implementation of the Air Quality and Dust Management Plan (Volume 8, Appendix 8-E.1).
Caribou	■ *It was requested that Agnico Eagle and biologists continue to determine the potential adverse effects of the Project on caribou and to ensure the community and stakeholders are informed of the results*[a] ■ The potential effects of the mine on the taste of caribou meat[h] ■ Caribou are not as afraid of human activity and development as they previously were[a] ■ Caribou are becoming increasingly habituated to people and noise, and appear to be attracted to certain areas for feeding following blasting activities[e] ■ The potential effects on caribou from spills and accidents along the road; spills can persist for years[a] ▪ *It was requested that the environment be kept as clean as possible by avoiding spills, keeping fuel and contaminants off of the ground, and responding quickly to spills in case of an emergency* ■ The potential changes in caribou distribution[h] ■ The ability to continue to hunt caribou and rely on them as they are the main diet of many people[h] ■ The potential effects of the road on caribou, including changes in movement patterns and rocks causing injury[a,b,d,h] ▪ *It was requested that there is an increase in wildlife monitoring along the road, and a quicker response time, road closures and potentially the halting mine traffic and operations during key caribou migration periods* ■ The potential effects of construction activities on caribou[e] ▪ *It was requested that construction activities halt if caribou are in the vicinity* ■ The potential effects of dust on caribou and caribou habitat, plants and caribou feeding behavior[d,e,f,h] ▪ *It was requested that dust is monitored more and treated more effectively, possibly with CaCl*[h] ■ The cumulative effects of dust[d] ▪ *It was requested that the accumulation of dust is measured during both the summer and winter months*	An assessment of potential Project effects on caribou is provided in Volume 5, Section 5.5.3. A wildlife health risk assessment is provided in Volume 3, Appendix 3-B. The potential effects of spills and accidents on caribou will be minimized with the implementation the spill plan (Volume 8, Appendix 8-D.6). The potential effects of the road on caribou will be minimized with the implementation of the Terrestrial Environmental Monitoring Plan (Volume 8, Appendix 8-E.7). The efficacy of using CaCl was examined and the results are provided in the air quality effects assessment (Volume 4, Appendix 4-C). The potential Project effects of dust on caribou will be minimized with the implementation of the Air Quality and Dust Management Plan (Volume 8, Appendix 8-E.1).

Table 7.3-1: Community Concerns and Requests for Mitigation Related to Traditional Land and Resource Use (continued)

Topic of Concern	Issue/Concern and Requests for Mitigation Identified	FEIS Amendment Reference to Mitigation Measures
Furbearers/ Predators	■ Disturbance to dens of wolves, foxes, and wolverines near the Project footprint, especially at the Eskers along the road route[a,b c,e] ▪ *It was requested that the entire esker area is surveyed for den sites and signs of wolf use prior to the designation of borrow pits, and a local hunter who is familiar with the area assists with the survey* ▪ *It was requested that the road route is moved to avoid the esker with wolf dens* ■ The potential disturbance to wolves due to construction activities causing them to leave the area[b]	An assessment of potential Project effects on wolves, foxes and wolverines from the Project is provided in Volume 5, Section 5.5.3.1. Agnico Eagle is committed to surveying the esker complex prior to construction activities (Volume 8, Appendix 8-E.7).
Birds	■ The potential effects of the Project on migratory birds[h]	An assessment of potential Project effects on waterfowl is provided in Volume 5, Section 5.5.3.1.
Fish	■ The potential effects of the mine on fish and fish habitat[b,h] ■ The potential effects of dust generated from the road on fish[h] ▪ *It was requested that additional studies are conducted on the effects of dust on fish and fish habitat*	An assessment of potential Project effects on fish and fish habitat is provided in Volume 6, Section 6.5. The potential Project effects of dust on fish and fish habitat will be minimized with the implementation of the Air Quality and Dust Management Plan (Volume 8, Appendix 8-E.1). Monitoring of fish and fish habitat is addressed through the implementation of the Core Receiving Environment Monitoring Program, and through Environmental Effects Monitoring.
Water	■ Watercourse crossings[b] ■ The protection of lakes from disturbance due to construction activities[h] ■ The protection of water from spills and accidents along the road, and its potential impact to rivers, streams and lakes that caribou rely on for migrating[h] ■ The potential effects of the mine on water quality, including changing color and dust, and decreased confidence in this water as a source for drinking[g]	An assessment of potential Project effects on water quality is provided in Volume 6, Section 6.4. The potential Project effects of spills and accidents on water quality will be minimized with the implementation of the spill plan (Volume 8, Appendix 8-D.6). Potential Project effects on water quality will be minimized through implementation of the Aquatic Effects Management Program, the

Table 7.3-1: Community Concerns and Requests for Mitigation Related to Traditional Land and Resource Use (continued)

Topic of Concern	Issue/Concern and Requests for Mitigation Identified	FEIS Amendment Reference to Mitigation Measures
		Core Receiving Environment Monitoring Program, and the Water Quality and Flow Monitoring Plan (Volume 8, Section 8.3.2, and Appendix 8-B.3).
Vegetation	■ The effect of dust generated from the road on wildlife habitat and vegetation in general, and on plants that caribou rely on for food[d,g] ▪ *It was requested that dust is monitored more and treated more effectively, possibly with CaCl* ■ The protection of the land from potential spills and accidents along the road due to the Project[h] ▪ *It was requested that the environment is kept as clean as possible by avoiding spills, keeping fuel and contaminants off of the ground, and responding quickly to spills in case of an emergency*	An assessment of potential Project effects on vegetation is provided in Volume 5, Section 5.4.3. The potential Project effects of dust on vegetation will be minimized with the implementation of the Air Quality and Dust Management Plan (Volume 8, Appendix 8-E.1). Agnico Eagle examined the efficacy of using CaCl (Volume 4, Appendix 4-C). The potential Project effects of spills and accidents on vegetation will be minimized with the implementation of the spill plan (Volume 8, Appendix 8-D.6).
Cultural Sites and Travel Routes	■ The protection and maintenance of traditional travel routes[c,h] ▪ *It was requested that ramps are constructed and maintained at traditional trail sites for the proposed exploration road* ▪ *It was requested that land users have access to the new exploration road to facilitate access to these travel routes* ■ Concerns for the protection of graves and other archaeological sites, including caches and tent rings[a,b,c,f] ▪ *It was requested that they not be disturbed* ▪ *It was requested that cultural and archaeological surveys are conducted prior to road construction, with the assistance of local people who are familiar with the area and with identifying the gravesites* ▪ *It was requested that more time on the ground is provided in order to assess the Project area and identify additional cultural and historic sites* ▪ *It was requested that the opportunity to return to the Project area is provided to place crosses at gravesites, so these sites can be recognized as graves*	Agnico Eagle will work with the HTO and Elders to identify safe traditional land use crossing locations and construct ramps with signage. An assessment of potential Project effects on heritage resources is provided in, Volume 7, Section 7.3 Agnico Eagle adjusted access road alignment to avoid as many cultural sites as possible, lengthening the road. Agnico Eagle has not impacted any gravesites. The potential Project effects on cultural sites

Table 7.3-1: Community Concerns and Requests for Mitigation Related to Traditional Land and Resource Use (continued)

Topic of Concern	Issue/Concern and Requests for Mitigation Identified	FEIS Amendment Reference to Mitigation Measures

	■ The potential destruction of all cultural sites due to the road route and borrow pits[4,5,8]
	  ▪ *The road route be changed to avoid these sites, or a 500 m buffer be placed around gravesites*
	■ The proposed mitigation at a specific site involving the removal or reconstruction of structures located at Borrow Pit Esker #2[e]
	  ▪ *It was requested that all historical and archaeological sites needed to be respected, preserved and if possible avoided.*
	  ▪ *It was requested that the opportunity to collect some of the pegs that are near the Project footprint is provided to preserve them, as they are likely from the 1940s (and not that old)*[c]
	  ▪ *It was requested that the opportunity to participate in the archaeological mitigation work in 2016 be provided as an educational experience for youth*
	  ▪ *It was requested that road access is provided in the future in order to facilitate access to cultural sites for youth learning opportunities*[d]
	■ The potential effect of dust on caches located near the road. Hunters are no longer able to cut up and cache meat near the road due to dust accumulation on the ground[c,f,h]
	  ▪ *It was requested that dust is suppressed, be monitored more frequently, and treated more effectively, possibly with CaCl*
	  ▪ *It was requested that the accumulation of dust is measured during both the summer and winter months*
	  ▪ *It was requested that Agnico Eagle donate seacans to the community for meat storage*
		will be mitigated with the implementation of the Archaeology Management Plan (Volume 8, Appendix 8-E.8).
		
		Mitigation measures will be implemented according to the approved Road Management Plan and specifications of the GN Department of Culture and Heritage prior to construction activities.
		
		The potential Project effects of dust on cultural sites will be minimized with the implementation of the Air Quality and Dust Management Plan (Volume 8, Appendix 8-E.1).

[a] Agnico Eagle (2014a).

[b] Agnico Eagle (2015e).

[c] Agnico Eagle (2016a).

[d] Agnico Eagle (2016b).

[e] Agnico Eagle (2016c).

[f] Agnico Eagle (2016e).

[g] Agnico Eagle (2016d).

[h] NIRB 2015a

FEIS = Final Environmental Impact Statement; HTO = Hunter and Trapper Organization; GN = Government of Nunavut; CaCl = Calcium chloride; m = metre.

7.3.1.1 Baseline Study Methods

Information presented in the IQ baseline report came from a variety of sources including a literature review of publicly available sources, and information provided directly by Baker Lake Elders, land users, and other community members, including women and youth. Information provided directly by Baker Lake stakeholders and other community members was collected through the following engagement or consultation activities related to the Project or Project area:

- a traditional knowledge workshop conducted with ten Baker Lake Elders on December 9 and 10, 2014, related to the Proposed All-weather Exploration Road between the Meadowbank Mine and the Amaruq Site;
- participation of local community field assistants in the 2015 field programs conducted for the Project;
- a consultation meeting and site visit with thirteen Elders and land users from the Baker Lake HTO, the Community Lands and Resources Committee (CLARC), and the Kivalliq Inuit Association (KIA) on September 8, 2015;
- a follow-up consultation meeting with six members of the CLARC on February 4, 2016;
- a follow-up consultation meeting and six members of the HTO on February 4, 2016;
- a follow-up TK/IQ workshop and consultation meeting with thirteen Baker Lake Elders, including the original group of Elders who participated in the December 2014 TK workshop, plus several additional Elders on February 5, 2016;
- a group discussion with seventeen students from the Jonah Amitnaqq high school (grades 9-12) in Baker Lake on February 3, 2016; and,
- a group discussion with eight women from the community on February 3, 2016.

Additional consultation meetings related to the Project were held in 2015 and 2016 with Baker Lake stakeholders and other community members. Traditional knowledge and land use information shared, and concerns and issues raised at the 2015 meetings were included in the IQ baseline report and integrated into this assessment. Any proposed recommendations or requests for Project specific mitigation are presented in Table 7.3-1. The results of consultation meetings held in March 2016 for the Project will be considered in Project planning.

7.3.1.2 Existing Environment and Baseline Information

The results of the IQ baseline report is presented in Volume 7, Appendix 7-A.

The Traditional Economy

The traditional economy remains important to Inuit individual and community wellbeing, for cultural, economic, and health reasons, and in 2012 it was reported that approximately 90% of the Baker Lake community harvested regularly (every few weeks to almost every day) (Peterson 2012). Today, Baker Lake community members maintain a balance between waged employment to pay for commercial goods and services, and practicing traditional harvesting activities to feed their families and maintain cultural ties (also see Section 7.4).

Wildlife Harvesting

Caribou

- Caribou are considered a vital traditional resource to the community as a primary food source, and caribou hunting is the most wide-ranging harvesting activity practiced in the area and is conducted year-round. In the past, caribou were hunted anywhere they were encountered in the region, and often at crossing places, where large numbers of caribou encounter rivers and lakes during their migration. The Project area was used by local people in the past, primarily as a travel corridor between Baker Lake and the Back River, and caribou harvesting was practiced in the region based on caribou accessibility. Areas most frequently used to hunt caribou were within 10 km of Baker Lake during the late 1970s, with use decreasing further north (IDS 1978). Studies conducted between 2001 and 2008 indicated that Baker Lake hunters prefer to hunt between approximately 10 and 64 km of the community, depending on caribou availability and other factors (Kendrick and Manseau 2008; AREVA 2011).

- Use of the area between Baker Lake and Meadowbank Mine for caribou hunting has increased in recent years due to the development of the AWAR. Hunter harvest survey results indicate that before the AWAR was built (between 1996 and 2001), 67% of harvests occurred within 50 km of the proposed road, and after the AWAR was constructed (between 2007 and 2014), use fluctuated between 73 and 85% within 50 km of the road. (Agnico Eagle 2015g, 2016f). Elders added that they do travel past the Project site to hunt when they are able to, since the caribou are considered to be in better health in that area.

- Elders and Baker Lake hunters indicated that caribou appear to be shifting their distribution in recent years further from Baker Lake and north of the Meadowbank Mine, resulting in decreased abundance and availability near the community, which was attributed to the effects of exploration activities, aircrafts and transport trucks. Baker Lake land users have also observed that climate change is having an impact on caribou movements, behavior and habitat, including shifts in migration patterns and foraging habitat, and increased mortality from starving due to the unpredictable freeze-thaw cycle and from drowning due to thin ice.

Furbearers /Predators

- Trapping activity has decreased in intensity over the years due to the low price of furs; however, some community members continue to trap today, and furbearing animals still play an important role in Inuit culture and way of life. Arctic fox are the primary species targeted for trapping, and Arctic wolf and wolverine are taken incidentally during caribou hunting or fox trapping excursions. Trapping activity in the Meadowbank Mine area and Project area was limited in the past, and mostly occurred in areas closer to Baker Lake; however, wolf harvesting has increased in recent years in the Meadowbank Mine area.

Birds

- Birds, including waterfowl and geese, provide an important alternate food source for the local people and are harvested during spring migration near lakes and rivers close to Baker Lake. Snow goose, Canada goose, and greater-white fronted goose are the most commonly harvested species, followed by Northern pintails, long-tailed ducks, and tundra swans. Ptarmigan are hunted opportunistically wherever they are found.

Fishing

- Fish provide an important secondary source of food after caribou for Baker Lake residents, and fishing is a year round activity that occurs over a wide area. Preferred fishing areas used today include several lakes and rivers close to Baker Lake. Fishing sites in the Project area were used in the past, including Nutipilik, Qugiilik, Tahinajuk, Hiatuuq, Kivgajulik, Haninajuq, Uiguklik, and Tasirjuaraajuk Lakes. Some of these lakes may still be used opportunistically today by people while travelling through the area. Lake trout and Arctic char are preferred species harvested for food, and Arctic grayling, broad and round whitefish, and a smaller fish (potentially cisco) are also harvested.

Plant Harvesting

- Traditional plant use was extensive in the past, and plants were valued for the different purposes they served, including food, medicine, shelter, and tools. Vegetation is considered important in the context of providing important wildlife foraging habitat, especially for caribou. Baker Lake Elders continue to use wild plants today, although not as extensively as previously. Other Elders reported that they no longer use traditional medicines, but continue to collect berries for consumption or use in jams and tea. Crowberry, blueberry, blackberry, red berry, and cloudberry are reported to be used

Use of Cultural Sites and Trails

- Traditional land use and cultural sites that were identified in the region and potentially located near many of the lakes in the Project area and along eskers adjacent to the Project footprint include trails, camps, cabins, caching sites, gravesites, and other culturally important sites (Volume 7, Appendix 7-A, Figure 3-2). The protection of historic sites and the maintenance of traditional travel routes is considered critical to the Elders of Baker Lake, for transferring knowledge to future generations and to educate youth.

- Two main travel routes that overlap with the Project area were used in the past, and followed several lakes when they were frozen (Volume 7, Appendix 7-A, Figure 3-1). The AWAR is used today to access preferred harvesting areas. Water crossing sites for caribou that were considered preferred camping and hunting sites were identified crossing Uiguklik Lake, Nutipilik Lake, Tasirjuaraajuk Lake, and Hiatuuq Lake. None of these crossing sites overlap with the Project footprint (Volume 7, Appendix 7-A, Figure 3-1). Cache sites were important in the past and were also associated with camping; tent rings and cache sites were identified as potentially located adjacent to Tahinajuk and Nutipilik lakes, and three large caching areas were identified, one of which overlaps with the Project footprint (Volume 7, Appendix 7-A, Figure 3-2). Elders confirmed three different cache sites near the Project footprint during a site visit in 2015; two are located over 200 m southeast of the haul road, and one is located adjacent to an Esker (Section 7.2.2). Two camping areas were identified near the Project footprint, including north of Nutipilik Lake, approximately 10 km east of the haul road, and south of Uiguklik Lake, approximately 25 km south of the haul road. Both camping areas are situated along travel routes and near caribou migration routes. Grave sites were noted to be located to the west of the haul road and Whale Tail Pit, and one gravesite location was confirmed by Elders during a site visit in 2015, but was located over 500 m from the Project footprint (Section 7.2.2.2).

Weather and Climate

- Traditionally, Inuit land users have relied on the weather for generations to help them navigate daily activities, including safe travelling and successful hunting. Baker Lake Elders and land users have

observed changes in weather patterns over the past 10 to 20 years, including changes in the length and timing of traditional Inuktitut seasons, unpredictable weather and winds, changes in the direction of the prevailing wind, stronger winds, and storm behavior. Changing weather patterns have also affected traditional land use activities and resources (Volume 7, Appendix 7-A).

7.3.2 Potential Project-related Effects Assessment

A pathway analysis was conducted to identify linkages between the Project and TLRU. Pathways determined to have no linkage or those that are considered secondary are not predicted to result in significant effects on TLRU and are summarized in Appendix 3-C, Table 3-C-9. Primary pathways are those where effects from the Project will likely result in a measurable change to measurement indicators that could contribute to residual effects on TLRU relative to baseline conditions. Primary pathways that require further effects analysis to determine the cultural significance from the Project on TLRU have been carried forward for the assessment.

Pathways potentially leading to effects on TLRU include direct and indirect effects. For the purposes of this assessment, direct effects are related to changes in access to TLRU areas, including culturally important sites (e.g., spiritual, grave sites), or disturbance to land that would result in the land no longer being available for traditional activities. Direct effects also include the alteration or removal of culturally important features or sites. Indirect effects are related to changes in the availability of resources, such as wildlife, vegetation, and fish used by traditional harvesters. Indirect effects are therefore related to residual adverse effects on other aspects of the environment, such as changes in the quantity, or abundance and distribution of vegetation, wildlife, and fish resources, and changes in the quality of these resources. Indirect effects are also related to avoidance of traditional land use and cultural sites based on people's perceptions of changes to these sites. For cultural sites, indirect effects include effects on the enjoyment of these sites and changes in the quality of sites or features (e.g., noise disturbance, dust).

As a result, the assessment of Project effects on continued opportunities for TLRU considers the effects of VCs as described in the following sections:

- Wildlife and Wildlife Habitat (Volume 5, Section 5.5) - traditional wildlife harvesting;
- Fish and Fish Habitat (Volume 6, Section 6.5) - traditional fishing;
- Vegetation (Volume 5, Section 5.4) - traditional plant harvesting; and
- Heritage Resources (Section 7.2) and Noise and Vibration (Volume 4, Section 4.4) - culturally important sites.
- This assessment also considers intangible aspects TLRU, including patterns of TLRU and IQ principles and values, including the cultural and spiritual importance of traditional land use areas, resources and historic features, and Project-specific concerns related to traditional land use and resources.

7.3.2.1 Primary Pathways Effects Analysis

Table 7.3-2 provides the primary pathways that require further effects analysis to determine the cultural significance from the Project on TLRU. The evaluation of Project effects on TLRU considers changes to the following measurement indicators and associated primary pathways.

Table 7.3-2: Primary Pathways and Measurement Indicators

Primary Pathway	Associated Indicators
■ Project activities may affect continued opportunities for traditional wildlife harvesting	■ disturbance to preferred traditional wildlife harvesting areas ■ changes in the availability of traditionally harvested wildlife resources (caribou, furbearers, birds) ■ social and economic factors affecting participation in traditional land use activities
■ Project activities may affect continued opportunities for traditional fishing	■ disturbance to preferred traditional fishing areas ■ changes in the availability of traditionally fished resources ■ social and economic factors affecting participation in traditional land and resource use activities
■ Project activities may affect continued opportunities for traditional plant harvesting	■ disturbance to preferred traditional plant harvesting areas ■ changes in the availability of traditionally harvested plant resources ■ social and economic factors affecting participation in traditional land resource use activities
■ Project activities may affect continued opportunities for the use of culturally important sites	■ disturbance to preferred use or culturally important areas ■ changes in the availability of traditionally important cultural and historic sites or features ■ social and economic factors affecting participation in traditional land resource use activities

7.3.2.1.1 Continued Opportunities for Traditional Wildlife Harvesting

Continued opportunities for traditional wildlife harvesting (hunting and trapping) considers potential effects of the Project on wildlife and wildlife habitat that may result in changes in the availability of wildlife resources for harvesting purposes, and changes in traditional land use patterns. Inuit Qaujimajatuqangit values and concerns are also considered in assessing potential effects on traditional wildlife harvesting. Potential Project effects on terrestrial wildlife and birds were analyzed and results are provided in Volume 3, Appendix 3-C, Table 3-C-3. Primary pathways that are likely to result in measurable environmental changes and residual effects on wildlife were identified for caribou and birds (Volume 5, Section 5.5.3.1), and are related to changes in wildlife habitat quantity, wildlife habitat quality, and wildlife survival and reproduction. Upland birds were not identified as a preferred species for harvesting by Baker Lake harvesters other than ptarmigan, which is harvested opportunistically and closer to Baker Lake. Therefore, potential effects to continued opportunities for traditional wildlife harvesting only considers effects on the harvesting of caribou and waterbirds (waterfowl and geese).

Inuit Qaujimajatuqangit baseline results indicated that Arctic fox is a traditionally important species for trapping, and Arctic wolf and wolverines are occasionally trapped. These furbearers remain highly valued for their cultural and ecological significance. Baker Lake Elders and other land users frequently expressed concerns related to Project effects on Arctic wolf and Arctic fox and their denning habitat. Mitigation measures will be implemented to reduce potential effects on furbearers, including conducting surveys at borrow sites prior to quarry activities to identify and avoid predatory mammal dens and are outlined in Volume 5, Section 5.5 and in the Terrestrial Environmental Monitoring Plan. No environmentally significant effects were anticipated for muskox, predatory mammals (Arctic wolf, wolverine, grizzly bear), raptors and small mammals, following the implementation of mitigation measures, and these pathways were not assessed in the residual effects analysis for wildlife and

wildlife habitat (Volume 5, Section 5.5; Volume 3, Appendix 3-C). Therefore, no significant changes to the populations of Arctic Wolf and wolverine are expected. Inuit Qaujimajatuqangit baseline results indicated that trapping activities are practiced closer to Baker Lake, therefore furbearers, including Arctic fox, Arctic wolf, and wolverine will still be available for trapping in preferred trapping locations, and in the greater region. As a result, effects to these furbearers are not considered within the analysis of effects on opportunities for traditional wildlife harvesting.

It is anticipated that loss of waterbird breeding habitat and the potential destruction of nests will occur due to flooding at the Project as a result of the construction of dikes (Volume 5, Section 5.5.4.1). This effect is considered low magnitude, since it is local in geographical extent, is short-term, and is not expected to have a long-term effect on local waterbird populations. Waterfowl and geese were noted to provide an important alternate food source for the local people, and preferred harvesting locations were identified near lakes and rivers close to Baker Lake. Therefore it is anticipated that waterfowl and geese will continue to be available for harvesting, as the Project area has limited or no documented traditional land use for this purpose. With the implementation of mitigation measures the availability of waterfowl and geese for harvesting is not expected to change due to the Project in a significant way, relative to baseline conditions.

Direct loss and fragmentation of wildlife habitat due to the Project footprint are expected to have a measureable effect on caribou that is considered moderate in magnitude (Volume 5, Section 5.5.4). However, the amount of habitat that will be lost will be at the local scale and is not likely to have a continuous effect on wildlife populations due to the amount of habitat available for caribou populations in the RSA and beyond. Similarly, the magnitude of cumulative effects related to habitat loss for caribou is considered low because of the large amounts of remaining intact habitat within the caribou range.

Changes in caribou movement patterns is expected due to indirect habitat loss from sensory disturbance and due to barriers to migration (Volume 5, Section 5.5.4.1). Indirect changes to preferred habitat has the potential to affect caribou through altered movement and avoidance behaviour at the regional scale, leading to potential changes in distribution. The implementation of mitigation measures, including managing traffic volumes and road closures during peak migration periods, enforcing speed limits, providing wildlife with the right-of-way on all roads, designing roads with low profiles and avoiding the build-up of snowbanks in the winter, will help to minimise the effects of sensory disturbance and barriers to migration. The magnitude of these effects is considered to be moderate, continuous throughout the life of the Project and reversible following closure (Volume 5, Section 5.5.4.1). Changes in the availability of caribou for harvesting in certain areas within the Project regional area are anticipated due to the effects of the Project, based on anticipated changes in caribou movement patterns and distribution (Volume 5, Section 5.5.4.1).

Inuit Qaujimajatuqangit indicates that caribou are considered the most important traditional resource to the community as a primary food source, and caribou hunting is the most wide-ranging harvesting activity that is practiced year-round. The traditional harvesting of wildlife, especially caribou, remains important to the Baker Lake community for cultural, economic, and health reasons. Preferred harvesting areas are variable among individual hunters, and are based on numerous factors including caribou movement patterns and personal preference. Preferred harvesting areas include “convenient” locations, remote locations less frequented by others, and areas requiring long distance travel over several days, including up to 300 km northwest of town (Agnico Eagle 2016f; Kendrick and Manseau 2008). Caribou harvesting locations have been reported to be within approximately 64 km of Baker Lake (Kendrick and Manseau 2008; AREVA 2011), located south of the

Project. Caribou harvesting in areas north of Baker Lake have increased with the development of the AWAR (Agnico Eagle 2015g, 2016f). Hunters will continue to have access up to km 85 along the AWAR as it will remain open for the duration of Mine operations, however, they will not have access to the haul road including the Whale Tail Pit since public use is not permitted within operational areas. Elders indicated that they continue to use the area north of the Project site when they are able to (Agnico Eagle 2016f). There is limited data available on caribou harvesting patterns in the Project area, however, the available data suggests that preferred harvesting locations are variable and dependent on numerous factors, and some may overlap with the Project footprint.

Community members frequently noted that caribou change their migration patterns in different areas and in different years, and the reasons provided for these changes are varied and appear to depend on numerous factors (Cumberland 2005a; AREVA 2011; Agnico Eagle 2014a, 2015e, 2016a). Community members, including hunters, Elders, and youth indicated that caribou appear to be shifting their distribution in recent years, and are migrating further north of the Meadowbank Mine rather than along their traditional routes closer to the community (Agnico Eagle 2014a, 2016b, 2016c; Maksimowski 2014; AREVA 2011). There is also a perception among Elders that caribou health and therefore meat, is of higher quality north of the Meadowbank Mine compared to closer to town (Agnico Eagle 2016b). Community members attributed changes in caribou migration routes to development, and reported decreased abundance due to the Meadowbank Mine, resulting in less availability for harvesting closer to the community (AREVA 2011; Agnico Eagle 2016b, 2016c). Some harvesters expressed concerns with potential changes in caribou distribution due to Project activities, and their ability to continue to hunt and rely on caribou as the main diet for the community (NIRB 2015a). On the other hand, other community members noted that it is not unusual for caribou to change their migration routes about every 50 years (Maksimowski 2014), and hunters have suggested that weather and snow conditions play a greater role in defining caribou distribution than other factors (Kendrick and Manseau 2008). Community members have also observed changes in caribou habitat and range and shifts in migration patterns due to the impacts of climate change (Cumberland 2005a; Thorpe 2000; GN 2005).

The Meadowbank Mine has had an impact on traditional harvesting patterns from a socio-economic perspective. For some, the impacts have been beneficial; the combination of resources for the purchase of hunting supplies facilitated by wage employment, and the development of the AWAR has allowed some individuals to hunt more animals, over a larger geographic area (Peterson 2012; Agnico Eagle 2016f). On the other hand, some have indicated that participation in the wage economy has resulted in a decrease in harvesting activities due to a lack of time and resources, and observations of decreased caribou availability and accessibility as a result of the Meadowbank Mine (Maksimowski 2014). Potential shifts in caribou movements and distribution away from the community and further north may not affect caribou availability and opportunities for traditional harvesting for hunters who have the means and resources to access caribou in these areas, but may reduce opportunities for other hunters who are lacking the time, resources and skills to access caribou further away from the community.

Changes in caribou movement patterns and distribution in the Project terrestrial RSA are anticipated as described in the wildlife and wildlife habitat assessment. Based on these results, and considering Inuit observations of changes in caribou movement patterns further north of the Mine site, there is the potential that hunters will have to adapt their harvesting and land use patterns in the future to reflect shifts in caribou distribution and changes in availability in certain areas. However, the vast majority of caribou range is undisturbed, and a reduction in caribou survival is not expected due to the Project, therefore caribou will still be available in preferred harvesting locations close to Baker Lake and in areas north of the community that are

accessed by the AWAR. Access to harvesting sites from the AWAR up to km 85 will still be available to land users, and access will not be affected through the Project area during operations, since important trails and all-terrain vehicle or snowmobile crossing points potentially intersecting the haul road and Whale Tail Pit will be identified and marked with signs. Continued opportunities for traditional harvesting of wildlife is expected to decrease for some traditional land users due to the Project, based on expected shifts in caribou distribution and potential changes in availability, combined with barriers to participation in traditional hunting activities for some, however the effect is anticipated to be limited. Rotational employment will facilitate participation in hunting activities for employees during their time off so that traditional activities can be balanced with wage employment (Volume 7, Section 7.4.3.4). Caribou meat from these harvests can still be shared with other community members, providing access to traditional foods for those who may not have the means to participate in traditional activities.

7.3.2.1.2 Continued Opportunities for Traditional Fishing

Continued opportunities for traditional fishing considers potential effects of the Project on fish and fish habitat that may result in changes in the availability of fish resources for fishing purposes, and changes in traditional land use patterns. Inuit Qaujimajatuqangit values and concerns are also considered in assessing potential effects on traditional fishing. Potential Project effects on fish and fish habitat were analyzed and results are provided in Volume 3, Appendix 3-C, Table 3-C-7. Primary pathways that are likely to result in measurable environmental changes and residual effects on fish and fish habitat were identified and are related to changes in fish habitat quantity and quality, fish abundance and distribution, and survival and reproduction (Volume 6, Section 6.5).

The Project is anticipated to affect fish and fish habitat primarily as a result of localized direct habitat losses, and these changes are expected to have a measurable effect on Arctic Char, Lake Trout, and Round Whitefish, species that rely on coarse substrate habitat for spawning, and rearing in Mammoth and Whale Tail Lakes (Volume 6, Section 6.5.4). The direct mortality from dewatering and fish-out activities is expected to result in measurable effects to the abundance and distribution of fish species in Mammoth and Whale Tail Lakes to post-closure. Indirect effects of the Project on fish and fish habitat will also result from changes in hydrology and water quality, and are expected to have a moderate impact on Arctic Char, Lake Trout, and Round Whitefish, occurring on a localized scale (Volume 6, Section 6.5.4). Operational flooding is expected to increase lake habitat in Whale Tail Lake (South Basin).

Fish is a secondary source of food after caribou for the Baker Lake community, and are a highly valued resource. In 2006, 77% of adults in Baker Lake reported fishing, and in 2016, 88% of youth indicated that they fished (Statistics Canada 2011a; Agnico Eagle 2016d). Lake trout and Arctic char were identified as preferred fish species harvested for food, and preferred fishing sites are located in lakes and rivers close to the community. Historically, several sites located in the near the Project were used for fishing when people travelled through the region between Baker Lake and the Back River, camping along the way. Fishing sites that were identified include Nutipilik, Qugiilik, Tahinajuk, Hiatuuq, Kivgajulik, Haninajuq, Uiguklik, and Tasirjuaraajuk Lakes.

Dust will be generated as a result of construction activities and operations, and its effect on fish and fish habitat and water quality was raised as a key concern by Baker Lake community members. Concerns were also raised regarding the potential effects of siltation, spills, and the accumulation of toxic substances on fish and fish habitat, and fish habitat loss. Based on the results of the air quality predictions for the Project, and with the implementation of best management practices and mitigation, the effects of dust deposition and acidifying air

emissions is predicted to have a negligible effect on water quality, and thus a negligible effect on aquatic ecosystems (i.e., fish) and traditional uses (Volume 6, Section 6.4.4). Concerns regarding the potential effects of construction activities on fish and fish habitat were also expressed. During construction and operations, fish populations above and below any barriers are expected to be maintained, and habitats with the potential to provide overwintering, spawning, rearing, and foraging functions will remain available. Residual effects to fish and fish habitat is expected to be reversible, since full use of habitat by fish species is expected to occur quickly and within a few years given the highly mobile behaviour of these species, and recovery of fish populations is expected to be no longer than one generation time following closure (Volume 6, Section 6.5.4).

Fishing remains an important traditional activity for Baker Lake community members, and the lakes and rivers in the Project area are considered culturally significant. Use of the Project area appears to be limited today and was not identified as a preferred fishing area; Arctic char and lake trout will remain locally and regionally abundant and therefore will still be available for fishing in preferred harvesting sites.

7.3.2.1.3 Continued Opportunities for Traditional Plant Harvesting

Continued opportunities for traditional plant harvesting considers potential effects of the Project on vegetation that may result in changes in the availability of vegetation resources for harvesting purposes, and changes in traditional land use patterns. Inuit Qaujimajatuqangit values and concerns are also considered in assessing potential effects on traditional plant harvesting. Potential Project effects on vegetation were analyzed and results are provided in Volume 3, Appendix 3-C, Table 3-C-2. Primary pathways that are likely to result in measurable environmental changes and residual effects on vegetation were identified and are related to changes in vegetation habitat quantity and habitat quality (Volume 5, Section 5.4.3.1).

The physical loss of vegetation populations and communities as a result of Project construction will remain during the life of the mine (Volume 5, Section 5.4.4). The impact is considered low due to Project effects being localized, the loss of approximately 820 ha, or 2.9% of habitat in the LSA, and with the implementation of environmental design and mitigation measures. Reclamation activities and natural re-vegetation of disturbed areas during the closure and post-closure phases, including the eventual closure of the road will result in the recovery of plants and vegetation communities removed during construction and operations.

Baker Lake community members emphasised the importance of vegetation in the context of providing important wildlife foraging habitat for caribou, especially lichen, and expressed general concern for the protection of caribou habitat. Concerns were also raised about the effects of less rain and vegetation growth due to climate change, resulting in fewer feeding areas for wildlife. And about the capacity of vegetation to regenerate following mining activities. Mitigation measures will be implemented to minimize potential effects on caribou habitat, and revegetated areas of the Project footprint during post-closure are expected to function as wildlife habitat. Vegetation will be monitored to confirm that measures to minimize the amount of vegetation (wildlife habitat) lost due to Project activities are effective, that concentrations of contaminants in vegetation do not exceed acceptable levels for wildlife health, and that the site is restored to its natural state (Volume 5, Section 5.4.7).

Dust will be generated as a result of construction activities and operations, and its effect on vegetation and wildlife habitat, especially on caribou foraging habitat was raised as a key concern by Baker Lake community members and land users (Volume 5, Section 5.4.4). Effects on vegetation will be mostly confined to within 100 m of the haul road. The magnitude of the effects of dust along the haul road will be mitigated by constructing and topping the road with natural esker material, limited traffic speeds, and targeted spraying of roads with water or

chemical suppressants as needed. Regular monitoring on the haul road will assess the dust deposition and effects on vegetation. The effects on vegetation habitat communities due to changes in hydrology as a result of flooding would be localized and limited to the Project terrestrial LSA.

Harvesting for traditional plants is still practiced among Baker Lake community members, however use of the Project area appears to occur opportunistically while people are travelling to other important traditional land use sites, and was not identified as a preferred plant harvesting area. Baker Lake community members also expressed a concern about fewer traditional plant harvesting areas as a result of less rain and vegetation growth due to climate change. Traditional use of the Project area is limited for plant harvesting, and traditional use plants are associated with a range of plant community types that are locally and regionally abundant and will therefore still be available for harvesting. The indirect effects of changes to vegetation quality as a result of dust and changes in hydrology are expected to be restricted to the terrestrial LSA and reversible. With the implementation of dust control measures and ongoing monitoring, these effects are expected to be minimal. Dust generated by traffic on the AWAR has been documented in annual reporting to remain within 100 m of the road (Volume 4, Section 4.3). Furthermore, although high-quality caribou habitat (i.e., graminoid and lichen dominated ELC units) will be affected by the Project, these vegetation types will remain well represented across the terrestrial LSA and RSA, and will continue to be available across the landscape.

7.3.2.1.4 Continued Opportunities for the use of Culturally Important Sites

Continued opportunities for the use of culturally important sites considers potential effects of the Project on heritage resources (archaeological and sacred sites) and the potential effects of the Project on the acoustic environment that may result in disturbance to culturally important sites, and changes in traditional land use. The IQ values and concerns are also considered in assessing potential effects on the use of culturally important sites, including cabins, camp sites, caching sites, grave sites, spiritual sites, and travel routes. Potential Project effects on heritage resources and noise and vibration were analyzed and the results are provided in Volume 3, Appendix 3-C. Noise levels will either decay to ambient noise levels or be compliant with AER Directive 038 Criteria at the noise LSA boundary during construction and operations, with the exception of blasting, which will comply with NPC-119 (Volume 4, Section 4.4.4). While members of the community may potentially pass through the Project area on-route to traditionally or culturally important sites, people are expected to be primarily outside the LSA, limiting exposure. Subsequently noise was not carried forward in the effects assessment.

No primary pathways were identified for heritage resources; with the implementation of appropriate mitigation measures, residual effects to heritage resources were not considered significant (Section 7.2). From an IQ perspective, these sites and features have high cultural and spiritual significance, and concerns were frequently raised by community members and Elders regarding the protection and respect of these sites (Agnico Eagle 2014a, 2015e, 2016a, b, c, e, NIRB 2015a). Therefore, residual effects to the use of culturally important sites are considered a primary pathway. The results of archeological baseline studies indicated a total of 19 archaeological sites have been identified within or adjacent to the LSA. These sites include marker sites (1), cache sites (3), hunting blind sites (3), campsites (11), and one grave site/camp site (Section 7.2.2). These results are consistent with IQ baseline results, indicating that the Project area overlaps with an important region culturally that was frequently used as a transportation corridor between Baker Lake and the Back River in the past. Elders and other land users noted the potential for several cultural sites to be located near many of the lakes in the Project area along the eskers adjacent to the Project footprint, and two travel routes were identified that overlap with the Project footprint (Volume 7, Appendix 7-A, Figure 3-1).

The protection of historic sites and the maintenance of traditional travel routes is considered critical to the Elders of Baker Lake, for the transfer of knowledge to their grandchildren and to educate youth. Community members emphasized that all historical and archaeological sites needed to be respected, preserved and if possible avoided. It was also noted that some of the older structures had higher value than more recent structures (i.e., tent rings with bones pegs vs. wooden pegs). To address concerns related to cultural sites, to avoid denning and to improve the grade of the road in certain sections, the Amaruq exploration borrow sites locations were adjusted and the access road route was altered and extended by 1.6 km (Agnico Eagle 2015e). Subsequently, most of the identified archaeological sites (15) are located outside of the LSA and will not be affected by the Project. Avoidance is the preferred mitigation measure; sites identified within 100 m of Project boundaries will be marked with temporary fencing as a precaution, and the grave site will be avoided (Section 7.2.2).

Site-specific mitigation measures have been developed for each individual site based on the nature and heritage value of the site, and may include systematic data recovery involving detailed site mapping, mapping of individual stone features, collection of artifacts, shovel testing, archaeological excavation, and/or community consultation (Section 7.2.7). Given the cultural and spiritual value that these sites hold to Baker Lake community members, including land users and Elders, Agnico Eagle is committed to providing ongoing consultation with the Baker Lake community, and to providing opportunities for participation in future heritage resource surveys and the development and implementation of mitigation measures. Indirect potential impacts to cultural sites will be mitigated through ongoing monitoring of the condition of archaeological sites adjacent to the Project footprint, and the delivery of an education program for mine staff and contractors focusing on general awareness training and guidelines for responding to the inadvertent discovery of archaeological sites.

Baker Lake community members commented that the impacts of climate change were resulting in a decreased ability to access resources, dangerous travel conditions, loss of traditional travel routes, and increased difficulty in navigating. These experiences underscore the importance of maintaining access to key traditional travel routes for land users. Agnico Eagle has committed to consulting with land users to identify important trails that potentially intersect the haul road and Whale Tail Pit, and will install all-terrain vehicle or snowmobile crossing areas to notify vehicles along the haul road. The effects of dust on cache sites was raised as a concern; effects of dust on vegetation and wildlife are addressed in their respective assessments, which is also relevant to cache sites. With the implementation of appropriate mitigation measures, changes in continued opportunities for the use of culturally important sites is anticipated, relative to baseline conditions.

7.3.3 Residual Impact Classification

The residual impact classification is used to describe the residual effects on TLRU from incremental changes to measurement indicators due to the Project. To determine whether an impact may have a significant residual adverse effect on continued opportunities for traditional land use after mitigation measures are applied, each impact was assessed according to the criteria and descriptions in Volume 3, Section 3.7.

The Project's residual incremental effects on traditional wildlife harvesting, traditional fishing, and traditional plant harvesting are considered to be a combination of effects on the direct disturbance to preferred TLRU areas, the availability of resources, and IQ values related to TLRU (Table 7.3-3). The Project's residual incremental effects on the use of cultural sites are considered to be a combination of effects on the direct and indirect disturbance to cultural use sites, and on IQ values related to culturally important sites (Table 7.3-3).

Table 7.3-3: Residual Impacts Classification and Determination of Significance on Traditional Land and Resource Use

Effects Pathways	Direction	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Significance for Assessment Endpoint
Project activities may affect continued opportunities for traditional wildlife harvesting	Negative	Low to Moderate	Local to Regional	Short-term to Medium-term	Isolated to Continuous	Reversible	Likely	Not Significant
Project activities may affect continued opportunities for traditional fishing	Negative	Low to Moderate	Local to Regional	Short-term to Permanent	Infrequent to Continuous	Reversible to Irreversible	Likely	Not Significant
Project activities may affect continued opportunities for traditional plant harvesting	Negative	Low	Local	Medium-term to Long-term	Continuous	Reversible	Likely	Not Significant
Project activities may affect continued opportunities for the use of culturally important sites	Negative	Low	Local	Permanent	Isolated and Continuous	Irreversible	Highly Likely	Not Significant

7.3.3.1 Traditional Wildlife Harvesting

The community's ability to continue to hunt and rely on waterfowl and geese as an alternate source of food will not be significantly affected due to the Project, because preferred harvesting sites are not documented in the Project study areas, and waterfowl and geese will continue to be available for harvesting close to Baker Lake.

Measurable changes in the distribution and movement patterns of caribou are anticipated due to the effects of the Project, and therefore the potential availability of caribou resources for traditional harvesting in certain preferred harvesting areas. Direct loss and fragmentation of caribou habitat due to Project activities is expected but is not likely to have a continuous effect on caribou populations (Volume 5, Section 5.5.4.1). Indirect habitat loss due to sensory disturbance, and adverse effects due to barriers to migration will extend beyond the Project footprint and have a moderate effect on caribou populations. Impacts from sensory disturbance and barriers to migration will be regional in scale, continuous, but medium-term in duration and reversible following closure (Volume 5, Section 5.5.4.1). The magnitude of cumulative effects from the Project and other developments on caribou is considered to range from low to moderate.

Inuit Qaujimajatuqangit indicates that preferred caribou harvesting locations are variable and dependent on caribou distribution and movement patterns; most hunters appear to prefer areas within approximately 64 km of Baker Lake for convenience, or within 50 km of the AWAR. Others prefer to hunt in more remote locations, with reported distances of up to approximately 300 km from the community, and therefore, some harvesting locations may overlap with the Project footprint. Hunters, Elders, and youth have observed changes in caribou migration patterns and distribution which they attributed to several different factors, with migration patterns shifting further north of Meadowbank Mine within the last five years, and resulting in decreased caribou availability for harvesting. Several concerns were raised related to potential changes in caribou distribution due to Project activities, including effects of the road on movement patterns, and the ability to continue to hunt and rely on caribou as the main diet for the community.

Inuit of all ages emphasized that wildlife harvesting is the most critical aspect of their heritage, connecting them to the lands of their grandparents and ancestors, and youth view harvesting as integral to their quality of life. Continued opportunities for traditional harvesting are required to facilitate the passing down of traditional knowledge and skills, the sharing of meat with family members and Elders, and other community members who may not have access to hunting opportunities. These continued opportunities will strengthen the IQ principles of *Pijitsirniq* (serving and providing for family and/or community) and *Pilimmaksarniq/Pijariuqsarniq* (development of skills through observation, mentoring, practice and effort), thereby promoting a cultural grounding which is considered essential for Inuit wellbeing (Tagalik 2012, NIRB n.d.). New economic opportunities will, and have, provided many benefits to Baker Lake community members, including an increase in opportunities for traditional wildlife harvesting, which will facilitate the generation and transmission of traditional knowledge and skills that are required to continue aspects of traditional ways of life and subsistence activities, including traditional wildlife harvesting.

It is anticipated that the residual effects of the Project on continued opportunities for traditional wildlife harvesting of caribou will be moderate in magnitude and regional in extent, since caribou availability may decrease in certain preferred harvesting areas, and some community members will continue to face barriers to participation in hunting activities as a result of wage employment through the Project. However this effect is expected to be limited since the regional area contains high proportions of undisturbed caribou habitat and caribou survival is not expected to be affected due to the Project. Furthermore, IQ suggests that the movement of caribou appear to

be dependent on numerous factors, and their distribution is variable in different areas and years. Preferred harvesting areas will still be available, the AWAR (up to km 85) will continue to facilitate access to harvesting locations, and the Project will not present barriers in accessing areas further north of the Mine site. Potential adverse effects resulting from barriers to participation in traditional hunting activities will be minimised with rotational employment. The community's ability to continue to practice subsistence activities, and to hunt and rely on caribou as a primary food source will not be significantly affected.

7.3.3.2 Traditional Fishing

Although historically the lakes closest to the Whale Tail Pit Project have not been commonly used for traditional purposes, measurable changes in the fish and fish habitat for the lakes are anticipated. More specifically, changes in the abundance and distribution of fish species are expected due to Whale Tail Pit activities resulting in direct loss or alteration of fish habitat and mortality of fish (Volume 6, Section 6.5.4). However, residual effects to fish populations are expected to be reversible, since habitats for overwintering, spawning, rearing, and foraging will remain available during construction, operations and through to closure, and the fish populations are expected to recover to baseline levels following closure.

Several fish species, including Lake Trout, Arctic Char, and Whitefish contribute to a substantial proportion of the diet of Baker Lake community members, and fishing activities are practiced year round. The protection of water, fish and their habitat are important values to Baker Lake traditional land users. Concerns related to the potential effects of dust, and construction activities on water quality and fish will be addressed through mitigation and ongoing monitoring described in Volume 6, Section 6.5. The lakes and rivers along the proposed Whale Tail Pit haul road are considered culturally significant since they were used in the past as people travelled, camped, hunted and fished in the region; however, use of the Project area appears to be limited today and was not identified as a preferred fishing area. Arctic Char and lake trout will remain locally and regionally abundant and therefore will still be available for fishing in preferred harvesting sites. Considering the results of the fish and fish habitat and traditional land use patterns, it is anticipated that the residual effects of the Project on traditional fishing opportunities will be primarily be low to moderate in magnitude, local to regional in geographic extent, short- to long-term in duration, and reversible. The resilience of the regional fishery will be maintained through the implementation of environmental design features and mitigation for the Project. The community's ability to continue to practice traditional fishing not be significantly affected.

7.3.3.3 Traditional Plant Harvesting

Measurable changes in vegetation are anticipated due to the effects of the Project, and have the potential to affect the availability of plant resources for traditional harvesting in the Project area. Although physical loss of vegetation populations and communities as a result of construction activities will occur, including high quality caribou habitat, they will be restricted to the Project footprint, and are well represented throughout the terrestrial LSA and RSA. Changes in vegetation quality due to dust deposition are anticipated, but will be restricted in area and will be monitored and mitigated. With the implementation of mitigation measures, including progressive reclamation and monitoring of vegetation, the effects to vegetation resources are predicted to be low in magnitude, local, medium- to long-term in duration, and reversible.

The protection of wildlife habitat and plants that caribou and other wildlife depend are important values to Baker Lake community members. High value caribou habitat may be avoided through Project design, and other high quality caribou habitat that will be impacted will be localised to the Project footprint, with vast amounts of habitat remaining available in the region. Concerns related to the potential impact of dust on wildlife foraging habitat will

be addressed with mitigation measures. Preferred traditional plant harvesting areas were not documented in the Project area. Considering the results of the vegetation assessment and traditional land use patterns, it is anticipated that the residual effects of the Project on traditional plant harvesting will be low in magnitude, local in geographic extent, medium- to long-term in duration, and reversible. The community's ability to continue to gather traditional plants will not be significantly affected.

7.3.3.4 The Use of Culturally Important Sites

Measurable changes in the disturbance to culturally important sites are anticipated due to the effects of the Project. The Project area is rich in historical and cultural significance, which is evidenced by the numerous archaeological features that have been identified in the region and which was frequented by local Inuit in the past. Baker Lake Elders and other land users emphasized the cultural and spiritual significance of historic or cultural sites and features, and their protection and respect are critically held values.

The majority of the cultural sites that were identified will be avoided, including the gravesite, which will also be buffered by 100 m. To address concerns regarding the four remaining sites that will be directly impacted by the Project, site-specific mitigation measures have been developed for each individual cultural site in consultation with Department of Culture and Heritage (GN), and with the community of Baker Lake (specifically elders and the HTO Members). Successful mitigation measures will include detailed site mapping and the collection of artifacts, which would contribute to the archaeological and cultural record of the region. Mitigation measures will be implemented according to the specifications of the Department of Culture and Heritage prior to construction activities (Section 7.2.7). Other cultural sites may be indirectly impacted due to Project activities through dust deposition and increased human activity in the area, which will be managed through dust control measures and monitoring, and cultural awareness training of Project staff and contractors (Section 7.2.7). Access to traditional travel routes that intersect the Project will be maintained through the installation of crossing areas and signage.

It is anticipated that the residual effects of the Project on the use of culturally important sites will be low in magnitude, local in geographic extent, and permanent in duration. Through Agnico Eagle's commitment to providing ongoing consultation with the community, and with their direct participation in the implementation of mitigation measures, the community's ability to continue to use culturally important sites in the Project area will be not be significantly affected.

7.3.4 Cumulative Effects Assessment

Residual effects to TLRU were predicted to be confined to the LSAs for plant harvesting and use of culturally important sites, and to the fish and fish habitat assessment area for fishing. The database of reasonably foreseeable future developments (Volume 3, Appendix 3-D) indicates that there are some planned developments within the Kivalliq Region that have the potential to interact with the potential effects of the Project on traditional land use. It is not anticipated that these developments will result in any changes in the availability of traditional resources for fishing, plant harvesting or culturally important sites, as they are all located outside of the RSA for vegetation and heritage resources, and the assessment area used for fish and fish habitat.

Residual effects to traditional wildlife harvesting, specifically caribou, are predicted to extend to the RSA and beyond. The wildlife and wildlife assessment predicted that the cumulative effects of the Project in combination with the other developments present in the RSA may lead to localized cumulative effects for birds, raptors, predatory mammals, and muskox (Volume 5, Section 5.5.4.2). Therefore, localised cumulative effects may occur for traditional wildlife harvesting due to changes in the availability of furbearers, waterfowl, and geese. There are

eight potential future developments within the range of either one or all three of the caribou herds occurring in the Kivalliq Region (Volume 3, Appendix 3-D, Figure 3-D-4), herds that Baker Lake harvesters, their families, and other community members rely on as a key part of their diet. The wildlife and wildlife habitat assessment predicted that cumulative effects to caribou as a result of these projects would be a concern should most or all of them proceed within a similar timeframe (Volume 5, Section 5.5.4.2). Therefore, cumulative effects to traditional wildlife harvesting due to changes in the availability of caribou and opportunities to harvest them may occur.

The associated access roads that are required to support these developments may result in increased access to traditional land use areas for local community members, which may offset the cumulative effects of changes in the availability of caribou for harvesting. Additional roads as supporting infrastructure to proposed Projects would improve access and change land use in the Kivalliq Region, creating increased opportunities for traditional land use activities. However, increased access may also lead to increased wildlife harvesting and competition among hunters, and could potentially lead to decreased availability of caribou.

7.3.5 Uncertainty

There is inherent uncertainty in assessing the significance of some traditional land use effects. The key sources of uncertainty in the assessment for traditional land use includes:

- The potential effects on traditional land use incorporates the assessment results of other VCs (i.e., wildlife and wildlife habitat, vegetation, fish and fish habitat, heritage resources, and noise and vibration). Therefore any limits in residual impact classification and determination of significance in those assessments are applied in the assessment on TLRU.
- There are no established thresholds or standards for most measurement indicators on TLRU. Although it may be possible to set thresholds for purposes of an Environmental Impact Statement (EIS), it often cannot be demonstrated that there is any consensus on a specific threshold value where an effect on traditional land use occurs or what such a threshold means in terms of significance of an effect.
- The effects on traditional land use may not lend themselves to the assignment of criteria or determination of significance except in terms of potential, thus introducing a larger element of uncertainty. There generally is the expectation that an effect brought forward for assessment will in fact occur, at least to some degree. However, it is difficult to predict, for example, whether some effects will be positive, negative or both, and in what ways.
- The reliance on previously written literature to inform the IQ baseline and assessment may result in limitations if it doesn't reflect the most current information available. Therefore gaps in data may result in an under representation of effects on TLRU.
- The potential effects of climate change on TLRU use activities remains unclear, and therefore it is challenging to incorporate these uncertainties into the prediction of long-term effects.

Uncertainty was addressed in the assessment by applying a conservative estimate of effects in the residual impact classification and in the determination of significance. Uncertainty was also addressed by incorporating both publicly available information from the literature and directly from Baker Lake Elders, hunters and other land users, and from using past experience in similar areas including the experiences at Meadowbank Mine. Uncertainty will be further minimized through Agnico Eagle's commitment to providing ongoing consultation with different stakeholders and Baker Lake community members to address their concerns, and through opportunities

for participation in the development and implementation of mitigation measures, and in the ongoing monitoring and adaptive management of culturally and traditionally important resources.

7.3.6 Monitoring and Follow-up

Agnico Eagle is committed to providing ongoing consultation with community members and to provide opportunities for participation in the development and implementation of mitigation measures, and in monitoring programs, as per the NIRB Guidelines requirements (NIRB 2004), and the terms and conditions of the Meadowbank Project Certificate (NIRB 2006). Agnico Eagle will continue to host site visits with Baker Lake Stakeholders and will be hosting a series of open houses in the Kivalliq region in September 2016.

Working collaboratively with Baker Lake stakeholders and community members in the development and implementation of management and monitoring programs supports the following IQ principles (NIRB n.d.):

- *Inuuqatigiitsiarniq* (Respecting others, relationships, and caring for people);
- *Tunnganarniq* (Fostering good spirits by being open, welcoming, and inclusive);
- *Aajiiqatigiinniq* (Decision making through discussion and consensus);
- *Piliriqatigiinniq/Ikajuqtigiinniq* (Working together for a common cause);
- *Qanuqtuurniq* (Being innovative and resourceful); and
- *Avatittinnik Kamatsiarniq* (Respect and care for the land, animals, and the environment).

Monitoring will follow an adaptive approach such that if changes to traditional land use are determined as a result of changes in the availability of resources harvested or cultural sites used, or access to traditional land use areas, appropriate remedial actions will be implemented and subsequent monitoring programs adjusted to ensure the effectiveness of remedial actions and future operations.

Baker Lake community members expressed several concerns and requests for mitigation related to traditional land use and resources during numerous consultation meetings for the Project, which are described in Table 7.3-1. The corresponding EIS reference to mitigation measures, management plans, and monitoring programs that address these concerns are listed in the table.

7.4 Socio-Economics

7.4.1 Incorporation of Inuit Qaujimajatuqangit

The following documents were reviewed for IQ-specific information related to socio-economics and incorporated into this effects assessment:

- Whale Tail TK Workshop (Agnico Eagle 2016 a-e);
- Environmental Impact Statement Guidelines for the Meadowbank Project (NIRB 2004);
- Traditional Knowledge Baseline for the Proposed Amaruq All-weather Exploration Road (Agnico Eagle 2014b); and
- Community Consultations/Public Information Meeting Reports for 2014 and 2015 (NIRB 2014, 2015a).

Results from consultation with Inuit from Baker Lake (Agnico Eagle 2014b; 2016a-e) have been incorporated into the summary of the existing socio-economic environment provided below. Information from the Kivalliq Socio-Economic Monitoring Committee annual reports was used in the socio-economic baseline report to describe monitored socio-economic conditions in communities. Inuit Qaujimajatuqangit was incorporated in VC selection by reviewing documented IQ information, concerns raised through community engagement and consultation with regulators, and a review of VCs identified in other Northern mining projects.

Engagement and IQ are incorporated into socio-economic management implementation, monitoring, and adjustment. Agnico Eagle's engagement plan has been conceived to provide people with the mechanisms they need to provide input, including IQ, such that the Project is better able to inform its decision making where decisions have potential to affect people. There are also expectations on the part of affected communities for participation in processes to monitor Project effects and to monitor Agnico Eagle's compliance with conditions under which the Project may be approved.

For further discussion of Agnico Eagle's approach to incorporating engagement and IQ into socio-economic mitigation, benefit enhancement, and monitoring, refer the Socio-Economic Management and Monitoring Plan (SMP; Volume 8, Appendix 8-E.6).

7.4.2 Existing Environment

The results of the socio-economic baseline report (Volume 7, Appendix 7-B) have been summarized below, and supplemented with additional information from community consultations conducted by Agnico Eagle in 2016.

7.4.2.1 Population

Annual population growth of between 2% and 3% per year has seen the population of both the Kivalliq Region and Baker Lake increase, from 8,722 and 1,807 (respectively) in 2006, to 10,187 and 2,117 in 2013. During this same period, the composition of the population changed. The male and non-Inuit populations in Baker Lake grew quicker than the female and Inuit populations, as did the proportional representation of the working-age population. This pattern can be explained by increased intra-territorial in-migration to the Region and, in particular, to Baker Lake. About half (40 people) of in-migrants were of working age, and around the same number were from outside Nunavut. This influx of working age population to the Kivalliq Region and Baker Lake coincides with an increase in the representation of Kivalliq workers at Meadowbank Mine, which increased by 40% (100 workers) between 2010 and 2011.

7.4.2.2 Economic Activity and Business Development

The relative proportion of Meadowbank Mine contract expenditures in Nunavut has remained around the 50% mark since the beginning of operations. In 2014, contract expenditures with businesses registered in Baker Lake amounted to $38 million (16% of total contract expenditures), while contract expenditures with businesses registered in other parts of Nunavut totalled $67 million (29% of total contract expenditures). In absolute dollar terms, the annual value of Agnico Eagle contract expenditures at Meadowbank Mine has fallen since 2012 as exploration activities shifted to Meliadine Project. Expenditures on Inuit-owned businesses (Nunavut Tunngavik Incorporated (NTI)-registered), though lower in absoluter dollars, have increased in terms of their relative share of total contract expenditures, representing 37% of total contract expenditures in 2014.

In 2015, Nunavut had a Gross Domestic Product (GDP) of $2.1 billion. Between 2010 and 2014 the contribution of the mining and construction industries to GDP grew by $298 million dollars (72%) to $366 million. This increase accounted for around 70% of overall territorial GDP growth in that period. Nunavut's GDP grew steadily between 1999 and 2008 prior to the global recession. When Meadowbank Mine began production in 2010, Nunavut's GDP began to increase again and at a higher rate. Since 2010 (i.e., during Meadowbank Mine's operations phase), these increases range from $127 million to $388 million. As the only operating mine in the territory, Meadowbank has been the driver of these higher rates of Nunavut GDP growth.

The territorial budget for the 2016-2017 operating year predicts government revenue in the order of $1.867 billion. Of this, the vast majority (i.e., $1.547 billion, or 83%) comes from federal transfer payments. Taxes make up a further 6% ($108.5 million) of revenue, while third party contributions make up another 5% ($91.0 million). The remaining 11% of territorial government revenue comes from recovery of revenue from the prior year, the restoration of the territorial funding formula, the net cost of goods sold, and other government sources.

Meadowbank Mine employment taxes provide an average $30 million per year to the federal government, and $3 million per year to the GN. Property taxes paid to the GN by Agnico Eagle are on average $1.1 million per year. Since 2007, Agnico Eagle has provided $11.8 million to NTI and the KIA.

7.4.2.3 Employment

The Kivalliq labour force grew by 360 people (11.1%) between 2006 and 2011. Over a third of this growth (130 people active in the labour force) occurred in Baker Lake. Employment growth during this period did not keep up with growth of the labour force, with only 155 additional people employed of the 360. Most of this employment was associated with the construction of Meadowbank Mine, and most of the employed (105 people) were from Baker Lake. During this period, labour force participation rates increased; however, given the size of employment expansion relative to the larger labour force expansion, unemployment rates increased.

Since the beginning of operations, Nunavummiut representation at Meadowbank Mine has remained relatively stable at around one third of the total operational workforce. Of the Nunavummiut employed at the Mine, over half reside in Baker Lake. The representation of Inuit in the overall Meadowbank operational workforce has remained similarly steady at between 31% and 34% since 2012. Inuit participation in Meadowbank Mine's temporary workforce is much higher, representing 95% of all temporary employment. The annual turnover rate for both permanent (26%) and temporary (70%) Inuit workers has increased since operations at Meadowbank Mine commenced.

Both Meadowbank's Kivalliq and Inuit workforce is almost evenly split between genders, with marginally more men employed than women. While Agnico Eagle is placing considerable effort on training women that are interested in haul truck driver positions or other mining-related trades, attraction and retention of female employees (especially those with children) remains a challenge.

Employment incomes paid at Meadowbank Mine are high (e.g., around $50,000 to $100,000 annually for salaried positions) relative to local and regional averages. As noted above, over half of Nunavummiut employment at Meadowbank Mine is taken up by residents of Baker Lake. The Hamlet has had the highest percentage increase in median income of all the Kivalliq communities (59%). It is the only community to show above average increases in median income since 2010, when production began at Meadowbank Mine. The highest increases in median income in Baker Lake came between 2007 and 2009, during the construction of Meadowbank Mine. In 2013, the median income of Baker Lake tax filers surpassed the regional average for the first time since 2009. Hamlet residents have noted that, for many, new income from employment at the Meadowbank Mine has enhanced their quality of life by improving access to food, hunting equipment, and consumer goods (e.g., vehicles and entertainment systems), and allowing for the assistance of extended families (Agnico Eagle 2015b; Agnico Eagle 2016e).

7.4.2.4 Education and Training

Regional and community-level education services are provided by Kivalliq School Operations, Nunavut Arctic College and the Kivalliq Mine Training Society (MTS). The Nunavut Arctic College and the Kivalliq MTS offer programming in pre-apprenticeship, apprenticeship, and trades programs. In 2016, a Women's Focus Group in Baker Lake noted the availability of training in careers such as heavy equipment operation and mechanics (Agnico Eagle 2016e).

While the majority of the Kivalliq Region population 15 years and over have no certificate, diploma, or degree, the proportion decreased from 65% in 2006 to 61% in 2011, suggesting that educational attainment is improving (Statistics Canada 2013a). From 2006 to 2011, educational attainment in the Kivalliq Region improved in every measured category. During this same period in Baker Lake, the percentage of residents with a high school diploma increased by 3%; however, the percentage with a college diploma decreased by 4%, and the overall percentage of the population without a degree or diploma grew by 1%.

Recent trends in graduation rates also signal that educational attainment continues to rise in the Kivalliq Region. Since 2009, graduation rates in the Kivalliq Region have been higher than the territorial average, and the average for other regions. This may be in part due to employment opportunities available at the Meadowbank Mine and through contractors, and the associated reinforcement of the importance of educational achievement.

Agnico Eagle has made total contributions of approximately $284,000/year to a variety of school-based initiatives. Agnico Eagle's financial investments in externally-delivered training programs have been steady at just under $4 million per year for the past three years, with the Kivalliq MTS being the largest recipient. The scope of, and participation in, in-house training and apprenticeship programs have been relatively consistent throughout Meadowbank's operations. Annual fluctuations in the number of training hours and haul truck driver program graduates largely reflect changing demand at Meadowbank Mine for additional positions for which specific training is provided.

7.4.2.5 Individual and Community Wellness

Wellness is multifaceted, and influenced by a number of factors. The ability to participate in traditional activities such as hunting and fishing, and to practice and maintain traditional culture are important to both individuals and communities. Access to goods and services, such as nutritious food and education, also contribute to people's health, happiness and sense of wellbeing. Indicators of a community's wellbeing include safety and security, which can be measured using statistics on social ills, such as substance abuse, domestic violence, and crime.

Use of Inuktitut is lower in Baker Lake than in other Kivalliq communities, as is the rate of Inuktitut as a mother tongue (Statistics Canada 2013b). This is likely due to the growing non-Inuit population in the hamlet, the need to speak English to access most government services, and the influence of English language media in the home.

Limited statistical data are available at the regional level on the harvest and consumption of country foods. In 2006, average participation in traditional activities in Kivalliq communities was higher than in Nunavut as a whole (Statistics Canada 2011a-f). Baker Lake residents maintain a balance between wage employment to pay for commercial goods and services, and practicing traditional harvesting activities to feed their families and reinforce social relations (Peterson 2012). Hamlet residents estimated that approximately 90% of the community harvests regularly. These activities remain very important to the community for cultural, economic, and health reasons (Peterson 2012). Baker Lake residents continue to maintain close ties with the land, and hunting remains an important cultural activity. Subsistence wildlife harvesting plays an important role in the contemporary wellbeing of the Inuit of Baker Lake through the acquisition and sharing of knowledge through experience, and by providing an emotional and spiritual connection to the land (Makimowski 2014; Bernauer 2011). Today, many hunters continue to share their meat with family members and friends who have been less successful at harvesting, with preference often given to Elders (Ford and Berrang-Ford 2009, cited in Peterson 2012). The most commonly harvested species are caribou and lake trout, with wolf, fox, ptarmigan, geese, Arctic char, whitefish, and grayling also contributing to harvesting activities (Priest and Usher 2004, cited in Bernauer 2011).

Community representatives have reported to Agnico Eagle an increase in the number of trips on the land by those with income from the mine who have an increased ability to purchase harvesting supplies. Further, it has been noted that access to harvesting areas has been improved by the AWAR (Peterson 2012). Others, however, have suggested that stress associated with work and school schedules limit the time that people have available to spend on the land. Elders have also perceived change in traditional values, decreased interest in harvesting, and a loss of land-based skills among the younger generation (Bernauer 2011; Maksimowski 2014).

Food costs in the Kivalliq Region are on average about twice as much as that of the rest of Canada (NBS 2015). Food costs in Baker Lake are among the lowest in the Region, and have been decreasing since 2011. Harvesting helps supplement the diet of Baker Lake residents (Maksimowski 2014). Baker Lake Elders have reported that caribou is a primary food source that sustains their community, with fish providing an important secondary food source (Cumberland 2005b; AREVA 2011; NIRB 2015a).

Elders have indicated that food was traditionally shared amongst Inuit in times of need, including during starvation times, which ensured the survival of families (Bennett and Rowley 2004). Caribou meat helps combat food insecurity in the community, especially for Elders who can no longer hunt or for families who cannot afford store-bought meat (Peterson 2012). Baker Lake residents interviewed for the Meadowbank Project's Public

Information Meeting reiterated the importance of caribou and fish to the Inuit, and expressed concerns about their food security, which relates strongly to the continued ability to harvest caribou (NIRB 2015a).

Incomes associated with employment at Meadowbank Mine has enhanced the quality of life of employees by offering a reliable means to afford food as well as hunting equipment. While some employees reported enjoying time off for camping and harvesting, others reported decreased harvesting activities due to a lack of time and resources, and decreased caribou availability and accessibility (Maksimowski 2014). Baker Lake residents raised concerns regarding the maintenance of Inuit wellbeing, including the loss of community feasts, the weakening of community sharing, and threats to food security (Maksimowski 2014). Other residents have expressed concerns related to food security and the decrease in caribou due to the Project (NIRB 2015a).

Baker Lake residents have expressed concern about the proportion of income spent on alcohol, drugs, and gambling. Residents have noted to Agnico Eagle that drug and alcohol use is affected by underlying social issues (e.g., a history of drug or alcohol use and abuse in the family), rising incomes, the two-week rotational schedule, and crowding. The two weeks of downtime without structure, combined with a lack of money management skills, was also identified as a cause of reckless spending (Agnico Eagle 2015b).

There is ongoing concern that employment of one or more spouses at the Mine is affecting familial relationships in a negative way in the community of Baker Lake (Pauktuutit Inuit Women of Canada and the University of British Columbia 2014). Concerns expressed at community meetings stated that the two-week rotation at Meadowbank Mine has contributed to spousal stress in Baker Lake, and that gossip and rumours of infidelity are causing relationship problems. A recent study focused on the impacts of mining on Baker Lake women, found that the jealousies created by having a partner working away from home for weeks at a time can lead to an increase in domestic abuse files (Pauktuutit Inuit Women of Canada and the University of British Columbia 2014).

Population growth and an increase in consumer goods, drugs, alcohol, and gambling are perceived by residents of Baker Lake to be affecting crime rates, particularly thefts and home break-ins (Agnico Eagle 2015b). Concern has also been expressed that increased incomes due to employment at the Meadowbank Mine has increased access to and consumption of alcohol and associated binge drinking, with bootleggers of alcohol finding success (Agnico Eagle 2016e). In Baker Lake, rates of mischief, disturbing the peace, harassment, and theft more than doubled between 2010 and 2012. The rates of more serious crimes including assault and sexual assault also increased substantially (49 to 82%) during this period. Most violations decreased in 2013 (except assault, impaired driving, and drug violations), coinciding with the Hamlet's overall crime rate decrease that year (NBS 2014; Statistics Canada 2014).

7.4.2.6 Housing, Infrastructure and Services

Most residents in the Kivalliq Region live in subsidized non-market rental units maintained by the Nunavut Housing Corporation. Additional housing is needed throughout Nunavut to address the persistent issues of housing shortages, overcrowding and repairs. In 2011, 37% of private households in the Region and 32% of private households in Baker Lake did not have sufficient size nor bedrooms for their occupants compared to 31% in Nunavut as a whole (Statistics Canada 2013a-c).

Poor housing conditions in the region and in Baker Lake are due primarily to crowding. Demand for housing is high and significant portions of the Kivalliq Region and Baker Lake populations remain on the housing wait list. In 2010, there were 1,120 persons aged 15 years and over (17% of the total population 15 years and over) in the

Kivalliq Region, and 300 persons aged 15 years and over (19% of the population 15 years and over) in Baker Lake, who were on the public housing wait list (Nunavut Bureau of Statistics and Statistics Canada 2011). In 2014, Baker Lake, with a 19% housing shortage, placed 23rd out of the 25 Nunavut communities in a ranking of public housing shortage.

With no roads connecting communities or territorial regions, the Kivalliq Region is dependent upon sealift for resupply shipments that are scheduled from July to September, and air transports for the other months of the year (Nunavut Sealink and Supply Inc. [NSSI] 2015; Prolog Canada 2011). Almost all non-perishable goods, such as fuel, construction materials, vehicles, and dry goods, needed in Nunavut move by water as it is a more economical method of transportation (Government of Nunavut – Department of Community and Government Services [GN – CGS] 2015). Sealifts of goods and supplies to the Kivalliq Region are offered by NEAS (Nunavut Eastern Arctic Shipping) and NSSI from Sainte-Catherine, Quebec and Churchill, Manitoba (NEAS 2015; NSSI 2015). Baker Lake has a marine dock, public dock, and community mooring bollards (Aarluk Consulting 2010).

Agnico Eagle's use of public physical infrastructure consists of use of Baker Lake airport (300 to 400 passenger trips/year) and the use of other Nunavut airports (200 to 400 passenger trips/year) (Stratos 2015).

Since the publication of Baker Lake's infrastructure investment priorities (Aarluk Consulting 2010), the water, wastewater, and sewage disposal needs of the hamlet were addressed by upgrading of the water treatment and sewage disposal facilities, and a new water pump house. Water for the community is sourced from Baker Lake and delivered by scheduled, trucked services to all houses and other buildings (GN – CGS 2011).

Trucked sewage collection services are provided to the residents of Baker Lake. A sewage disposal facility consisting of a passive wetland discharges effluent into Finger Lake (also referred to as Airplane Lake), which ultimately drains to Baker Lake. Sewage treatment is an issue for improvement, as the passive wetland site is no longer working efficiently. Residents have observed that the water in some parts of Baker Lake appear yellowish in colour, which makes them more hesitant regarding their drinking water. The Solid Waste Disposal Facility and the bulky metals/hazardous waste storage area is unlined and runoff drains directly into Finger Lake and the sewage treatment wetland.

Kivalliq communities have health centres managed and staffed by nurses, and emergency medical evacuation services. Communities also have access to regular fly-in specialists (e.g., psychiatrists, physiotherapists, dentists) and physicians at varying frequencies throughout the year. Rankin Inlet has a health centre staffed full time with doctors, nurses and midwives. Between 2009 and 2010, per capita visits to health centres increased in all Kivalliq communities except Coral Harbour. Since 2010, per capita visits have remained relatively steady in all communities except Chesterfield Inlet and Baker Lake, where visits have increased, though not substantially (GN – DOH 2014).

Demand for health care services has remained relatively stable throughout the eight-year period with only small or infrequent annual fluctuations in visits per capita. The number of Meadowbank Mine employees referred to community health centres for personal or work-related reasons has ranged from 14 to 47 people per year, and has been highest in recent years. In 2013, the number of on-site accidents requiring use of Nunavut Health Centres (47) represented less than 1% of all visits to the Baker Lake Community Health Centre (Agnico Eagle 2015c).

Royal Canadian Mounted Police detachments are located in all Kivalliq communities (RCMP 2015), and the Nunavut Court of Justice's (NCJ) Circuit Court administers trials and sentencing (NCJ 2015). The Hamlet of Baker Lake has a fire hall and truck (both of which are in need of minor repairs) maintained by a Fire Chief and assistant Fire Chief, and approximately 20 volunteers (Aarluk Consulting 2010). Search and rescue services are also available in the community; however, equipment is in need of an upgrade (Aarluk Consulting 2010).

7.4.3 Effects Assessment

The process of socio-economic impact assessment employs both qualitative and quantitative approaches when assessing Project effects. Quantitative analysis involves modelling the Project's economic and employment effects on the economy of Nunavut and Canada. Quantitative effects are described as direct, indirect, and induced. Direct effects are those generated by the Project itself and reflect expenditures that will be made by the Project during construction and operations. Indirect effects are prompted by the Project's demand for goods and services from supplier industries, and are a measurement of the secondary business transactions resulting from direct expenditures. Induced effects occur as direct and indirect incomes associated with the Project are spent in the economy. Closure represents an end to most economic and employment effects.

For effects that are not as quantifiable, a qualitative analysis of Project effects is conducted. The Project's effects on topics such as wellbeing, culture, and family structure are not quantified. Rather, they are described in terms of their potential for realization, and the extent to which people may experience them. Some socio-economic effects come about as a result of the social management practices of a Project, and so are described in terms of their nature and ability to have a positive effect on VCs such as education, health, and wellbeing. For a full discussion of the Project's socio-economic management and monitoring practices, including mitigations and benefit enhancement measures, please refer to the SMP (Volume 8, Appendix 8-E.6). Project effects related specifically to Agnico Eagle's socio-economic management procedures are addressed in summary below for the purpose of residual effects assessment. Some social effects, notably those related to wellbeing, have the potential to extend beyond closure.

7.4.3.1 Pathway Analysis Results

A pathway analysis was conducted to identify linkages between the Project and key features of the socio-economic environment. The full analysis, including a discussion of pathways with no linkage to the Project, is presented in Volume 3, Appendix 3-C, Table 3-C-10. Only primary pathways have been carried forward for effects assessment, mitigation, and residual impact classification. Primary pathways for socio-economic VCs and associated indicators are included in Table 7.4-1. Associated indicators are not comprehensive of the indicators of a VC, but rather reflect those that are potentially influenced by the Project.

Table 7.4-1: Primary Pathways and Indicators

VC	Pathway	Associated Indicators
Economic Activity and Business Development	Continued territorial economic activity	■ Project expenditures ■ Procurement in the territory ■ Contribution to Gross Domestic Product
	Continued contributions to government revenue	■ Royalty Payment ■ Taxes
	Continued local economic activity	■ Local procurement ■ Contracting of Inuit-owned businesses
Employment and Education	Continued direct, indirect and induced employment	■ Direct, indirect, and induced employment ■ Employment by point of origin ■ Employment by skill level
	Continued direct, indirect and induced incomes	■ Employment incomes ■ Total territorial labour income
	Provision of workforce training and support for community education	■ On the job training ■ Apprenticeships ■ Provision of scholarships ■ Support for education initiatives and programming
Individual and Community Wellbeing	Continued community investment	■ Access to education, consumer goods, and savings ■ Community development ■ Inuit Impact Benefit Agreements
	Improved worker and public health and safety	■ Worker health and safety training ■ Provision of healthcare services on-site ■ Community health and safety programming
	Potential for Project-related accidents and emergencies	■ Risk of accidental injury and emergencies impact public health and safety
	Changes in family and community cohesion	■ Substance abuse and addiction ■ Family and intergenerational conflict ■ Domestic violence and other crime ■ Inequality between families, communities ■ Changes in cultural practices and values ■ Participation in community activities

VC = valued component.

Given the expectation that they are not expected to be materially changed by the Project, the following topics have no associated primary pathway, and are not carried forward for assessment:

- population demographics;
- infrastructure and services;
- governance and leadership; and
- non-traditional land use.

The Project will extend employment opportunities at Meadowbank Mine, which currently has around 700 staff. The Project will require a workforce of around 900, and so will create around 200 new direct employment opportunities. Many of these opportunities will be in entry-level and semi-skilled category of positions, and will be

targeted to the local population in Baker Lake and other Kivalliq communities. Other opportunities will be filled by workers on rotation, housed in the on-site camp. Most indirect employment opportunities occurring in Nunavut are expected to be filled by the existing labour force working in industries currently supplying Meadowbank Mine.

The Project will maintain current pick-up points in Kivalliq communities, and any incidental employment that arises via attrition will be filled with priority given to residents of the Kivalliq Region, and, secondarily, Nunavut. Given the approach to recruitment, the Project is not expected to induce intra- or inter-territorial migration, population increase, or demographic change.

As the Project will not bring about a change in population, it is not expected that any additional demand on housing, infrastructure, or services will occur in Kivalliq communities. Further, the Project will operate at a time when Meadowbank Mine is in the closure phase, and so is not expected to increase demand on physical transportation infrastructure (e.g., airport) beyond current levels.

The Project is not expected to result in nuisance effects impacting people's quality of life. The FEIS (Cumberland 2005c) predicted that the construction of Meadowbank Mine would result in temporary nuisance effects on people's quality of life, as related to dust, noise, changes in air quality and visual disturbances. This prediction was related to construction of infrastructure at Meadowbank Mine (e.g., fuel tank farm, lay down and warehouse facilities, transportation of infrastructure construction equipment) and the AWAR, and was considered to be of low significance given mitigation and the duration of effects. Given that the Project will use existing infrastructure at Meadowbank Mine, on-site construction activities are not expected to generate additional nuisance effects on quality of life, and so no primary pathway related to nuisance effects on individual and community wellbeing is anticipated. Given its distance from communities, Project operations is not expected to result in significant additional nuisance effects.

Agnico Eagle will operate in a manner compliant with all relevant governing bodies, and within the bounds of the Nunavut Land Claims Agreement and applicable regional and municipal development plans. The Project will contribute to government revenue, and will not have an adverse effect on government operations.

The Project will comply with land use planning in its immediate vicinity. No commercial fishing operations or guiding and outfitting camps are known to exist in the vicinity of the Project. Camping at the Inuujaarvik Territorial Park and canoeing on the Thelon River are not expected to be disrupted by Project construction or operations, given their distance from the proposed mine site. The Project is therefore not expected to interfere with non-traditional land use in its vicinity, or near Baker Lake.

7.4.3.2 Economic Activity and Business Development

- **The Project will continue to contribute to territorial economic activity**

Gross Domestic Product represents the monetary value of all goods and services produced by a jurisdiction over a specific period of time, and acts as a measure of the "size" of an economy. The real GDP of Nunavut has been growing steadily since the 1990s by between $127 million and $388 million annually, to $2.093 billion in 2015 (GN 2016; Statistics Canada 2015). As the only operating mine in the territory in this period, Meadowbank Mine has been a major driver of this growth. With production at Meadowbank Mine ceasing in 2018, this growth could be expected to slow. The Project serves to continue territorial economic growth and expansion of Nunavut's GDP beyond the scheduled closure of Meadowbank Mine. The Project's total direct, indirect and induced GDP effect during construction is small relative to the territorial economy, contributing between $24 million (2017) and

$30 million (2018) (Figure 7.4-1). This is to be expected, given that, during construction of a mine, little ore is produced, and that most Project construction equipment is sourced from outside of Nunavut, or from Agnico Eagle's existing resources. While construction results in a relatively small contribution to total territorial GDP, it is still a significant contribution for a single development.

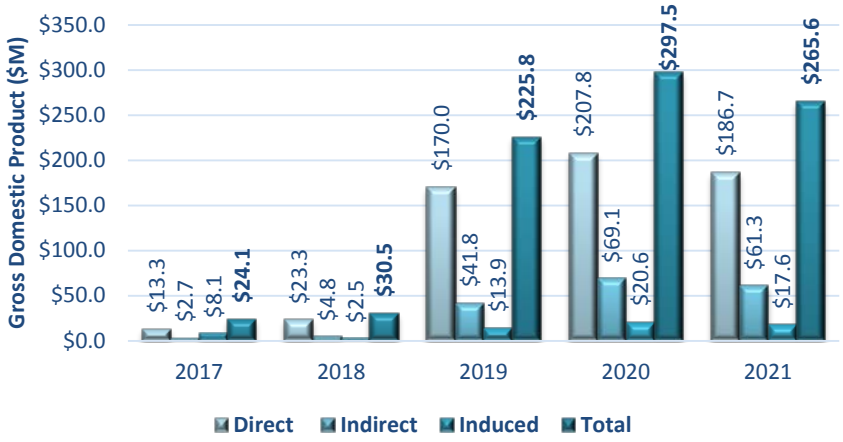


Figure 7.4-1: Project Contributions to Gross Domestic Product in Nunavut, 2017 to 2021

During operations, the Project will begin production, and will represent a substantial contribution to the territorial economy, with total annual GDP contributions of between $225 million and nearly $300 million annually (Figure 7.4-1) (i.e., 11 to 14% of the current territorial GDP). The Project's operational GDP contribution would begin in 2019, coinciding with the end of production at Meadowbank Mine. As Meadowbank Mine exits the territorial economy, the Project would enter, creating some level of economic stability.

If the Project is delayed by a year, its annual GDP contributions are not expected to change. Operational GDP contributions would not, however, begin until 2020, creating a gap of one year between the end of production at Meadowbank Mine and the beginning of production at the Project. With no other projects of similar scale scheduled to begin production in 2019, GDP growth would slow for a year.

The Project's economic output and contribution to GDP is split across industries. As would be expected, the construction industry will experience the bulk (i.e., 71%) of Project-generated GDP effects during the construction phase. Other industries that would benefit to a lesser extent, but still significantly, from Project construction include finance, insurance, real estate, rental and leasing (7% of Project GDP); professional, scientific and technical services (6%); and manufacturing (4%). The remaining 12% of the Project's cumulative construction GDP effect would be spread across industries identified in Table 7.4-2.

Table 7.4-2: Project-Generated Economic Activity by Industry

Industry	Gross Output Impact ($M)		GDP at Basic Price ($M)	
	Construction[a]	Operations[b]	Construction[a]	Operations[b]
Mining and Oil and Gas Extraction	19.3	693.2	0.4	207.8
Construction	233.1	90.9	69.9	40.3
Utilities	3.5	22.2	2.0	12.3
Transportation and Warehousing	4.6	18.9	1.9	7.9
Finance, Insurance, Real Estate, Rental and Leasing	9.0	17.7	6.5	12.7
Government Sector	3.4	6.1	1.7	3.1
Operating, Office, Cafeteria and Laboratory Supplies	2.5	6.1	0.0	0.0
Retail Trade	2.6	4.7	1.8	3.1
Manufacturing	7.6	4.2	4.1	2.3
Travel, Entertainment, Advertising and Promotion	1.6	3.0	0.0	0.0
Professional, Scientific and Technical Services	10.3	2.2	6.2	1.3
Wholesale Trade	0.7	2.1	0.7	1.9
Information and Cultural Industries	1.5	1.9	1.1	1.5
Accommodation and Food Services	1.3	1.8	0.6	0.9
Non-Profit Institutions Serving Households	0.8	1.4	0.4	0.8
Health Care and Social Assistance	0.6	1.1	0.3	0.5
Administrative, Waste Management and Remediation	1.4	1.0	0.9	0.6
Other Services (Except Public Administration)	0.4	0.5	0.2	0.2
Arts, Entertainment and Recreation	0.1	0.2	0.0	0.1
Educational Services	0.1	0.1	0.0	0.0
Transportation Margins	0.1	0.0	0.0	0.0
Total	**304.5**	**879.3**	**98.7**	**297.3**

a Cumulative.
b Average Annual.
GDP = Gross Domestic Product; $M = million dollars.

During operations, the Project's average annual GDP contributions are concentrated (i.e., 70%) in the mining and oil and gas extraction industry. Ongoing capital construction activities during operations will result in a further 14% of operational GDP contributions accruing to the construction industry. The utilities and finance, insurance, real estate, rental and leasing industries would each capture approximately 4% of the Project's operational GDP contributions. The remaining 8% of annual GDP contributions are spread across other industries (Table 7.4-2).

- **The Project will continue government revenues**

The Project is expected to operate with fairly low to modest margins that consequently would result in little to no Project-specific corporate taxes paid to the territory or nation[1]. The Project will, however, result in taxes on

[1] Agnico Eagle sees future potential to grow the ore reserve at this site and consequently believes that future phases of this Project may be possible. The capital to develop any such future potential is largely paid by the Project as defined here. However this future potential is as yet unproven and will require continued investment over the coming years in exploration drilling and engineering.

personal incomes of the employed, unincorporated businesses, and sales and excise. Project-generated government tax revenues are summarized in Table 7.4-3.

Table 7.4-3: Project-Generated Fiscal Impacts to Government

Level of Government	Personal Income Tax ($M)	Corporate Income Tax ($M)	Taxes on Unincorporated Business Profits ($M)	Non-Renewable Resource Revenue ($M)	Sales and Excise Taxes ($M)	Total Revenue ($M)
Construction (Cumulative)						
Federal	17.7	0.6	1.7	n/a	0.5	**20.4**
Territorial	2.1	0.4	1.2	0.0	0.7	**4.5**
Total	**19.8**	**1.0**	**2.9**	**0.0**	**1.2**	**24.9**
Operations (Average Annual)						
Federal	102.4	15.5	9.8	n/a	2.2	**129.8**
Territorial	16.2	3.7	2.1	49.9	3.3	**75.3**
Total	**118.6**	**19.2**	**11.9**	**49.9**	**5.5**	**205.1**

Note: individual revenues may not add up to the sum total for each jurisdiction due to rounding.
n/a= not applicable; $M = million dollars.

In addition to taxes, the Project will also generate royalty payments at the territorial level. Royalties will be paid to NTI, and through the Project's Inuit Impact Benefit Agreement (IIBA). The Project will not generate royalties during construction, as no production is anticipated. During operations, the Project will pay an average annual IIBA payment of $12.48 million, and an average annual NTI royalty of $37.43 million, for a total average annual royalty payment of $49.91 million to the territory (Table 7.4-3).

When resource royalties are included, the Project's total operational average annual government revenue impact is projected to be approximately $205 million, of which 37% ($75.3 million) would accrue to Nunavut. At about 4% of the territorial budget, this represents an important source of revenue for the territory. When transfer payments are removed from the territory's budgeted revenue, however, the Project's contribution is even more substantial, equivalent to roughly a quarter of the territory's total non-transfer payment revenue.

As with the Project' GDP effect, with no delay between the closure of Meadowbank Mine and Project operations, the Project would serve to bridge the gap in government revenue that would otherwise occur in 2019.

- **The Project will sustain local business development and contracting**

Meadowbank Mine has historically conducted much of its procurement with Nunavut-registered businesses; in particular, those registered in Baker Lake. In 2014, 44% ($105.1 million) of Meadowbank Mine's procurement was with businesses registered in the territory, of which 36% ($37.7 million) was spent with businesses registered in the Hamlet (Figure 7.4-2). Procurement of goods and services from Baker Lake, as a percentage of total procurement, has declined in recent years (i.e., post 2012) due to a decline in gold prices, and the temporary cessation of exploration at Meadowbank Mine while resources were shifted to Meliadine Project.

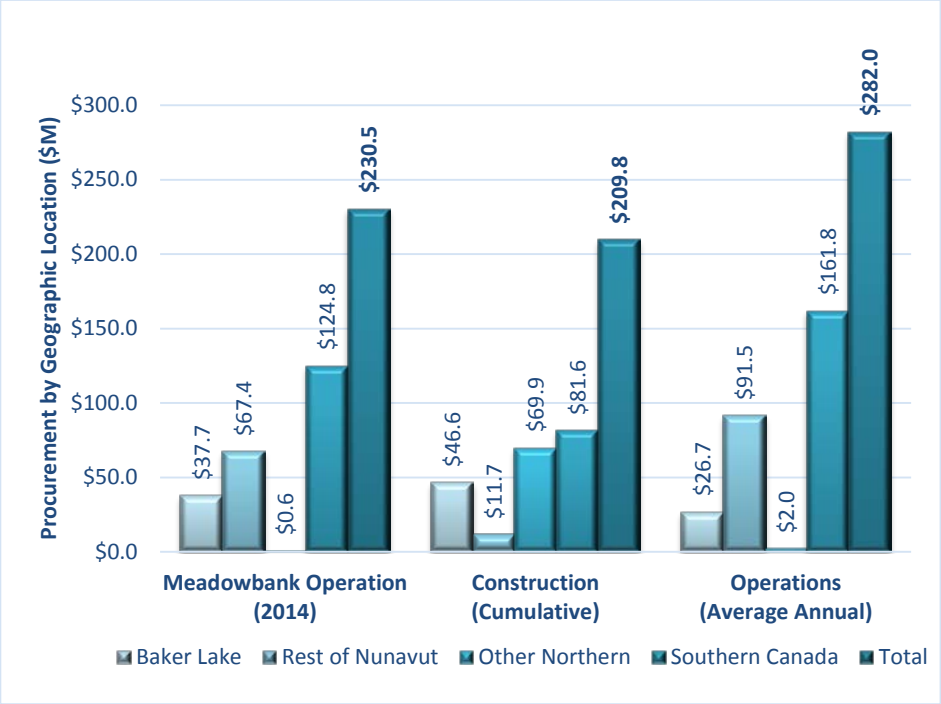


Figure 7.4-2: Project Procurement by Geographic Location and Phase, Compared to the Existing Meadowbank Mine Operations

It is expected that the Project will continue to source goods and services from Nunavut- and Baker Lake-registered companies, and that existing contracts with local businesses will be extended based on Project need. In the past, most procurement in Baker Lake has been with Baker Lake Construction, Peter's Expediting, and Arctic Fuel.

Project construction will require the procurement of materials and equipment not available in Nunavut. Total territorial procurement is expected to account for 23% ($58.3 million) of all Project construction procurement (Figure 7.4-2). Of this territorial procurement, the vast majority (80%, or $46.6 million) is expected to occur through businesses registered in Baker Lake, given the availability of construction contracting services. This procurement will also represent additional demand for goods and services, and, potentially new contracts with local businesses.

During operations, the Project is expected to procure a greater value of goods and services annually than the current Meadowbank Mine operations (i.e., $282 million versus $231 million). A large proportion of this increase will be the fuel required to service (move materials and personnel) from Meadowbank to the Whale Tail Pit and to transport ore from the Project site back to the Meadowbank mill. The proportion of procurement by geographic location is, however, expected to be similar. Of the total value of procurement, 42% ($118.2 million annually) is

expected to occur with Nunavut-registered businesses. Of this, 23% ($26.7 million) is expected to be with Baker Lake-registered businesses (Figure 7.4-2).[2]

In the context of high economic growth due to mineral development, contract expenditures highlight the potential for business growth and development in Baker Lake and the Kivalliq Region. Agnico Eagle has developed the Building People Initiative to assist Kivalliq businesses meet the market needs of the mining industry in Nunavut. The initiative is designed to develop the capacity of workers and contractors in Nunavut to work in the territory's mining industry (Agnico Eagle 2013). In addition, Agnico Eagle launched the Inuit Business Opportunities Initiative in April 2010 to assist Inuit businesses seeking contract opportunities through Meadowbank Mine (Agnico Eagle 2015b). Since 2011, Agnico Eagle has issued 25 contracts to Inuit-owned businesses for work at Meadowbank Mine. The proportion of NTI-registered businesses supplying the mine has grown from 13% in 2011, to 37% in 2014. The Project will continue to offer these programs, and will continue to prioritize Inuit-owned businesses.

7.4.3.3 Employment and Education

- **The Project will create direct, indirect and induced employment opportunities**

Project construction will generate, at peak, 500 direct employment opportunities. Early construction activities associated with the development of the underground exploration will require about 200 workers. Dewatering and preparation of the pit will add another 300 positions to the construction workforce. Most (75%) direct construction positions will be filled by specialized professionals from southern Canada (Table 7.4-4), who will be housed in the on-site accommodation camp while on rotation. The remaining 25% of direct construction positions will be sourced locally, and are expected to be filled by the existing Meadowbank Mine workforce as operations activities slow and the mine enters closure.

Table 7.4-4: Project Construction Employment (Positions) by Location

Region	Employment Impact	2017	2018	2019
Nunavut	Direct	40	70	100
	Indirect	4	8	11
	Induced	57	17	26
	Total	**101**	**95**	**138**
Southern Canada	Direct	160	280	400
	Indirect	18	31	45
	Induced	0	0	0
	Total	**178**	**311**	**445**
Total	Direct	200	300	500
	Indirect	22	39	57
	Induced	57	17	26
	Total	**279**	**356**	**583**

Note: Economic modelling has allowed for spending of incomes in Nunavut when determining induced employment impacts.
Note: The totals for some categories may not reflect the sum of values due to rounding of indirect and induced employment.

[2] Project procurement from Baker Lake is projected to be lower than that levels experienced in 2014. This is primarily due to the completion of contracts associated with continued raising of the Meadowbank TSF facilities dikes in 2014. This work was being carried out by a Baker Lake based contractor. This was a significant sustaining capital expenditure in 2014 and thus skews the dollar value of mine expenditures when looking forward.

Project construction will generate further indirect and induced employment opportunities fluctuating between 56 and 83 jobs over the construction period. Most (approximately 80%) indirect opportunities will be created in southern Canada, where industries (e.g., manufacturing) servicing the Project's demand for specialized goods and services are concentrated. The remaining 20% of indirect employment will occur in Nunavut businesses supplying the Project. As these businesses are already supplying Meadowbank Mine, the Project's demand for Northern goods and services is expected to continue employment for the existing indirect Nunavut workforce, rather than creating new jobs. Likewise, induced employment is also expected to occur within the territory.

During operations, the Project will have a more pronounced employment effect. Direct operational employment is expected to be 931 positions (Table 7.4-5). Of these, nearly half (392 or 42%) are expected to be filled by Nunavummiut, the majority of which are employed at Meadowbank Mine and will move over to the Project. The Project therefore represents both an extension of employment opportunities for those currently working, and a source of new employment for Nunavummiut. It is estimated that about 100 new direct operations positions will be sourced from the Nunavut labour force in fulfillment of the Project's operational workforce requirements. Agnico Eagle will continue to prioritize residents of the Kivalliq Region for these positions, and to offer pick-up points in communities in an effort to prevent migration from other parts of the territory, or from within the Region to Baker Lake. Further benefit enhancement measures outlined in the SMP (Volume 8, Appendix 8-E.6) aimed at recruiting locally and removing barriers are expected to improve the local labour force's ability to access direct Project operational employment.

Table 7.4-5: Project Operations Employment (Positions) by Location

Region	Employment Impact	2019	2020	2021
Nunavut	Direct	392	392	392
	Indirect	42	84	76
	Induced	67	135	116
	Total	**502**	**612**	**584**
Southern Canada	Direct	539	539	539
	Indirect	170	337	302
	Induced	0	0	0
	Total	**709**	**876**	**841**
Total	Direct	931	931	931
	Indirect	212	421	378
	Induced	67	135	116
	Total	**1,211**	**1,488**	**1,425**

Note: Economic modelling has allowed for spending of incomes in Nunavut when determining induced employment impacts.
Note: The totals for some categories may not reflect the sum of values due to rounding of indirect and induced employment.

Project operations is expected to generate between 279 and 556 indirect and induced employment opportunities (Table 7.4-5). As is the case during construction, most (80% or 337 positions) indirect employment will occur in southern Canada, where industries servicing the Project's demand for specialized goods and services are concentrated. Indirect employment occurring in Nunavut is expected to be filled by the existing contractor's workforce or businesses supplying Meadowbank Mine, representing an extension of employment.

The majority (55%) of the Project's direct operational employment will be entry level or semi-skilled in nature (Figure 7.4-3). Skilled, professional and management positions will make up smaller portions of the direct operational workforce (28%, 10%, and 8%, respectively). For those Nunavummiut currently working at Meadowbank Mine, it is expected that they would transition into Project positions of similar skill requirements. The estimated additional 100 Nunavummiut directly employed by Project operations will likely be in positions concentrated in the entry-level and semi-skilled categories.

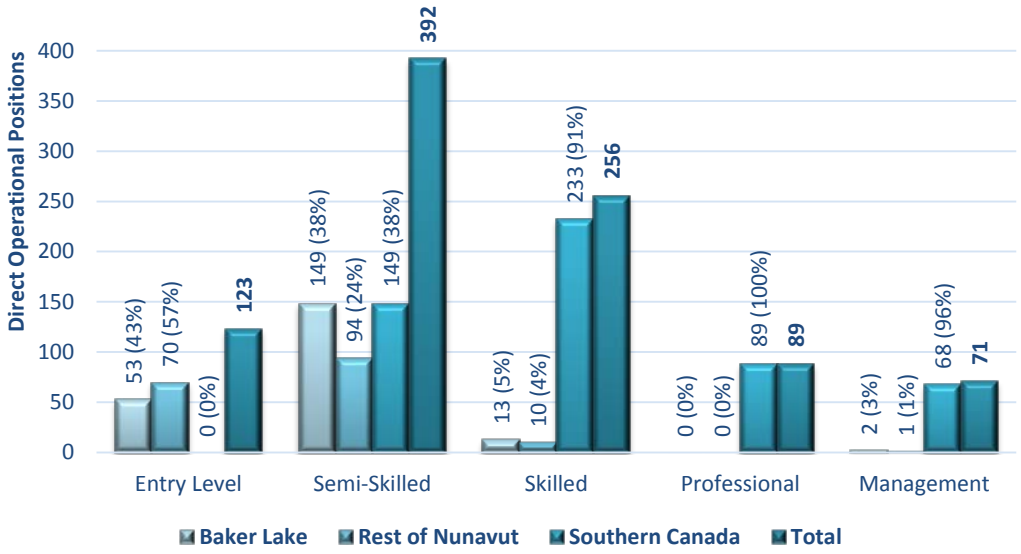


Figure 7.4-3: Project Direct Operational Employment by Skill Level and Point of Origin

Agnico Eagle's commitment to sourcing employment locally involves the provision of employment opportunities that match the skill level of the local labour force. To this end, all entry-level positions are expected to be recruited locally, and filled by Nunavummiut. Approximately 43% (53) of entry level positions will be filled by residents of Baker Lake, with the remaining 57% (70) being sourced from other parts of Nunavut. It is expected that Nunavummiut will fill nearly two thirds (62%, or 243 positions) of all semi-skilled positions during Project operations, with 61% (149) of Nunavummiut employees coming from Baker Lake. Given their highly specialized nature, it is expected that most skilled and professional employment positions will be sourced from southern Canada, although some Project-specific managerial positions will be filled locally (Figure 7.4-3). The proportions presented in Figure 7.4-3 are preliminary, and will be updated as the development of the Whale Tail Pit advances.

In the event of a one year delay in Project development, construction activities would not commence until 2018, and full operations would not begin until 2020. This creates a gap between the ramp-down of production at Meadowbank Mine, and the ramp-up of Whale Tail Pit construction activities. Nunavummiut employees who would otherwise be transferring during reduced pre-closure production at Meadowbank Mine to initial Project construction would, therefore, experience a one year period wherein they are not employed by Agnico Eagle. Similarly, workers who would otherwise be transferring from Meadowbank Mine as it enters closure to Project

operations would experience a delayed, but similar, period wherein they are not employed by Agnico Eagle. It is difficult to predict what workers would do should they experience a temporary lapse in employment with Agnico Eagle. Some may choose to remain unemployed for this period, drawing upon Employment Insurance and severances. Others may attempt to secure interim employment outside of Kivalliq, or relocate to other parts of the country in search of employment (e.g., the Northwest Territories). In the latter scenario, this would result in out-migration, and a depopulation of the mining-skilled labour force from the region.

- **The Project will generate direct, indirect and induced incomes**

Annual incomes paid by the Project will be high relative to local and territorial incomes. As with existing employment incomes at Meadowbank Mine, incomes associated with Project employment of Nunavummiut will range from $50,000 to $100,000 annually, with some positions of higher skill and responsibility earning more. Project construction will result in $14.1 million (cumulatively) of direct labour income in Nunavut. When indirect and induced incomes are included, the Project's total territorial construction labour income is predicted to be $22.1 million between 2017 and 2019. During operations, the Project is projected to generate $92.4 million (cumulatively) in direct labour income in Nunavut, and $131.6 million in total territorial labour income (Table 7.4-6).

Table 7.4-6: Labour Income by Phase and Location

Region	Income Impact ($M)	2017	2018	2019	2020	2021
Construction						
Nunavut	Direct	2.7	4.7	6.7	0.0	0.0
	Indirect	0.3	0.6	0.8	0.0	0.0
	Induced	3.6	1.1	1.7	0.0	0.0
	Total	**6.6**	**6.3**	**9.2**	0.0	0.0
Southern Canada	Direct	10.7	18.6	26.6	0.0	0.0
	Indirect	1.3	2.2	3.3	0.0	0.0
	Induced	0.0	0.0	0.0	0.0	0.0
	Total	**11.9**	**20.9**	**29.9**	0.0	0.0
Total	Direct	13.3	23.3	33.3	0.0	0.0
	Indirect	1.6	2.8	4.1	0.0	0.0
	Induced	3.6	1.1	1.7	0.0	0.0
	Total	**18.5**	**27.2**	**39.0**	**0.0**	**0.0**
Operations						
Nunavut	Direct	0.0	0.0	18.7	40.0	33.7
	Indirect	0.0	0.0	4.0	7.9	7.0
	Induced	0.0	0.0	4.3	8.7	7.4
	Total	0.0	0.0	**27.0**	**56.5**	**48.1**
Southern Canada	Direct	0.0	0.0	43.6	93.3	78.6
	Indirect	0.0	0.0	15.9	31.5	28.1
	Induced	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	**59.5**	**124.8**	**106.6**

Table 7.4-6: Labour Income by Phase and Location (continued)

Region	Income Impact ($M)	2017	2018	2019	2020	2021
Total	Direct	0.0	0.0	62.3	133.4	112.3
	Indirect	0.0	0.0	19.9	39.4	35.1
	Induced	0.0	0.0	4.3	8.7	7.4
	Total	**0.0**	**0.0**	**86.5**	**181.4**	**154.8**

Note: Direct, indirect, and induced incomes may not add up to the sum total for each jurisdiction due to rounding.
$M = million dollars.

- **The Project will provide workforce training and support community education**

The Project will continue the workforce training programs in place at Meadowbank Mine. Following a spike in Meadowbank Mine's first two years of operations associated with the onboarding of Inuit employees, training hours per employee have remained relatively steady at around 30 per year for non-Inuit employees, and around 50 per year for Inuit employees. Agnico Eagle has invested in training the Inuit labour force to maximize their ability to access employment. This is expected to continue with training for the Project. Workforce training at Meadowbank Mine that will be carried over for the Project is described in detail in the SMP (Volume 8, Appendix 8-E.6, Section 5.3).

In continuing these programs, the Project continues to build capacity in its workforce. As Nunavummiut employees achieve further training and education, it is expected that they will be better poised to advance to more skilled positions as they arise, thereby increasing representation of Nunavut residents in the skilled, professional and management employment categories. Further, training and education attained in association with the Project is, in many cases, transferrable, and does not disappear with the closure of the Project. Instead, the skills developed through Project employment and associated training will carry forward into the future, improving people's access to other employment opportunities that may arise when the Project is finished its operational life.

As with workforce training, the Project will continue to support educational attainment in communities through the initiatives outlined in the SMP (Volume 8, Appendix 8-E.6, Section 5.3) and the Meadowbank Gold Project Annual Report (Agnico Eagle 2015d, Section 11.11.5). In 2014 alone, Agnico Eagle contributed over $280,000 to community education programs, and a further $3.8 million to mine training education.

In contributing to skills development and educational attainment in communities, the Project will enhance the ability of the local labour force to respond not only to Project-related employment, but also future employment in other industries. Many skills associated with mining employment are transferrable, as are those learned through programs like the Work Readiness Program or Math and Science Camps. The provision of scholarships to community members creates opportunities to obtain the education required to access skilled and professional employment. Overall, the Project is expected to have a positive effect on educational attainment, both at the level of the employee, and the community.

7.4.3.4 Individual and Community Wellness

- **The Project will continue positive effects in communities**

Regular incomes paid to Project employees can have a positive effect on their wellbeing, and the wellbeing of their families. Incomes provide the money for nutritious food, recreation, education, and resources with which to

conduct traditional activities, and can be used to enhance a household's ability to save for the future and its financial security. In a setting where one employed family member may be using their incomes to support multiple generations, the positive fiscal effect of employment incomes carries over into the broader community, potentially reducing poverty. For existing employees (and their dependents) of Meadowbank Mine who transfer to the construction or operations of the Whale Tail Pit, the Project represents a continuation of the beneficial effects of regular incomes without interruption. With additional employees, more families and individuals benefit from regular incomes, potentially improving the local economy and reducing poverty.

To maximize the benefits of Project incomes for Nunavummiut, and in particular residents of Baker Lake, the Project will continue to provide work readiness training to new potential employees, including training on how to cope with, and appropriately manage their earnings. Work readiness training is also aimed at providing potential employees with the skills needed to successfully keep their job. The Project will continue to offer an Employee and Family Assistance Program (EFAP) that, among other counselling services, provides employees with guidance on money management and coping with work routines and strategies to maintain employment. Further details on the Work Readiness Program and the EFAP are provided in the SMP (Volume 8, Appendix 8-E.6). Project incomes are expected to have a positive effect on individual and community wellbeing, as related to improved access to goods and services. Adverse effects associated with rising incomes in communities are discussed further below when assessing the Project's effects on family and community cohesion.

In addition to the benefits of regular income, the Project is expected to continue to contribute to the wellbeing of communities and their residents through support for community programming, and through the continuation of the Meadowbank IIBA with the KIA. Community support and contributions include funding for educational initiatives and programs (described above in Section 7.4.3.3), community engagement initiatives (e.g., community coordinator program, community clean-ups, feasts, trade shows, sporting events), and community donations aimed at enriching the cultural and social wellbeing of Kivalliq communities. The current Meadowbank IIBA will be updated for the Project. The continuation of community contributions to Kivalliq communities and, in particular, Baker Laker, and of the IIBA, is expected to have a positive effect on community wellbeing. Agnico Eagle will evaluate the effectiveness of its community contributions and the outcome of programming to see that goals are reached and, if not, will responsively change how contributions are managed.

- **The Project may improve worker and public health and safety**

The Project is expected to have an overall positive effect on worker and public health and safety through the provision of training, on-site health services, and public education programs on safe and healthy lifestyles. The SMP (Volume 8, Appendix 8-E.6, Sections 5.4, 5.5, and 5.6) details specific benefit enhancement measures through which the Project's health and safety-related benefits will be realized.

Some health and safety initiatives at Meadowbank Mine that will be continued for the Project will benefit not only Project employees and their families, but also Kivalliq communities, particularly Baker Lake. Programs and procedures expected to improve community health and safety include:

- support for wellbeing programs such as addictions management, youth recreation, and IQ retention;
- communication with hamlets regarding road traffic and shipment schedules; and
- provision of emergency assistance to people travelling near the Project when their safety is at risk.

Through the measures identified above, the Project is expected to build upon health and safety performance at Meadowbank Mine. Training provided to workers is expected to increase their ability to lead safe and healthy lifestyles, and is expected to carry forward into their home life, benefiting their families and friends. Community education and public involvement in monitoring is expected to increase public awareness, not only of the importance of healthy lifestyles, but also improve public understanding of the impacts of mining as related to their health and safety (e.g., hazard awareness, accident prevention).

- **The Project has the potential to result in accidents and emergencies**

While the Project's planned activities are expected to yield an overall positive effect on worker and public health and safety, there remains potential risks associated with accidents and emergencies. While the occurrence of these is not predictable with accuracy, preventative actions can be developed pro-actively to address public concern and reduce risk of accidents. Agnico Eagle will operate the Project to the highest standard of health, safety and risk management. Planning traffic and shipment schedules to avoid public traffic and communication with hamlets, in addition to driver safety training, will help to minimize the risk of traffic accidents. Project risk management and emergency response planning pre-emptively establishes procedures to minimize risk of injury to workers, communities, and the environment associated with Project-related accidents. Project facilities with the potential to pose public health risks will be secured to prevent access and potential resultant injury. Despite best efforts on the part of Agnico Eagle to mitigate risks to public health and safety as related to accidents of emergencies, by their very nature, accidents may still occur, creating potentially significant impacts at the individual level.

- **Project incomes may affect family and community health and cohesion**

Despite many positives associated with employment and regular income, negative effects can occur because of the challenges of rotational work, poor spending choices, rising inequalities between 'haves" and have nots" and changes in traditional values that may bring about conflict between generations. These effects are not directly within the control of Agnico Eagle to mitigate. However, Agnico Eagle has taken an interest in providing support to individuals, families and communities in managing the potential for adverse effects such as those mentioned above.

As noted in the FEIS (Cumberland 2005c), there is a potential association between incomes and social ills such as substance abuse, sexual misconduct, family violence, and crime. Best practices incorporated into Project designs to mitigate these associations focus on removing the stimuli (e.g., maintenance of a dry camp, worker codes of conduct, zero tolerance policy towards drug and alcohol abuse) or preventing contact between the workforce and nearby communities (e.g., fly-in/fly-out rotations, pick-up points in communities, restrictions on leaving the site while on rotation). Agnico Eagle will continue to employ the practices developed at Meadowbank Mine in the construction and operations of the Project.

Social monitoring activities to date have not drawn a causal link between incomes earned at Meadowbank Mine and changing trends in adverse social behaviours by employees. However, communities have expressed concern that some social ills, most notably substance abuse and crime, have increased in frequency since the mine began operations. The existing Meadowbank Mine workforce is held to a zero tolerance policy regarding substance abuse while on rotation, and criminal activity. It is, therefore, unlikely that the Project, as a continuation of employment, would result in changed behavior of current employees who both have experience

with managing wage incomes and are living healthy lifestyles. New employees will be held to the same code of conduct and will receive the training on money management and other life management issues.

Increased incomes for some and not others leads to growing income disparity, resulting social disparity and, in some instances, inequality-driven conflict. Many who are unable to access Project employment opportunities are already among the most vulnerable (e.g., young people, people with disabilities, women with young children, the elderly). Though the Project is not expected to influence inflation, which can make matters worse for the vulnerable, the negative emotions related to social and financial inequalities in tightly knit communities is a potential negative effect, especially if it contributes to substance abuse, stress and depression. Past studies (e.g., Sly et al. 2001; Kirmayer et al. 2007) have suggested a correlation between suicide rates and vulnerability created by being caught between the traditional and wage economies. Criminal activity related to theft or property crime could also become more problematic as some individuals struggle to obtain consumer goods.

To minimize the potential adverse effects of the Project on family and community cohesion, Agnico Eagle will continue to offer work readiness training to prepare prospective employees for dealing with all aspects of wage employment, and will continue to provide access to an EFAP to help both new and existing employees and their families cope with the stresses of employment and managing incomes. Both programs will also address the importance of making healthy lifestyle choices, such as avoiding illegal drugs and minimizing alcohol consumption, and maintaining positive home lives. The Meadowbank onsite counsellor and elder visitation initiatives will also be extended with the Project to provide employees and their families with both professional and traditional sources of emotional support, with a view to balance wage employment with traditional culture and practices in pursuit of healthy lifestyles. Providing Inuit workers with access to Elders is also expected to help validate and maintain traditional values such as sharing and volunteering; values that are integral to reducing the vulnerability of those not benefiting from wage employment.

As a deterrent to substance abuse, Agnico Eagle will continue to have a zero tolerance policy for drug and alcohol abuse while on, or in transit to/from site, and will perform random drug and alcohol testing, as well as testing following any onsite incidents where substance abuse is suspected as a contributing factor. This is expected to reduce substance abuse amongst the workforce, and in turn may allow employees to share what they have learned about healthy lifestyle choices in their communities.

Mitigation and benefit enhancement measures outlined in Sections 5.4, 5.5 and 5.6 of the SMP (Volume 8, Appendix 8-E.6) and detailed above are expected to minimize or alleviate some of the adverse effects of increased incomes on family and community cohesion. There is, however, great uncertainty regarding individual responses to increased incomes, the ability or willingness of those affected to take up related programming, and the way in which families and communities will respond to changes in income distribution. As a result, increased incomes from the Project have the potential to have some deleterious effect on families, communities and on community cohesion.

- **Project rotational employment may affect family and community health and cohesion**

Like employment incomes, rotational employment has both positive and negative effects on family and community cohesion. Two week rotations can help to balance traditional activities such as hunting with wage employment, providing those employed with a period of uninterrupted time away from work in which to participate in traditional activities, and the resources to do so. Harvests from these activities can be shared in the community, providing others access to food. Effect of rotational schedules highly depend on an employee's

individual situation. For example, workers with young children at home face issues that single workers without children do not.

Rotation can also, however, have adverse effects on families and on community cohesion. Workers report that the two weeks off does allow for participation in harvesting activities but after a two week shift, harvesting takes them away from their families again. This reportedly is sometimes a source of conflict between spouses. People also report that jealousies and accusations of infidelity while spouses are away on lengthy rotations were prevalent when Meadowbank Mine first opened. Additionally, two weeks away from an employee's home community can potentially influence the time they have to regularly volunteer for community activities (e.g., children's sports) that depend on volunteer commitment, or participate in traditional activities scheduled while on rotation. Traditional values may fade and be replaced by values that place greater importance on money and material things. Thus, there are a number of difficult to measure effects associated with rotational employment that place pressure on families and communities.

To maintain and build upon the beneficial aspects of rotational employment, and address, where possible, its negative effects, Agnico Eagle will implement mitigation and benefit enhancement measures outlined in Sections 5.4 and 5.5 of the SMP (Volume 8, Appendix 8-E.6). These mitigations and benefit enhancement measures are expected to alleviate some of the adverse effects on family and community cohesion as related to rotational employment. Agnico Eagle will encourage employees to use the programs presented in the SMP, and will evaluate program success. Where programs are not being taken up by employees and their families, or where programs are identified as ineffective, Agnico Eagle will adaptively improve them.

7.4.4 Residual Impact Classification

To determine whether an impact may have a significant residual adverse effect on a VC following mitigation and benefit enhancement, each impact was assessed according to the criteria and descriptions in Volume 3, Section 3.7. All sources of information (i.e., existing and collected data, new analyses, existing publications, and IQ) were considered equally in the classification of residual impacts.

The assessment of the Project's effects on individual and community wellbeing is subject to uncertainty (as described further in Section 7.4.6), as the choices and response of individuals to the Project and its direct effects will vary and will be difficult to predict. Further, the uptake of Project initiatives and programs aimed at enhancing benefits and minimizing adverse effects are voluntary and their effectiveness has to be regularly evaluated. As such, magnitude has been assigned based on the *assumption* of the effectiveness of mitigation. The determination of an effect's significance is not, however, based purely on the assessment criteria. A pronounced effect on even a small portion of the population can be significant when impacting wellbeing.

Territorial Economic Activity

The Project's positive GDP effect is substantial at over 10% of the current GDP of Nunavut. This effect will persist through Project operations to 2022, extending the GDP contribution of Meadowbank Mine beyond planned closure, and bridging the gap in territorial GDP that would otherwise occur in 2019 between the closure of Meadowbank Mine (2018) and the operations of Meliadine Project (2020). This effect is, therefore, considered to be of high magnitude, regional extent, and medium-term duration. Overall, the Project's positive effect on the GDP of Nunavut is assessed as significant.

Should Project development delay for a year, this effect would be less pronounced, as the Project would begin operations in the same year as Meliadine Project, thereby removing its role as a bridge between the closure of

Meadowbank Mine and operations at Meliadine Project. This would also be the case for the Project's effects on government revenue, local business development and contracting, and employment.

Government Revenues

Project-related tax generation and royalties paid will amount to a sizable contribution to government revenue in Nunavut equivalent to about 4% of the territory's total annual budgeted revenue. When transfer payments are deducted, Project-related revenues to government are predicted to be roughly equivalent to a quarter of Nunavut's total own-source budgeted revenue. This effect will occur through Project operations to closure, and, as with the Project's effect on territorial GDP, would serve to bridge the gap between the closure of Meadowbank Mine and the operations of the Meliadine Project. This effect is, therefore, assessed to be of high magnitude, regional extent, and medium-term duration. Overall, the Project's positive effect on government revenue in Nunavut is assessed as significant.

Local Business Development and Contracting

Project procurement of goods and services will be substantial during both construction and operations. The cumulative impact of construction is expected to result in approximately $58 million in spending with Nunavut-registered businesses, with 80% of this spending concentrated in businesses registered in Baker Lake. Once operational, the Project's demand for goods and services is expected to be slightly higher than the current Meadowbank Mine operations, with about $118 million procured from Nunavut-registered companies. Of this, roughly $27 million will be through Baker Lake-registered businesses. Closure will result in a drop off of procurement of this scale. This effect is, therefore, assessed to be of high magnitude, local to regional in extent, and medium-term duration. Overall, the Project's positive effect on local business development and contracting is assessed as significant.

Employment

The Project serves to extend employment opportunities for the existing Meadowbank Mine workforce, and to create additional employment opportunities for Nunavummiut. While the Project comes online in 2020, then receiving the outgoing Meadowbank Mine workforce, without the Project there will be a gap in employment in 2019. In addition to the additional jobs it will create, the Project's most pronounced employment effect is this stabilizing role. As Meadowbank Mine ramps down in 2018, select staff will begin transitioning over to the Project to aid in construction activities. At final closure of Meadowbank Mine, the remainder of the workforce will transition to Project operations positions that will last until closure. This effect is, therefore, assessed to be of high magnitude, local to regional in extent, and medium-term duration. Overall, the Project's positive effect on employment in Nunavut, Kivalliq Region and, especially, Baker Lake, is assessed as significant.

Incomes

As with employment, the Project's primary income effect will be the continuation of high paying wage employment from Meadowbank Mine. Employment incomes for current employees are not expected to change significantly, but will be extended by the Project beyond Meadowbank Mine's closure in 2018, and bridging the gap that would otherwise occur in 2019 prior to operations at the Meliadine Project in 2020. The Project will also generate new incomes associated with a limited amount of new employment, and will sustain indirect and induced incomes, through to closure. This effect is, therefore, assessed to be of high magnitude, local to regional in extent, and medium-term duration. Overall, the Project's positive effect on incomes in Nunavut, Kivalliq Region and, especially, Baker Lake, is assessed as significant.

Education and Training

The Project is expected to continue to provide the education and training opportunities currently supported by Meadowbank Mine to both its workforce, and Kivalliq Region communities. While this does not represent a change in programs offered or funding for educational initiatives, uptake of educational opportunities during operations is expected to continue to build capacity in the labour force, and promote educational attainment for youth and the broader community. Capacity building and education does not end with Project closure, instead persisting into the future. It is not known, however, how exactly workers and communities will respond to educational programming and initiatives offered or supported by the Project. This effect is assessed to be of moderate magnitude, local to regional in extent, and long-term duration. Overall, the Project's positive effect on education and training is assessed as significant.

Positive Effects in Communities

The Project's overall effect of continued incomes, community contributions and the Meadowbank IIBA is expected to have a positive effect on the wellbeing of individuals and communities. Regular incomes can help lift or keep people out of poverty; provide access to nutritious food, education, and recreation; and allow for savings. Community and IIBA contributions are substantial, and support community development and wellbeing initiatives. Both will occur throughout the Kivalliq Region, but will be concentrated in Baker Lake over the operational life of the Project. This effect is, therefore, assessed to be of high magnitude, local to regional in extent, and medium-term duration. Overall, the Project's positive effect on wellbeing related to disposable incomes, community contributions, and the continuation of the IIBA is assessed as significant.

Worker and Public Health and Safety

Project health and safety training is expected to improve health and safety awareness amongst employees, their families, and other members of their communities, as are community-based health and safety-related programming and policies. The extent to which this benefit will be realized is difficult to predict, as it may influence the behavior and decision making of some more than others, and because it is not known how individuals will react. Monitoring by Agnico Eagle (e.g., interview worker families to gauge health and safety understanding) is expected to confirm this benefit. The effect of improved health and safety awareness, like education, does not end with the closure of a project, but instead continues to influence people's behavior into the future. This effect is, therefore, assessed to be of moderate magnitude, local to regional in extent, and long-term duration. Overall, the Project's positive effect on worker and public health and safety is assessed as significant.

Accidents and Emergencies

As noted above, attempting to assess the magnitude of a risk of accidents and emergencies is problematic. Should neither occur, there will be no associated effect. However, it can also not be assumed that either or both *will* occur definitely, or to what extent. Mitigations measures, emergency response planning, and training can all play a role in reducing risk or the severity of the outcome of an accident or emergency, but the effectiveness of each is unknown. For these reasons, residual effects criteria have not been assessed for accidents and emergencies. To do so would require further risk analysis beyond the scope of this Addendum to the Meadowbank FEIS. However, in the event that an accident or emergency does manifest, it can be conservatively assumed that there is the potential for the effect on an individual or community to be adverse, potentially catastrophic, and, therefore, significant.

Family and Community Cohesion

As noted above, while incomes can have a positive effect on the fiscal wellbeing of some, they can also have a negative effect if income earners and their families use their incomes unwisely. Property theft, increased substance abuse, family violence, and debt are all often associated with new money or wealth. Incomes for some and not others results in social disparity between families and communities, and can further highlight existing vulnerability of those unable to access employment opportunities. The existing Meadowbank Mine workforce transitioning to the Project has experience in managing their finances, and it is unlikely that they would change their current behavior or lifestyle as a result of the Project. The limited number of new Nunavummiut employees required for Project operations may, however, struggle.

Mitigation measures offered to new employees are expected to alleviate some of the social ills associated with increased incomes in the local population, however it is not known to what extent, or how individuals will react. Further, the efficacy of Agnico Eagle's current social management programming is not fully understood. Continued monitoring (e.g., Baker Lake Wellness program) and evaluation of the uptake and outcome of programs is required to determine with greater certainty the Project's residual effect on family and community cohesion. If the adverse effects noted above do materialize in already vulnerable communities, despite mitigation, the residual effect could be pronounced.

Rotational employment can be a positive approach to wage employment, giving people long periods of time off and resources for traditional pursuits and other activities. It can also, however, have negative effects on cohesion, taking workers away from their communities and families for extended periods of time, and can erode traditional values. As with other effects to individual and community wellbeing, it is difficult to assess both the extent of these effects, the effectiveness of mitigation and benefit enhancement measures, and the response of individuals, families and communities to both. The positive effects of rotational employment end with Project closure, however changes in family and community cohesion would persist into the future.

The Project's residual effect on family and community cohesion is, therefore, considered to be of moderate magnitude[3], local to regional in extent, and long-term duration. Overall, the potential adverse social impacts associated with Project incomes and rotation on family and community cohesion are assessed as significant.

Summary of Residual Effects

Table 7.4-7 provides a summary of the residual effects classification for socio-economic effects.

[3] Given the unknown success of mitigation.

Table 7.4-7: Residual Impacts Classification and Determination of Significance for Socio-Economics

Valued Component	Pathway	Direction	Magnitude	Geographic Extent	Duration	Significance
Economic Activity and Business Development	The Project will continue to contribute to territorial economic activity	Positive	High	Regional	Medium-term	Significant
	The Project will continue government revenues	Positive	High	Regional	Medium-term	Significant
	The Project will sustain local business development and contracting	Positive	High	Local to Regional	Medium-term	Significant
Employment and Education	The Project will create direct, indirect, and induced employment opportunities	Positive	High	Local to Regional	Medium-term	Significant
	The Project will generate direct, indirect, and induced incomes	Positive	High	Local to Regional	Medium-term	Significant
	The Project will provide workforce training and support community education	Positive	Moderate	Local to Regional	Long-term	Significant
Individual and Community Wellbeing	The Project will continue positive fiscal effects in communities	Positive	High	Local to Regional	Medium-term	Significant
	The Project may improve worker and public health and safety	Positive	Moderate	Local to Regional	Long-term	Significant
	The Project has the potential to result in accidents and emergencies	Negative	n/a			Significant
	Project incomes and rotational employment may affect family and community cohesion	Negative	Moderate	Local to Regional	Long-term	Significant

7.4.5 Cumulative Effects Assessment

The approach to cumulative social and economic effects is, in some respects, different from that taken by the physical and biological disciplines. When describing conditions and trends beyond present day, the socio-economic impact assessment considers all reasonably foreseeable projects. Only projects with proven economics (e.g., financing, some approvals) and a strong likelihood of proceeding are considered in the interest of providing a meaningful projection of future social and economic conditions. The socio-economic effects assessment takes into account Agnico Eagle's existing Meadowbank Mine operations (and its closure), and the development of the Meliadine Project, and so assesses the cumulative effect of these operations in conjunction with the Project. The residual effects assessment for socio-economics is, therefore, cumulative in nature.

The overall cumulative socio-economic effects of development are both positive and negative. With more development comes growth in the territorial economy, increased government revenues, and more employment and associated incomes. A growing economy with employment opportunities and associated incomes can increase access to consumer goods, education and training, and savings. While inequality may persist, economic growth can give people goals to strive towards. Through benefit enhancement measures and respect for the culture in which development occurs, economic growth can be targeted to ensure that local benefits are realized. A growing economy can also, however, result in social ills that can jeopardize the wellbeing of individuals and communities. Monitoring and evaluating the success of mitigation measures aimed at reducing these ill effects will be key in the years to come in the understanding of the cumulative effect of development on, in particular, wellbeing, and the relationship between specific Projects and socio-economic features.

7.4.6 Uncertainty

There is inherent uncertainty in assessing the significance of some socio-economic effects given the reliance of effect realization on the responses of individuals, families and communities to effect stimuli, mitigation, and benefit enhancement measures. Forces outside the control of a single Project can further this uncertainty by undermining the effectiveness of mitigation and benefit enhancement measures.

Many socio-economic effects may not lend themselves to the assignment of criteria or determination of significance except in terms of potential, thus introducing a larger element of uncertainty into socio-economic effects assessment. There generally is the expectation that an effect brought forward for assessment will in fact occur, at least to some degree. However, it is difficult, and in some cases not possible, to predict whether an effect will be positive, negative or both, and in what ways for whom. For example, Project employment incomes will be beneficial to those accessing employment opportunities and their families (positive effect); however, for vulnerable segments of society (e.g., women, children in single parent homes, the elderly), these opportunities may not be accessible, and not influence their quality of life (neutral effect). Where these employment incomes are concentrated in only a portion of households, this can create inequality (negative effect). The significance of the effect of Project-paid incomes is, therefore, nuanced.

Confidence in the assessment of the significance of the Project's socio-economic effects necessarily depends on:

- the perceptions and values of affected people and their leadership, as made evident through engagement;
- the adequacy of baseline data for understanding both current conditions, and the cause-effect relationship between socio-economic trends and Agnico Eagle's existing development (i.e., Meadowbank Mine);

- the statues of Project planning and design features, including economic modelling inputs;
- knowledge of the effectiveness of mitigation in reducing or removing adverse effects, and of benefit enhancement measures; and
- lessons learned from other experiences.

Confidence in the prediction of whether an effect is significant or not is often high, regardless of all the uncertainties in describing the detail of that effect. This may at times seem to be a contradiction. For example, effects on GDP and labour income are only an approximation based on Input/Output modelling. Even in the event of large errors in the approximation, however, the Project's effects on GDP and labour income will necessarily be significant.

7.4.7 Monitoring and Follow-up

The Socio-Economic Management Plan (Volume 8, Appendix 8-E.6) provides a full discussion of Agnico Eagle's monitoring measures. Agnico Eagle will collaborate with the Kivalliq Socio-Economic Monitoring Committee and other regional monitoring bodies to track socio-economic trends in the region and in communities, and will track, internally, appropriate indicators within the purview of a developer. Agnico Eagle will monitor direct employment and incomes allowing it to understand the impact on Nunavummiut. Workforce training, educational initiatives, and community contributions will also be monitored, and reported on in the annual Socio-Economic Monitoring Program report for the Project. Efforts to support and encourage Traditional pursuits will be similarly tracked and reported on. Agnico Eagle will monitor employee and family use of the Project's EFAP, on-site medical services, Elder counselling, and other mental and physical health-related programming, and evaluate outcomes in the interest of adaptive management.

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APPENDIX 7-A

Inuit Qaujimajatuqangit Baseline Report

June 2016
Report No. 1541520

AGNICO EAGLE

Golder Associates

June 2016

AGNICO EAGLE MINES: MEADOWBANK DIVISION - WHALE TAIL PIT PROJECT

Inuit Qaujimajatuqangit Baseline Report

Submitted to:
Agnico Eagle Mines Limited
Ryan Vanengen
Environment Superintendent

REPORT

Report Number: Doc 036-1524321.1700 Ver 0

Distribution:

1 Copy: Agnico Eagle Mines Limited
1 Copy: Golder Associates Ltd.

Golder Associates

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FIGURES

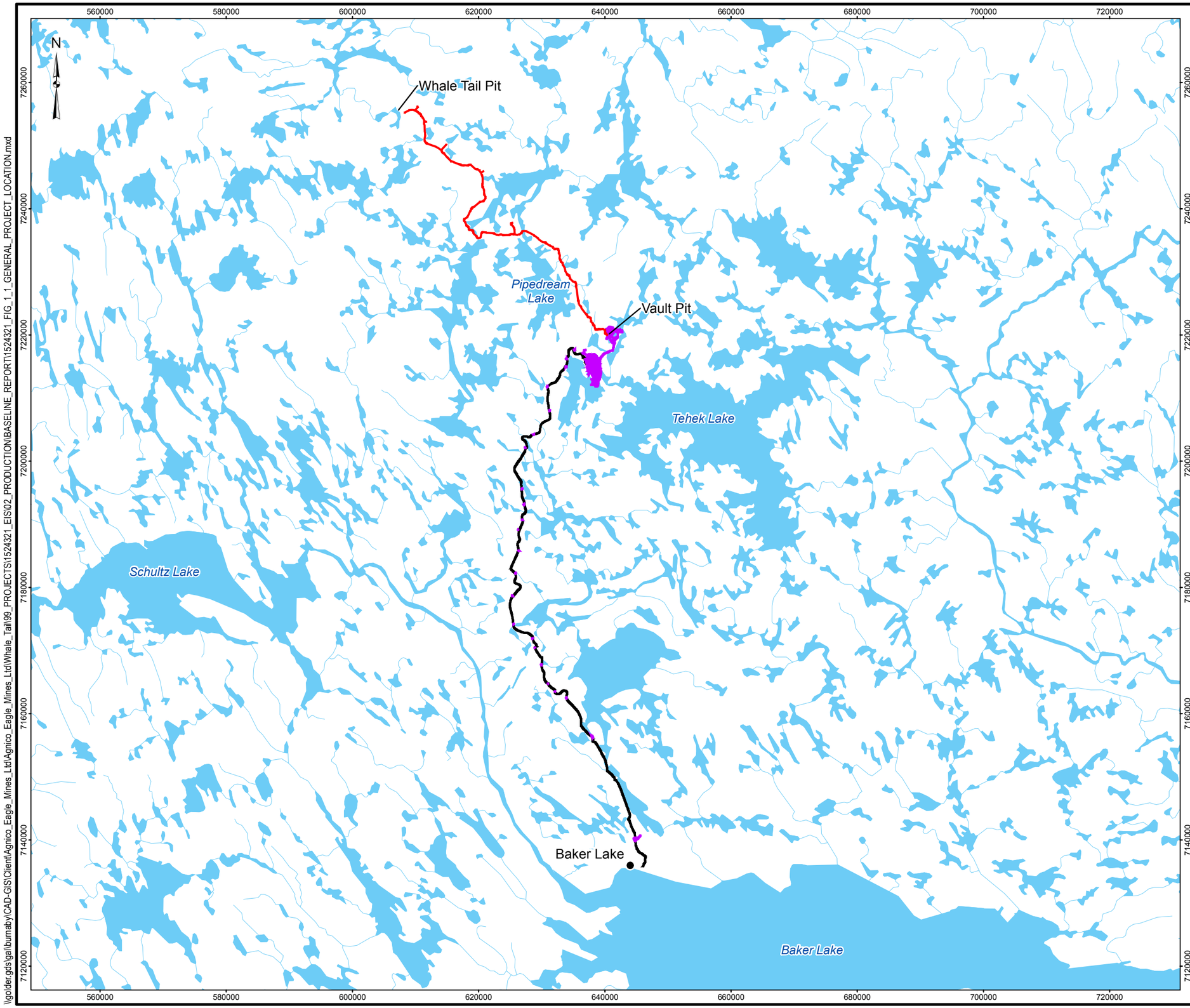
APPENDICES

1.0 INTRODUCTION

Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is proposing to develop Whale Tail Pit, a satellite deposit located on the Amaruq property, in continuation of mine operations and milling of the Meadowbank Mine. The Amaruq Exploration property is a 408 square kilometre (km^2) site located on Inuit Owned Land approximately 150 kilometres (km) north of the hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq region of Nunavut (Figure 1-1). The property was acquired by Agnico Eagle in April 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated.

The Meadowbank Mine is an approved mining operation and Agnico Eagle is looking to extend the life of the mine by constructing and operating Whale Tail Pit (referred to in this document as the Project), which is located on the Amaruq Exploration property. As an amendment to the existing operations at the Meadowbank Mine, it is subject to an environmental review established by Article 12, Part 5 of the *Nunavut Land Claims Agreement* (NLCA). Baseline data have been collected in support of the Environmental Review to document existing conditions and to provide the foundation for a qualitative and quantitative assessment of project operations and the extension of the mine development, to be evaluated in the Environmental Impact Statement (EIS) for the Project.

Agnico Eagle retained Golder Associates Ltd. (Golder) to complete the Inuit Qaujimajatuqangit (IQ) baseline study associated with the Project.



\\golder.gds\gal\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Agnico_Eagle_Mines_Ltd\Whale_Tail\99_PROJECTS\1524321_EIS\02_PRODUCTION\BASELINE_REPORT\1524321_FIG_1_1_GENERAL_PROJECT_LOCATION.mxd

LEGEND

- COMMUNITY
- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- MEADOWBANK INFRASTRUCTURE
- WATERCOURSE
- WATERBODY

REFERENCE

1. HAUL ROAD OBTAINED FROM AGNICO EAGLE MINES LIMITED. 2015-10-14 FROM 6103-117-230-200_R0.dwg
2. WATERCOURSE AND 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

12 0 12
KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

PROJECT LOCATION

Golder Associates

PROJECT		1524321	FILE No.	
DESIGN	JR	24 Sept. 2015	SCALE AS SHOWN	REV. A
GIS	CD	13 Nov. 2015		
CHECK	JR	16 Dec. 2015		
REVIEW	DRW	16 Dec. 2015		

FIGURE 1-1

1.1 Background

The Environmental Assessment Guidelines of the Nunavut Impact Review Board (NIRB), as they relate to proposed mine developments, stipulate that traditional knowledge (TK) be documented, considered, and integrated into all aspects of the project. In accordance with these requirements, Agnico Eagle has conducted a series of engagement activities to date, to gather IQ related to the Meadowbank Mine and associated exploration activities in the region, so that it can be considered and incorporated in all phases of the Project. Specifically, Agnico Eagle has completed TK/IQ workshops in support of the Meadowbank Mine project (Cumberland 2005), the all-weather exploration road (Agnico Eagle 2014) and the Project (Agnico Eagle 2016a). Additionally, Agnico Eagle has met with community stakeholders during construction activities between 2008 and 2015 to meet the Socio-Economic Monitoring Committee (SEMC) obligations, during community wellness engagement activities and reporting, and during many site visits with Elders, members of the Hunters and Trappers Organisation (HTO) and other stakeholders. Traditional Knowledge or IQ already gathered for the Mine site and all-weather exploration road is applicable to the addition of Whale Tail Pit and Haul Road. Supplemental IQ information specific to the Project was gathered during consultation and engagement activities conducted in 2015 (NIRB 2015a, b) and 2016 (Agnico Eagle 2016b,c,d,e) which are described in Section 2.0.

Agnico Eagle has taken an integrated approach to the collection and incorporation of TK/IQ for the Project that includes the following steps:

- reviewing the preceding TK/IQ information relevant to the Project area prior to beginning baseline studies in 2014;
- conducting a TK/IQ workshop with Baker Lake Elders in December 2014;
- conducting detailed baseline data collection around the proposed Whale Tail Pit and Haul Road, using western science methods that were informed and partially designed by TK/IQ workshop results, endorsed by local hunters and supported in the field by local Inuit; and
- facilitating the review and verification of TK/IQ information by Elders and HTO members during a site visit (Agnico Eagle 2015a) and during a follow-up TK/IQ workshop, group discussions and consultation meetings held in February 2016 (Agnico Eagle2016a,b,c,d,e)

Figure 1-2 depicts the approach used for integrating TK/IQ into the baseline studies conducted for the Project; this approach has been endorsed by the Kivalliq Inuit Association (KIA) representatives (R. Vanengen, Agnico Eagle, 2015, pers. comm.). The following report summarizes the TK/IQ findings based on literature, available reports and recent consultation meetings, group discussions and follow-up TK workshop. The TK/IQ reported herein, has been integrated into the Environmental Review of the Whale Tail Pit and Haul Road Project.

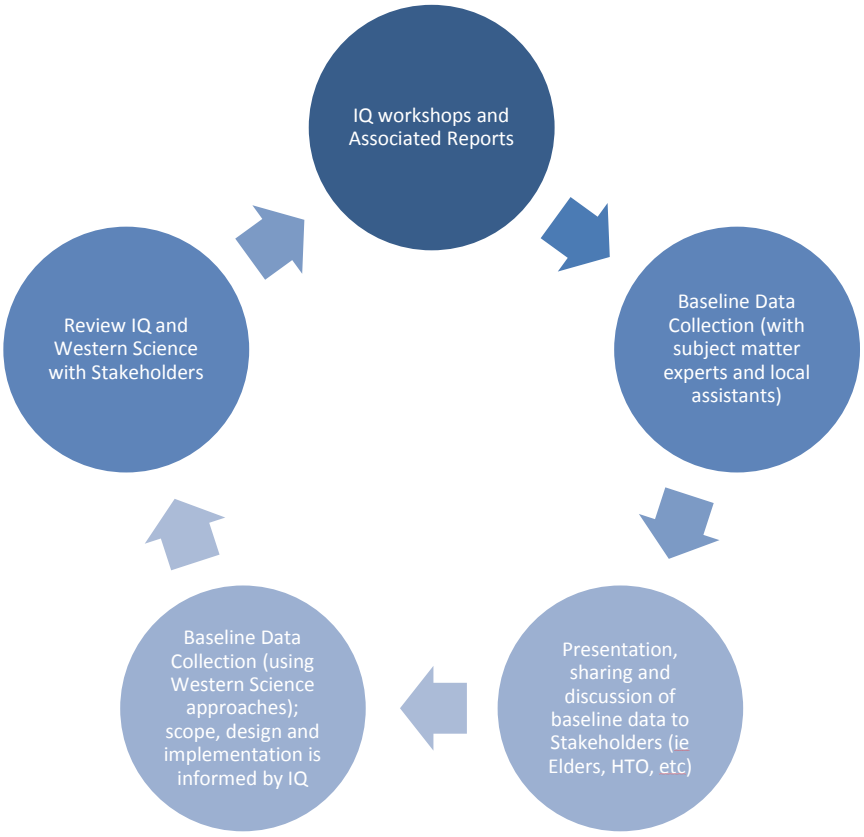


Figure 1.2: Model Used for Integrating IQ into the Baseline Studies

1.2 Definition of Traditional Knowledge

Traditional knowledge is defined by the NIRB as a "*cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission*." (NIRB 2007). Traditional ecological knowledge (TEK) is considered a branch of TK, and focuses on the body of knowledge and beliefs about "*the relationship of living beings (including humans) with one another and with their environment*" (Berkes 1993). Traditional knowledge systems have been described as being both cumulative and dynamic, building upon the experience of earlier generations and adapting to social, economic, environmental, spiritual, and political change (CEAA 2015; Usher 2000). The unified system of beliefs and knowledge characteristic of the Inuit is referred to as Inuit Qaujimajatuqangit, or IQ, which translates directly as "*that which Inuit have always known to be true*." (Tagalik 2012).

The NIRB and others emphasize that IQ does not only include Inuit TK, but also the contemporary knowledge and values of Nunavut's communities, which is rooted in the daily life of Inuit people (Arnakak 2002; NIRB 2013). Rather than being exclusively "traditional" knowledge, IQ is more accurately defined as "the Inuit ways past, present and future", and encompassing "the entire realm of Inuit experience in the world and the values, principles, beliefs, and skills which have evolved as a result of that experience (Arnakak 2002; Tagalik 2012). This continuum of IQ, of past informing present and future is a critical underpinning of the Inuit worldview (Pauktuutit 2006, as quoted in Tagalik 2012). Rather than being fixed in time, it is considered a dynamic system

that is continuously updated and enhanced by contemporary observations before being passed from one generation to the next (Thorpe 2000).

Inuit Qaujimajatuqangit is more than simply a knowledge system tied to the natural environment; it provides cultural grounding, a sense of purpose and wellbeing, and is considered to be a significant contributing factor to the sustainability of Inuit in the Arctic (Tagalik 2012). In addition to being viewed within the contexts of knowledge and time continuums, the Inuit worldview must also be considered in the context of relationship continuums (Tagalik 2012). Relationship building is described as being central to IQ, and "*relies on respect for the value and place of every other living thing and our mutual interdependence with our past, present and future environments*" (Tagalik 2012).

This demonstrates the holistic nature of IQ, which is also evident in the following definition provided by NIRB:

> "[Inuit Qaujimajatuqangit represents the] *guiding principles of Inuit social values including: respecting others, relationships, and caring for people; development of skills through practice, effort and action; working together for a common cause; fostering good spirit by being open, welcoming, and inclusive; serving and providing for family and/or community; decision making through discussion and consensus; being innovative and resourceful; and respect and care for the land, animals and the environment"* (NIRB 2007).

Inuit Qaujimajatuqangit remains an integral component to the Inuit worldview today because of the continued importance of traditional land use activities to Inuit identity and culture, and the reliance on the traditional economy for cultural and community wellbeing (Maksimowski 2014). The principles of IQ play an important role in the decision making and policies of the NIRB, and have an important contribution to make in environmental assessments, especially in identifying the potential effects of a particular development on traditional land use and resources (Flynn 2013, Byam 2013). Inuit Qaujimajatuqangit is an important complement to scientific studies, and TEK is of particular relevance, since it provides "*a broader and deeper understanding of local environmental processes, at a finer and more detailed geographical scale, than conventional scientific knowledge can offer*" (Usher 2000).

Due to the holistic nature of IQ, it encompasses all aspects of Inuit culture. The IQ documented in this baseline report relates to both contemporary and traditional knowledge, activities and land use, community wellbeing, and local understanding of wildlife, fish, vegetation, climate and weather, and cultural sites. Hereinafter, TK will be referred to as IQ in this baseline report.

2.0 METHODS

Information for the IQ baseline came from a variety of sources, including a literature review of publicly available sources and information provided directly by Elders, land users, and other Baker Lake community members through participation in the 2015 field programs for the Project, a consultation meeting and site visit held on September 8, 2015, a TK workshop held in 2014 and follow-up workshop in 2016, and group discussions and consultation meetings held in 2016. The literature review included the following publicly available sources that are relevant to the Project area and primarily from Baker Lake Elders and land users:

- **The Inuit Land Use and Occupancy Project (Freeman 1976)** described TK for northern Canada during three distinct chronological periods, based on interviews with hunters and trappers, and includes an illustration of the extent of land use by Baker Lake hunters and trappers.
- **The Nunavut Atlas (Riewe 1992)** describes and maps TK collected through interviews in the late 1980s and early 1990s, and includes a description of the geographical extent of traditional land use for the community of Baker Lake, as well as TEK of wildlife and fish.
- **The Effects of Exploration & Development in the Baker Lake Area, Volumes 1 & 2 (IDS 1978)** was a research project based on interviews with Baker Lake community members and examined the extent of land use by Baker Lake hunters, trappers, and domestic fishermen and the relative importance of particular areas for different harvesting activities. The study also documented TK related to important wildlife and fish habitats, including migration routes.
- **Inuit Nunamiut: Inland Inuit (Mannik 1998)** is a book consisting of a collection of 26 interviews conducted with Elders from Baker Lake in 1989 and 1990. It describes the life experiences of the Elders growing up in the Kivalliq region and Baker Lake area, including their traditional way of life and land use.
- **Kiggavik Project EIS, Tier 3 Technical Appendix 3B- Inuit Quajimajatuqangit Documentation (AREVA 2011)** provides information on Inuit knowledge and land use based on interviews, focus groups, and community review meetings with Baker Lake community members regarding their knowledge of the Kiggavik region.
- **Meadowbank Gold Project, Baseline Traditional Knowledge Report (Cumberland 2005)** provides a comprehensive TK baseline with information based on a literature review and three rounds of interviews with Baker Lake community members, including Elders, youth, and women. The results include information on TK and land use in the Meadowbank Mine area.
- **Proposed All-weather Exploration Road from the Meadowbank Mine to the Project site-Baseline Traditional Knowledge Report (Agnico Eagle 2014**) was prepared based on the results of a two day consultation workshop with Baker Lake Elders, and provides TK of the area located between the Back River and the Meadowbank Mine.
- **Resource Management and Inuit Knowledge of Barren-Ground Caribou (Kendrick and Manseau 2008)** examines how hunters' and Elders' observations and knowledge of barren-ground caribou in the communities of Arviat and Baker Lake can increase our understanding of caribou populations and contribute to complex management decisions.

- **Uqalurait: An Oral History of Nunavut (Bennett and Rowley 2004)** is a compilation of Inuit Traditional Knowledge of Nunavut, before moving into settlements.
- **Inuit Qaujimajatuqangit of Climate Change in Nunavut (Government of Nunavut 2005)** is based on a study conducted in 2001 by the Government of Nunavut to document IQ related to climate change and its impacts in the communities of Baker Lake and Arviat, to inform the planning, development, and implementation of the *Nunavut Climate Change Strategy*.
- **Inuit Knowledge of Caribou Habitat Background Report (Bernauer 2015a)** summarizes Kivalliq IQ of caribou water crossings and caribou calving grounds provided by Baker Lake Inuit.
- I**nuit Qaujimajatuqangit of Caribou Habitat Workshop Report (Bernauer 2015b)** is a report that was prepared based on the results of a workshop with the Baker Lake Hunters and Trappers Organization in September 2015, to discuss protection of caribou habitat.
- **Changes in Weather Persistence: Insight from Inuit knowledge (Weatherhead 2010)** is a study that examines how indigenous knowledge can be linked with scientific knowledge to provide insight into climate change, using an example of IQ from the community members of Clyde River and Baker Lake, Nunavut, related to changing weather patterns.
- **Uranium Mining, Primitive Accumulation and Resistance in Baker Lake, Nunavut: Recent Changes in Community Perspectives (Bernauer 2011)** is a Masters of Arts (M.A.) thesis that examines the changing perspectives and attitudes among members of Baker Lake regarding mining in their territory.
- **Well-being and Mining in Baker Lake, Nunavut: Inuit Values, Practices and Strategies in the Transition to an Industrial Economy (Maksimowski 2014)** describes research conducted in support of a M.A. thesis, and explores the values, practices, and conditions that shape individual, family, and community well-being in the context of the Meadowbank Mine and mining in Baker Lake, including the maintenance of traditional land use values and activities.
- **Community Experiences of Mining in Baker Lake, Nunavut (Peterson 2012)** is a M.A. thesis that describes how the Baker Lake community members have had mixed experiences with the development of the Meadowbank Mine.
- **Contributions of Inuit Ecological Knowledge to Understanding the Impacts of Climate Change on the Bathurst Caribou Herd in the Kitikmeot Region, Nunavut (Thorpe 2000)** focuses on how Inuit ecological knowledge of climate change can contribute to our understanding of climate change impacts on the Bathurst caribou herd in Nunavut. The information provided by Elders on the movements, behaviour, and habitats of the Bathurst caribou herd is of a general nature and is therefore relevant to this baseline report.

Inuit Qaujimajatuqangit was collected by discipline field crews from local assistants during their participation in the 2015 field programs, as it was provided. Inuit Qaujimajatuqangit information was only recorded by field crews if permission was granted. A consultation meeting was held on September 8, 2015 (referred to as the 'fall 2015 consultation meeting' throughout report) with thirteen Elders and land users from the Hunters and Trappers Organization, the Community Lands and Resources Committee (CLARC), and the KIA, as well as representatives from Agnico Eagle (see Appendix A).

The purpose of the fall 2015 consultation meeting was to consult with Baker Lake community members and stakeholders on the Project and seek their feedback, concerns, and requests for mitigation. During the meeting, an overview of the results of the biophysical and archaeological 2015 field programs was presented, followed by a site visit to three archaeological sites located on or near the Project footprint. Participants also had the opportunity to review some of the IQ gathered during the 2005 and 2014 TK studies as illustrated on maps, and to provide additional IQ information relevant to the study area, which was subsequently marked on the maps and recorded.

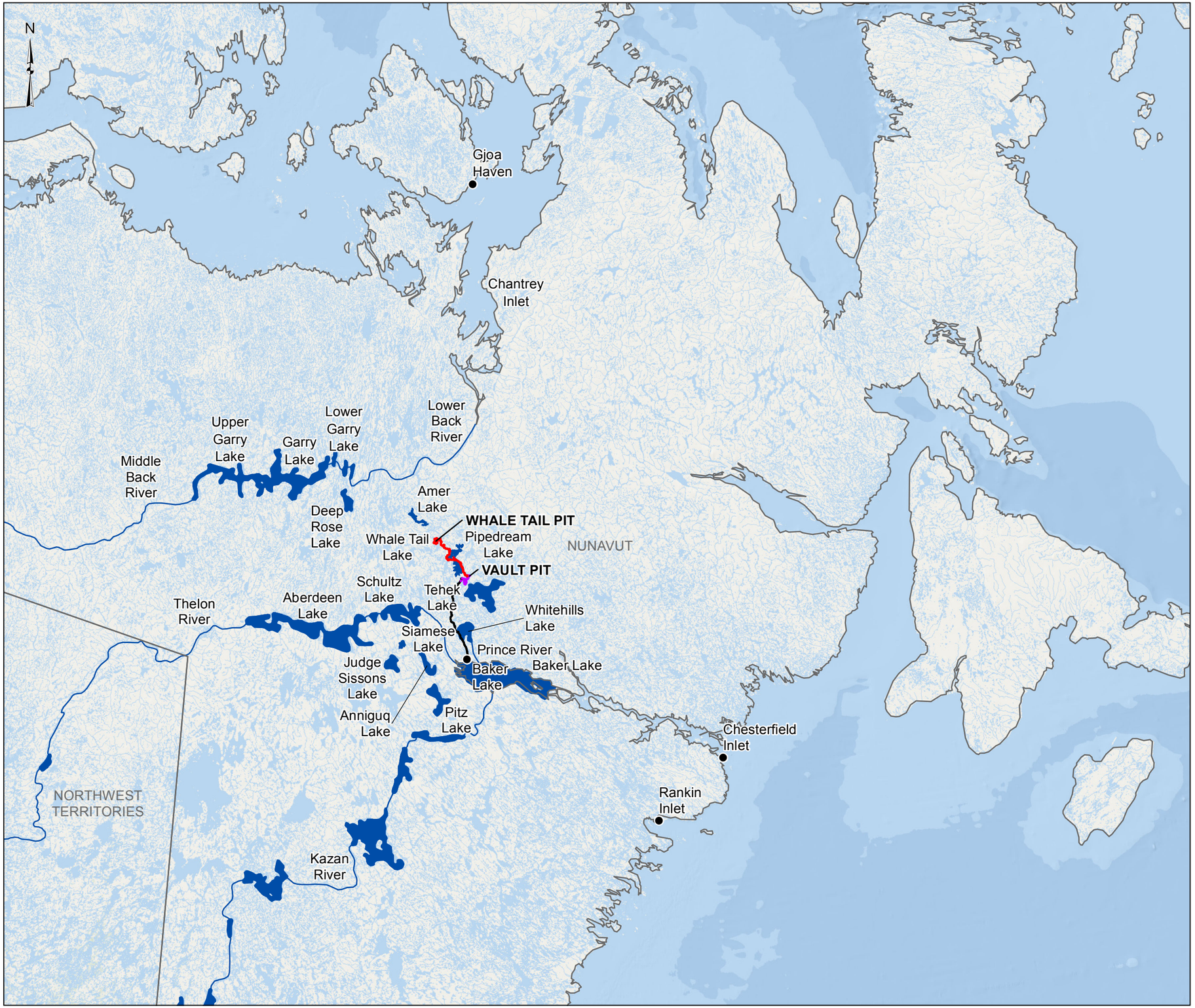
Follow-up community consultation meetings and group discussions were held from February 3-5, 2016 in Baker Lake. The overall goal of these meetings was to inform the community about the Project, and to collect traditional knowledge, socio-economic information, and Project related concerns. An effort was made to gather IQ information and hear the concerns from a diversity of community members and representatives.

A group discussion was held during the day on February 3, 2016 with seventeen students from Jonah Amitnaqq, the local high school (grades 9-12) in Baker Lake. A letter was sent to the principal of the high school in advance outlining the goal of the meeting and requesting the selection of a diversity of students of both genders and all academic levels who would be interested and willing to participate. The focus of this meeting was to determine what the students know about the mining industry, jobs in the industry, and how to communicate with this age group. Another group discussion was held during the evening on February 3, 2016 with eight women from Baker Lake who were selected based on their availability and willingness to participate. The focus of this meeting was to discuss the women's perceptions of the positive and negative effects of the mine.

A consultation meeting was held on February 4, 2016 during the day with six members of the CLARC and one staff member, and the participants were selected by the committee. Another consultation meeting was held on February 4, 2016 during the evening with six members of the HTO, who were selected by the organization. A follow-up TK workshop and consultation meeting was held on February 5, 2016 with thirteen Elders. The same Elders who participated in the December 2014 TK workshop were invited to attend the workshop, and several additional Elders participated, all of whom had living experience in the area between the Back River and the Meadowbank Mine. A youth representative also participated. The goal of the follow-up TK workshop was to provide an opportunity for the Elders to review the TK information gathered for the Project area to date as provided on maps, to ensure that their information had been accurately reported and to capture any gaps in information. Additional IQ information was gathered and any issues and concerns raised were addressed and recorded.

All of the meetings held in February 2016 were facilitated by a third-party consultant from Outcrop Nunavut and Nanuk Enterprises of Rankin Inlet. A representative from Agnico Eagle assisted with providing Project information, responding to Project specific questions, and recording information for the meetings with the Elders, CLARC and HTO. An Agnico Eagle representative and community representative assisted with facilitating and recording information for the youth group discussion, and two community representatives assisted with recording information for the women's group discussion. One or two interpreters assisted with all of the meetings, facilitated by the use of headsets and translation equipment. Following the meetings, the notes were compiled and summarized; each meeting is cited individually throughout this document. The baseline results focus on IQ gathered from Baker Lake community members, which is the nearest community to the Project area, and includes information gathered from Elders and other land users, and is generally representative of the 1950s to the present day. Two figures were produced that illustrate all the IQ information relevant to the Project area

(Figures 3-1 and 3-2) that was collected during engagement activities for the Meadowbank Mine (Cumberland 2005), exploration access road (Agnico Eagle 2014), and the Project (Agnico Eagle 2015a, 2016a,b,c,d,e). Rivers and lakes referenced in this baseline report are illustrated in Figure 2-1.



LEGEND

- COMMUNITY
- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- WHALE TAIL PIT INFRASTRUCTURE
- MEADOWBANK INFRASTRUCTURE

REFERENCE

1. HAUL ROAD OBTAINED FROM AGNICO EAGLE MINES LIMITED. 2015-10-14 FROM 6103-117-230-200_R0.DWG
2. BASE DATA ESRI, DELORME, GEBCO, NOAA NGDC, AND OTHER CONTRIBUTORS
3. INSET MAP DATA OBTAINED FROM ESRI

DATUM: NAD 83 PROJECTION: CANADA ALBERS EQUAL AREA CONIC

80 0 80
KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

PROJECT RIVERS AND LAKES

Golder Associates

PROJECT		1524321	FILE No.	
DESIGN	CM	28 Oct. 2015	SCALE AS SHOWN	REV. 0
GIS	CDB	28 Oct. 2015		
CHECK	CM	10 Jun. 2016		
REVIEW	LH	10 Jun. 2016		

FIGURE 2-1

3.0 RESULTS

3.1 Regional Land Use

For centuries the Inuit lived a nomadic lifestyle, growing up in various camps on the lands in the Kivalliq region, and depending heavily on caribou for food, tools, and raw materials for clothing and shelter (Dana and Anderson 2014; Freeman 1976). In 1914, the Hudson's Bay Company established an inland trading post at the east end of Baker Lake to promote white fox trapping, which became an important part of Inuit subsistence activities (Freeman 1976). Inuit living in the Back River area spent their winters at isolated small camps all along the Back River and throughout the area south of Garry Lake to Deep Rose Lake, and traded at posts in Baker Lake and Gjoa Haven throughout the winter. Other Inuit lived in the lower Back River down to Chantrey Inlet, and also traded at the Baker Lake post (Freeman 1976). The Inuit from several different groups gradually started to move into the Baker Lake settlement during the famine years in the 1950s to be closer to government supply sources, or during the 1960s when the government was attempting to get all the children into schools (Agnico Eagle 2014; Freeman 1976).

The Elders of Baker Lake indicated that the Project area was used by local people in the past, including many of their own families, primarily as a travel corridor between Baker Lake and the Back River to access traditional land use sites, including for fishing, caribou and wolf hunting, and white fox trapping during the trade era (1915-1956) (Agnico Eagle 2014; 2016a,b,c). During these trips, the Inuit relied on a variety of traditional plants for multiple purposes, including for fuel used for fires, bedding, food, and medicine (Mannik 1998; Cumberland 2005; Bennet and Rowley 2004). To access the Back River, and further north to Gjoa Haven and Chantrey Inlet, two main travel routes were identified that overlap with the Project area. Travelling typically occurred during the winter as the frozen lakes facilitated easier access than the rocky uplands.

Travelling and camping activities primarily centered on accessibility to caribou, and when caribou were scarce, fish and then muskox provided important alternative food sources (Agnico Eagle 2014; Mannik 1998, NIRB 2015a). The Elders indicated that the caching of meat and fish was also important to the people living inland in the past, with the main caching areas located along the Back River. Caching sites were located in the Project area (i.e., the area between the Meadowbank Mine and the Back River; Agnico Eagle 2016a), although they were more likely to be found along the Back River (Agnico Eagle 2014). Camping also occurred at various lake sites near the Meadowbank Mine and in the Project area while travelling to harvesting sites, and permanent camp sites were used farther north of the mine site (Cumberland 2005; Agnico Eagle 2016a). Additionally, the Meadowbank Mine area and further north was noted to be spiritual and had gravesites located randomly throughout the region (Cumberland 2005).

Today, hunting and fishing activities continue to be practiced near the Project area, primarily occurring opportunistically while people are enroute to other important traditional land use sites (Cumberland 2005; Agnico Eagle 2014). The Elders indicated that they continue to travel to the Back River area, which remains an important area for teaching children and grandchildren critical harvesting skills (Agnico Eagle 2016a). Use of the area between Baker Lake and the Meadowbank Mine for caribou hunting has increased in recent years due to the development of the all-weather access road (AWAR) (Agnico Eagle 2015c, 2016f, Peterson 2012). Baker Lake community members continue to maintain close ties with the land and hunting remains an important cultural activity; the subsistence wildlife harvesting of caribou, fox, wolf, and lake trout plays an important role in the contemporary well-being of the Inuit of Baker Lake (Makimowski 2014; Bernauer 2011). Additionally, the

Project area remains important spiritually, since the region continues to connect Baker Lake community members to the past and the lands of their grandparents and ancestors (Peterson 2012; Agnico Eagle 2016a).

3.2 Wildlife

3.2.1 Caribou

The Elders and land users of Baker Lake have consistently identified caribou as the most important traditional resource to the community. Caribou provided a major source of food, clothing, and tools for generations, and continues to play an important role in Inuit culture and community wellbeing (Cumberland 2005; Agnico Eagle 2014, 2016a; Mannik 1998; Bernauer 2011, NIRB 2015a). Historically known as the Caribou Inuit, the people who resided inland in the area between the Back River and Baker Lake depended on caribou for subsistence since they didn't have access to alternate sources of country foods, including seals, walruses, whales, and some species of waterfowl (Cumberland 2005; Agnico Eagle 2014, NIRB 2015a). Several studies have highlighted the importance of caribou to the subsistence economy of Baker Lake over the years (Freeman 1976; IDS 1978; Mannik 1998; Peterson 2012; Maksimowski 2014). In Freeman (1976), 99% of Baker Lake hunters interviewed indicated that they had hunted caribou during the period between 1956 and 1974, while in IDS (1978), 91% of interviewees noted that they had hunted caribou during the past several years. Baker Lake Elders interviewed for the Meadowbank Mine and Kiggavik Projects re-iterated the importance of caribou as the primary food source that sustains their community, reporting that some hunters depend on harvesting caribou every week to feed their families (Cumberland 2005; Areva 2011; NIRB 2015a).

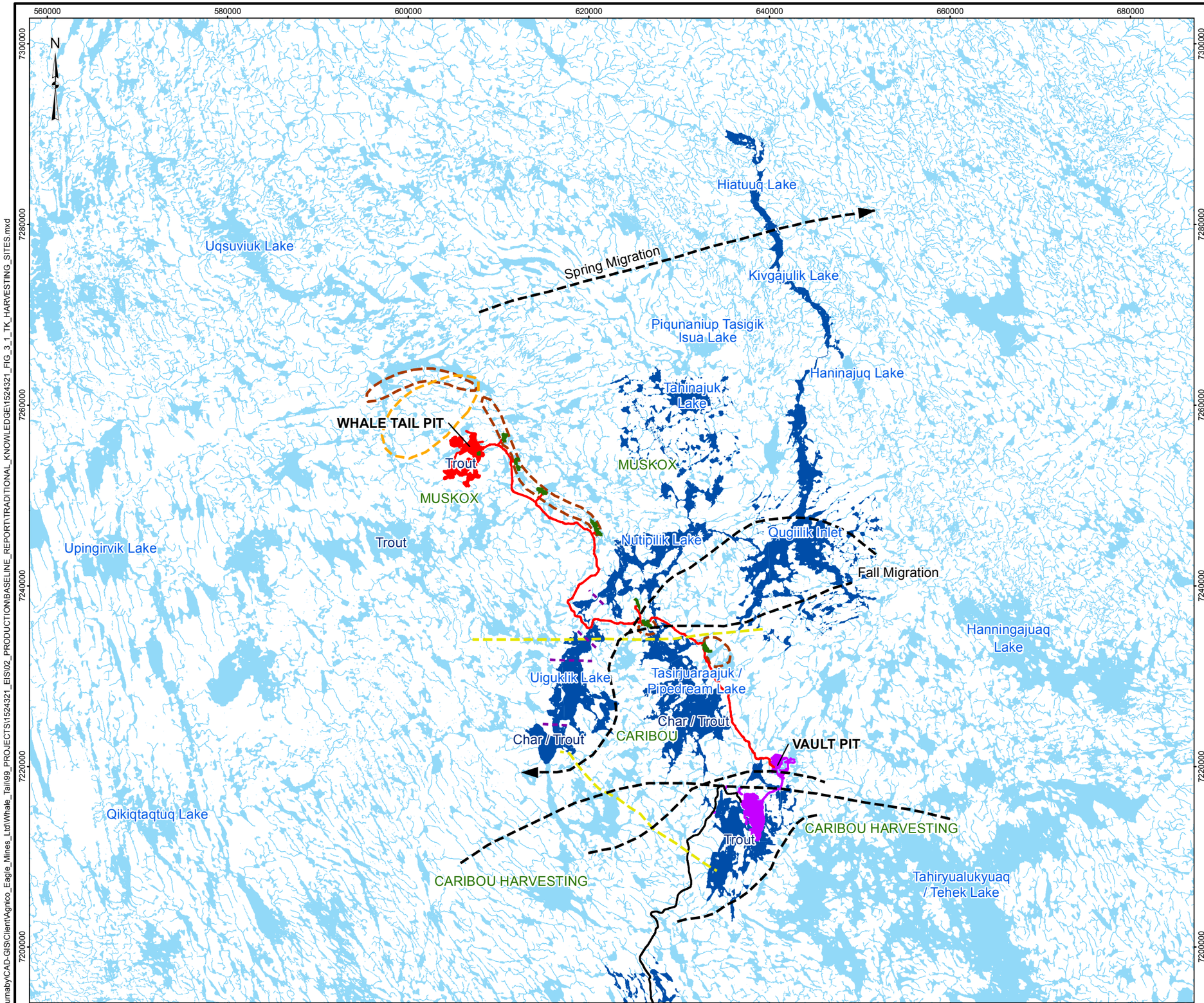
Caribou harvesting remains the most wide-ranging harvesting activity practiced in the area and is conducted year-round (Areva 2011; Cumberland 2005; Agnico Eagle 2014; Bernauer 2015a). In the past, caribou were hunted anywhere they were encountered in the region, and the meat was stored in stone caches during the fall and spring, which were especially relied upon during the winter when caribou were scarce (Agnico Eagle 2014). The Elders described how families cached dried meat or caribou skins and then marked the location with rocks so they could be found again during the winter months (Agnico Eagle 2015a, 2016a). Fresh caribou meat continues to be cached today during the fall when the temperature is below zero, and the caches are marked with caribou antlers for later retrieval. However, caching has become less successful over the last 10 years due to the increased frequency with which grizzly bears and wolverines are locating and destroying them; therefore, people do not rely on them as frequently (Agnico Eagle 2014, 2016c).

Caribou were hunted at prime harvesting sites known as crossing places, where large numbers of caribou encounter rivers and lakes during their migration (Cumberland 2005; Bernauer 2015a, 2015b; Stewart et al. 2004). One Elder described the importance of crossing places in the past when hunters would target caribou using spears from their qajaqs (kayaks) "...*we wouldn't have to wait that long because when they come to the water they start crossing right away. After the caribou start swimming, when they can't get on land, and we know that they're in the middle of the lake or river, then we'd start chasing them. As the caribou would swim away, we'd chase them, keeping the front of the qajaq right close to the caribou, and then spear* [*them*]" (Mannik 1998).

Crossing places remain important caribou harvesting areas today, and game drive systems of small inuksuit (stone "men") are used to funnel the caribou into an area where they can be killed (Agnico Eagle 2014). Inuit Qaujimajatuqangit indicates that caribou are sensitive to disturbance at water crossings, and as a result these sites are greatly respected and certain traditional rules are followed. For example, the Elders stressed the

importance of not killing the first caribou herd that passed or the leaders of a herd, so that their scent would encourage other caribou to continue using the same route (Agnico Eagle 2014; Areva 2011; Bernauer 2015a, 2015b). Other rules include no hunting, caching of meat, camping, or disturbing the land on the side of the river where caribou enter the water (Bernauer 2015a, 2015b). Several caribou crossings were identified during the 2014 TK workshop along Uiguklik Lake and Nutipilik Lake (Figure 3-1). Another crossing was identified at Hiatuuq Lake, also along another caribou migration route that the Elders identified. The Elders added that the word "*Hiatuuq*" means "hair" in Inuktitut, reflecting the importance of this site as a caribou crossing location where an abundance of caribou hair can be found during their migration (Agnico Eagle 2015a; Stewart et al. 2004). Another crossing place was identified along a large, long lake just south of the Project where caribou pass and then continue past the Meadowbank Mine site, as evidenced by the large amount of hair washed up on the shore; however, the specific location was not identified (Agnico Eagle 2016a).

Traditional land use mapped in IDS (1978) indicated that the area most frequently used to hunt caribou was within 10 km of Baker Lake and decreasing further north, with the Meadowbank Mine area considered low usage (between 1 to 32% of hunters reported use of the area). Harvesting sites mapped in Riewe (1992) showed that extensive caribou hunting from fall through spring occurred southwest of the Meadowbank Mine during the early 1990s, where caribou wintered in the Whitehills Lake and Tehek Lake areas (Figure 3-1). In an IQ study of caribou in 2001 to 2003, Baker Lake hunters indicated that spring and early fall harvesting activities occurred approximately 10 km north of town, while late fall and winter harvesting activities mainly occurred between 30 to 40 km southeast and north of town (Kendrick and Manseau 2008). Similarly, in 2008 Baker Lake hunters reported that they no longer travel as far as they used to hunt caribou, preferring to stay within approximately 40 miles (approx. 64 km) of the community because of caribou availability there (Areva 2011). However, hunters have been known to travel up to 300 km northwest of town to hunt (Kendrick and Manseau 2008).



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LEGEND

- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- WHALE TAIL PIT INFRASTRUCTURE
- MEADOWBANK INFRASTRUCTURE
- CARIBOU CROSSING
- WOLF TRAVEL ROUTE
- CARIBOU MIGRATION ROUTE
- WATERCOURSE
- BORROW PIT
- POTENTIAL FOX DENS
- POTENTIAL WOLF DENS
- FISHING AREA
- WATERBODY

REFERENCE

1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.
2. WATERCOURSE AND 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

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KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

INUIT QAUJIMAJATUQANGIT FOR THE WHALE TAIL PROJECT AREA HARVESTING SITES AND WILDLIFE & FISH TEK

Golder Associates

PROJECT		1524321	FILE No.	
DESIGN	CM	5 Oct. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	7 Oct. 2015		
CHECK	CM	10 Jun. 2016		
REVIEW	LH	10 Jun. 2016		

FIGURE 3-1

The development of the mine has had an impact on harvesting patterns (Agnico Eagle 2015b, Peterson 2012). While some community members indicated that harvesting activities have increased due to increased ability to purchase harvesting supplies and due to the increased accessibility to preferred harvesting areas from the AWAR (Peterson 2012, Agnico Eagle 2016d) other community members have reported decreased harvesting activities due to a lack of time and resources, and decreased caribou availability and accessibility (Maksimowski 2014).

Data from hunter harvest surveys indicate that use of the area between the Meadowbank mine and Baker Lake has increased in recent years due to the development of the AWAR (Agnico Eagle 2015c, 2016f). According to hunter harvest surveys, during the period between 1996 and 2001 before the AWAR was built, 18% of caribou harvests recorded by participants were estimated to be within 5 km of the AWAR, and 67% of harvests occurred within 50 km of the AWAR (Agnico Eagle 2015c, 2016f). Subsequent hunter harvest surveys conducted after the AWAR was constructed between 2007 and 2014, showed that use fluctuated between 34 and 43% within 5 km of the AWAR, and between 73 and 85% within 50 km of the AWAR (Agnico Eagle 2015c, 2016f). The average number of caribou harvested per month per hunter has ranged between 3 and 3.5 between 2007 and 2015, according to survey participants (Agnico Eagle 2015c, 2016f). There is variation in caribou harvest locations and intensity among participants, depending on individual preferences. Some hunters indicated they have “favourite” hunting areas, others prefer hunting in convenient locations, while others prefer remote locations, far away from frequented areas. A percentage of hunters stated they enjoy long distance hunting trips over multiple days (Agnico Eagle 2015c, 2016f).

An area approximately 25 km southwest of the Meadowbank Mine was identified as a caribou harvesting site (Agnico Eagle 2015a), which also overlapped with previously identified migration routes (Agnico Eagle 2014). Some Elders indicated that they do continue to use the area north of the Project when they are able to, however it is more difficult to travel now (Agnico Eagle 2016a). Elders reported that areas targeted for hunting are dependent on caribou movements, and Baker Lake land users repeatedly noted that caribou change their migration patterns in different areas and in different years (Cumberland 2005; Areva 2011; Agnico Eagle 2014, 2015a, 2016a). Therefore areas used by Baker Lake harvesters in the past compared to areas currently used will differ based on variations in caribou travel routes over the years (Areva 2011).

Specific caribou travel routes in the study area could not be identified by Elders during the 2014 TK workshop for the exploration road, as community members use the area less frequently today than in the past (Agnico Eagle 2014). However, caribou migration routes based on TK and mapped for the Meadowbank Mine indicated that a few migration routes overlap with the Project area, and movements through the area generally occur to the southwest in the spring, and northeast in the fall, with the greatest numbers observed during the fall (Cumberland 2005, Figure 1; Agnico Eagle 2015b). Conversely, during interviews for the Kiggavik Project in 2011, participants reported that caribou travel to the Baker Lake area from the south-east and south-west during the fall (Areva 2011). One Elder explained that herds used to start migrating towards the southeast and across Annigguq Lake and the mouth of the Kazan River (Figure 3-1); however, they now start migrating from the southeast towards the northwest (Areva 2011). Another Elder described a spring migration of caribou crossing the Thelon River (Areva 2011). Two additional caribou migration routes that overlap the Project area were identified by an Elder during the fall 2015 consultation meeting. One migration route heads northeast during the spring migration, through Hiatuuq Lake, and another route was identified heading southwest during fall migration through the Qugiilik Inlet and Tasirjuaraajuk Lake (Figure 3-1; Agnico Eagle 2015a). In 2016, the Elders agreed that caribou are now migrating a lot further north of town than they were 5 years ago, and one Elder reported

that caribou appear to be coming from the Quoich river area (east of Baker Lake) and migrating north of the Meadowbank mine site (Agnico Eagle 2016a). Some community members described how caribou migration routes are changing as a result of development, while others noted that it is not unusual for caribou to change their migration routes about every 50 years (Maksimowski 2014). Hunters suggested that weather and snow conditions play a greater role in defining caribou distribution than other factors, and that a range of conditions characterize prime wintering areas (Kendrick and Manseau 2008).

Caribou calving grounds are greatly respected among the Inuit and this period is considered a critical and sacred time when the species should be left alone (Thorpe et al. 2001 as cited in Bernauer 2015a). As a result, the Inuit traditionally did not live at or near the calving grounds but rather chose to remain at a distance, and set up camps along the migration routes (Thorpe et al. 2001, as cited in Bernauer 2015a). There were no caribou calving grounds identified by Baker Lake Elders or land users near the Project area.

Elders indicated that both cows and calves are frequently seen in the area, and that caribou in general are more abundant now than during the famine times of the 1950s; however, they are less abundant than they were 20 years ago (Agnico Eagle 2014). Baker Lake hunters also noted that they did not observe as many caribou around Baker Lake in 2011 than in previous years, which they attributed to the effects of exploration activities, aircrafts and transport trucks on their migration patterns (Areva 2011). Similarly, youth of Baker Lake noted that there are fewer caribou today as a result of the mine site (Agnico Eagle 2016e). Baker Lake community members in Maksimowski (2014) also reported less caribou availability in recent years, and this observation was reiterated by several Elders in 2016, noting that in the past 5 years there appears to be fewer caribou closer to town and east of the community, with greater numbers north of the Meadowbank mine area (Agnico Eagle 2016a). The Elders added that they do travel past the Amaruq site to hunt when they are able to, since "*there are very good caribou in that area; they are very fat*"; however, "*it is harder to travel now*". They used to observe and harvest larger caribou in all age classes closer to town, but they are smaller in stature now; "*even though we can get caribou closer to town, we long for "our" kind of caribou, the ones that are larger and fatter are more tender. We can tell when we look at them…I think it is a different herd. The closer ones are probably disturbed more, and don't grow as well*".

Elders stated that they were observing a lot more diseases now than in the past, with some indicating concern about caribou eating garbage and other contaminants, and reports of tumors being found in harvested caribou meat (Agnico Eagle 2014; Maksimowski 2014). It was also noted that caribou are not as afraid of both human activity and development as they previously were (Agnico Eagle 2014, Kendrick and Manseau 2008), are they are becoming increasingly habituated to people and noise, and appear to be attracted to certain areas for feeding following blasting activities (Agnico Eagle 2016c). During the fall 2015 consultation meeting, the Elders concerns were also expressed about potential effects on caribou due to spills and accidents along the road, potential effects of the mine on the taste of caribou meat, potential changes in caribou migration and distribution, and the community's ability to continue to hunt caribou and rely on them as they are the main diet of many people (NIRB 2015a).

Concerns were expressed about potential effects of the road on caribou movement patterns, and injuries resulting from sharp rocks and the Elders noted they had observed a large caribou herd attempting to cross the existing Meadowbank road for many days (Agnico Eagle 2014, 2016b; NIRB 2015a). One Elder noted that not all caribou will respond in the same way at road crossings, with some stopping, and others crossing without hesitation (Agnico Eagle 2016b). HTO members indicated concerns about potential effects of construction

activities on caribou and inquired if construction activities would halt if caribou were in the vicinity (Agnico Eagle 2016c). Community members were especially concerned about the potential effects of dust on wildlife and wildlife habitat, caribou and caribou habitat, plants and caribou feeding behavior, caching activities, and the accumulation of dust over time, including cumulative effects (NIRB 2015a; Agnico Eagle 2016b, 2016c, 2016d). It was noted that wildlife are no longer observed feeding in certain areas due to dust generated from the AWAR. Additionally, due to a film of dust on the rocks, hunters are no longer able to cache meat, and when caribou meat is cut up near the road, it picks up dust from the ground (Agnico Eagle 2016b, 2016c).

In other regions of Nunavut, participants in Thorpe's study (2000) have observed several effects on caribou which they attribute to climate change. These observations are of a general nature and relate to caribou movements, behaviour and important habitats, and are therefore relevant to the general body of IQ and to this baseline report. The earlier melting of ice has led to open patches of water, some of which are too wide for caribou to swim across, causing them to shift their migration routes from their traditional ice crossings enroute to their calving grounds. Caribou have been observed walking alongside a waterbody for several kilometres to alter their migration routes, which is believed to waste valuable energy, and caribou attempting to cross over thin ice during the spring and fall have led to incidences of massive caribou drownings. Conversely, lower water levels in lakes, rivers and the ocean means caribou have been able to conserve energy by swimming shorter distances during their migration (Thorpe 2000).

The earlier spring-melt and later freeze-up has altered the vegetation upon which caribou foraged in the past, thereby influencing caribou migration and foraging behaviour (Thorpe 2000). The observed increase in abundance and diversity of vegetation in certain areas due to warmer temperatures has led to the selection of these habitats by caribou as migration routes and for calving. Elders indicated that shoreline habitat is particularly important for providing good quality foraging, a cool and shady refuge from the sun and mosquitoes, and easy access to water to escape predators. Caribou prefer certain types of plants, such as willows, dwarf birch, cotton-grass, and the tops of "mushrooms" (Thorpe 2000).

The unpredictable freeze-thaw cycle results in the vegetation becoming covered in a hard layer of snow and ice, and consequently becomes unavailable as a food source, and can lead to caribou starving to death. Participants also described how extreme heat due to extreme temperature fluctuations, has led to an increase in overheating and mosquito harassment of caribou (Thorpe 2000).

3.2.2 Other Ungulates

Muskox is distributed throughout the region between the Back River and Meadowbank Mine, and prefer areas where eskers exist (Agnico Eagle 2014). The Elders indicated that muskox distribution has extended over the past few decades, from the northwest towards Baker Lake, and east towards Wager Bay and Repulse Bay, and therefore may overlap with the Project area. They attributed this expansion to increased vegetation growth in the area (Agnico Eagle 2014). In the past, muskox were hunted only when caribou meat was not available, especially during the winter, and today a quota system is in place for muskox and therefore people limit their harvest according to the number of tags available (Agnico Eagle 2014). Elders did not identify muskox as an important source of food during the Kiggavik study (Areva 2011).

The Elders noted that moose populations appear to be expanding their range into the tundra areas, with increased numbers observed around Baker Lake during the last 20 years (Agnico Eagle 2014). However, moose have not been observed in the Project area, and only near the Back River, on the Thelon River and south of

Baker Lake. Their increased distribution was potentially attributed to an increase in shrubs, including willows. The Elders also noted that moose provide a good source of meat, and are hunted when they are observed and if they thought they could manage to kill and skin one, as they are considerably larger than caribou (Agnico Eagle 2014).

3.2.3 Furbearers/Carnivores

Several fur-bearing species were traditionally harvested by the Inuit and provided an important source of fur for clothing and for use in trades (Dana and Anderson 2014). Although trapping activity in the Baker Lake area has decreased in intensity over the years, furbearing animals continue to play an important role in Inuit culture and way of life (Cumberland 2005). Trapping activity was practiced throughout the year; however, less frequently during spring break-up and fall freeze-up, and during periods of extreme cold and darkness when travel is restricted (IDS 1978).

Stone traps that were used to trap foxes in the past can still be found in the Project area (Agnico Eagle 2014). Fox trapping activity mapped in IDS (1978) shows that the area north of Baker Lake to Tehek Lake was of low use, and was limited in the vicinity of the Meadowbank Mine due to its distance from Baker Lake, although some traplines and trapping areas did still occur in that area. The majority of adult males in Baker Lake were considered casual trappers and were involved in fox trapping to some extent during the late 1970s, mainly trapping close to the community. Foxes were primarily harvested in December and late winter (March to April) from outlying areas, when pelts were in prime condition and prices were higher (IDS 1978). Trapping for Arctic fox also occurred in the Whitehills-Tehek lake area during most winters, and in the Amer Lake (Figure 3-1) area during some years (Riewe 1992).

During interviews in 1998 and 2014, some Baker Lake community members indicated that fox hunting still occurs (Cumberland 2005; Agnico Eagle 2014). In 2006, 44% of Inuit adults in Baker Lake reported trapping in the 12 months prior to the administration of the survey (Statistics Canada 2011). Elders noted that Arctic foxes are common in the Project area and their numbers fluctuate according to the population cycles of lemming and voles. They also indicated that red foxes are occasionally observed but are not as common in the Baker Lake area as the Arctic fox; however, their population is believed to be increasing (Agnico Eagle 2014; Agnico Eagle 2015a).

Baker Lake land users have repeatedly identified the Project area as an important denning area for Arctic fox, wolves and potentially wolverines (Cumberland 2005; Riewe 1992; Agnico Eagle 2014, 2015a, 2016a). The Elders identified an area just north of the Project area that had potential Arctic fox dens (Figure 3-1). Several areas adjacent to the Project area were identified as providing important habitat for wolves, including “the long esker” located to the northeast and adjacent to the proposed Haul Road which was described as a traditional denning area for wolves and where young are commonly observed, the esker further north adjacent to the Project, and along Esker 1 and 2where the borrow pits are located (Agnico Eagle 2014, 2015a; Figure 3-1).

The Elders expressed concern for these dens more than once due to the road route (Agnico Eagle 2014, 2015a, 2016a, 2016c). Another concern was expressed regarding the potential disturbance to wolves due to construction activities causing them to leave the area (Agnico Eagle 2015a).

Two main travel routes used by wolves were identified by Elders in 2014, including one running east-west and overlapping the northern parts of Uiguklik Lake and Tasirjuaraajuk Lake, as well as the Project area, and another running southeast-northwest just south of the Meadowbank Mine (Agnico Eagle 2014; Figure 3-1). The Elders

confirmed the east-west wolf travel route during the fall 2015 consultation meeting, adding that it is used during the months of March and April (Agnico Eagle 2015a).

During the 1998 interviews, Baker Lake community members indicated that wolves are not specifically targeted and are hunted irregularly, often taken incidentally during caribou hunting or fox trapping excursions (Cumberland 2005). However, wolves remain an important resource to the local people because of the quality of their fur used in clothing, and Baker Lake residents have reported that their harvest in the Meadowbank Mine area has increased in recent years (Agnico Eagle 2014; Cumberland 2005). Residents also reported hunting wolves in the Aberdeen Lake and Schultz Lake areas (Figure 3-1) during the winter (Areva 2011). The Elders also expressed the importance and significance of wolves in the food chain, as they help to maintain healthy caribou populations by targeting weaker animals (Agnico Eagle 2014).

Wolverines were also noted as a species that was not specifically targeted for harvesting and only taken incidentally while hunting other species (Cumberland 2005). Baker Lake Elders interviewed in 2008 noted that some people do hunt wolverines, and the best time is during the summer because they are more conspicuous than during the winter when they can disappear in the snow (Areva 2011). The Elders also indicated that their population appears to be increasing, and they are viewed both as a nuisance animal due to their ability to access and destroy food caches, and as a greatly respected animal due to their intelligence and strength (Agnico Eagle 2014). An Elder described observing several female wolverines and their young among the rocks and boulders north of the Project when he was young (Agnico Eagle 2016a). Youth of Baker Lake noted that both wolverines and foxes were increasingly coming into town due to mine activity (Agnico Eagle 2016e).

Ermines are also considered an important furbearer to local trappers, and the species, including other mustelids have been observed in the area (Cumberland 2005; Agnico Eagle 2014). The distribution of marten is also believed to have expanded in recent years, and the species is now observed north of the waterway to Chesterfield Inlet (Agnico Eagle 2014).

Bears were also killed in the past if it could be managed, and the meat and skin were used for different purposes (Agnico Eagle 2014; Mannik 1998). Grizzly bears have been observed more frequently in the region between the Back River and Baker Lake during the last 12 years (Agnico Eagle 2014; Cumberland 2005; Areva 2011). Baker Lake Elders indicated that they will hunt grizzly bears for food and their skin (Areva 2011), or are taken incidentally while caribou hunting (Cumberland 2005). Although polar bears have not been observed in the study area, they are occasionally observed inland and it is believed they follow Chesterfield Inlet inland away from the sea, and then wander northward. When polar bears are observed they are killed and consumed (Agnico Eagle 2014).

3.2.4 Other Mammals

The Elders noted that Arctic hares and Arctic ground squirrels are sometimes consumed today; however, not as frequently as they were in the past (Agnico Eagle 2014; Mannik 1998). Both species have been frequently observed in the Meadowbank Mine area, and collared lemmings most likely occur in the area as well (Cumberland 2005).

Hunters from Baker Lake rarely hunt marine mammals, although they will occasionally travel down to Chesterfield Inlet to harvest them, including walrus and seals (Areva 2011). Beluga whales have also been harvested recently when they appeared in Baker Lake during the summer of 2014 (Agnico Eagle 2014).

3.2.5 Birds

Birds are recognized by the Inuit for the important role they play in the ecosystem, and as critical indicators of environmental health (Agnico Eagle 2014). Waterfowl provided, and still provide, an important alternate food source for the local people, especially during spring break-up when large numbers of birds are migrating northward through the area and caribou have moved north to their calving grounds (Agnico Eagle 2014; Cumberland 2005; Mannik 1998). Snow goose, Canada goose, and greater-white fronted goose are the most commonly harvested species. Northern pintails, long-tailed ducks, and tundra swans are hunted as well (Agnico Eagle 2014). Waterfowl eggs were also collected and consumed in the past (Riewe 1992; Mannik 1998).

Earlier studies indicated that goose harvesting was not a preferred activity by Baker Lake harvesters, due to their low populations in the region (Freeman 1976; IDS 1978). Goose hunting occurred in June and July during the nesting period, and three main areas were identified, including the western shores of Baker Lake, and extending inland to eastern Pitz Lake, and near the mouth of Kazan River and of Prince River (Figure 3-1), suggesting that it coincided with fishing activities (IDS 1978; Riewe 1992; Areva 2011). Egg collection and other waterfowl hunting also occurred in these areas (IDS 1978). During earlier times, goose harvesting was practiced more frequently than today, and occurred primarily when the birds were molting and couldn't fly (Mannik 1998). One Elder described how families would go inland to harvest geese and other waterfowl when they got tired of consuming fish; waterfowl hunted included brant goose, snow goose, common eider, king eider, old squaw, sandhill crane, and tundra swan (Mannik 1998).

Migrating ptarmigan were identified as an important traditional resource, and are hunted at any time, wherever they are found (Agnico Eagle 2014; Cumberland 2005; Areva 2011). In the past, ptarmigan provided an important alternate food source when caribou were scarce (Cumberland 2005; Mannik 1998). Women and children often participate in ptarmigan harvesting (IDS 1978). One Elder reported that ptarmigan are not very abundant in the Project area, and they appear to be harvested closer to Baker Lake (Agnico Eagle 2014; IDS 1978). Other ptarmigan harvesting areas that were identified include Blueberry Hill, Fish camp, and near the mouths of the Thelon and Kazan rivers (IDS 1978). However, due to the wide distribution of ptarmigan, hunters will often harvest them in outlying areas incidentally while out hunting for caribou or fishing (IDS 1978).

Raptors appear to play an important role in Inuit culture, and are closely observed (Agnico Eagle 2014). The Elders indicated that raptors are more abundant today than they were 20 years ago; however, there were fewer owls. In the past bald eagles were rarely observed and are now seen every year. It was noted that peregrine falcons, gyrfalcons, and rough-legged hawks nested on cliffs in the Project area (Agnico Eagle 2014). One Elder mentioned that ravens have increased in abundance, particularly near Baker Lake where they feed on garbage near the dumps throughout the year (Agnico Eagle 2014).

Elders indicated concern regarding the destruction or disturbance of nesting and moulting waterfowl and geese habitat due to human or industrial activities including fuel and chemical spills, and the effects of noise, repeated disturbance and oil contamination on nesting, moulting and staging habitats of the highly sensitive snow goose (Cumberland 2005). A concern for the potential effects of the Project on migratory birds was also raised (NIRB 2015a). It was generally believed that the populations of smaller birds and owls had decreased over the past 10 years, which was potentially attributed to climate change. The Elders indicated that birds are good indicators of ecosystem health and expressed concern regarding the stability of bird populations (Agnico Eagle 2014).

3.3 Fish and Water

Fish provide an important secondary source of food after caribou to Baker Lake community members, and fishing is a year round activity that occurs throughout the area (Agnico Eagle 2014, 2016e; IDS 1978; NIRB 2015a). During the famine times when caribou were scarcely available, some families were completely dependent on fish for sustenance (Mannik 1998). In the IDS study (1978), almost all of the participants indicated that their families fished for food, including women and children. In 2006, 77% of Inuit adults in Baker Lake reported fishing in the 12 months prior to the administration of the survey (Statistics Canada 2011), and in 2016, 88% of youth participating in a group discussion for the Project indicated that they fish (n= 21, Agnico Eagle 2016e).

The review of the literature indicated that most fishing occurs relatively close to Baker Lake, but outlying areas were used by hunters and trappers who fished for food and bait (IDS 1978). Important fishing sites included Whitehills Lake, Tehek Lake, Baker Lake, and the mouth of the Thelon River and Kazan River (IDS 1978; Riewe 1992). Fishing at the southeast end of Tehek Lake and Whitehills Lake often provided food during hunting and trapping trips, and it was common for Baker Lake community members to travel to fishing camps near Whitehills Lake during the spring and summer (Riewe 1992, Agnico Eagle 2015b). Other fishing sites identified during the Kiggavik study include Judge Sissons Lake, Siamese Lake, and the east shore of Aberdeen Lake; however, the Elders noted that all of the little lakes in the region (near the Kiggavik project) were considered fishing lakes (Areva 2011).

During the 2014 TK workshop, Baker Lake Elders indicated that fishing occurs in both lakes and rivers, depending on the season and the availability of fish (Agnico Eagle 2014). Good fishing sites identified near the Project area that were used in the past are located to the east of the footprint, including at Nutipilik Lake, Qugiilik Lake and Tahinajuk Lake (Agnico Eagle 2014; Figure 3-1). One Elder noted that although trout are found throughout the region, the lakes near Whale Tail Pit are not commonly fished as there are other preferred lakes (Agnico Eagle 2014). Several additional lakes were also identified as areas used in the past for fishing during the fall 2015 consultation meeting, including Hiatuuq Lake, Kivgajulik Lake, Haninajuq Lake, Uiguklik Lake, and Tasirjuaraajuk Lake (Figure 3-1; Agnico Eagle 2015a). Several Elders noted that they or other community members used the area along the proposed haul road for fishing with their families when they were younger (Agnico Eagle 2015a; Local Inuit Field Assistant, 2015b, pers. comm. July 2015; Local Inuit Field Assistant, 2015c, pers. comm. July 18, 2015) and one Elder noted the area is still used today.

In the past, fish weirs were used in the Back River area; however, none were identified in the region between the Project area and Meadowbank Mine site (Agnico Eagle 2014). Fish was cached in a dried or frozen state; however caching does not occur as frequently today due to the convenience of all-terrain vehicles and snowmobiles and because of the increase in frequency with which caches are being destroyed by grizzly bears and wolverines (Agnico Eagle 2014). Youth stated that fishing occurs throughout the year, in open water and in ice, and sometimes using nets (Agnico Eagle 2016e).

Lake trout and Arctic char were identified as preferred fish species harvested for food and Elders commented that these species can be found in several of the lakes located in the Project area (Agnico Eagle 2014, 2015a, 2016e; Figure 3-1). The Elders noted that Arctic char run from the middle to the end of August, and spawn later in October after the ice forms (Areva 2011). Arctic grayling, broad and round whitefish, and a smaller fish (potentially cisco) are also harvested (Agnico Eagle 2014; Areva 2011). An Elder, while assisting on the 2015 fisheries field program, observed Arctic grayling in one of the tributaries to Whale Tail Lake and added that they

cannot use streams of greater size, and they are more abundant when the insects are out (Local Inuit Field Assistant, 2015b, pers. comm. June 28-29, 2015). He also reported that a juvenile salmonid captured was Arctic char because it was lighter in colour than lake trout. The Elders noted that there were many fish in the area between the Back River and the Meadowbank mine (Agnico Eagle 2016a), knowledge reinforced by the following story a land user heard when he was younger about a lake in the Project area: "*even a blind man could catch fish by scooping them out of the lake, because there were so many fish*" (Local Inuit Field Assistant, 2015c, pers. comm. July 18, 2015).

One Elder explained how whitefish were observed to migrate up the river after trout had finished migrating, and the presence of small birds around camp was an indication that the whitefish would be coming soon (Mannik 1998). Grayling were fished by jigging, or caught with the hands and consumed by both people and dogs in the past. Burbot and northern pike were also observed near the community, and lamprey was potentially found in Baker Lake (Agnico Eagle 2014).

Elders expressed that fish were "skinnier" today and not very good, and that drilling activity occurring in the region had affected trout (Areva 2011). Concerns regarding fish populations and their habitat were also expressed during consultation for the Meadowbank Mine (Cumberland 2005), including the effects of siltation, spills, the accumulation of toxic substances, habitat loss, restricted water flow and dewatering of waterbodies, and the potential overharvesting of fish species near construction sites or camps (Cumberland 2005). Concerns were also expressed related to watercourse crossings, and the potential effects of the mine, and of dust generated from the road on fish, and the need for additional studies was suggested (Agnico Eagle 2015a, NIRB 2015a). Youth of Baker Lake stated that fish abundance had decreased in all of the lakes due to the mine (Agnico Eagle 2016e).

One Elder re-iterated the importance of watercourses while participating in the 2015 fisheries field program: "*to the Inuit people, rivers were not just rivers, they were survival*" (Local Inuit Field Assistant, 2015b, pers. comm. July 5, 2015). A concern was raised about the protection of lakes from disturbance due to construction activities, the protection of water from spills and accidents along the road, and the potential impact to rivers, streams and lakes that caribou rely on for migrating (NIRB 2015a). During the 2016 Elders meeting, one Elder noted that his ancestors were able to determine whether the water was suitable to drink based on the temperature, clarity and other factors. Youth of Baker Lake indicated concerns with water quality due to the mine, including changing color and dust, and were hesitant to drink it as a result (Agnico Eagle 2016e). The Elders also commented on the changes observed in Baker Lake during their lifetime, including lower water levels, increased salinity due to higher tides coming in from the coast, and a yellowish color in some parts; however, they continue to retrieve water from Baker Lake for personal use, as well as from the Thelon River (Agnico Eagle 2016a).

3.4 Vegetation

Traditional plant use by the Inuit in the past was extensive and plants were valued for the different purposes they served, including food, medicine, shelter, and tools. Baker Lake Elders described using moss and lichen for making fires, Arctic cotton for making wicks, and moss, willow, and heather for bedding (Mannik 1998; Cumberland 2005; Bennet and Rowley 2004). Different types of mosses were used for different purposes, including for lanterns, for creating smoke to ward off mosquitoes, for fuel and keeping food moist while cooking, and when combined with wood, as a shield/blind while hunting caribou (Mannik 1998; Bennet and Rowley 2004). The roots of liquorice root (mahok), louseworts, leaves of the mountain sorrel (hiirnat) and the flowers of the purple mountain saxifrage (apiluktunguat) were also consumed (Agnico Eagle 2014). A Baker Lake hunter

described how when he was growing up, his dad used to put humic, or decomposed organic material on the bottom of the dog sled to allow it to slide more easily over the snow (Local Inuit Field Assistant, 2015a, pers. comm. August 15, 2015).

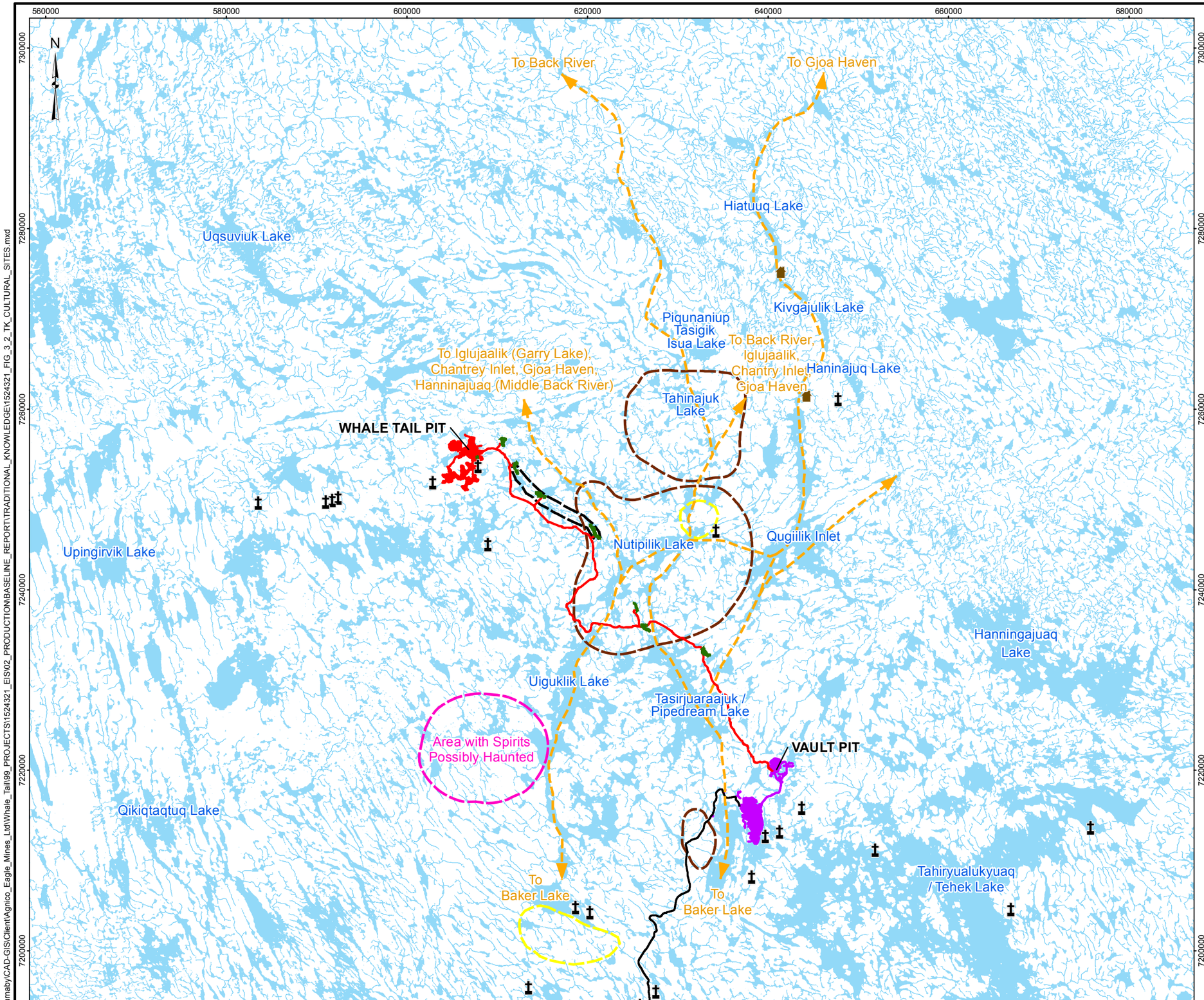
The results of a survey administered in 2006 showed that 87% of Inuit adults in Baker Lake reported gathering wild plants in the previous 12 months (Statistics Canada 2011). While the Elders indicated that plants were no longer used for traditional medicines during interviews in 2009, they did report that berries continued to be harvested for food or to make jam, including crowberry, blueberry, blackberry, and red berry (Areva 2011, Agnico Eagle 2014). Cloudberries were also used for making tea.

The Elders discussed the importance of certain plants used by wildlife, particularly lichen, which is an important part of the caribou's diet (Cumberland 2005). Concerns were expressed regarding the capacity of vegetation to regenerate following project activities (Cumberland 2005), and the effect of dust generated from the road on wildlife habitat and vegetation in general, and on plants that caribou rely on for food (Agnico Eagle 2016b, 2016e). Concerns were also noted regarding protection of the land from potential spills and accidents along the road due to the Project (NIRB 2015a).

3.5 Cultural Sites and Trails

The region between Baker Lake and the Meadowbank Mine has been described by Baker Lake Elders as an important transportation corridor leading towards the Back River, and most commonly used to access traditional winter hunting and fishing areas in the past (Cumberland 2005, Agnico Eagle 2014, 2016a). Many traditional land use areas were identified in the region that overlap with the Project area, including trails, camps, cabins, caching sites, gravesites and other culturally important sites (Figure 3-2). The Elders also explained how sites in the region between Baker Lake and the Back River are very spiritual, with several gravesites scattered throughout the region (Cumberland 2005).

The Elders described two main travel routes passing through the Project area between Baker Lake and the Back River that were used in the past (Agnico Eagle 2014; Figure 3-2). The most important route headed north to the Back River, through Uiguklik Lake, Nutipilik Lake, and then either followed the esker to the northeast of the proposed exploration access road, or went through Tahinajuk Lake, Piqunaniup Tasigik Isua Lake, and followed several more lakes and creeks northward towards the Back River. The other route was situated further east and headed towards Chantrey Inlet and Gjoa Haven, and passed through Tasirjuaraajuk Lake, Qugiilik Lake, Haninajuq Lake, Kivgajulik Lake, and Hiatuuq Lake (Agnico Eagle 2014, 2015a). Travelling generally occurred during the winter as the frozen lakes facilitated easier access than the rocky uplands did, and the Elders added that different routes were used depending on snow and weather conditions (Agnico Eagle 2015a). One Elder described the cultural importance of these routes: "*My father knew the routes. He traveled for many years, harvesting caribou in the early mornings for winter use. He was very sleepy, but walked anyway. We depended on those caribou*" (Agnico Eagle 2016a).



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LEGEND

- GRAVE SITE
- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- WHALE TAIL PIT INFRASTRUCTURE
- MEADOWBANK INFRASTRUCTURE
- WINTER TRAVEL ROUTE
- WATERCOURSE
- BORROW PIT
- POTENTIAL ARCHAEOLOGICAL SITES
- CACHING AREA
- CAMPING AREA
- SPIRITS AND HAUNTED AREA
- WATERBODY

REFERENCE

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DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

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KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

INUIT QAUJIMAJATUQANGIT FOR THE WHALE TAIL PROJECT AREA CULTURAL SITES AND TRAILS

Golder Associates

PROJECT		1524321	FILE No.	
DESIGN	CM	5 Oct. 2015	SCALE AS SHOWN	REV. 0
GIS	CD	7 Oct. 2015		
CHECK	CM	10 Jun. 2016		
REVIEW	LH	10 Jun. 2016		

FIGURE 3-2

During 2011 interviews, the Elders emphasized that all the lakes and rivers in the region were used to access caribou harvesting areas. The Thelon River and Kazan River were noted as especially important for navigating, accessed by snowmobiles in the winter and boats in the summer (Areva 2011). Some of the participants also reported using the Meadowbank road to access preferred harvesting areas (Areva 2011; Peterson 2012; Maksimowski 2014). The importance of maintaining traditional travel routes was emphasized by the Elders so that this land-based knowledge could be passed down to the youth, and they inquired if they would have access to the new exploration road to facilitate access to these travel routes (Agnico Eagle 2016a).

The Elders also indicated that the caching of meat and fish was important to the people living inland in the past, and the main caching areas were located along the Back River, with secondary ones located in the area between the Meadowbank Mine and the Back River (Agnico Eagle 2014, 2016a; Mannik 1998). Areas adjacent to lakes in the region were identified as preferred locations where potential caches or tent rings could be found, including near Tahinajuk and Nutipilik Lakes (Agnico Eagle 2014; Figure 3-2). During the 2014 and 2015 archaeological field program, three different cache sites were identified in the Project area (Stantec 2016). Local field assistants were able to confirm that these sites were caribou caches, and potentially used for fish also (Local Inuit Field Assistant, 2015b, pers. comm. July 2015; Local Inuit Field Assistant, 2015a, pers. comm. July 2015).

In the past, travelling and camping activities primarily were centered on accessibility to caribou (Agnico Eagle 2014). Camp locations were described west of Baker Lake, including near Shultz Lake, Judge Sissons Lake, and Anniguuqq Lake, and between the Kiggavik site and Baker Lake, and at the Kazan River (Figure 3-1) (Areva 2011). Some of the most important traditional camping sites were situated along the major rivers in the Northern Kiavalliq region, near water caribou crossings (Bernauer 2015a; Mannik 1998; Areva 2011; Stewart et al. 2004). As one Elder described, "*we used to camp around the shores of the river, especially when the caribou started crossing. They'd start crossing near the falls. People camped where the crossing is, on the river banks*." (Mannik 1998). The Inuit camped at these crossings during the spring, late summer, fall, and sometimes throughout the winter (Mannik 1998; Bernauer 2015a). Furthermore, archaeological artifacts in the Kivalliq region are most often found near major caribou water crossings, and many of the place names in the region refer to either the actions and strategies of caribou hunters, or the behaviours of caribou at the water crossings, attesting to the enduring importance of these sites in Inuit culture (Bernauer 2015a; Stewart et al. 2004).

Water crossing sites continued to be important camping and hunting locations to Baker Lake community members after they had settled in the community. Important crossing sites were identified along the Thelon and Kazan Rivers, at the Eastern end of Baker Lake, and west of Baker Lake, near Aberdeen Lake, Shultz Lake, and Anniguuqq Lake (Riewe 1992; Areva 2011; Bernauer 2015a). The Garry Lakes (Figure 3-1) area was reported to be used less frequently (Riewe 1992).

The Elders also reported camping at various lakes near the Meadowbank Mine site while travelling to harvesting sites, and permanent camp sites were and continue to be used further north of the mine site, which may potentially overlap with the Project area (Cumberland 2005). Two camping areas were identified in the Project area by Elders, including North of Nutipilik Lake and south of Uiguklik Lake, which are both situated along travel routes and near caribou migration routes (Agnico Eagle 2014; Agnico Eagle 2015a; Figure 3-2). The esker to the northeast of the exploration road was also identified by Elders as a potential area where old campsites might be located (Agnico Eagle 2014; Agnico Eagle 2015a). Evidence of eleven campsites were identified during the 2014 and 2015 archaeological field program, in the form of tent rings and other stone features, wooden artifacts and

hearths (Stantec 2016). The Elders noted that the wooden pegs were most likely used in the past for stretching out and drying caribou skin, as many cultural sites were places where people prepared skins or got ready for the winter (Agnico Eagle 2015a, 2016b).

The Elders identified the location of one cabin in the region between the Back River and Meadowbank Mine, situated to the northeast of the proposed Project area near Hiatuuq Lake (Agnico Eagle 2014), and another potential cabin near Haninajuq Lake (Agnico Eagle 2015a; Figure 3-2).

Several gravesites, spiritually significant sites and other archaeological sites were reported to be located in the region during the Kiggavik study (Areva 2011). Elders described how inukshuk were used to show where different families may have moved, and that certain rock placements were used as fish pointers. Other important cultural features described by Elders as potentially located in the region include sod houses, bones, and spiritual sites (Areva 2011). Several gravesites were identified by Elders to the west of the exploration access road and Whale tail Pit area, and one was identified to be located in the Whale Tail Pit area (Cumberland 2005, Agnico Eagle 2014, Agnico Eagle 2015a; Stantec 2016; Figure 3-2). A few Elders noted that they had family members that passed away in the Project area and are likely buried there (Agnico Eagle 2016a, 2016c).

A total of 18 cultural sites were identified during the 2014 and 2015 archaeological field program including, marker rocks (1), cache sites (3), hunting blinds (3), campsites (10) and one campsite/grave (Stantec 2016). The Elders noted that the marker rocks that were identified may have been used for drying fish, and emphasized the importance of the hunting blind locations, or hiding places, due to their proximity to caribou crossings (Agnico Eagle 2015a). Elders and members of the Hunters and Trappers Organization had the opportunity to visit three of the cultural sites during the fall 2015 consultation meeting, including two of the campsites and the campsite/grave. Several of the Elders noted that their families may have occupied the campsites since they had used the area in the past. (Agnico Eagle 2015a). The camp sites were located within the Haul Road right-of-way, and adjacent to Esker #3, and the gravesite was located within the Whale Tail area, but outside of the proposed area of impact (Stantec 2016)The gravesite was noted to have potentially belonged to one of the Elders' families(Agnico Eagle 2015a).

The Elders expressed concerns for the protection of graves and other archaeological sites, including caches and tent rings, requesting that they not be disturbed (Agnico Eagle 2014, 2015a, 2016a, 2016d). A concern was also expressed regarding the potential effect of dust on caches located near the road (Agnico Eagle 2016c). The potential destruction of all cultural sites due to the road route and borrow pits was expressed as a concern for members of the CLARC and the HTO (Agnico Eagle 2016b, 2016c; NIRB 2015a). The HTO also raised concerns regarding the proposed mitigation at a specific site involving the removal or reconstruction of structures located at Borrow Pit Esker #2, and indicated that all historical and archaeological sites needed to be respected, preserved and if possible avoided (Agnico Eagle 2016c).

One Elder stated that the Haul Road follows some of the trails that were travelled by their ancestors, therefore it was very important to respect the historic sites located in the Project area by not disturbing them (Agnico Eagle 2016a). The Elders added that the protection of historic sites was important for transferring knowledge to their grandchildren and to educate youth. It was also noted that some of the older structures had higher value than more recent structures (i.e. tent rings with bones pegs vs. wooden pegs).

3.6 Weather and Climate

Traditionally, Inuit land users have relied on the weather for generations to help them determine their daily activities. Due to their strong dependence on the land and ice for their livelihoods, understanding how weather conditions interact with other aspects of the environment is critical for safe travelling and successful hunting (Weatherhead et al. 2010). To determine weather conditions, the Inuit observe a variety of environmental factors and assess their interactions together, changes in wind direction and strength, ocean currents, animal behavior, snow and ice movements, cloud formations, movements, and patterns (Weatherhead et al. 2010; Thorpe 2000).

This detailed understanding of the weather is based on cumulative knowledge of local trends, patterns, and processes, which has been passed down through the generations (Riedlinger and Berkes 2001). When combined with a lifetime of experience on the land, experienced Inuit hunters have a great depth of knowledge of the environment and weather patterns (Weatherhead et al. 2010). There has been a growing interest in gathering Inuit knowledge about the changing environment in the Arctic, and understanding how climate change is affecting northern communities. Climate change has been described as one of the most significant environmental issues facing Canada's northern communities, due to their close ties with the land and resources (Government of Nunavut 2005). As increases in regional variability associated with climate change are expected, local observation and expertise are importance components of understanding change (Berkes and Riedlinger 2001).

Studies have shown that there is general consensus among Baker Lake Elders and land users that weather patterns have changed over the past ten to twenty years, including changes in the length and timing of traditional Inuktitut seasons, unpredictable weather and winds, changes in the direction of the prevailing wind, stronger winds, and storm behavior (Agnico Eagle 2014, 2016a; Cumberland 2005; Government of Nunavut 2005; Thorpe 2000). Baker Lake community members described how the wind shifts are no longer gradual and predictable; the wind used to come regularly from the north and now it varies, sometimes coming from the east or west and bringing with it drifting snow (Agnico Eagle 2014; Government of Nunavut 2005). The frequency of stronger and rapidly shifting winds has created more stormy conditions, resulting in increased risk to health and safety during traditional activities (Government of Nunavut 2005).

Many Elders and hunters have expressed that they can no longer rely on their traditional knowledge and skills to predict weather patterns and their forecasts are not as accurate as they were in the past (Weatherhead et al. 2010; Government of Nunavut 2005; Berkes and Riedlinger 2001; Thorpe 2000). Experienced weather forecasters from the communities of Clyde River and Baker Lake, Nunavut, noted that their traditional forecasting skills began to fail in the 1990s due to weather unpredictability, which was consistent with study results showing that the persistence of temperature had changed dramatically during the spring in the last few decades in Baker Lake (Fox 2004, cited in Weatherhead et al. 2010). The unpredictability of weather conditions has resulted in a lack of confidence in using traditional knowledge to predict weather, which has implications for the safety of land users during harvesting and other activities (Government of Nunavut 2005; Thorpe 2000). As one Elder expressed:

> *"Today we don't seem to be prepared for the changes that affect everyday life. People are dying of exposure and they are not prepared for the unpredictable weather* (John Nukik, Baker Lake Workshop)" (Government of Nunavut 2005).

Study participants agreed that in general, the temperature has become warmer throughout the year, including the occurrence of warm spells during winters, and a longer summer/later fall season (Government of Nunavut 2005; Cumberland 2005; Agnico Eagle 2016a). Warmer temperatures during the late summer have resulted in land users delaying the caching period by a month due to meat rotting, and a shorter caching period for hunters (Government of Nunavut 2005). Traditional clothing, such as caribou skin, is no longer viewed as essential for survival during the winter.

Another well documented effect of climate change is changing snow and ice conditions, including the delayed and slower freezing of lakes, rivers, and oceans, and earlier and more rapid melting of ice and snow (Government of Nunavut 2005; Cumberland 2005; Thorpe 2000). Short-term temperature fluctuations cause a repetitive and sporadic freeze-thaw cycle, which can occur in the spring and fall, during times of break-up and freeze-up (Thorpe 2000). These observations echo a comment made by one Baker Lake Elder who described the occurrence of many spots on the land with thin ice and open water, even in the winter (Agnico Eagle 2014). These unpredictable weather conditions have resulted in the inability to access resources, dangerous travel conditions, and loss of traditional travel routes (Agnico Eagle 2014; Government of Nunavut 2005). Water levels in rivers and lakes are also lower, with some having dried up completely, also making them more difficult to navigate over the last five years (Government of Nunavut 2005; Thorpe 2000; Agnico Eagle 2016a). However participants in Thorpe (2000) described some of the benefits of warmer temperatures and earlier spring-melt, including the opportunity to go travelling, hunting, fishing and camping out on the land sooner. Birds arrived north sooner earlier than usual, which made goose hunting and egg gathering more successful (Thorpe 2000).

Several Elders commented on both the lower quantity and poorer quality of snow making it more difficult to build good snow shelters now compared to the past (Government of Nunavut 2005; Agnico Eagle 2014; Cumberland 2005). Describing the conditions while travelling to Gjoa Haven in the 1970s, one Elder spoke about how they were able to make good *igluit* along the way, filling the cracks with soft snow; however, this is no longer possible due to hard snow conditions (Agnico Eagle 2014). Another Elder added that there is less snow on the south sides of the hills, and a change in wind direction that brings snow. As a result, the change in snow drift orientation has made it more challenging to navigate (Agnico Eagle 2014; Government of Nunavut 2005).

In the past, a lot of rain was expected during the spring, which supplemented the moisture from snow and provided vegetation growth for caribou; however, today there is less rain and vegetation growth as a result (Government of Nunavut 2005). Higher temperatures combined with a decline in snow and rain has created drier conditions, and birches, willow, and grasses that favor these conditions are growing more rapidly and larger (Agnico Eagle 2014; Government of Nunavut 2005; Cumberland 2005; Thorpe 2000). However, berry producing shrubs have been negatively impacted, experiencing stunted growth, decreased berry production and a change in the timing of berry ripening. This has resulted in a reduction in feeding areas for wildlife and traditional plant harvesting areas (Government of Nunavut 2005).

Baker Lake community members also expressed their concerns over the decline in health of caribou, due to the impacts of climate change, including warmer temperatures, less food availability, and increased insects, which disturb the animals while they are feeding (Government of Nunavut 2005). The quality of both the meat and their skins was noted to have declined, and more diseased animals were being observed. Local people have also commented on changes in the habitat and range of caribou, and shifts in their migration patterns, and some caribou starving or drowning due to the impacts of climate change (Cumberland 2005; Thorpe 2000). Community members have also observed an increased occurrence of grizzly and polar bears in certain areas, and a reduced

fear of humans, causing safety concerns to land users (Government of Nunavut 2005; Cumberland 2005; Thorpe 2000). The migration and nesting habits of birds have changed, and while some populations have decreased, others have become more abundant, and there are observations of new species in the region indicating that their range has increased (Government of Nunavut 2005; Cumberland 2005; Thorpe 2000). Climate change and lower water levels was also believed to be responsible for decreased fish populations and fish health, and changes to spawning runs (Government of Nunavut 2005). Warmer temperatures were also thought to have been responsible for the introduction of new insect species in the region. Overall, participants remarked that there is a reduction in the species available for hunting, fishing, and gathering activities due to the impacts of climate change (Government of Nunavut 2005).

3.7 Importance of the Traditional Economy to Wellbeing

Many of today's Elders in Baker Lake spent their youth and early adulthood in camps on the land, and since relocating into a settlement, they have witnessed the changes from a nomadic subsistence economy to a sedentary mixed economy (Maksimowski 2014; Peterson 2012). Baker Lake community members today maintain a balance between waged employment to pay for commercial goods and services, and practicing traditional harvesting activities to feed their families and maintain cultural ties (Peterson 2012).

Historically known as the Caribou Inuit, Baker Lake community members were the largest group of Canadian Inuit to have maintained a traditional way of life during the mid-20th century (Dana and Anderson 2014), and had the highest per person intake of caribou among Inuit of five Arctic communities during the late 20th century. Today, Inuit of Baker Lake continue to maintain close ties with their land and subsistence wildlife harvesting plays a substantial role in the well-being of the community (Dana and Anderson 2014; Freeman 2011; Peterson 2012). In Peterson (2012), respondents of all ages explained that harvesting is the most critical aspect of their Inuit heritage and their traditional activities, which continues to connect them to the lands of their grandparents and ancestors. Acquiring and sharing knowledge through experience, and having an emotional and spiritual connection to the land were also described as contributing to individual well-being (Maksimowski 2014).

In 2006, 68% of Inuit adults in Baker Lake reported hunting, 77% reported fishing, 87% reported gathering wild plants, and 44% reported trapping in the 12 months prior to the administration of the survey (Statistics Canada 2011). The most commonly harvested species are caribou and lake trout, with wolf, fox, ptarmigan, geese, Arctic char, whitefish, and grayling also contributing substantially to harvesting activities (Priest and Usher 2004, cited in Bernauer 2011). In a 2012 study, it was estimated that approximately 90% of the community harvests regularly, from every few weeks to almost every day; these activities remain very important to the community for cultural, economic, and health reasons (Peterson 2012).

All of the youth participating in the group discussion in 2016 indicated they eat traditional foods often at home, including caribou, maktaaq (muktuk), and Arctic char. Approximately 65% of the 21 participants indicated that they hunt caribou, and 88% indicated that they fish. Youth of Baker Lake indicated they continue to see value in the harvesting economy and Inuit culture, and view it as integral to their quality of life. However, many Elders reported having observed changes in values, decreased interest in harvesting, and a loss of land-based skills among the younger generation (Bernauer 2011; Maksimowski 2014). Elders described the importance of passing down traditional knowledge to youth who are eager to learn and to be out on the land, and many view it as their responsibility: "*as a grandfather, I am supposed to be responsible to teach my grandchildren about how to catch char in rivers*" (Agnico Eagle 2016a). The Elders also described how older and more experienced hunters are able to assess individual caribou and choose the healthy ones, which is what IQ teaches, whereas

younger hunters may be harvesting sick caribou (Agnico Eagle 2016a). Youth participating in a group discussion for the Project also commented that they would like to see more traditional or cultural opportunities in Baker Lake, when asked what changes they would like to see in the community (Agnico Eagle 2016e).

Despite the high price of fuel and snowmobiles, Baker Lake community members maintain their preference for caribou meat over store bought meat for economic and health reasons, and also because of a developed taste preference for different parts of the caribou (Maksimowski 2014; Peterson 2012). The benefits derived from the consumption of caribou meat are widely known and so valuable that community hunts are promoted as effective tools to combat food insecurity in the community, and are especially beneficial for Elders who can no longer hunt or for families who cannot afford it (Peterson 2012). The sharing of country food was, and continues to be an important cultural tradition that serves to reinforce social relations (Peterson 2012; Bernauer 2011; Maksimowski 2014). Elders indicated that food was generally shared with all other Inuit in times of need, including during starvation times, which ensured the survival of families (Bennett and Rowley 2004). Today, many hunters continue to share their meat with family members and friends who have been less successful at harvesting, with preference often given to Elders (Ford and Berrang-Ford 2009, as cited in Peterson 2012).

Other studies have found a correlation between food security and access to country foods in Nunavut, and the importance of these foods and harvesting activities to community wellbeing and health (Ford and Berrang-Ford 2009, as cited in Peterson 2012). Having access and availability to country foods are viewed as critical in combating food insecurity in Nunavut's communities, that the Nunavut Food Security Coalition has highlighted its promotion as a strategic area for action, including supporting harvesters so they can pursue traditional livelihoods and promoting the continuation of informal country food sharing networks (NFSC 2014).

The development of the Meadowbank Mine has had some effect on harvesting patterns and land use. According to some Baker Lake community members s, increased income has bolstered community members' ability to purchase harvesting supplies (e.g., vehicles, weapons, ammunition, etc.) and has increased participation in harvesting since more families can afford it (Peterson 2012; Agnico Eagle 2016d). More young people have been enabled to participate, thereby increasing the potential for skills transfer. A key factor affecting harvesting patterns was the development of the all-weather access road, which has facilitated quicker access for hunters into preferred caribou harvesting areas (Peterson 2012; Agnico Eagle 2016d). Community members had mixed responses in regards to maintaining their ties to the land. While some reported enjoying time off for camping and harvesting and using the mine road to access caribou grounds, others described that since working at the mine they do not have the time to harvest, or to harvest as much as they would prefer, and that caribou have been less abundant and less accessible in the past several years (Maksimowski 2014).

Many community members expressed concern about the impact of the Meadowbank Mine on caribou availability and accessibility, resulting in greater time, energy and money spent on harvesting. Concerns were also expressed regarding food security and the potential decrease in caribou due to the Project (NIRB 2015a). It was added that caribou is the main diet of many community members and they rely on caribou and the ability to hunt them. Concerns were also raised regarding the maintenance of Inuit wellbeing and identity if caribou were no longer accessible, including the loss of community feasts, and the weakening of community-based networks of sharing, and of food security (Maksimowski 2014). Some studies have shown that sharing networks are coming under increased stress due to an evolving Inuit society, and compounded by climate change, rising costs of hunting and regulations, with some community members questioning the sustainability of food sharing (Ford et al. 2012).

Despite the challenges faced by the Inuit in a changing landscape, due to their preference for country foods, especially caribou, and the cultural, economic, and health benefits that traditional harvesting and land use provides to community wellbeing, traditional activities continue to be important to the Baker Lake community.

Report Signature Page

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APPENDIX A

Fall 2015 Consultation Meeting Documentation

ᐊᒋᒋᓯ 28, 2015

ᓇᑦᓯᓂ ᐊᐅᓴᖅᓂᖅ – ᐃᐅᓯᕿᐅᑕᖅ ᐅᒪᔨᓕᓇᔭᐊᓪᓚᐅᑦᓂᓪᓕᑦ
ᖃᐱᓕᑦᑐᐊᖏᑦ ᐅᒪᔨᓕᓇᔭᐊᓪᓚᐅᑦᓂ
ᑎᑎᖅᑲᐅᓯᖏᕐᐱᐅᑦ 255
ᖃᐱᓕᑦᑐᐊᖅ, ᓄᓇᕗᑦ

ᑕᒥᑊ ᐃᓕᐃᑐᖅ - CLARC
ᐊᒪᓗ ᔭᐊᕐ ᕿᐊᑦ – ᑭᕿᓕᖏᑦ ᐃᒪᓕᓇᔭ ᐊᒪᓗ ᑕᓇᐅᓕᓇᔭ
ᖃᐱᓕᑦᑐᐊᖅ, ᓄᓇᕗᑦ

ᐱᓵᔪᑎᓕᒃ: ᐊᒪᒍᖅ ᖃᓄᖅᓴᐃᓂᖏᑦ ᐊᑦᕿᔪᑎ: ᐅᒪᔨᓕᓇᔭᐊᓪᓚᐅᑦᓂᓪᓕᑦ ᐊᒪᓗ CLARC-ᔪᑦ ᐃᑦᑕᕿᓂᑕᖃᖅᓴᖓᒧᑐᓚᐊᓂᖓᓱᓂᒃ

ᓇᑦᓯᓂ ᐊᐅᓴᖅᓂᕿᒧᑦ, ᔭᐊᕐ ᕿᐊᑦ-ᒧᑦ ᐊᒪᓗ ᑕᒥᑊ ᐃᓕᐃᑐᖅ-ᒧᑦ,

ᐊᖏᓂᔪᓂᔪᑦ ᖃᐃᖅᔪᔨᔪᑦ ᓴᕐᑕᒫᕐᓕ 8, 2015-ᖓᓗᓂᖅᓕᑦ CLARC-ᔪᓂᓂᑦ ᐊᒪᓗ ᐅᒪᔨᓕᓇᔭᐊᓪᓚᐅᑦᓂᔪᑦ ᑲᑐᒪᔨᖅᑐᓂᓂᑦ ᐃᓕᐅᓗᑎᒃ ᐊᖏᓂᔪᓂᔪᑦ ᑭᖏᖅᑐᐃᐃᔨᖅᑐᓂᓂᒃ ᐊᒪᓗ ᐊᒪᒍᖅ ᐃᓂᖓᓚᐅᖏᓗᑎᒃ, ᑕᔪᑎᑕᐅᓗᑎᒃᓗᓗ ᐊᒥᓱᓂᒃ ᐃᑦᑕᕿᓂᑕᖃᖅᓴᖅᓂᒃ. ᑕᐅᑐᒃᑎᑕᐅᑎᓕᓗᑦ, ᑲᑎᓂᓂᐊᖅᑕᕿᑦᑎᑦ, ᖃᐃᖅᓯᒪᔨᓂᑦ ᑕᔪᑎᓕᓗᑦ ᓇᐃᓇᖅᓯᒪᔨᓂᒃ 2014 2015 ᑭᓚᕐᔪᐅᔨᔪᓂᑦ ᓇᓴᐅᑎᓂᒃ/ᑎᑎᖅᑲᓂᒃ ᐱᓕᐅᖅᑕᕐᓂᓂᒃ, ᐅᖅᖃᖅᑎᑕᓗᓱ ᑕᐅᑐᒃᑎᑕᐅᑎᓕᓗᓱ, ᑕᔪᐃᔪᑐᑐᓗᓱ ᐱᖓᓱᓂ ᓱᑕᓕᓕᒍᓂᑦ ᐃᑦᑕᕿᓂᖃᖅᓴᐃᑦ ᖃᓄᖅᓴᐃᓂᕿᒧᑦ ᐊᑦᕿᔪᑎᐅᐸ ᖃᓂᕐᓴᖓᒍᓂᑦ, ᐊᒪᓗ ᖃᐅᔨᓴᕿᓗᑦᓗᓂᑦ ᐱᖅᔪᓂᐊᕿᓗᑦᓗᓂᑦ ᐃᓄᖅ ᐊᑐᕿᓗᑦᓗᓂᑦ ᐅᓇᓱᒃᑐᖅᓴᓂᑦ/ ᐃᓄᐃᑦ ᖃᐅᔨᓴᕿᓗᑦᓗᓂᑦ ᒪᐃᓗᓂ ᑲᑎᒪᓂᖅᓴᑦ (ᖃᐱᓕᑦᑐᐊᖏᑦᑕᕐᓂᖅ ᐃᖅᓓᕿᓂᖅ ᑲᑎᒪᓂᖃᖅᓴᖅᓂᖅ ᑎᓯᐱᓇ 2014-ᒥᑦ).

ᑐᐃᔨᑕᖃᖅᓴᐅᓂᖅᑐᑦ ᑕᐅᑐᒃᑎᑕᐅᑎᓕᓗᑦ. ᐊᑕᓂᑐᑦ ᑲᑎᒪᔨᔪᑎᐃᓕᖅ ᐊᒪᓗ ᖃᖏᑲᓂᔪᓂᓂᑦ ᐅᑦᓗᒥᑦ.

ᐃᓕᐅᓂᐊᖅᑐᑦ ᐊᑎᖏᑦᓂᖅ ᖃᐃᑦᑎᓂᐊᖅᓱᓯ ᑭᐊᓴᓂ ᓂᓂᖏᓐᓄᓪᓕᑦ ᖃᓇᑕᐅᑦᔨᓂᑦ ᑎᑎᕐᕿᐃᓗᓕᑦ ᐅᐅᖏᓐ (ryan.vanengen@agnicoeagle.com) ᐊᒪᓗ ᓄᓕᓂ ᕿᓂᖅᑐᓪᓕᑦ ᐅᐅᖏᓐ (leilan.baxter@agnicoeagle.com)-ᓪᓕᑦ.

ᐱᑕᐅᑦ ᐅᓯᖃᑦᑕᖅᑐᓕᓇᔭᖏᑦ ᖃᐱᓕᑦᑐᐊᖏᑦᑐᑦ ᐊᐅᓕᖅᓂᐊᖅᑐᑦ 9-ᒥᑦ ᐅᑦᓯᓇᖅᑐᓂᑦ ᑎᑭᓕᓯᓯᓗ ᐊᑐᖅᑲᖅᑐᑎᓪᓗᑦ 11:30-ᒥᑦ. ᐊᑐᖅᑲᓂᔪᓂᑦᑐᑦ ᑲᑎᓂᓂᐊᖅᑕᕿᑦᑎᑦ; ᐅᑦᓗᑭᒥᑦᖅᑎᑕᐅᓗᓯ 11:45-ᒥᑦ 12:30-ᓪᓕᑦ ᐊᑐᖅᑲᓂᔪᓂᑐᑦ ᓂᓇᕐᓴᖓᓂᑦ.

12:30-ᒥᑦ 15:00-ᓪᓕᑦ – ᐅᖅᑭᓯᓐᓂᖅ ᐊᒪᓗ ᑕᔪᐸᓴᐃᑦ ᓴᓯᐅᔨᓴᖏᑦᑐᑦ (ᐊᐅᖅᑲᓂᔪᓂᔪᑐᑐᑦ ᓂᓇᕐᓴᖓᓂᑦ).

- ᑐᑭᔨᑎᑕᐅᓗᓯ ᐊᒪᓗᒍᖅ ᖃᓄᖅᓴᐃᓂᕿᒧᑦ ᖃᓄᐃᓕᓂᐅᓂᐅᔨᓂᑦ ᐊᒪᓗ ᐊᑦᕿᔪᑎ ᓴᓇᔨᐅᓂᖓᓄᓪᓕᑦ ᓴᕐᓇᐅᑎᑎᑦ; ᖃᐅᑦᕿᓂᖅ 2014 2015 ᑭᓚᕐᔪᐅᔨᔪᓂᑦ ᓇᓴᐅᑎᓂᒃ/ᑎᑎᖅᑲᓂᒃ (30 ᒥᓂᒥᑦ)
- ᖃᐅᑦᕿᑕᔪ ᐃᓄᐃᑦ ᖃᐅᔨᓴᖅᓯᒪᔨᓂᓄᑦ ᐊᒪᓗ ᐱᖓᓱᓂ ᒪᓕᓇᖅ ᖃᐅᔨᔨᐅᔨᔪᓂᒃ 2005-ᒥᑦ ᐊᒪᓗ ᖃᐅᑦᕿᑕᓂᑦ ᑎᑎᕐᕿᐃᓗᓕᑦ 2014-ᒥᑦ ᑲᑎᖅᑎᑎᓂᓕᕐᖓᓂᑦ ᐃᓕᓇᓴᐅᔨᔪᓂᒃ (ᐊᑕᐅᓯᖅ ᐃᑲᕐᖅ)
- ᖃᐅᑦᕿᑕᓂᑦ ᐃᑦᑕᕿᓂᖃᖅᓴᐃᑦ (ᐊᑕᐅᓯᖅ ᐃᑲᕐᖅ)
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18:00-ᒥᑦ 18:45-ᒍᑦ – ᐅᑎᖏᓚᓂᑦ ᐊᐳᖅᑎᓵᓴᖅᑐᒍᑦ ᐅᓪᓄᒍᒥᑕᓕᐊᖅᑐᖏᓚᓂᑦ.
18:45-ᒥᑦ – ᐊᐳᖅᑎᓵᓴᖅᑐᑎᒥᑦ ᐊᐅᓪᓚᖏᓂᑦ ᖃᒪᓂᑦᑐᐊᖏᒍᑦ.

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M: 819.651.2974

AGNICO EAGLE

August 28, 2015

Thomas Elytook – CLARC
& Jeff Hart – KIA Water & Marine Environment Specialist
Baker Lake, NU

Richard Aksawnee - HTO Chairperson
Baker Lake HTO
P.O. Box 255
Baker Lake, NU

RE: Amaruq Exploration Access Road: HTO and CLARC Archaelogical site visit

Dear Richard Aksawnee, Jeff Hart and Thomas Elytook,

AEM would like to formally invite the CLARC members and HTO board members to join AEM representatives on an Amaruq Exploration Access Road and Amaruq site visit, and tour various archaeological sites on September 8th, 2015. During this tour, we will meet with you at the Meadowbank site, share with the members of the CLARC and HTO a summary of our 2014 2015 baseline data findings, consult with you throughout the presentation, visit representative features at 3 or 4 archaeological sites near the proposed Exploration Access Road, and lastly we will follow-up on our traditional land use/ IQ workshop consultation (which was held in Baker Lake with elders in December 2014).

A translator will be available throughout the tour. Below is a proposed agenda and schedule for the day.

Please send a list of participants to Ryan Vanengen (ryan.vanengen@agnicoeagle.com) and Leilan Baxter (leilan.baxter@agnicoeagle.com).

Peter's Expediting will leave Baker Lake at 9am with the groups and you will arrive at Meadowbank at ~11:30. I will be at the Meadowbank lobby to meet you; lunch will be served from 11:45 to 12:30 at the Meadowbank cafeteria.

12:30 – 1500 – Discussion and Presentations in the Lounge (above the Meadowbank cafeteria).

- Introduction to Amaruq exploration activity and access road construction plans; a review of the 2014 and 2015 baseline data (30 min)
- Review of the IQ and TK findings in 2005 and review of December 2014 elders workshop (1 hour)
- Review of the archaeological sites (1 hour)
- Discussion

15:00 – 18:00 – Helicopter tour (3 hours)

- Archaelogical site visit – depart in 2 groups by helicopter and visit 4 sites.

18:00 – 18:45 – Arrive back at Meadowbank for Dinner.
18:45 – Depart Meadowbank back to Baker Lake.

We appreciate your participation, input and look forward to meeting with you on September 8th, 2015.

Ryan Vanengen
Superintendent - Permitting and Regulatory Affairs
M: 819.651.2974

AGNICO EAGLE

Meeting Date Sept 8/2015 Location MBK Site / Amaruq Road.

List of Attendees 11:30 – 19:20 – AMARUQ EXPLORATION ACCESS ROAD

Name	Organization	Signature
1. Thomas Anirniq	CLARC?	
2. PHILIPPA ᐊᓐᓯᖅ IKSIRAQ	HTO	
3. JAMES KULLUK	HTO	
4. Warren Bernauer	Kivalliq Wildlife Board	W. B.
5. DAVID TOOLOOKTOOK Sr.	HTO	[signature]
6. Michael Akilak	H.T.O.	[signature]
7. Joan Scottie	HTO / CLARC	
8. BASIL QUINANGNAQ	HTO	Vice-chair
9. JEFF HART	KIA	STAFF
10. Thomas Elytook	clarck comm. HMT	
11. THOMAS. OOVAYUK	CLARC.	
12. ᑕᒪᓯ ᖃᐅᑉ Thomas Qaqqimat	CLARC.	
13. DAVID OWINGAYAK	CLARC	
14. ᐹᓪ ᐊᑦᑐᑐᕚ Paul Attutuvaa	CLARC.	
15. Camila Morcos.	Golder Assoc.	
16. Jennifer Tischer	Stantec.	
17. Ryan VANENGEN	AEM	
18.		
19.		
20.		
21.		
22.		

93 Arseneault, Val-d'Or, Québec, Canada J9P 0E9
Tél : 819.759.3555 Sans frais : 1.888.822.6714 agnicoeagle.com

APPENDIX 7-B

Socio-economic Baseline

June 2016
Report No. 1541520

AGNICO EAGLE

Golder Associates

May 2016

AGNICO EAGLE MINES: MADOWBANK DIVISION - WHALE TAIL PIT PROJECT

Socio-Economic Baseline

Submitted to:
Agnico Eagle Mines Limited
Ryan Vanengen
Environment Superintendent

REPORT

Report Number: Doc 032-1524321.1700 Ver 0

Distribution:

1 Copy: Agnico Eagle Mines Limited
1 Copy: Golder Associates Ltd.

Golder Associates

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APPENDICES

1.0 INTRODUCTION

Agnico Eagle Mines Limited: Meadowbank Division (Agnico Eagle) is proposing to develop Whale Tail Pit, a satellite deposit on the Amaruq property, in continuation of mine operations and milling of the Meadowbank Mine. The Amaruq Exploration property is a 408 square kilometre (km^2) site located on Inuit Owned Land approximately 150 kilometres (km) north of the hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq Region of Nunavut (Figure 1-1). The property was acquired by Agnico Eagle in April 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated.

The Meadowbank Mine is an approved mining operation and Agnico Eagle is looking to extend the life of the mine by constructing and operating Whale Tail Pit (referred to in this document as the Project), which is located on the Amaruq Exploration property. As an amendment to the existing operations at the Meadowbank mine, it is subject to an environmental review established by Article 12, Part 5 of the *Nunavut Land Claims Agreement* (NLCA). Baseline data have been collected in support of the Environmental Review to document existing conditions and to provide the foundation for a qualitative and quantitative assessment of project operations and the extension of the mine development, to be evaluated in the Environmental Impact Statement (EIS) for the Project.

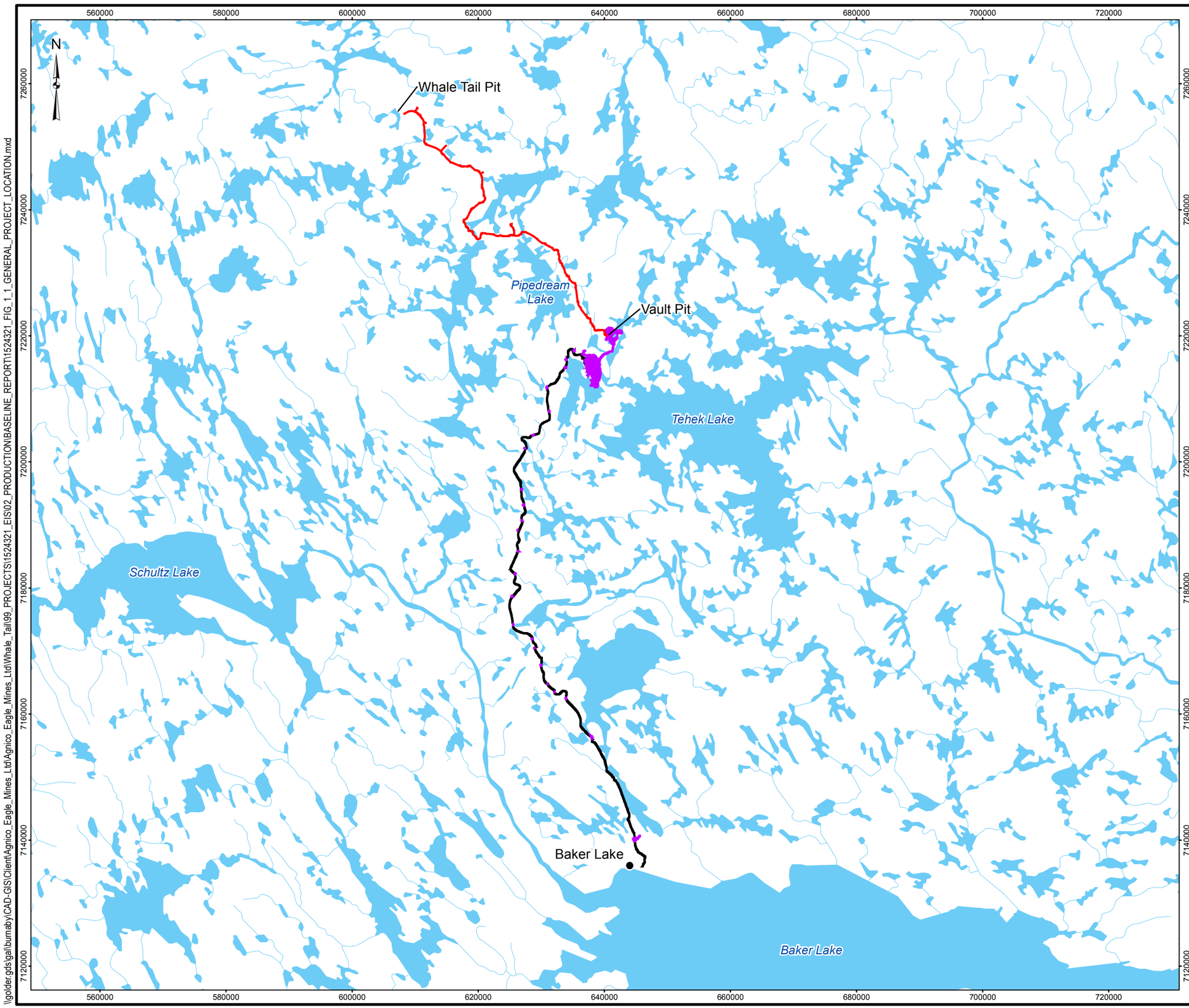
Agnico Eagle retained Golder Associated Ltd. (Golder) to complete the socio-economic baseline study associated with the Project.

2.0 METHODS

The Meadowbank Gold Mine was the subject of an environmental impact assessment that included socio-economic and cultural components and was conducted under the direction of the NIRB using the process established under Part 5 of the NLCA. The Final Environmental Impact Statement (FEIS) for Meadowbank was submitted in October 2005 and Nunavut Impact Review Board (NIRB) issued the Meadowbank Gold Mine Project Certificate #004 in December of 2006. The assessment identified Baker Lake as the community most likely to experience socio-economic impacts as a result of the Project. It is the closest community to the project site, and receives preference for employment and business opportunities under the terms of an Inuit Impact Benefit Agreement (IIBA) between Agnico Eagle and the Kivalliq Inuit Association (KIA).

Baker Lake is the third largest community in the Kivalliq Region and is the nearest community to the Meadowbank Mine. More than half of the Nunavummiut employed at the Meadowbank Mine live in Baker Lake, hence, Baker Lake is the focus of the community-level description of baseline socio-economic conditions. The most recent data available at the time of writing is presented. The data is sourced from the most recent Statistics Canada Census (completed in 2011), the Nunavut Bureau of Statistics, the Government of Nunavut, Agnico Eagle, and the Kivalliq Socio-Economic Monitoring Committee, a committee set up by the Government of Nunavut to address project certificate requirements for project-specific monitoring programs. Additional sources of baseline socio-economic information include information gathered from key informant interviews and publicly available reports such as the Meadowbank Gold Mine 2014 Socio-Economic Monitoring Report, the Agnico Eagle EIS Addendum for the Meadowbank Vault Expansion to include Phaser Pit and BB Phaser Pit submitted to NIRB in July 2015, the Meliadine Project FEIS submitted to NIRB in May 2014 and the AREVA Canada Kiggavik Project FEIS submitted to NIRB in September 2014. This report is considered an update of the Meadowbank Gold Project Baseline Socio-Economic Report (Cumberland Resources Ltd. 2005) and the scope is largely based on the Meadowbank Gold Project EIS Guidelines (NIRB 2004).

\\golder.gds\gal\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Agnico_Eagle_Mines_Ltd\Whale_Tail\99_PROJECTS\1524321_EIS\02_PRODUCTION\BASELINE_REPORT\1524321_FIG_1_1_GENERAL_PROJECT_LOCATION.mxd



LEGEND

- COMMUNITY
- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- MEADOWBANK INFRASTRUCTURE
- WATERCOURSE
- WATERBODY

REFERENCE

1. HAUL ROAD OBTAINED FROM AGNICO EAGLE MINES LIMITED. 2015-10-14 FROM 6103-117-230-200_R0.dwg
2. WATERCOURSE AND 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

12 0 12
KILOMETRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

PROJECT LOCATION

Golder Associates

PROJECT		1524321	FILE No.	
DESIGN	JR	24 Sept. 2015	SCALE AS SHOWN	REV. A
GIS	CD	13 Nov. 2015		
CHECK	JR	16 Dec. 2015		
REVIEW	DRW	16 Dec. 2015		

FIGURE 1-1

To accurately describe baseline conditions in the Kivalliq Region and Baker Lake, current socio-economic effects of the Meadowbank Mine are discussed as well as current Agnico Eagle workplace and community programs and initiatives.

This report describes the socio-economic conditions in the Kivalliq Region and the community of Baker Lake, Nunavut through detailed profiles and descriptions of the following Valued Socio-Economic Components (VSECs):

- Demographics;
- Employment;
- Income;
- Contracting and Business Opportunities;
- Education and Training;
- Culture and Traditional Economy
- Individual and Community Health and Wellness;
- Community Infrastructure and Services; and
- the Nunavut Economy

The following indicators were chosen to describe the above VSECs (Table 2-1).

Table 2-1: Indicators by Valued Socio-Economic Component

Valued-Socio-Economic Component	Indicators
Demographics	■ regional and community-level population estimates and projections ■ regional migration and community-level mobility statistics ■ number and rate of the Meadowbank Inuit workforce that has moved to southern provinces ■ regional and community-level population estimates by gender, age and ethnicity
Employment	■ Total Meadowbank employment by: – gender; – ethnicity; – employee status; and – home-based community. ■ Meadowbank turnover rates ■ regional and community-level labour force participation statistics (total and by gender) ■ regional and community-level employment by industry
Income	■ income paid to Meadowbank Inuit Employees ■ regional and community-level median income
Contracting and Business Opportunities	■ Meadowbank contract and business expenditures

Table 2-1: Indicators by Valued Socio-Economic Component

Valued-Socio-Economic Component	Indicators
Education and Training	■ regional and community-level educational services ■ regional and community-level educational attainment and graduation rates ■ Agnico Eagle investments in education initiatives ■ training program participation at Meadowbank
Culture and Traditional Economy	■ regional and community-level use and knowledge of Aboriginal language ■ participation rates in traditional activity at the territorial and community level
Individual and Community Health and Wellness	■ cost of revised Northern Food Basket ■ regional and territorial sexually transmitted infection rates ■ regional and community-level crime rates ■ housing ownership, supply and demand, conditions and costs ■ regional and territorial suicide rates ■ Meadowbank incident frequency ■ number of visits by Meadowbank employees to the on-site clinic
Community Infrastructure and Services	■ government organization ■ Meadowbank-related used of public physical infrastructure ■ Baker Lake physical infrastructure use and capacity ■ community-level use of Community Health Centres ■ use of community health services by Meadowbank employees ■ community-level social assistance expenditures and recipients ■ number and percentage of children receiving Child and Family Services care (regional and territorial level)
Nunavut Economy	■ royalties and taxes paid by Agnico Eagle ■ Gross Domestic Product

3.0 RESULTS

Nunavut is the youngest Canadian territory. It became independent of the Northwest Territories in 1999. Despite improvements in socio-economic indicators associated with economic development, all levels of government in Nunavut and the federal government remain challenged by the unique social, economic, and health conditions in the territory. Wage employment growth has been slow and reflects lower levels of educational attainment as most jobs require a minimum high school education. There are also challenges because the cost of living is high and food security is low (reflected in hunger and changing diets) and poor housing and infrastructure deficits have been key issues for more than a decade (Aarluk Consulting 2010; AREVA 2011; CBC 2015a; Cumberland Resources Ltd. 2005; Nunatsiaq Online 2010; Nunavut Bureau of Statistics and Statistics Canada 2011; Nunavut Food Security Coalition 2014).

These issues and others have been discussed over time and at length by governments, academia, the media and Nunavummiut (Capital News Online 2012; GN – EDT 2014a; GN – EDT 2014b; GN – HSS 2012; Impact Economics 2010; ITK 2014; Maksimowski 2014; Pauktuutit Inuit Women of Canada and the University of British Columbia 2014; Peterson 2012; Webster 2006; WorleyParsons Canada 2014). Various policies, strategies, studies, plans, and programs have been proposed and implemented (Aarluk Consulting 2010; Capital News Online 2012; Government of Canada 2015a; NHC 2013a; Nunavut Food Security Coalition 2014; 2015). While there has been recent improvement in indicators associated with mining (e.g., educational attainment, labour force participation and income), current socio-economic conditions continue to show sharp divides between Nunavut and the rest of Canada.

3.1 Summary of Meadowbank's Socio-Economic Effects

Table 3.1-1 summarizes the direct socio-economic effects the Meadowbank Mine has had to date in the Kivalliq Region and Baker Lake (the socio-economic study area) on employment, income, contracting and business opportunities, education and training, migration, worker health and safety, community infrastructure and services, and on the Nunavut economy. Effects to date of the Meadowbank Mine on some indicators, including some health and wellness and culture and traditional economy indicators, are considered to be inconclusive or indirect and are therefore not summarized in Table 3.1-1. These other indicators and trends and their potential relationship to the Meadowbank Mine (if any) are discussed in further sections of this report.

Table 3.1-1: Summary of Meadowbank's Socio-Economic Effects

Valued Socio-Economic Component	Indicator(s)	Key Results	Section Reference(s)
Demographics	■ population growth rate in the Kivalliq Region and Baker Lake ■ migration and mobility in the Kivalliq Region and Baker Lake ■ number and rate of Inuit Meadowbank employees who have moved to southern provinces	■ population estimates do not indicate that the construction and operation of Meadowbank has influenced the overall rate of population growth in the Region or in Baker Lake ■ migration and mobility data do indicate the Meadowbank may have influenced migration to the Region and to Baker Lake between 2006 and 2011. ■ There has been a gradual increase in the number of Inuit workers moving to southern provinces, from 7 in 2011 to 12 in 2014 (or less than 5% of the Inuit workforce).	3.2.1 and 3.2.2
Employment	■ Meadowbank employment (total, Inuit, Nunavummiut, by gender, and by community) ■ Meadowbank turnover	■ Female employees are more likely to be employed in temporary positions than permanent positions. ■ In 2014, 15% of Meadowbank employees were female, which is just below the Canadian mining-sector average of 17%. ■ Representation of Meadowbank female employees has remained steady. ■ Inuit employees are more likely to be employed in temporary positions than permanent positions and more likely than non-Inuit employees to be employed in temporary positions. ■ Representation of Inuit employees in Meadowbank's workforce has remained steady between 2012 and 2014 (in the range of 31%-34%). ■ There was an increase in the representation of Inuit temporary employees from 71% to 95% between 2012 and 2014. ■ From 2010 to 2014, employees from the Kivalliq Region represented about one third of all Meadowbank employees, over half of which were from Baker Lake. ■ The number of employees from Baker Lake who worked at Meadowbank has increased from 84 employees in 2010, to 155 workers in 2014. ■ In 2014, the turnover rate of Inuit employee's occupying permanent positions increased to 26% from 23% in 2013. However, the global Inuit turnover rate has decreased from 38% to 36%, when considering both permanent and temporary employees.	3.3.1 and 3.3.2

Table 3.1-1: Summary of Meadowbank's Socio-Economic Effects

Valued Socio-Economic Component	Indicator(s)	Key Results	Section Reference(s)
Income	■ income paid to Meadowbank Inuit employees ■ change in median employment income in Kivalliq communities	■ Inuit employment income has remained steady at about $18 million per year since 2011. ■ Baker Lake is the only community in the Kivalliq Region to show above average increases in median income since Meadowbank production began. ■ The highest increases in median income in Baker Lake came between 2007 and 2009, during the Meadowbank construction phase.	3.4
Contracting and Business Opportunities	■ contract expenditures in Baker Lake, in Nunavut and the North ■ business expenditures on Inuit-owned businesses	■ The relative proportion of contract expenditures in the North was over 50% in 2011 and 2012 and dropped to 48% in 2013. In 2014, Nunavut captured 46% of contract expenditures, indicating a further downward trend. ■ In absolute dollar terms, the annual value of Agnio Eagle contract expenditures has fallen significantly since 2012, reasons for this decline include: ▪ Postponement of a number of capital projects due to the low price of gold. ▪ Temporary cessation of exploration activity at Meadowbank over the past few years as the company has shifted more of its resources towards the Meliadine exploration project. ■ Expenditures on Inuit-owned businesses have been declining since 2012, however, their relative share of contract expenditures is on an upward trend, representing 37% in 2014.	3.5

Table 3.1-1: Summary of Meadowbank's Socio-Economic Effects

Valued Socio-Economic Component	Indicator(s)	Key Results	Section Reference(s)
Education and Training	■ Agnico Eagle investments in school-based initiatives ■ Agnico Eagle investments in mine training and education programs ■ training hours provided at Meadowbank ■ number of haul truck driver program graduates ■ apprenticeships for Inuit employees	■ Agnico Eagle has made total contributions of approximately $284,000/year to a variety of school-based initiatives since 2010. ■ Agnico Eagle's financial investments in externally-delivered training programs have been steady at just under $4 million per year for the past three years, with the Kivalliq Mine Training Society being the largest recipient. ■ The scope of, and participation in, in-house training and apprenticeship programs have been relatively consistent throughout the mine's operation. ■ Annual fluctuations in the number of specific training hours and haul truck driver program graduates largely reflect changing demand at Meadowbank for additional positions for which specific training is provided.	3.6.3 and 3.6.4
Individual and Community Health and Wellness	■ Meadowbank Mine incident frequency ■ number of visits by employees to on-site Meadowbank clinic	■ Lost-time and light duty incident frequency has decreased substantially and consistently since 2011, as have visits to the Meadowbank clinic for work-related injuries. ■ The data suggests that the Meadowbank clinic serves an important function in addressing non-work related health and medical conditions amongst workers.	3.8.6
Community Infrastructure and Services	■ estimates of direct use of public physical infrastructure related to Meadowbank ■ number of Meadowbank employees referred to their community health care centre for personal or work-related reasons.	■ Agnico Eagle's use of public physical infrastructure consists of use of Baker Lake airport (300-400 passenger trips/year), use of other Nunavut airports (200-400 passenger trips/year), and use of the Baker Lake Community Centre (5-10 times per year). ■ The number of employees referred to community health centres for personal or work-related reasons ranged from 14 to 47 people per year and has been highest in recent years. ■ In 2013, the number of on-site accidents requiring use of Nunavut Health Centres (47) represented less than 1% of visits to the Baker Lake Community Health Centre. This data alone does not indicate whether a Meadowbank worker is a higher user of community health care services than other community members or visitors.	3.9.2.1 and 3.9.3.2

Table 3.1-1: Summary of Meadowbank's Socio-Economic Effects

Valued Socio-Economic Component	Indicator(s)	Key Results	Section Reference(s)
Nunavut Economy	■ compensation, royalties and taxes paid ■ Nunavut Gross Domestic Product (GDP)	■ Since 2007, Agnico Eagle has provided $11.8 million to Nunavut Tunngavik Incorporated and the KIA. ■ Meadowbank employment taxes provide an average $30 million per year to the federal government and $3 million per year to the Government of Nunavut. ■ Property taxes paid to the Government of Nunavut by Agnico Eagle are on average $1.1 million per year. ■ As the only operating mine in the territory, Meadowbank has been a driver of Nunavut's GDP growth since 2010.	3.10

3.2 Demographics

The Kivalliq Region is centrally located in Nunavut and the Canadian Arctic, north of Manitoba and west of Hudson Bay. It is one of three administrative regions in the territory and includes seven hamlets. The hamlets are Arviat, Baker Lake, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay, and Whale Cove. Rankin Inlet is the largest community in the Region and acts as the regional centre for air transportation and government services. Baker Lake is the third largest community in the Region and is the nearest to the Meadowbank Mine. With a 2014 population of 10,467, the Kivalliq Region is the second largest region in Nunavut, after Qikiqtaaluk (19,498) and larger than the Kitikmeot Region (6,620) (Nunavut Bureau of Statistics 2014a). Detailed demographic data tables for the Kivalliq Region and Baker Lake are included in Appendix A.

3.2.1 Population Growth and Projections

Population growth data in Table 3.2-1 suggest that current Meadowbank mine operations have not had an effect on population growth at a regional or community level. Population growth in the Region and in Baker Lake has been relatively stable since 2006. Average annual population prior to and after Meadowbank construction has averaged 2-3% a year in the Kivalliq Region and Baker Lake.

Table 3.2-1: Population Estimates for the Kivalliq Region and Baker Lake

	Population	2006	2007	2008	2009	2010	2011	2012	2013
Kivalliq Region	#	8,722	8,949	9,117	9,301	9,511	9,755	9,928	10,187
	% Change	n/a	3%	2%	2%	2%	3%	2%	3%
Baker Lake	#	1,807	1,846	1,890	1,951	2,010	2,051	2,076	2,117
	% Change	n/a	2%	2%	3%	3%	2%	1%	2%

Sources: Nunavut Bureau of Statistics (2014a, b, c).

Regional population projections and community-level population projections are available in Appendix A. The Bureau has estimated an average annual increase of 1.8% for the Region and 1.5% for Baker Lake (Nunavut Bureau of Statistics 2014d). These are lower than the pace of growth experienced in recent years. This projection is considered conservative given more recent increases in the population between 2007 and 2014 but is appropriate given the uncertainty regarding major developments in Nunavut (e.g., AREVA Kiggavik). The Bureau's projections do not account for potential population increases associated with continued operations of Meadowbank or construction and operations of the Meliadine Project.

3.2.2 Migration

Table 3.2-2 shows movement into and out of the Kivalliq Region by people from within Nunavut (inter-territorial migration) and by people from elsewhere (intra-territorial migration) between 2006 and 2013.

Table 3.2-2: Migration in the Kivalliq Region, 2006-2013

Migration	2006	2007	2008	2009	2010	2011	2012	2013
Inter-territorial	-59	-107	-9	-25	19	-52	-9	88
Intra-territorial	10	22	-45	4	45	37	-12	-12
Net	-49	-85	-54	-21	64	-15	-21	76

Source: Statistics Canada (2015a).

A net positive increase in intra-territorial migration occurred as Meadowbank entered its operation phase in 2010 and 2011. Of the 82 people that moved into the Kivalliq Region from other parts of Nunavut over this two year period, half were of working age (age 15-64) (Statistics Canada 2015a). These people may have accessed employment at Meadowbank. As of the end of 2011, there were 249 Kivalliq-based employees at Meadowbank (an increase of 100 employees from the year before) (AEM 2013). This positive migration trend ceased in 2011. This suggests there has been less movement into the Kivalliq Region from other parts of Nunavut, but leaves the possibility of movement within the Region between communities.

While Meadowbank Mine may not have influenced overall growth in Baker Lake, data suggests that it may have played a role in migration to the community. Baker Lake mobility data suggests that migration played a large role in the population increase between 2006 and 2011. According to Statistics Canada Census data, between 2006 and 2011, the population of Baker Lake increased by 144 people[1] (Statistics Canada 2007a; 2012). In 2011, 180 people that lived in Baker Lake lived elsewhere in 2006. About half of these people used to live elsewhere in Nunavut, while the rest used to live outside of Nunavut. Therefore, population change in Baker Lake in this period was largely due to migration as opposed to births and deaths.

Employment at Meadowbank provides Inuit workers with income and skills that may facilitate moving from the territory. It is likely that this movement has been to either Montreal or Val D'Or, Quebec as these are the only employment pick up points outside of the seven Kivalliq communities. The number of Inuit employees working at the Meadowbank Mine that have chosen to move away from Nunavut to live in the south has increased to a total of 12 employees since the mine started operations in 2010 (Figure 3.2-1). Since 2012, this number has remained between 4 and 4.5% of the Inuit workforce.

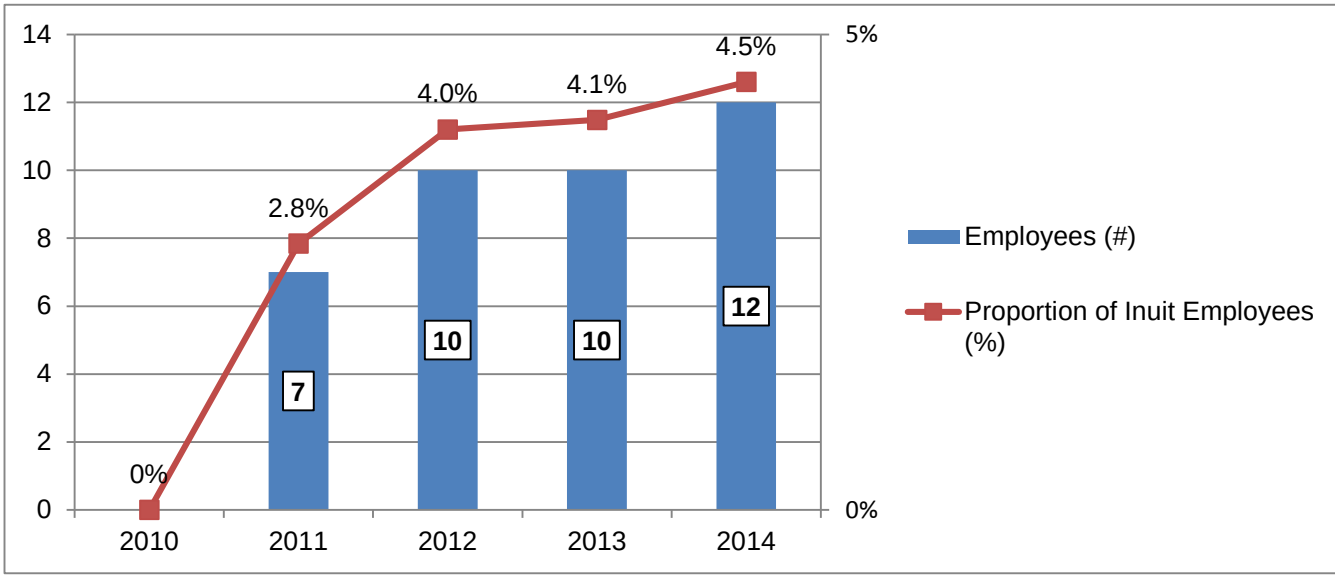


Figure 3.2-1: Number and Rate of Inuit Workforce who have moved to Southern Provinces, 2010-2014

Source: Stratos Inc. (2015).

[1] The Statistics Canada Census data is considered an underestimate of the population of Baker Lake. Therefore, in most cases, data compiled by the Nunavut Bureau of Statistics is presented unless comparisons must be made between two Statistics Canada data sets for which Nunavut Bureau of Statistics Data is not available (i.e., population and mobility).

3.2.3 Gender, Age and Ethnicity

The data presented in detailed demographic tables included in Appendix A, indicate changes in the composition of the Baker Lake population in favour of males, a working-age population (age 15 to 64) and a non-Inuit population. These changes are more pronounced in Baker Lake than at the regional level. The following demographic trends were evident in Baker Lake between 2006 and 2014 (Nunavut Bureau of Statistics 2014a,b,c):

- The male population increased by 20% (1,019) while the female population increased by 15% (726).
- The working age population grew faster in the hamlet than at the regional level. The proportion of the working age population increased from 62% (1,113) to 66% (1,423) of the Baker Lake's population. The pace of growth of this segment of the population was 3.5% a year on average (faster than overall population growth) compared to 2.9% a year in the Kivalliq Region.
- The non-Inuit population increased at a faster rate than the Inuit population. The non-Inuit population in Baker Lake has increased by 94% (143) or 11.8% a year, while the Inuit population has increased by 13% (214) or 1.6% a year. The same trend is evident at the regional level although it is not as pronounced.

These demographic trends are consistent with the demographics of Meadowbank Mine employees (i.e., predominantly male, working age and non-Inuit), however the degree to which the mine has influenced these trends is uncertain.

3.3 Employment

3.3.1 Meadowbank Employment

Total employment at Meadowbank is shown in Figure 3.3-1 by employee status (permanent and temporary). Agnico Eagle defines a permanent employee as an employee whose current job is not specifically tied to a short-term project and the position is expected to be required throughout the life of mine. A temporary employee is considered as an employee whose current job will not continue beyond a specific period of time. A temporary on-call employee, 100% filled by Inuit/Nunavummiut, is an employee who has an indefinite contract and is called upon when the need arises (AEM 2015a). Temporary and temporary on-call employees represented 12-14% of all employees from 2012 to 2014.

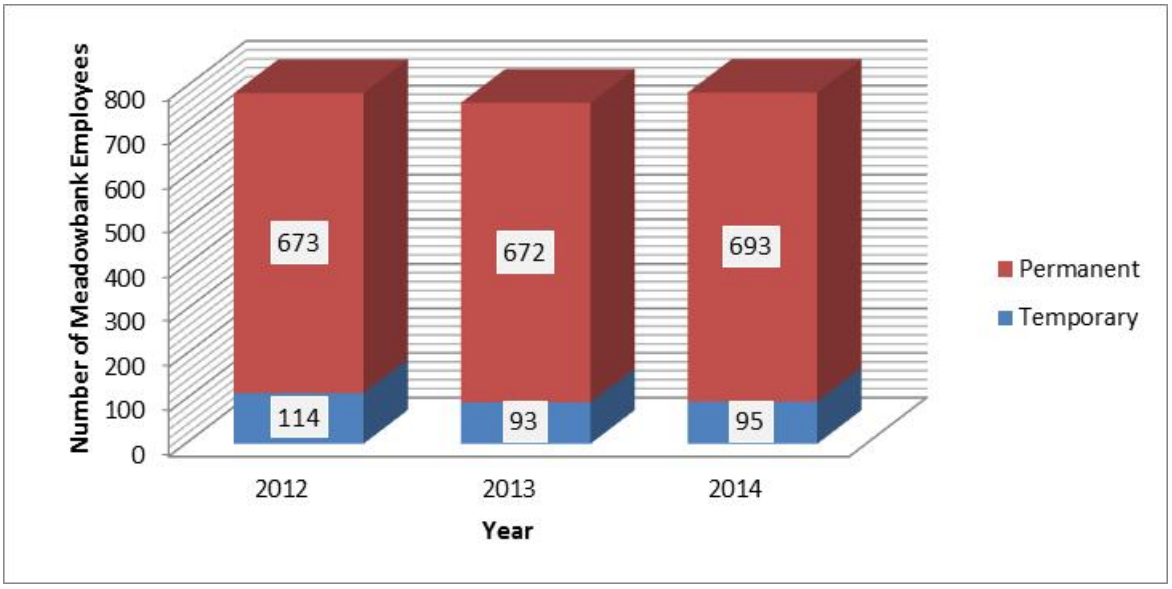


Figure 3.3-1: Total Meadowbank Employment, 2012-2014

Sources: AEM (2013, 2014a, 2015a).

Figure 3.3-2 shows employment by gender and employee status (permanent and temporary). The data allows for a couple of key observations:

- Female employees are more likely to be employed in temporary positions than permanent positions and more likely than males to be employed in temporary positions.
- In 2014, 15% of Meadowbank employees were female, which is just below the Canadian mining-sector average of 17% (MiHR 2015).
- Representation of female employees in Meadowbank's workforce has remained steady between 2012 and 2014 (in the range of 10%-15%).

In 2014, women made up 45% of the Inuit/Nunavummiut workforce. Representation of women among Inuit/Nunavummiut employees (45%) is almost equal to the proportion of the female population living in the Kivalliq Region (48%); most positions held by women are in food or accommodation services at the site. Agnico Eagle is placing considerable effort on training women that are interested in haul truck driver positions or other mining-related trades. As of 2014, there were 20 women working as heavy equipment operations including one instructor (GN – EDT 2014c). Also in 2014, 24 of the 57 graduates of Agnico Eagle's Work Readiness Training Program were women and were hired by Agnico Eagle to work at Meadowbank (GN – EDT 2014b). However, attraction and retention of female employees (especially those with children) for all positions will remain a challenge in the near term, as the current shift rotation (two weeks on/two weeks off) is difficult to balance with a sense of familial roles and responsibilities – even where child care options are available (e.g., grandparents or other family members) (AEM 2015a; AEM 2015b; GN – EDT 2014c; Nunatsiaq Online 2014a; Pauktuutit Inuit Women of Canada and the University of British Columbia 2014).

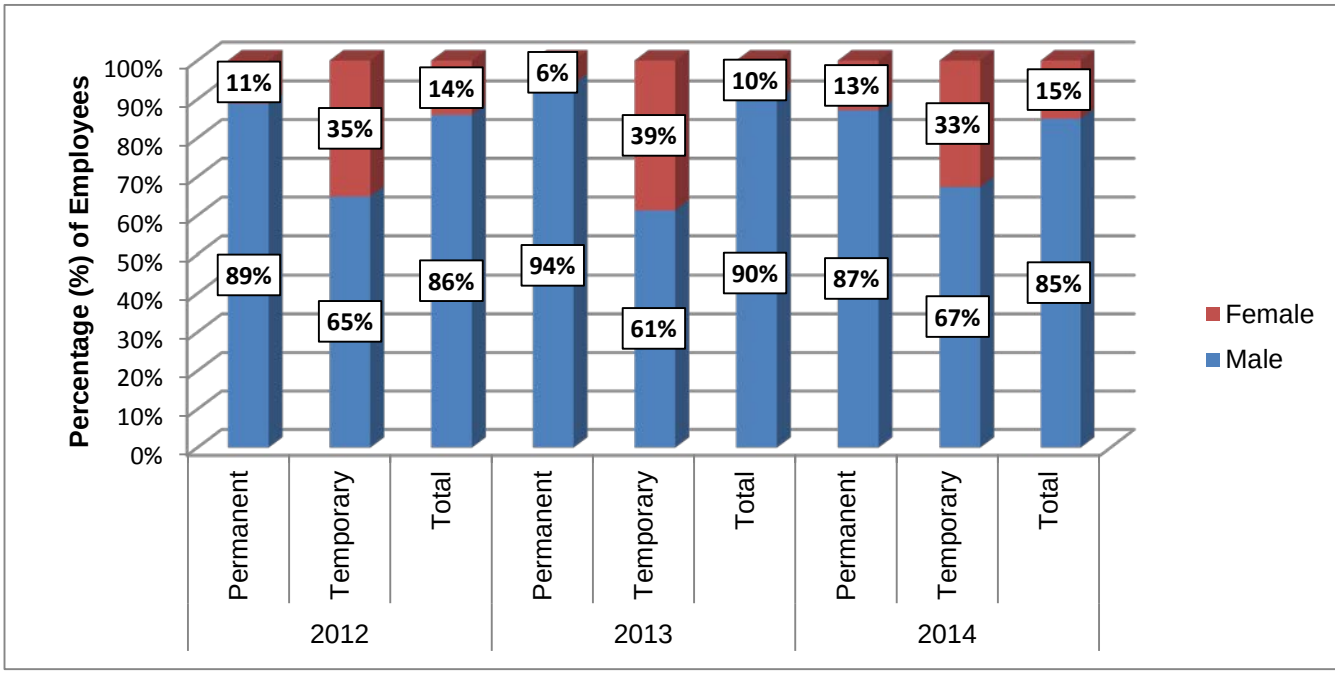


Figure 3.3-2: Meadowbank Employment by Gender, 2012-2014

Sources: AEM (2013, 2014a, 2015a).

Figure 3.3-3 shows Inuit and non-Inuit employment at Meadowbank. The following key findings are evident from the data:

- Inuit employees are more likely to be employed in temporary positions than permanent positions and more likely than non-Inuit employees to be employed in temporary positions.
- Representation of Inuit employees in Meadowbank's workforce has remained steady between 2012 and 2014 (in the range of 31 to 34%).
- There was an increase in the representation of Inuit temporary employees from 71 to 95% between 2012 and 2014. This is likely due to the introduction of temporary on-call positions.

Between 2010 and 2013, Nunavut-based Agnico Eagle employees worked about one third (almost 2 million hours) of the total person hours at Meadowbank (AEM 2015b). This is in line with the overall representation of Inuit/Nunavummiut in the Meadowbank workforce.

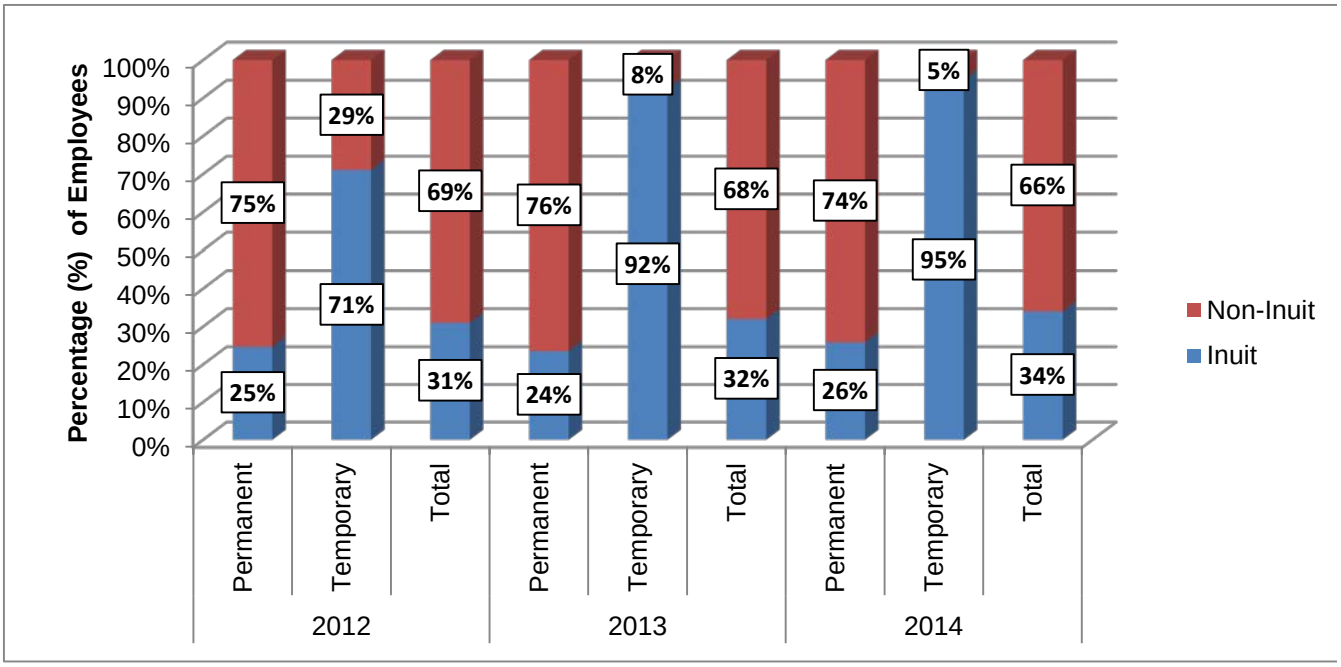


Figure 3.3-3: Meadowbank Inuit Employment, 2012-2014

Sources: AEM (2013, 2014a, 2015a).

Figure 3.3-4 shows Meadowbank employment by the home-based community of employees. Since 2011, representation of employees from within Nunavut (32-36%) and outside Nunavut (64-68%) has remained relatively stable. The representation of employees from Baker Lake has also remained stable at around 20-21%.

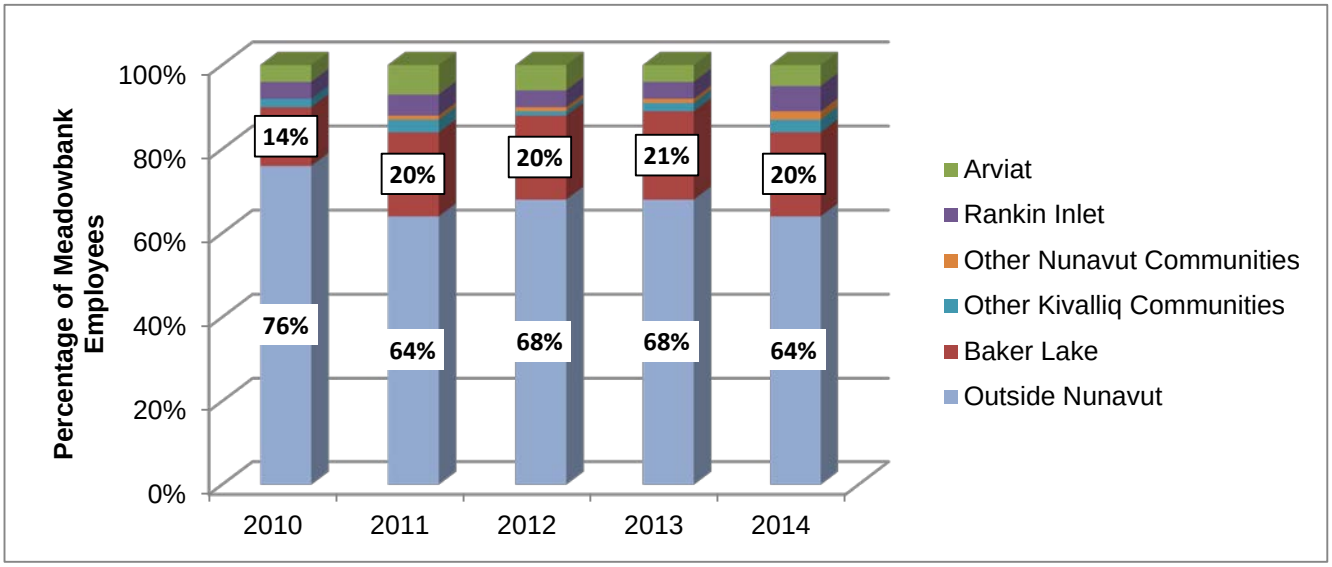


Figure 3.3-4: Meadowbank Employment by Employee Home-Based Community

Sources: AEM (2013, 2014a, 2015a).

Between 2010 and 2014, employees from the Kivalliq Region represented about one third of all Meadowbank employees, over half of which were from Baker Lake. The number of employees from Baker Lake who worked at Meadowbank has increased from 84 employees in 2010, to 155 workers in 2014 (AEM 2013, 2014a, 2015a, Appendix A). This reflects a number of factors, including: the mine's proximity to the hamlet, preferential hiring provisions outlined in the Meadowbank IIBA which give preference to Baker Lake over Inuit from other communities, as well as Agnico Eagle's training and recruiting efforts focused in Baker Lake (Stratos Inc. 2015). Residents have told Agnico Eagle that before the mine, many people in Baker Lake were unable to access employment, even with a high school diploma (AEM 2015b).

Contractors also form a portion of the Meadowbank workforce and are not included in the breakdown above. There were 285 contractors at site in 2015, 224 in 2014, 255 in 2013, and 368 in 2012 (AEM 2013, 2014a, 2015a). Inuit employees of contractors represented 10% (29 employees) of contractors in 2014, 11% (29 employees) of contractors in 2013 and 14% (53 employees) of contractors in 2012 (AEM 2015c). Further information about Meadowbank Business and Contracting Opportunities are described below in Section 3.5.

3.3.2 Meadowbank Turnover

In 2014, Agnico Eagle continued to experience turnover of Inuit employees. For the employees who occupied temporary positions, there was a small increase in the turnover rate from 65% in 2013 to 70% in 2014 (AEM 2015a). However, 38% of temporary employees left due to contract expiration. Some temporary employees are on an on-call contract. The use of on-call contracts assists new employees in gaining a better understanding of the realities of the work environment and Meadowbank operations for short manageable work time periods (i.e., a few days at a time), thereby reducing voluntary resignations which result from standard 2 week on and 2 week off rotational work shifts (AEM 2015b). Also, some Inuit/Nunavummiut employees prefer to work on an on-call basis.

In 2014, the turnover rate of Inuit employee's occupying permanent positions increased to 26% from 23% in 2013 (AEM 2015a). However, the global Inuit turnover rate has decreased from 38% to 36%, when considering both permanent and temporary employees (AEM 2015a). Based on Agnico Eagle's experience, it has become apparent that many Inuit have never had a full-time work experience in their home communities where full-time employment opportunities are often very limited; and although employment opportunities are actively sought, working away from home for two weeks at a time in a structured work environment is a change to which many cannot easily adapt. Exit interviews and focus group meetings support this assumption and the following provides the most common reasons given for voluntary terminations for Inuit employees (AEM 2015c):

- spousal relationship issues;
- family wanted them to come home;
- did not like the work, work was too hard or too tired to continue working;
- too much gossip amongst co-workers;
- no babysitter or daycare;
- found a new job in town or home sick – need to go home; and
- increase in rent for social housing (e.g., $30 to $880 per month).

3.3.3 Labour Force Participation

Labour force participation indicators for the Kivalliq Region and Baker Lake are shown in Tables 3.3-1 and 3.3-2. The most recent labour force data available at both the regional and community level is presented. Key findings based on this data and in consideration of Meadowbank employment data are as follows:

- The total Kivalliq labour force increased by 11.1% (360 people) between 2006 and 2011. This timeline coincides with pre-Meadowbank construction (2007) and post-Meadowbank start-up (2010).
  - The increase in the Baker Lake labour force (130 people), represented over one-third of this increase.
- The increase in the people employed in Baker Lake between 2006 and 2011 represented over two thirds of the increase in employed people in the Region (105 of 155 people).
- The increase in the total regional labour force (360 people) and the number of people employed (155 people) between 2006 and 2011 is due in large part to employment opportunities at Meadowbank (AEM 2013).
  - In 2010, the mine employed 149 Kivalliq Region residents. In 2011, 242 Kivalliq residents were employed at Meadowbank, an increase of 93 people or 62% (AEM 2013).
  - Baker Lake residents represented over half of the Kivalliq workforce at Meadowbank in 2010 and 2011 (AEM 2013).

Table 3.3-1: Labour Force Participation in Kivalliq Region, 2006 and 2011

Labour Force Participation	2006			2011		
	Total	Male	Female	Total	Male	Female
Persons 15 years and older	5,255	2,660	2,595	5,730	2,955	2,780
In the Labour Force	3,240	1,695	1,545	3,600	1,940	1,660
Employed	2,730	1,375	1,355	2,885	1,505	1,380
Unemployed	510	320	190	710	435	280
Not in the labour force	2,015	970	1050	2,135	1,020	1,120
Participation Rate (%)	61.7	63.7	59.5	62.8	65.7	59.7
Employment Rate (%)	52.0	51.7	52.2	50.3	50.9	49.6
Unemployment Rate (%)	15.7	18.9	12.3	19.7	22.4	16.9

Sources: Statistics Canada (2007b, 2013a).
Note: Totals may not add up due to rounding by Statistics Canada.

Table 3.3-2: Labour Force Participation in Baker Lake, 2006 and 2011

Labour Force	2006			2011		
	Total	Male	Female	Total	Male	Female
Persons 15 years and older	1,115	585	535	1,270	665	600
In the Labour Force	660	360	295	790	445	350
Employed	535	270	255	640	350	285
Unemployed	125	90	35	150	95	55
Not in the labour force	460	220	240	480	220	255
Participation Rate (%)	59.2	61.5	55.1	62.2	66.9	58.3
Employment Rate (%)	48	46.2	47.7	50.4	52.6	47.5
Unemployment Rate (%)	18.9	25	11.9	19.0	21.3	15.7

Sources: Statistics Canada (2007a, 2013b).
Note: Totals may not add up due to rounding by Statistics Canada.

3.3.4 Employment by Industry

Detailed tables showing employment by Industry in the Kivalliq Region and Baker Lake are available in Appendix A. The top six industries in the Kivalliq Region in 2011 (in terms of employment) were as follows:

1) public administration;
2) retail trade;
3) educational services;
4) health care and social assistance;
5) construction; and
6) mining.

Changes in how industries were categorized between 2006 and 2011 makes comparisons between census years difficult; however, an increase in representation in the mining industry (approximately 114% or 110 people), as well as in the construction industry (42% or 80 people) is evident. Construction and operations of the Meadowbank Mine were the main contributors to this increase. Given recent growth in mining activity in the region, both industries are likely still major contributors to employment.

Men were represented mainly in the following five industries: public administration, construction, mining, retail trade, and transportation and warehousing. About 64% (1,235) of the employed male labour force work in these industries and reflect the most common sources of employment in the Region.

Women were represented mainly in the following five industries: public administration, retail trade, educational services, health care and social assistance, and accommodation and food services. About 75% (1,250) of the employed female labour force in the Region work in these industries.

The top five industries in Baker Lake in 2011 were as follows:

1) public administration;

2) mining, quarrying, and oil and gas extraction;

3) retail trade;

4) construction; and

5) educational services.

In Baker Lake, construction and operations of the Meadowbank Mine is largely responsible for an increase in representation in the mining industry between 2006 and 2011 (approximately 178% or 80 people), as well as construction (42% or 35 people). These increases also represent 73% and 44% of the increases in employment in these industries at the regional level respectively.

In 2011, men were represented mainly in the following five industries: mining, public administration, construction, retail trade and transportation and warehousing. About 73% (325) of the male labour force in Baker Lake were employed in these industries.

Women are represented mainly in the following five industries: retail trade, educational services, public administration, health care and social assistance, and mining. About 67% (235) of the female labour force in Baker Laker were employed in these industries.

3.4 Income

3.4.1 Income Paid to Meadowbank Inuit Employees

The Meadowbank Mine has brought over $90 million in wage income to the Inuit employees and employees of contractors since start up in 2010. Income paid to Meadowbank's Inuit employees has been holding steady at approximately $18 million/year since the mine began production in 2010 (Stratos Inc. 2015). Typical wages paid by Agnico Eagle to non-salaried employees at Meadowbank range between $48,000 and $98,500 per annum (a base rate of between $20.09 to $37.83 plus a 15% mobility payment for all hours worked at site giving a range of $23.10 to $43.50 per hour worked on site).

3.4.2 Median Income by Kivalliq Community

Figure 3.4-1 and Table 3.4-1 provide an overview of the change in median income for each Kivalliq community since 2005. A few key findings are evident from this data:

- Baker Lake has had the highest percentage increase in median income of all the Kivalliq communities (59%). Baker Lake is the only community to show above average increases in median income since 2010, when production began at Meadowbank.
- The highest increases in median income in Baker Lake came between 2007 and 2009, during the Meadowbank construction phase.
- In 2013, the median income of taxfilers in Baker Lake surpassed the regional average for the first time since 2009.

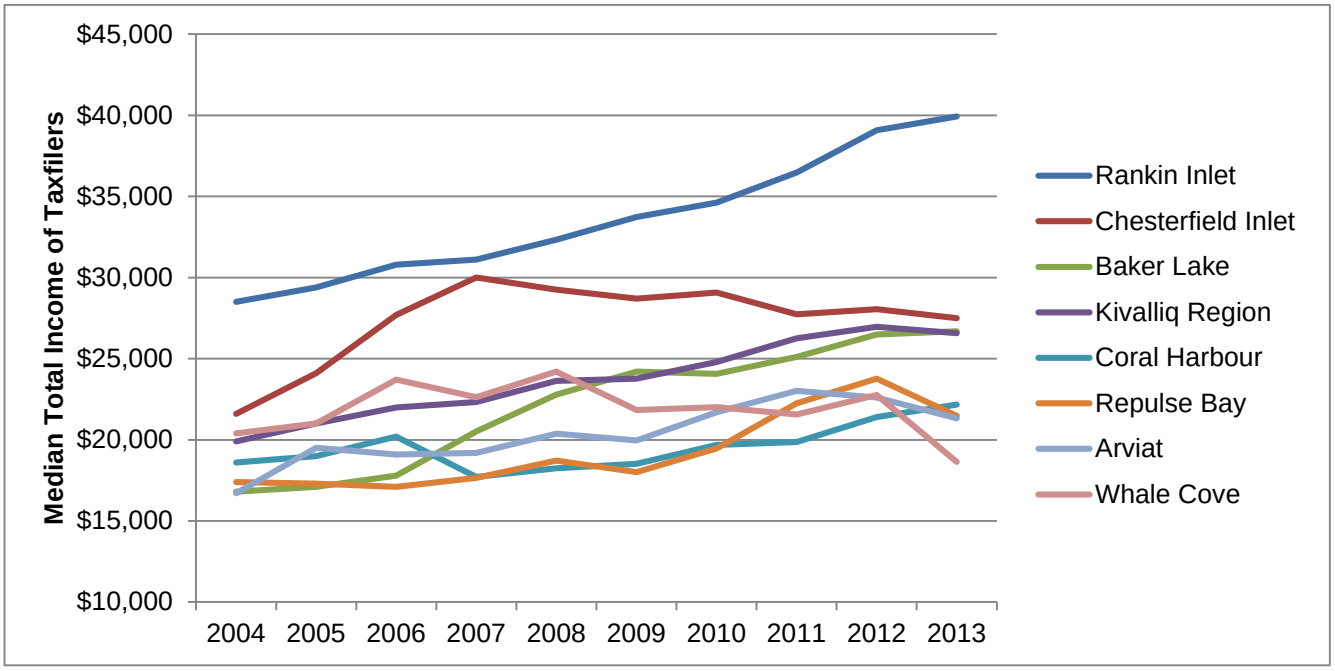


Figure 3.4-1: Median Total Income of Taxfilers with Income by Community, 2004-2013

Source: Nunavut Bureau of Statistics 2015a.

Table 3.4-1: Annual Change in Median Total Income of Taxfilers by Community (%), 2005-2013

Community	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Baker Lake	2%	4%	13%	10%	6%	-1%	4%	5%	1%	59%
Rankin Inlet	3%	5%	1%	4%	4%	3%	5%	7%	2%	40%
Arviat	14%	-2%	1%	6%	-2%	8%	6%	-2%	-6%	28%
Chesterfield Inlet	10%	13%	8%	-3%	-2%	1%	-5%	1%	-2%	27%
Repulse Bay	-1%	-1%	3%	6%	-4%	8%	13%	6%	-11%	23%
Coral Harbour	2%	6%	-14%	3%	2%	6%	1%	7%	4%	19%
Whale Cove	3%	11%	-5%	7%	-11%	1%	-2%	5%	-22%	-9%
Kivalliq Region	5%	5%	1%	6%	1%	4%	6%	3%	-1%	34%

Source: Nunavut Bureau of Statistics 2015a.

Residents have told Agnico Eagle representatives that for many people, new income from employment at the mine has enhanced their quality of life by offering a reliable means to afford food, hunting equipment, and consumer goods, such as vehicles and entertainment systems (AEM 2015b). As a result of increased income, Agnico Eagle has also learned through consultations, that while there are still families asking for country food over the local radio, the number of people waiting in line for the monthly food bank has decreased. This was noted as being the most positive impact of the mine (AEM 2015b).

During ongoing community consultations Agnico Eagle was told that when employment was very low (i.e., before construction of Meadowbank), many residents accumulated considerable debt with the housing corporation, the power corporation, the Northern Store, and credit cards, and they are now paying that back (AEM 2015b). New expectations of mine employees to provide financial support to younger siblings and other family members place an added strain on some workers, who have their own financial obligations (AEM 2015b).

Agnico Eagle (in cooperation with its partners (the Kivalliq Mine Training Society and the Kivalliq Partners in Development) has developed and implemented a program called the "Make it Work Program". The Make it Work Program is a workshop where the Inuit employee and his/her spouse learn how to deal with the challenges of the fly-in-fly-out rotational work lifestyle, specifically challenges that the employee and his/her family will face both on and off the site. This two and a half day workshop has a section on financial management and helps the employee and his/her spouse jointly evaluate their spending habits helping them to reconcile these with their earnings and learning about household budgeting and budgetary planning. In addition to the Make it Work Program, Agnico Eagle offers an Employee Family Assistance Program to all of its employees that includes access to third party support and guidance for different issues including financial matters offered through counselling by specialists. In addition to these programs, Agnico Eagle has set up a Memorandum of Understanding with the Baker Lake Housing Association in which an employee can voluntarily elect to authorize Agnico Eagle to deduct monthly rent from the employees pay.

3.5 Contracting and Business Opportunities

Since completion of the construction of the Meadowbank Mine, Agnico Eagle contract expenditures in Baker Lake have been a significant proportion of Agnico Eagle's contract expenditures. A total of $389 million was spent by Agnico Eagle on Baker Lake contracts between 2007 and 2013. Over 70% or $281 million has been spent since 2011 (AEM 2015c). The majority of the dollars spent in Baker Laker have been captured by Baker Lake Construction and Supply, Peter's Expediting, and Arctic Fuel. For example, these three companies took in 22.4% of Agnico Eagle expenditures in Canada in 2011 (AEM 2015b). In 2014, contact expenditures in Baker Lake amounted to $38 million, while contract expenditures in the rest of Nunavut totalled $67 million (Stratos Inc. 2015).

Figures 3.5-1 and 3.5-2 show changes in the proportions and amounts of Meadowbank contract expenditures spent on Baker Lake businesses, other Nunavut businesses, in the North and in southern Canada. The relative proportion of contract expenditures in the North was over 50% in 2011 and 2012 and dropped to 48% in 2013. In 2014, Nunavut captured 46% of contract expenditures, indicating a further downward trend (Stratos Inc. 2015). In absolute dollar terms, the annual value of Agnio Eagle contract expenditures has fallen significantly since 2012. There are a couple of reasons for this decline (Stratos Inc. 2015):

1) Postponement of a number of capital projects due to the low price of gold.

2) Temporary cessation of exploration activity at Meadowbank over the past few years as the company has shifted more of its resources towards the Meliadine exploration project.

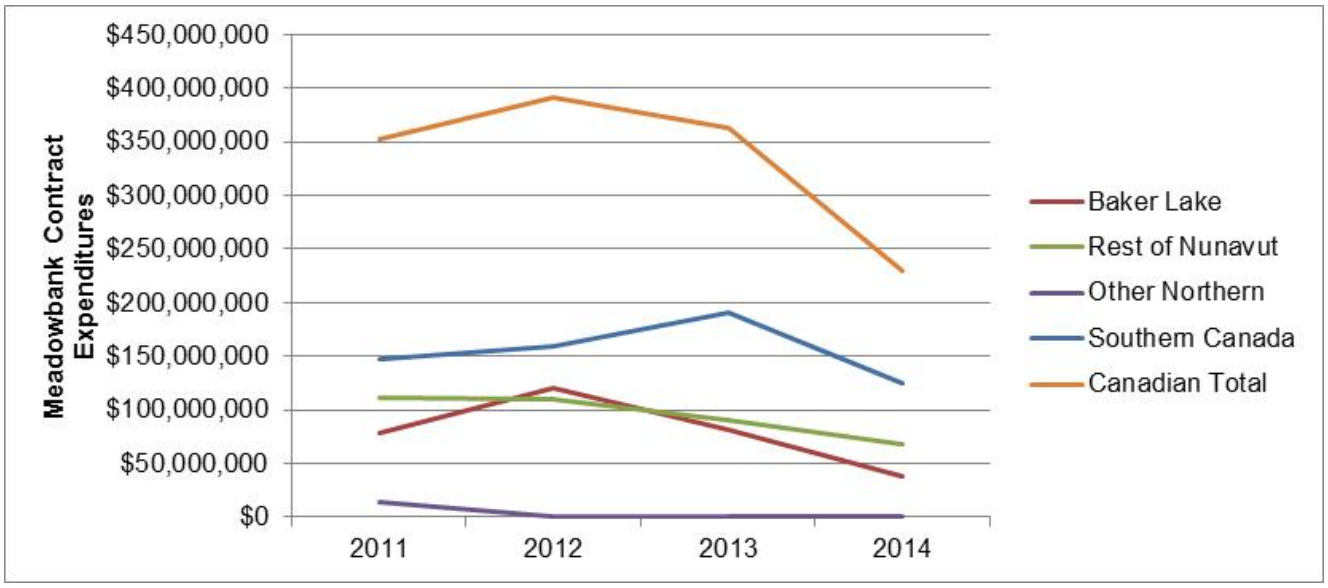


Figure 3.5-1: Meadowbank Contract Expenditures (%), 2011-2014

Source: AEM (2015c); AEM (2016).

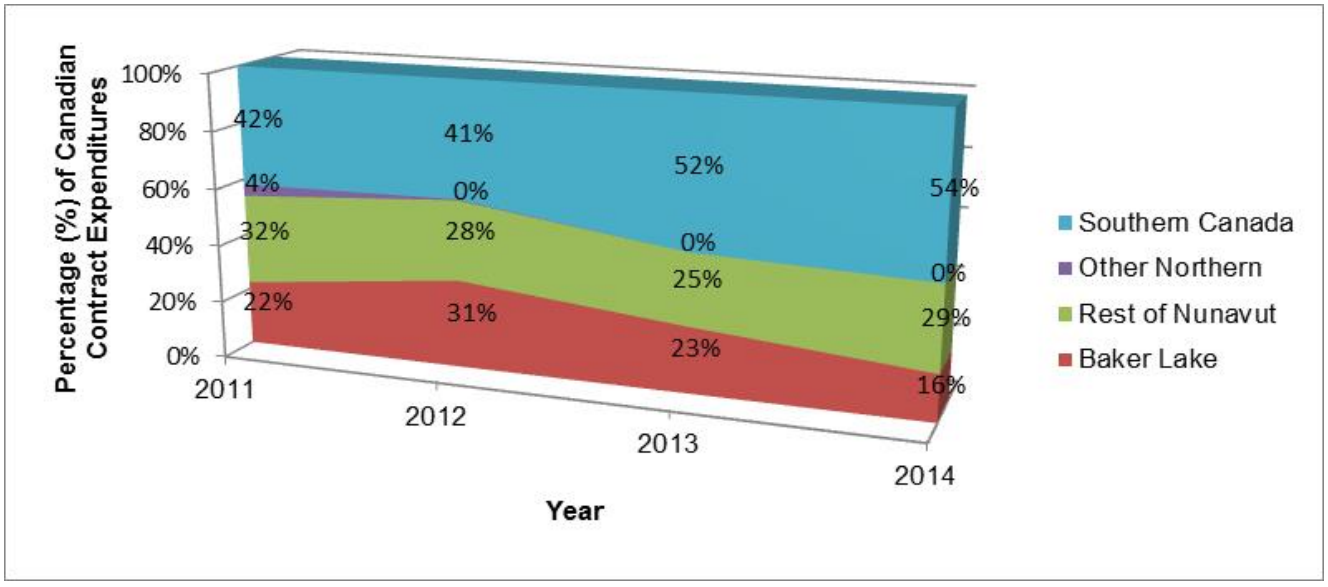


Figure 3.5-2: Meadowbank Contract Expenditures ($), 2011-2014

Source: AEM (2015c); AEM (2016).

Expenditures on Inuit-owned businesses (registered with Nunavut Tunngavik Incorporated or NTI) have been declining since 2012 as well, however, their relative share of contract expenditures is on an upward trend, representing 37% in 2014 (Figure 3.5-3).

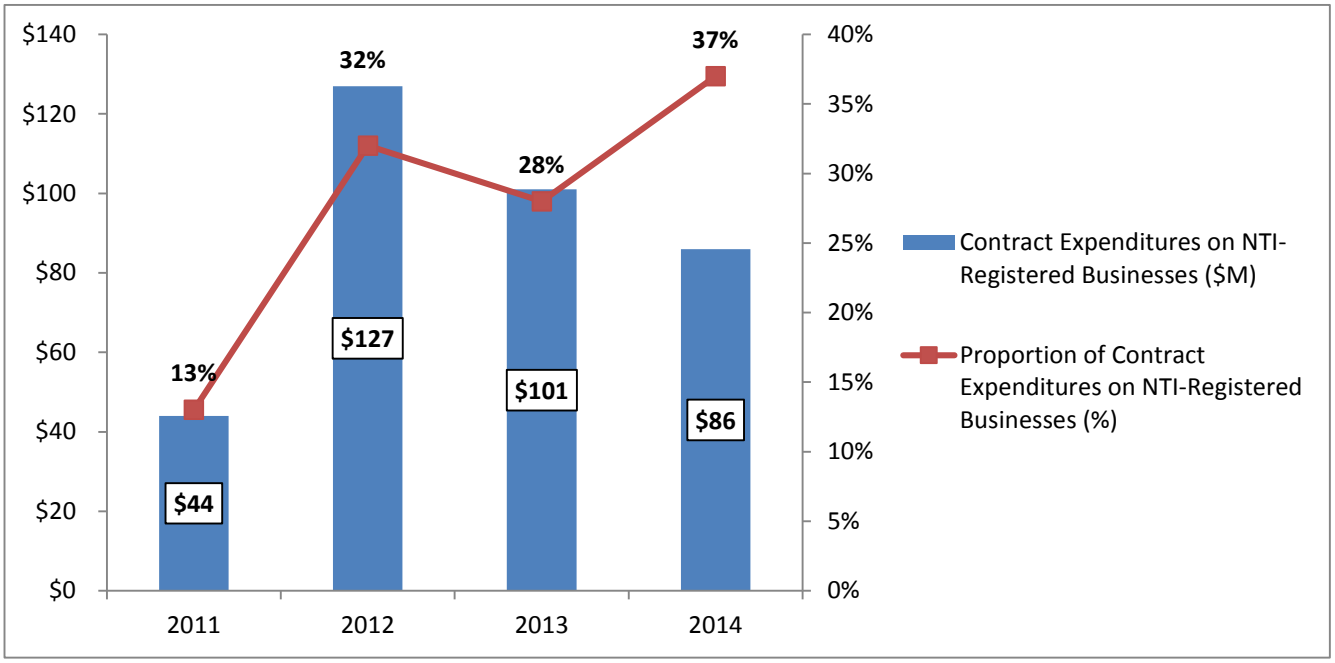


Figure 3.5-3: Meadowbank Contract Expenditures on NTI-registered Businesses, 2011-2014

Source: Stratos Inc. (2015).

In the context of high economic growth due to mineral development, contract expenditures highlight the potential for business growth and development in Baker Lake and the Kivalliq Region. Agnico Eagle has developed a program, the Building People Initiative, to assist Kivalliq businesses meet their market needs. The initiative is designed to develop the capacity of workers in Nunavut to work at the mines in Nunavut (AEM 2013). The program's basic principles include identifying training needs, organizing training more effectively, using the Meadowbank Mine as a training centre, and establishing partnerships for the purpose of education and training. Programs included in this initiative will focus on increasing community-based human resource activities in an effort to reduce absenteeism, increasing career planning, improving students' interest in remaining in school, and increasing the number of Inuit enrolled in trades and professions. In addition, Agnico Eagle launched the Inuit Business Opportunities Initiative in April 2010 to assist Inuit businesses seeking contract opportunities through Meadowbank (AEM 2015b). Since 2011, Agnico Eagle has issued 25 contracts to Inuit-owned businesses for work at Meadowbank (Stratos Inc. 2015).

3.6 Education and Training

3.6.1 Education Services

3.6.1.1 Kivalliq School Operations

Kivalliq School Operations (KivSo) is one of three Regional School Operations in Nunavut. The KivSo supervises and administers activities for twelve public schools offering kindergarten through grade 12 programs. The head office for the KivSo is located in Baker Lake. The KivSo is responsible for the day-to-day operation of schools, supervision of teaching staff, liaising with District Education Authorities, and overseeing the delivery of educational programs and services, under the direction of the Department of Education (Nunavut Teacher Induction Program, no date, a).

There are two schools in Baker Lake: Rachel Arngnammaktiq Elementary School (Grades K-5) and Jonah Amitnaaq Secondary School (JASS) (Grades 6-12). A middle school is under construction in the community (GN - Department of Finance 2014a). The elementary school has 252 students and 21 teachers and administrative staff, as well as 6 support staff (Nunavut Teacher Induction Program, no date, b). The secondary school has about 325 students with 22 teachers and administrative staff, and 9 support staff (Nunavut Teacher Induction Program, no date, c). In partnership with local businesses, Agnico Eagle and Nunavut Arctic College, the school also offers week long introductory courses in mechanics, welding, environmental conservation, electrical, and plumbing.

3.6.1.2 Nunavut Arctic College

Nunavut Arctic College is the only post-secondary institute in Nunavut, with five campuses in the territory and 25 Community Learning Centres. The Kivalliq Campus in Rankin Inlet serves the communities in the Kivalliq Region and is also home to the Sanatuliqsarvik Nunavut Trades Training Centre. The training centre, which can accommodate more than 80 students, has programming in trades, pre-apprenticeship and apprenticeship programs (Nunavut Arctic College 2013a; Nunatsiaq Online 2014b). The college offers a variety of programming in apprenticeship trades, business, education, environmental, fine arts, health, language, and culture. In 2012, 60% of graduates surveyed were employed, 28% in their field of study (Nunavut Arctic College 2013b).

All current mining related courses offered by Nunavut Arctic College in the Kivalliq Region are taught in Rankin Inlet. In the 2015-2016 academic year, the Sanatuliqsarvik Nunavut Trades Training Centre will offer eight month pre-apprenticeship programs for trade positions such as oil burner mechanic, plumber, electrician, carpenter, and certification in heavy equipment operation (Nunavut Arctic College 2015). Students have hands on training and training with simulators for equipment such as dozers, excavators, graders, and haul trucks. Upon completion of the pre-apprenticeship programs, students are eligible to transfer up to 240 hours towards an approved Apprenticeship program through Nunavut's Department of Education. As of June 2014, a total of ten pre-apprenticeship students and 26 apprenticeship students have graduated from the training centre.

3.6.1.3 Kivalliq Mine Training Society

Formed in 2010, the Kivalliq Mine Training Society (KMTS) is an Inuit and private industry partnership that provides skills training and support to Kivalliq residents seeking employment in mining. The KMTS offers funding and support in work readiness and skills training, on-site training and career advancement, literacy and essential skills, and family and community adjustment (Kerr 2014). From 2010 to 2012, the KMTS has trained and brought employment to approximately 400 Kivalliq beneficiaries (Nunatsiaq Online 2012). Since 2010, Agnico Eagle has provided $6.8 million in cash and in kind support to the KMTS (AEM 2015a).

Specific programs offered by KMTS include skills training, pre-employment training, and pre-apprenticeship programs. Courses offered in 2014-2015 included surface diamond drilling, HDPE Pipe Fusion Training, Underground Mine Training, Heavy Equipment Operation, Pre-Trades training, and Welding Trade Readiness (KMTS 2015). The three most in-demand trade programs are heavy duty mechanics, millwrights, and heavy equipment operators. Approximately 70 people are trained by the KMTS as heavy duty mechanics, 70 as millwrights and 100 to 150 as heavy equipment operators on an annual basis (Capital News Online 2012).

Agnico Eagle, in collaboration with KMTS developed a Work Readiness Training program as a pre-employment initiative. The program, implemented in April 2013, is delivered over a 4 day period at the community level throughout the year. During 2014, the program was delivered in each Kivalliq community and a total of 128 people attended, of which 111 successfully completed the program. In 2014, 57 graduates of the program were hired by Agnico Eagle, including 24 women (AEM 2015a).

Family support programs such as the coping skills program “Making It Work” have been emphasized by the KMTS in recent years in an attempt to help workers and their families cope with the challenges of fly-in and fly-out shift work (NNSL 2015a). These programs teach skills around communication, conflict resolution, and money management for workers and their families. Another project the KMTS has launched is a sewing group for spouses of mine workers in Kivalliq communities (Nunatsiaq Online 2014a). Child care and sewing materials are supplied to the women so they can gather and find support from other mothers in similar situations. Between April 2013 and December 2014 a total of 437 Inuit participated in KMTS community-based programs of which 386 successfully completed their training and 255 found employment (AEM 2015a).

The KMTS has also provided support of Agnico Eagle’s Mine Training Initiatives such as the Career Path Program, Apprenticeship and Haul Truck Driver operators’ programs (AEM 2015a). The Career Path program is designed to assist Inuit employees who have limited formal skills or education by identifying the steps required for them to advance in their career. The program defines a combination of work experiences, hours of completion, training and skills development for an employee to achieve each step (AEM 2015a). The Career Path program is available for five areas of mine operations: Mine, Drill and Blast, Process Plant, Field Services, and Road Maintenance. Internal Inuit candidates will be hired to fill a position that is part of the program. Between April 2013 and December 2014 a total of 197 Inuit Agnico Eagle employees participated in the Career Path initiatives, of which 178 successfully completed their training and 110 received a promotion (AEM 2015a).

Other examples include the support for the development and delivery of community-based Work Readiness and Labour pool initiatives to help prepare Inuit for employment opportunities. In May 2015, $1.7 million in federal funding was announced for the KMTS. The funding will provide support for local training and southern-based training for over 300 Aboriginal people for employment in mining and related industries (CNW 2015). From 2013-2015, the KMTS had 750 participants in labour market training programs, of which 570 successfully completed their programs. In addition, 358 participants have found employment, earned a promotion if employed, returned to school, or took further training (NNSL 2015b).

3.6.2 Educational Attainment

Educational attainment information for the Kivalliq Region and Baker Lake is provided in Figure 3.6-1. While the majority of the Kivalliq Region population 15 years and over have no certificate, diploma or degree, the proportion has decreased from 2006 from 65% to 61% in 2011. In 2011, men were four times more likely than women to have an apprenticeship or trades certificate or diploma, while women were more likely than men to have a college or university education (Statistics Canada 2013a). From 2006 to 2011, educational attainment in the Kivalliq Region has increased in every measured category, with more people achieving high school diplomas, apprenticeships, college diplomas, and university education.

The majority of the Baker Lake population 15 years and over have no certificate, diploma or degree, and this proportion has remained virtually unchanged between 2006 and 2011 (Figure 3.6-1). Men were more than three times more likely than women to have an apprenticeship or trades certificate or diploma, while women were more likely than men to have a college or university education (Statistics Canada 2013b). From 2006 to 2011, educational attainment in Baker Lake has increased in the percentage of people with high school diplomas and apprenticeships but a lower proportion has received college or university diplomas or degrees.

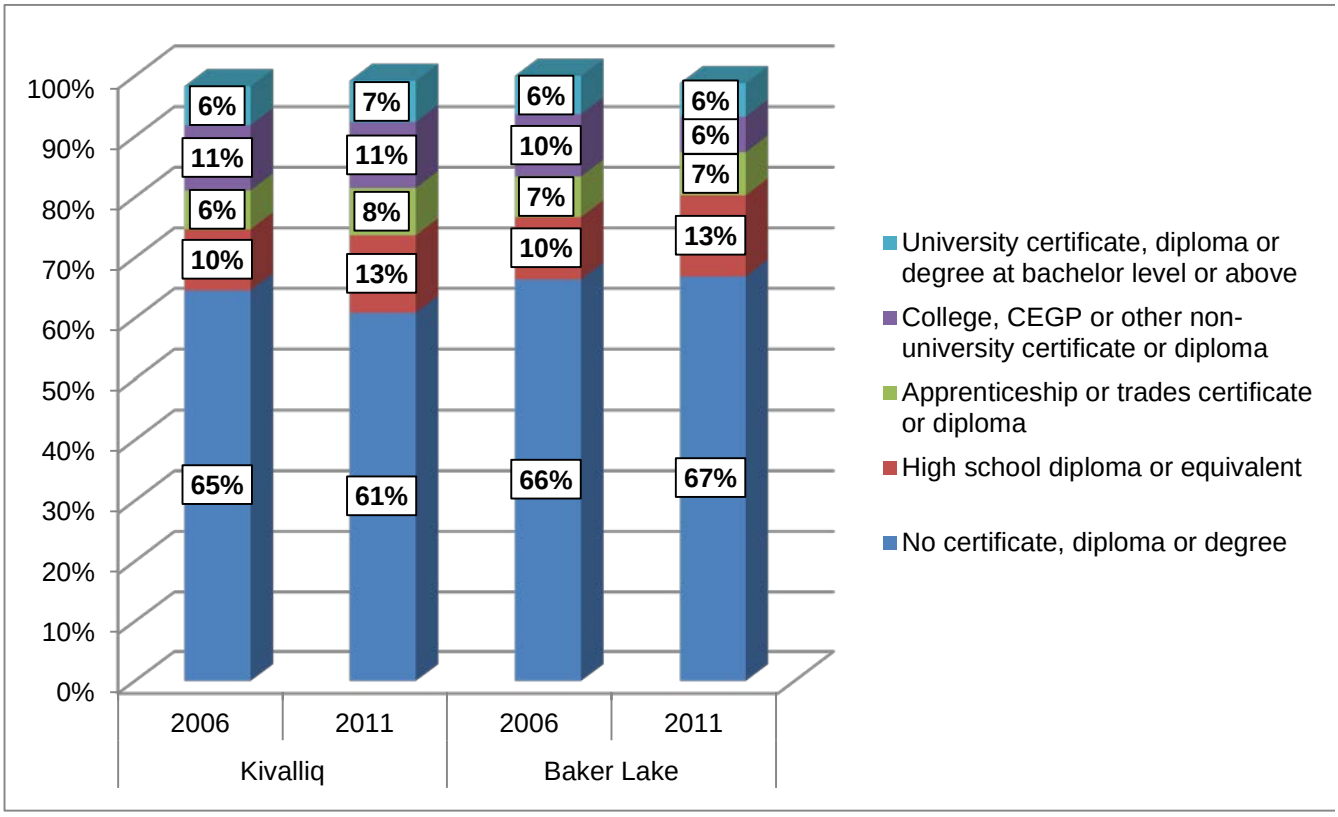


Figure 3.6-1: Educational Attainment in the Kivalliq Region and Baker Lake

Sources: Statistics Canada (2007a, 2007b, 2013a, 2013b).

Recent trends in graduation rates also signal that educational attainment continues to rise in the Kivalliq Region (Figure 3.6-2). Since 2009, graduation rates in the Kivalliq Region have been higher than the territorial average and the average for both other regions. This may be in part due to employment opportunities available at the Meadowbank Mine and through contractor opportunities. Students in Baker Lake, for example, have a local major employer on which to focus career aspirations. Since the opening of the Meadowbank Mine in 2010, people in Baker Lake have told Agnico Eagle that they have observed decreasing dropout rates and higher graduation rates because students have something concrete to have as a goal for employment (AEM 2015b). The types of positions available at Meadowbank Mine and the internal training programs available mean that students may focus on attaining a high school diploma and/or apprenticeship or trade accreditation.

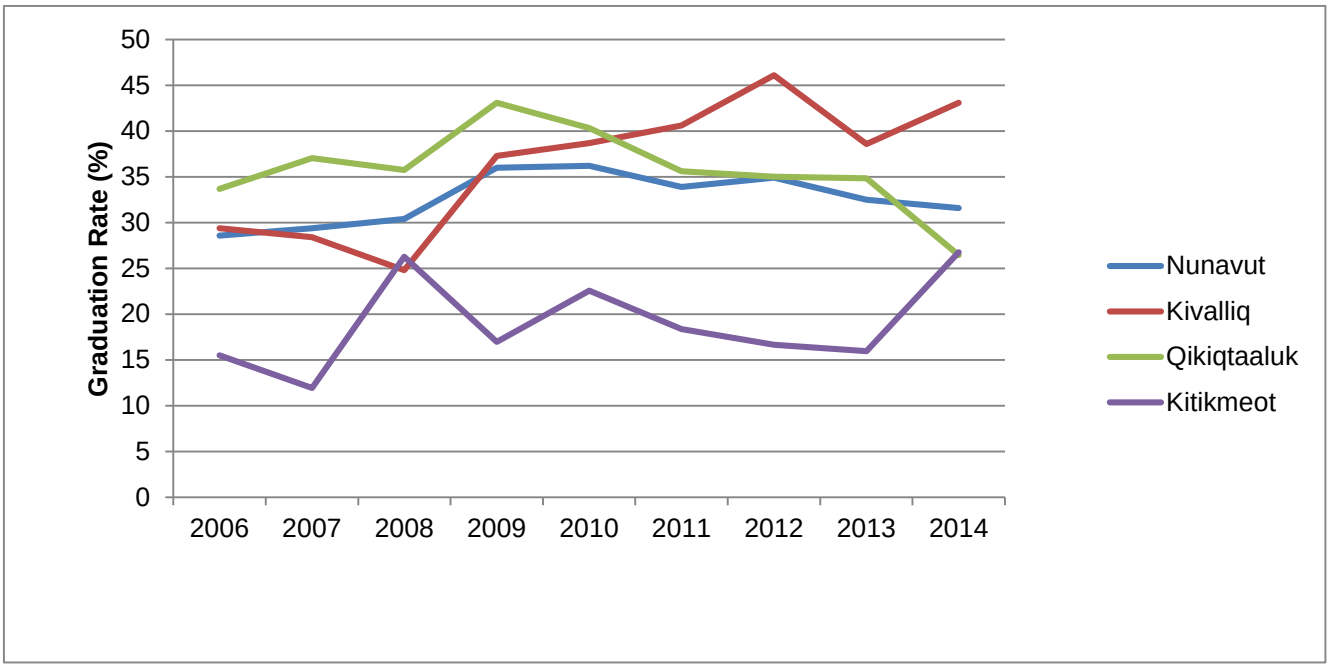


Figure 3.6-2: Graduation Rates in Nunavut and by Region, 1999 to 2014

Source: GN- Department of Education and Statistics Canada (2015).

Notes:

1) Gross Graduation Rate is calculated by dividing the number of graduates by the average of estimated 17 and 18 year-old populations (as the typical age of graduation).
2) The number of graduates is totaled at the end of the calendar year, while population estimates are as of July 1 of the same year.
3) Due to the small population of Nunavut, graduate rate changes from year to year must be interpreted with caution
4) Graduates include students who completed secondary school, but exclude those who completed equivalency or upgrading programs.
5) Note that all data, dating back to 1998/99 has been adjusted by the Department of Education from previous reports.

3.6.3 Agnico Eagle Investments in Education Initiatives

Education-related investments by Agnico Eagle began in 2011, following the construction of the Meadowbank mine. Table 3.6-1 provides an overview of Agnico Eagle's investments in school-based initiatives along with the number of participants in various programs, where available. Agnico Eagle has made total contributions of approximately $284,000/year to a variety of school-based initiatives. Agnico-Eagles goals for these programs are to build interest in math, science, and mining among school-aged children, motivate students to pursue post-secondary education with scholarships and encourage stronger educational outcomes in the Kivalliq Region overall (Stratos Inc. 2015).

Table 3.6-1: Agnico Eagle Investments in School-Based Initiatives, 2010-2014

Program	Measurement	2010	2011	2012	2013	2014
Mining Matters Science Program	investment ($)	$0	$90,000	$80,000	$70,000	$70,000
	# of community schools to which the program was delivered	0	4	3	4	3
Kivalliq Science Educators Community Programs (Science Fairs, Math Fairs, Science Camp)	investment ($)	$0	$15,000	$15,000	$25,000	$25,000
	# of participants	0	36 (Science Camp only)	36 (Science Camp only)	1,307	1,578
MOU with Department of Education Programs	cash and in-kind support	$0	$175,000	$175,000	$175,000	$175,000
	estimated participants in Trades Awareness Skills and Knowledge (TASK) week (Baker Lake, Arviat & Chesterfield Inlet)	0	0	60	65	0[(a)]
Annual scholarship funding provided to KIA	investment ($)	$14,000	$14,000	$14,000	$14,000	$14,000

Source: Stratos Inc. 2015.

[(a)] The TASK week program was put on hold in 2014 pending the outcome of a program review.

Agnico Eagle's financial investments in externally-delivered training programs have been steady at just under $4 million per year for the past three years, with the Kivalliq Mine Training Society being the largest recipient (Stratos Inc. 2015).

3.6.4 Training at Meadowbank

Figure 3.6-3 shows training hours provided per employee to Inuit and non-Inuit employees, which includes the following types of training (Stratos Inc. 2015):

- Health and Safety training includes mandatory training related to compliance with the Nunavut Mine Act, as well as training that is mandated according to Agnico Eagle Health and Safety policies. Many of these training sessions are offered online[2] prior to the employee's arrival at site.
- General training consists of training activities required at a department level and covers many employees working in different departments. General training includes training on light duty equipment as well as enterprise software systems and cross-cultural training.
- Specific training is focused on developing individual competencies related to a specific position. This training qualifies individual workers for promotion following their progression through the Career Path Program. These training programs are provided through a combination of in classroom (theory) learning as well as practical (one-on-one) learning.

[2] Online training is offered at Meadowbank through the use of e-learning modules for new employees before they arrive on-site, which eliminates the challenge of training hundreds of new employees on site and allows greater time to deliver specific training. Newly hired employees complete their Mandatory Induction Training online with e-learning modules that are available in English, French, and Inuktitut. Health and safety training, such as WHMIS and fire extinguisher safety, is also available online (AEM 2015a). Agnico Eagle assists those lacking an Internet connection, computer or computer skills level with Community Agents who can support all employees in communities with appropriate resources and electronic material (AEM 2014a).

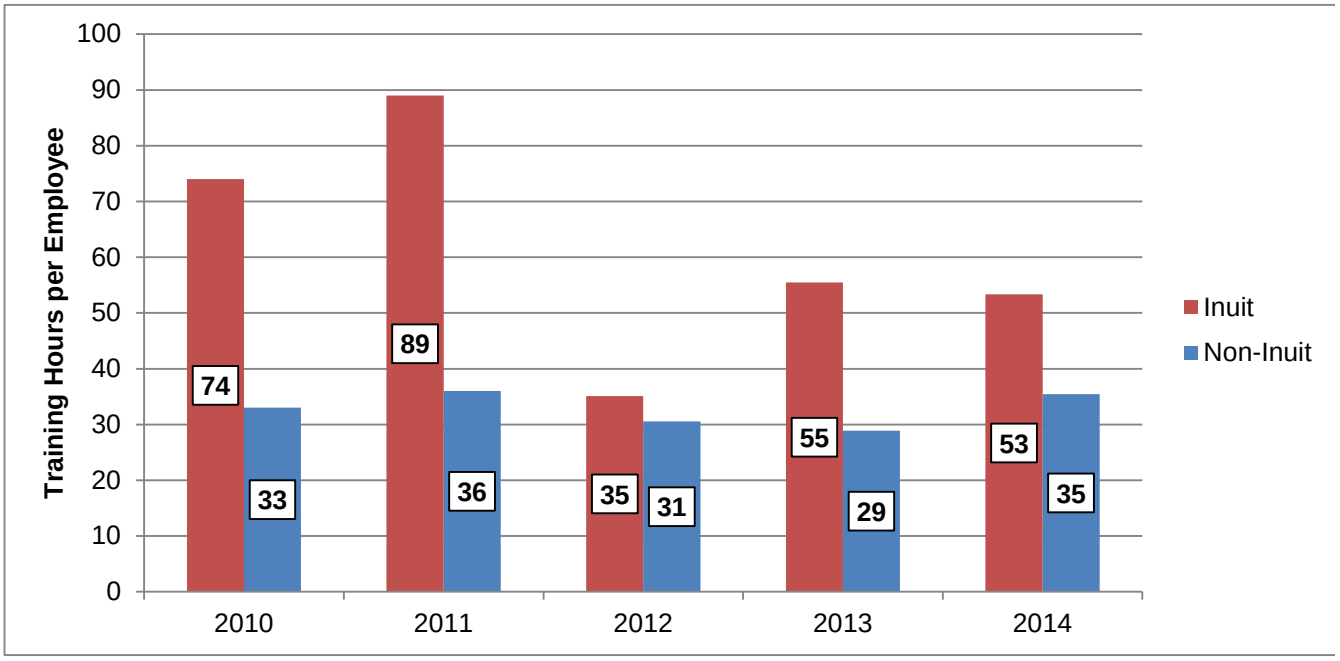


Figure 3.6-3: Training Hours per Employee, 2010-2014

Source: Stratos Inc. (2015).

Other examples of training include the weekly drills of the Emergency Response Team in relation to first aid, firefighting, extraction, search and rescue, and rope rappelling. In addition, the Cross Cultural Training Program is offered to all Agnico Eagle employees and promotes understanding and communications in the workplace across cultures. Throughout 2014, 204 employees received the training. Among them, 103 were Inuit employees, including 43 women and 60 men (AEM 2015a).

Agnico Eagle's haul truck driver crew is comprised of mainly Inuit workers. The majority of the drivers began their employment at Agnico Eagle in entry level positions and have used the haul truck driver program as a springboard for their career as the skills and education gained are transferrable to other sectors of the economy (AEM 2014a). The success of this program has resulted in Agnico Eagle retaining a permanent Inuk Haul Truck Trainer. In 2015, Agnico Eagle intends to train up to 20 new haul truck operators (AEM 2015a). Figure 3.6-4 provides an overview of the number of graduates from the Haul Truck Driver Program, all graduates of the program are Inuit employees at Meadowbank.

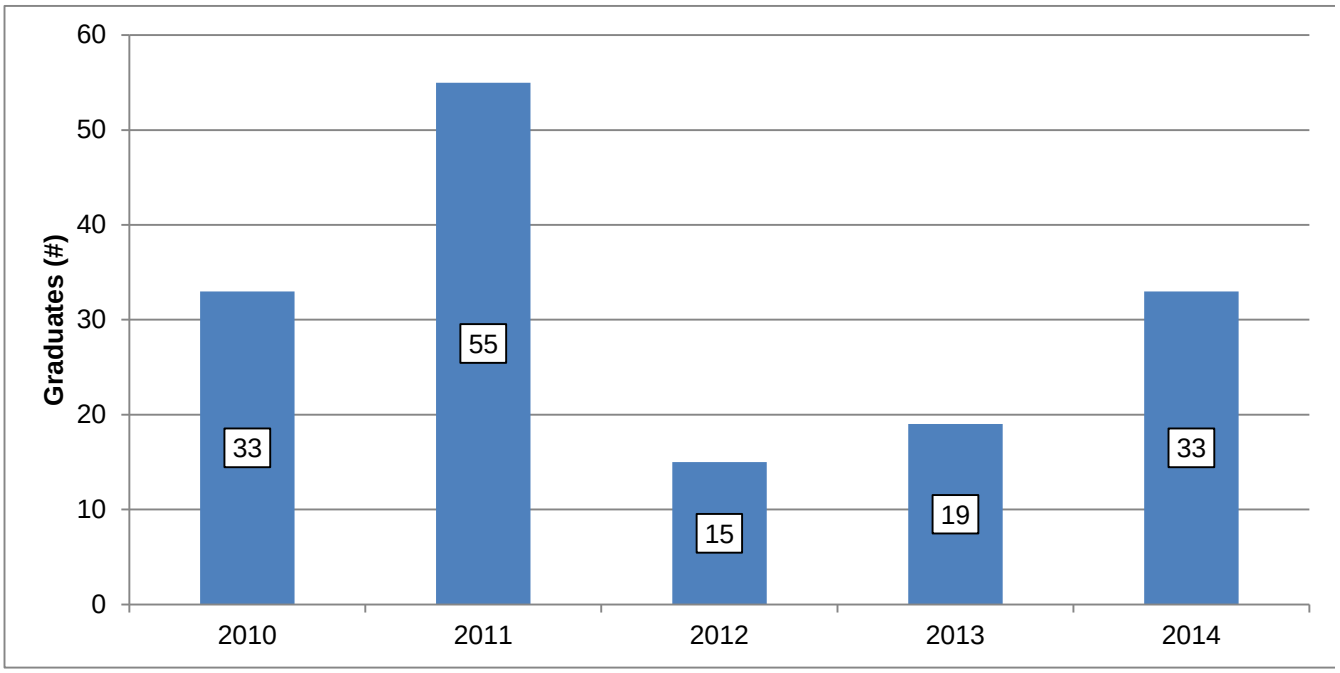


Figure 3.6-4: Number of Haul Truck Driver Program Graduates, 2010-2014

Source: Stratos Inc. (2015).

Apprenticeship training at Meadowbank is available and while Inuit are interested in apprenticeship opportunities, most have difficulty passing the trades' entrance exam due to low comprehension, literacy, and numeracy skills (AEM 2015a). To address these challenges, Agnico Eagle has collaborated with KMTS and Nunavut Arctic College in support of a pre-trade program for Agnico Eagle Inuit employees. Three out of four Inuit employees successfully completed this program in 2014 (AEM 2015a).

In 2015, six new apprenticeship positions were available for a total of at least 12 apprenticeship positions at Meadowbank. The program will be expanded by Agnico Eagle to include additional trades such as plumbing, welding, and carpentry. Skills assessment is also being developed to evaluate Inuit employees' competencies related to a trade and to create an improved fit between skills, interests, and job positions. Another pre-employment initiative, the Work Readiness Training Program, prepares Inuit workers for the work environment in an active mine setting by coaching them in the expectations required of them and teaching self-control, communication, and problem solving skills (AEM 2015a). In 2014, 57 graduates of this program were hired by Agnico Eagle. Newly implemented in 2014, the "Labor Pool Initiative"[3], serves to pre-qualify candidates from Kivalliq communities to create a pool for Agnico Eagle from which to draw future employees. In 2014, the labour pool had 111 graduates, of which 57 were offered employment opportunity at Meadowbank.

Overall, the scope of, and participation in, in-house training and apprenticeship programs have been relatively consistent throughout the mine's operation (Stratos Inc. 2015). Annual fluctuations in the number of specific training hours and haul truck driver program graduates largely reflect changing demand at Meadowbank for additional positions for which specific training is provided (Stratos Inc. 2015).

[3] Based on an agreement by Agnico Eagle, the KMTS and the KIA

3.7 Culture and Traditional Economy

3.7.1 Language

"The English word 'culture' has over 160 meanings, which can sometimes be confusing. There is no such word in Inuktitut. Instead, Inuit use the term 'illiqusiq' which means the 'way it is done' – encompassing all aspects of the Inuit way of life." – Nunavut Tourism, no date.

Retention of culture (i.e., the Inuit way of life) is important to Inuit identity and wellbeing. One indicator of cultural retention or maintenance is language. Table 3.7-1 shows recent statistics for the use and knowledge of Aboriginal Language in the Kivalliq Region and Baker Lake. The large drop in the population who speak an Aboriginal language most at home may be explained in part by a change in how the category was defined between 2001 and 2006. In 2001, the survey asked whether an Aboriginal language was spoken at home, not whether an Aboriginal language was the *most often* spoken at home. Overall, however there does appear to be a decline in the use of Aboriginal language (i.e., Inuktitut) in the home while knowledge of an Aboriginal language has remained relatively constant. This trend seems to be more severe in Baker Lake than in the Kivalliq region as a whole. This is likely due primarily to a faster growing non-Inuit population (and the need to speak English to access most government services in town) and especially the influence of global media (i.e., television and internet) in the home. A smaller influence may also be the presence of a large southern-based employer (Agnico Eagle) where English is the dominant language in the workplace. The language of instruction at the Baker Lake Elementary School is 50% Inuktitut and 50% English (Nunavut Teacher Induction Program, no date, b). At the high school, Inuit cultural programs are offered in Inuktitut, however instruction of core (required) programs is primarily in English (Nunavut Teacher Induction Program, no date, c).

Table 3.7-1: Use and Knowledge of Aboriginal Language, 2001, 2006, and 2011

Use and Knowledge of an Aboriginal Language	2001	2006	2011	2001	2006	2011
	Kivalliq Region			Baker Lake		
% of the Aboriginal identity population whose mother tongue is an Aboriginal Language	86.7[(a)]	87.2	85.0	75.2[(a)]	69.2	69.3
% of the Aboriginal identity population who speak an Aboriginal language most often at home	90.0[(b)]	66.6	62.7	80.9[(b)]	28.5	28.9
% of the Aboriginal identity population with knowledge of Aboriginal languages	95.5	95.1	94.8	92.6	88.8	87.1

Sources: Statistics Canada (2001a; 2001b; 2007c; 2007d, 2013b; 2013c).

(a) 2001 data for this category was categorized as "% of the Aboriginal identity population with Aboriginal language(s) first learned and still understood.

(b) 2001 data for this category was categorized as "% of the Aboriginal identity population with Aboriginal language(s) spoken at home.

This trend also implies that the youngest of Kivalliq residents, children born after 2001, are seeing more exposure to English than to Inuktitut in the home. Access to services in Inuktitut is lacking yet there is, an ongoing need to staff government, social and educational service offices and institutions with non-Inuit in the absence of trained Inuit, and the government is trying to address this (AREVA 2011). Building capacity in these areas will take time and in the meantime the need to communicate in English with nurses, doctors, teachers, administrators, and the Royal Canadian Mounted Police (RCMP) may be a contributing factor to language loss (AREVA 2011).

In 2011, issues of language use and culture clashes between Inuit and southern workers were cited by Baker Lake residents as reasons some Baker Lake employees left Meadowbank to pursue other opportunities in town. They stressed the importance of open communication and working together as a team at camp to address social and cultural tensions (AEM 2015b). In 2012, this situation was improved as Inuktitut was formally accepted as a language spoken on site (except for where safety reasons preclude the use of any other language but English). Inuktituk is used at Meadowbank in the following areas (AEM 2015c):

- signage at Meadowbank in major areas;
- application forms;
- informational/communications (recruitment, major announcements);
- by Human Resource Councillors; and
- at religious events (i.e., monthly services or special events at site).

The levels of Inuktitut speaking and number of residents who claim Inuktitut to be their mother tongue is lower in Baker Lake than in other Kivalliq communities (Statistics Canada 2013b). It is hoped that community and school-based language initiatives can reverse these trends while promoting literacy in both English and Inuktitut (AEM 2015b).

3.7.2 Traditional Economy

Nunavut's and the Kivallig Region's economy is mixed, consisting of a formal economy and a traditional informal economy. In general, households combine income from wage employment with subsistence harvesting. The traditional economy consists of subsistence harvesting activities including hunting, fishing, trapping and gathering (e.g., plants and eggs). Harvested products are used as a source of food and some people use materials to make clothing, arts and crafts. These traditional activities provide livelihood resources from the land and are rooted in a cultural practice of sharing (NPC 2002). Inuit in the Kivalliq Region fish for Arctic char and hunt geese, ptarmigan, and caribou, as well as beluga and seals along the west coast of Hudson Bay. In the fall, they hunt polar bear on the sea ice. Walrus are also an important resource in the more northern parts of the Region. As an inland community, people in Baker Lake are skilled in hunting caribou and fishing. The traditional diet of most residents consists mainly of caribou.

Subsistence harvesting reduces the financial burden of households, not only for food and clothing, but also for services (NPC 2002). Harvesting activities help to shape social relationships, provide opportunities for cultural expressions, and strengthen individual identify and security, thereby promoting and sustaining family and community social structures and values. Subsistence harvesting activities are at the heart of Inuit culture and sustain Inuit society in its traditional way of life (NPC 2002).

In 2012, 81% of the Inuit population in Nunavut aged 15 years and older, had hunted, fished, trapped or gathered wild plants in the previous 12 months (Statistics Canada 2014a). In 2006, country food constituted at least half[4] of the meat and fish consumed in 66% of Inuit households in Nunavut, a decrease from the 73% reported five years earlier (Statistics Canada 2001c; 2008). Limited data is available at a regional or community level on the harvest and consumption of country foods. The 2006 Aboriginal Peoples Survey published statistics on the harvesting of country food by community; however, more recent data is not available for comparison (Table 3.7-2). Based on these statistics, average participation in traditional activities in Kivalliq communities is higher than in Nunavut as a whole. Participation in hunting and fishing is lowest in Baker Lake and Rankin Inlet.

Table 3.7-2: Traditional Activities and Harvesting in the Past 12 Months, 2006

	Hunting	Fishing	Gathering Wild Plants	Trapping
Nunavut	71	76	79	30
Arviat	81	80	86	42
Baker Lake	68	77	87	44
Coral Harbour	71	81	76	53
Rankin Inlet	67	71	81	x
Repulse Bay	82	85	78	46

Sources: Statistics Canada (2011a-f).
x = suppressed to meet the confidentiality requirements of the *Statistics Act*

The replacement value of country food harvested in Nunavut is estimated at a minimum of $30 million, or at least equal to the cost of food imports from southern Canada (Vail and Clinton 2001). Country food provides a better source of nutrients such as iron, magnesium, and calcium than store bought food and promotion of the availability of country food is a key aspect of the Nunavut Food Security Strategy and Action Plan (Nunavut Food Security Coalition 2014).

In recent years, community representatives have reported to Agnico Eagle an increase in the number of trips on the land by those with income from the mine (AEM 2015b). For some people, the two weeks off provide a chance to recover from the 12-hour shifts at the mine. Some reported being too tired to participate in family or community events, including hunting and land-based activities during their two weeks off. However, others reported that they enjoyed using this time specifically for harvesting, using the mine road to access caribou grounds, and enjoying quality time with their family (AEM 2015b). Others have suggested that the stress associated with life in a community, and increasingly work and school schedules, limit the length of time that individuals can spend on the land (AEM 2015b). Current mine operational impacts on harvesting activities have been discussed more frequently during ongoing community consultations than general environmental impacts, and seem to the most important environmental concern for Baker Lake residents (AEM 2015b).

[4] 'About half' and 'More than half' were sub-totaled to at least half.

3.8 Individual and Community Health and Wellness

Health is broadly defined as a state of complete physical, mental and social wellbeing, not merely the absence of disease and infirmity. The determinants of health are broad, and include socio-economic parameters such as income, education, environment, social support networks, and culture. A Nunavut Department of Health and Social Services workshop in 2005 defined the following 11 key social determinants of Inuit health that continue to guide discussion on this topic (ITK 2014)

- acculturation (cultural change as a result of intercultural contact);
- productivity (including harvesting, sewing, paid and volunteer work);
- income distribution;
- housing;
- education;
- food security and nutrition;
- health care services;
- quality of early life;
- addictions;
- social safety nets; and
- environment.

The above social determinants of health are addressed in various sections of this socio-economic baseline report except for environment which is addressed in separate physical environment baseline reports. In this section, the following health and wellness indicators are discussed, as per the 2004 Meadowbank EIS Guidelines (NIRB 2004), and based on the availability of regional level data:

- cost of the Northern Food Basket and the Nutrition North subsidy (both indicators of food security)
- types and frequencies of communicable diseases (i.e., sexually transmitted infections);
- crime rates;
- housing supply, demand, condition and cost; and
- suicide rates.

3.8.1 Food Security

Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (WHO 2015). In response to the territorial government's growing concern regarding the lack of food security in Nunavut, the Nunavut Roundtable for Poverty Reduction established a Nunavut Food Security Coalition (the Coalition) to develop a Nunavut Food Security Strategy. The strategy yielded a 2014-2016 Action Plan which outlined guiding principles and strategic areas for action, including country food, store-bought food, local food production, life skills, programs and community initiatives, and policy and legislation (Nunavut Food Security Coalition 2014).

The Coalition outlines four components of food security:

1) availability (enough wildlife on the land or groceries in the store);
2) accessibility (adequate money for hunting equipment or store-bought food, and the ability to obtain it);
3) quality (healthy food that is culturally valued); and
4) use (knowledge of how to obtain, store, prepare, and consume food).

Several factors have been identified by the Coalition that affect these components of food security (Table 3.8-1).

Table 3.8-1: Factors that Affect the Components of Food Security

Component of Food Security	Factors Affecting Food Security	Factor Category
Availability	population change (demand for food)	economic
	grocery supplies (supply of store-bought food)	economic
	changes in number and distribution of wildlife stocks (supply of country food)	environmental
Accessibility	cost of groceries combined with income levels	economic
	transportation delays	economic
	sharing networks	cultural
	access to hunting grounds	environmental
Quality	food choices or knowledge about healthy foods	individual/family
	wildlife health	environmental
	food spoilage	individual/family
	environmental contaminants	environmental
Use	traditional knowledge and language	cultural
	preparation skills	individual/family
	literacy	individual/family
	budgeting skills	individual/family

Source: Nunavut Food Security Coalition (2014).

In response to a general lack of food security and high grocery costs in Northern Canada, the federal government, through Nutrition North Canada, has provided a Nutrition North Subsidy to Nunavut retailers since 2011, so that savings may be passed on to consumers. Retail grocery stores in all communities in the Kivalliq Region are eligible for this program. In addition, the Nutrition North Canada program provides a subsidy for the transport of country foods (char, caribou, etc.) within Nunavut when they are available through local stores or when purchased from regulated processing plants such as Kivalliq Arctic Foods in Rankin Inlet (Nunavut Food Security Coalition 2015).

One indicator of accessibility is the cost of the Revised Northern Food Basket (RFNB) (Figure 3.8-1). If the cost of RFNB declines over time while costs elsewhere in Canada have increased, then that is an indicator that the subsidy is resulting in savings to consumers. The RFNB is an example of a nutritious diet for a family of four for one week. The combination of foods in the “basket” meets most nutrition requirements and food serving recommendations in Canada’s Food Guide for four family members: a man and a woman aged between 31 and 50, and a boy and girl aged 9 and 13 (Nutrition North Canada 2013a).

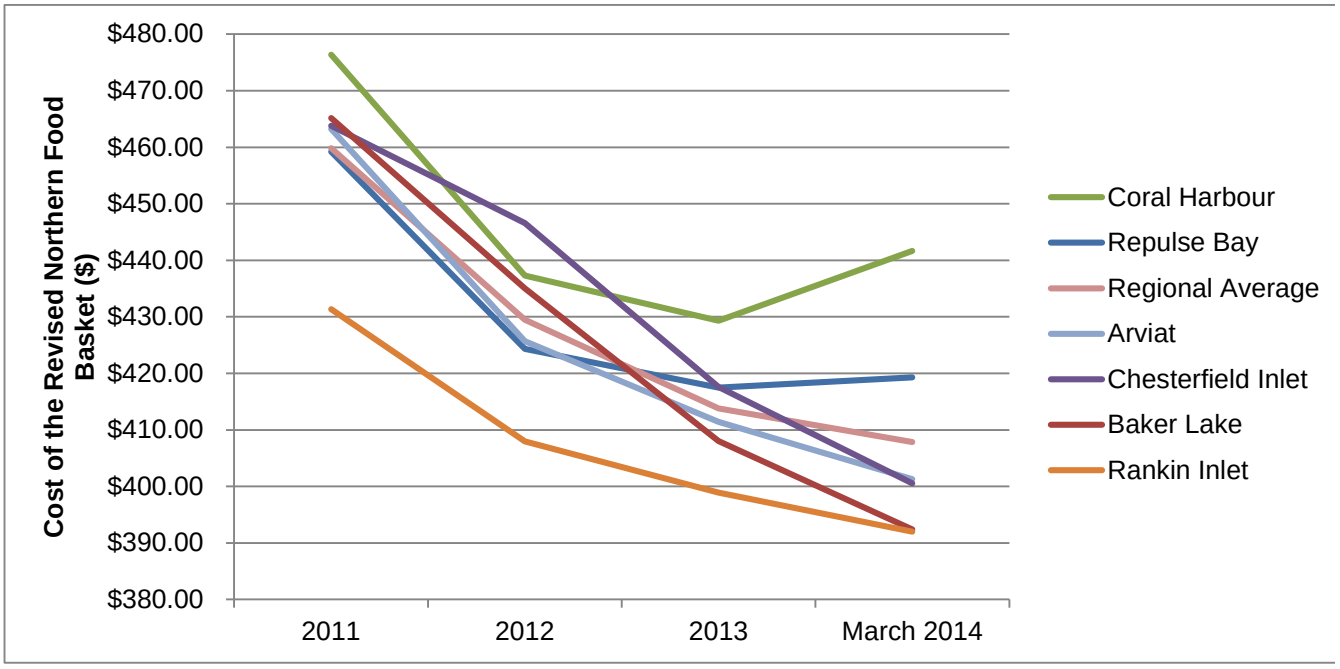


Figure 3.8-1: Cost of the Revised Northern Food Basket ($), 2011-2014

Sources: Nutrition North Canada (2013b-c; 2015).

Note: The data presented for 2011, 2012, and 2013 is the average cost of the Revised Northern Food Basket for the months of March, June, September and December. Data for 2014 is available for March.

While food prices elsewhere in Canada increased approximately 5.5% over this three year period, the average cost of the RNFB fell by 11.3% or $51.99 in the Kivalliq Region (Nutrition North Canada 2015). This is good news for the overall accessibility of a healthy diet in the Kivalliq Region but food costs all over Nunavut are still high compared to the rest of Canada. On average, in the Region, food costs about twice as much as it does in the rest of Canada (Nunavut Bureau of Statistics 2015b).

The data above show that food costs in Baker Lake are among the lowest in the Region and that cost of the RFNB decreased by about $73 or 16% between 2011 and 2014. This does not mean that other factors (Table 3.8-1) do not continue to affect community level food security in Baker Lake. However, increasing incomes associated with employment at Meadowbank, has enhanced the quality of life of employees by offering a reliable means to afford food and hunting equipment. As a result of increased demand, a greater abundance and variety of foods are available at the community grocery stores. While there are still families asking for country food over the local radio, the number of people waiting in line for the monthly food bank has decreased (AEM 2015b). In 2010, no planned investments were identified in regards to Baker Lake's community freezer (Aarluk Consulting 2010). This indicates that food security in Baker Lake may not be as large an issue as it is in other parts of Nunavut or the Kivalliq Region.

3.8.2 Sexual Health

During key informant interviews conducted as part of baseline data collection for the Meliadine Project, spousal jealousy was mentioned frequently in comments about Meadowbank, suggesting that inappropriate sexual behaviours are an issue at the mine (AEM 2014b). The sensitivity of the subject makes it difficult to come to any concrete conclusions as to the extent of inappropriate behaviour at Meadowbank. However, anecdotal evidence collected as part of the Meliadine socio-economic baseline study suggests that it is probable that consensual (yet adulterous) sex, prostitution, and sexual assault and harassment do occur at Meadowbank.

Current Agnico Eagle workforce management measures at Meadowbank are intended to discourage harassment and encourage people to come forward if it occurs; however, the control of sexual activity by others is problematic. Suggestions from community members to employ only men at mine sites or to test potential employees for sexually transmitted infections (STIs) with a view of denying them employment contravene human rights and cannot be put into place. Public health education by government and Agnico Eagle may go some way toward mitigating potential health effects of inappropriate or illegal sexual activities (including the transmission of STIs), however, the very high and increasing rates of STIs in Nunavut and the Region (Figure 3.8-2) are likely to remain a cause for concern in the years to come. Unlike, other regions in the territory, the Kivalliq Region experienced increasing STI rates in 2009 and 2011 and by 2011 had the highest STI rates in Nunavut. More recent data is unavailable; therefore, there is insufficient data to indicate whether this trend has continued over time.

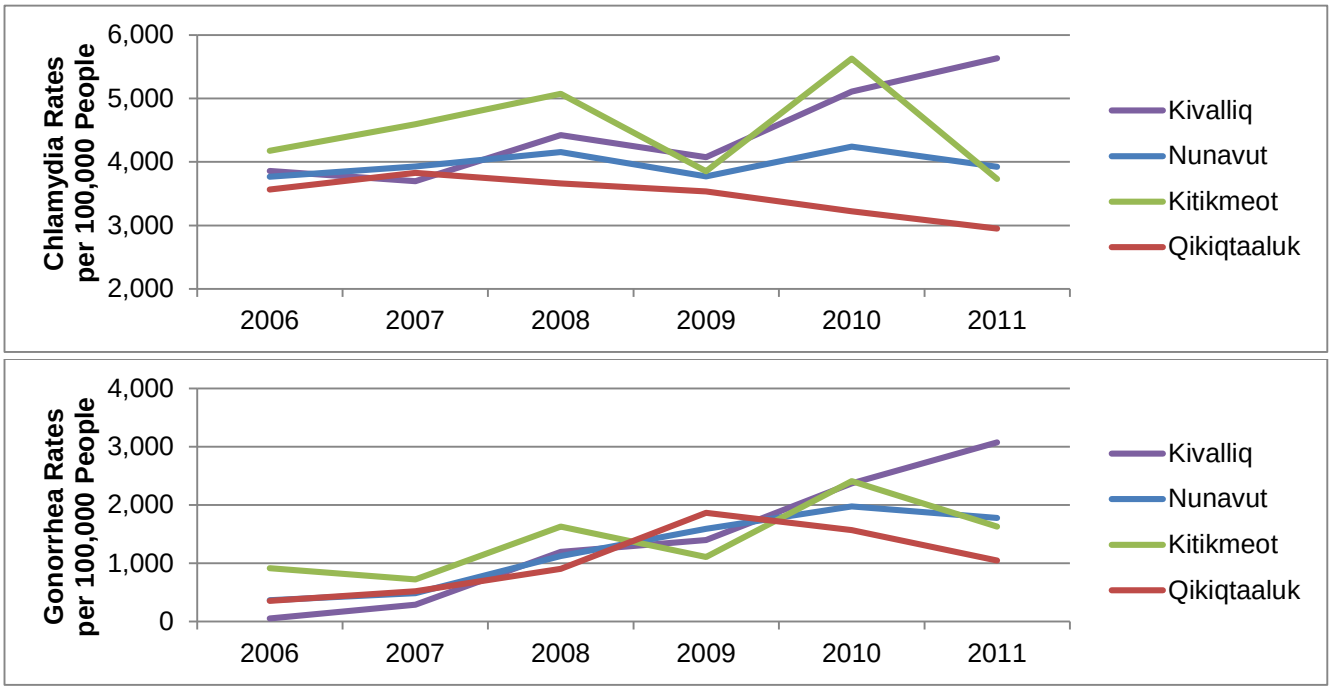


Figure 3.8-2: Chalmydia and Gonorrhea Rates per 100,000 by Region, 2006-2011

Source: GN Department of Health (2012).

3.8.3 Crime

At the 2011 SEMC meeting in Baker Lake, the RCMP stated that Agnico Eagle's provision of income has stimulated staggering increases in crime as incomes are being used to purchase alcohol and drugs and that the uninhibiting influence of alcohol and drugs has led to an increase in criminal activity (AEM 2015b). Agnico Eagle also learned at regular consultation meetings in the hamlet that population growth and an increase in consumer goods, drugs, alcohol, and gambling are affecting crime rates, and particularly thefts and home break-ins (AEM 2015b). It is not uncommon to hear of vehicle theft in the community, and meeting participants are concerned by this lack of respect for personal property. With more vehicles on the road, several participants are concerned about increased traffic, drinking and driving, and the safety of youth in particular. Several participants noted there are more "unsavoury characters" on the streets than there used to be, making it less safe for families to let their children, especially girls, out in the town without supervision. Respondents discussed not knowing who their

neighbours are anymore, locking their doors when home in the middle of the day, and a concern for their family's safety. A few participants expressed a social reluctance in the community to report incidents such as disturbing the peace and domestic abuse to authorities, but noted that this attitude is changing as priorities ultimately lie in ensuring the safety of one's family and home (AEM 2015b).

Figure 3.8-3 shows the criminal violations rate (number of violations per 1,000 people) for each community in the Kivalliq Region. Additional detailed crime statistics are available in Appendix A. Baker Lake and Rankin Inlet have both experienced large increases in crime rates as Meadowbank entered its production phase in 2009 and 2010, but rates have since levelled off and started to decrease in 2011. Further monitoring of this trend is required to determine whether crime rates may continue to decrease in these communities over time.

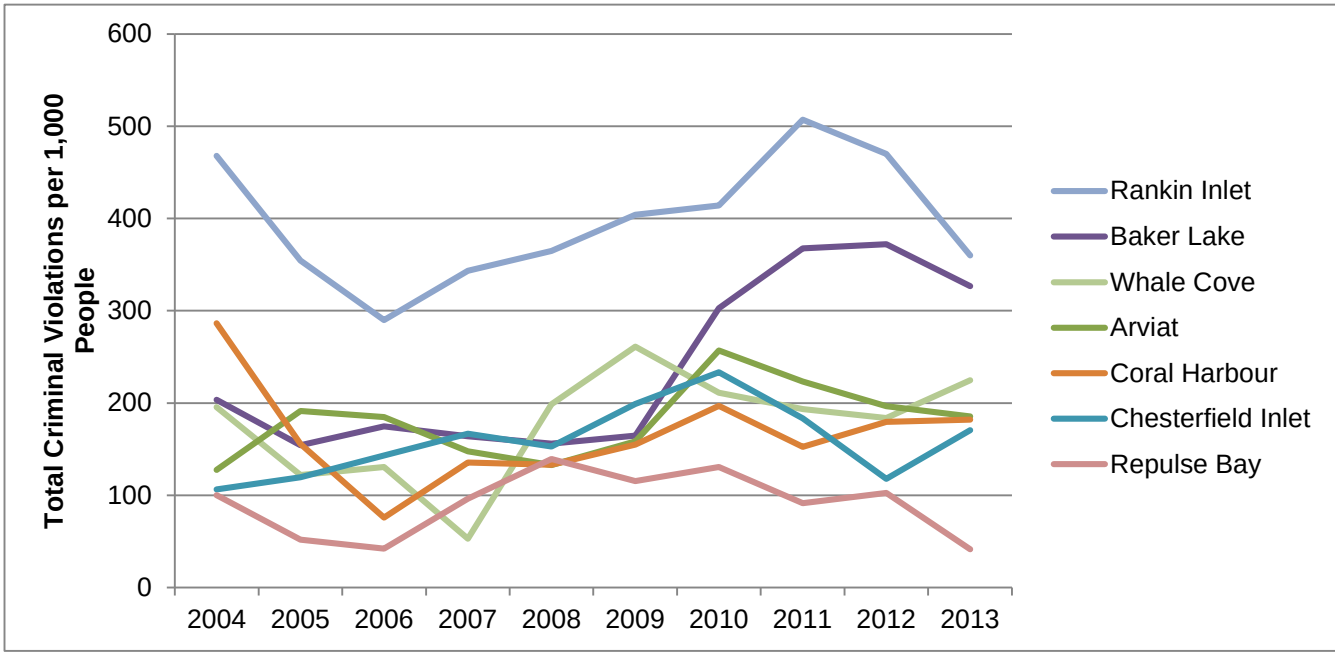


Figure 3.8-3: Total Actual Violations per 1,000 People, by Kivalliq Community, 2004-2013

Source: Nunavut Bureau of Statistics (2014e); Statistics Canada (2014b).

Figure 3.8-4 shows criminal violations by type for Baker Lake and Table 3.8-2 shows the change (%) in the number of criminal violations in Baker Lake compared to the average number of violations from 2006 to 2009. In Baker Lake, rates of mischief, disturbing the peace, and harassment and theft more than doubled or tripled in the years since Meadowbank began production (2010-2012). The rates of more serious crimes including assault and sexual assault also increased substantially (49%-82%) during this same period. Rates for most types of violations decreased in 2013 (except assault, impaired driving, and drug violations), coinciding with the decrease in the overall crime rate. In general, the data supports observations noted in recent consultation meetings, however, increases in thefts and breaking and entering (which has been cited as a concern) have not been as high as increases in cases of mischief, assault and disturbing the peace.

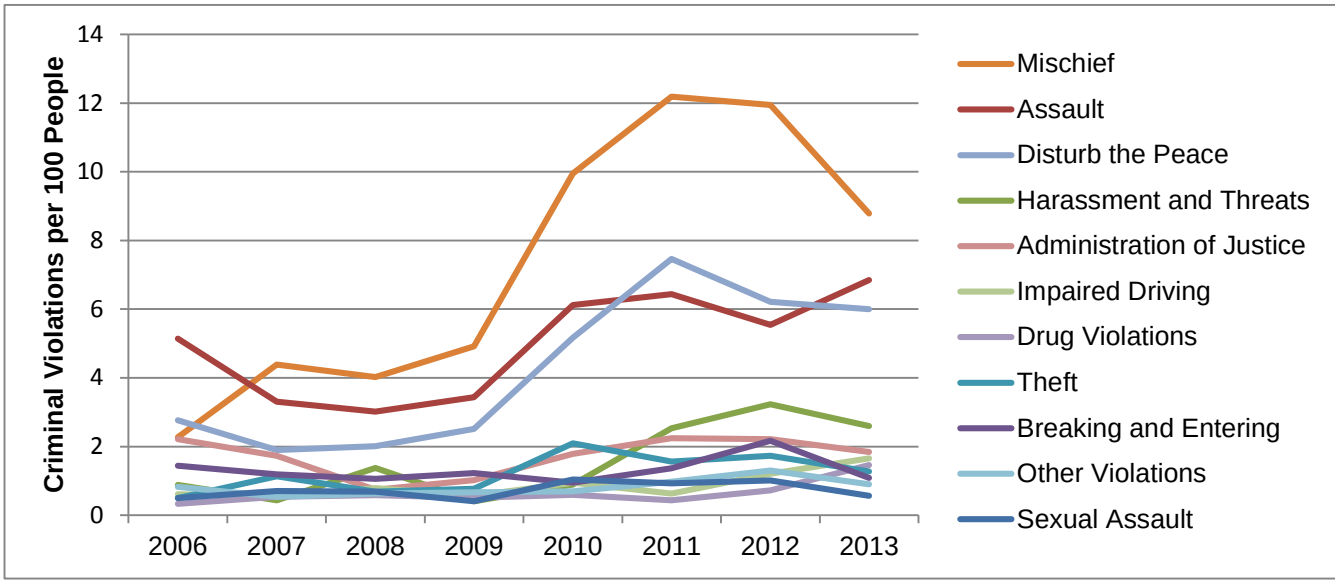


Figure 3.8-4: Baker Lake Criminal Violations per 100 People by Type, 2006-2013

Sources: Nunavut Bureau of Statistics (2014e); Statistics Canada (2014c).

Table 3.8-2: Change in Baker Lake Criminal Violations against 2006-2009 average, 2010-2013

Criminal Violation	2010	2011	2012	2013
Mischief	155%	213%	206%	125%
Assault	64%	73%	49%	84%
Disturb the Peace	125%	225%	171%	161%
Harassment and Threats	15%	227%	316%	235%
Administration of Justice	25%	57%	55%	29%
Impaired Driving	51%	1%	92%	164%
Drug Violations	21%	-11%	47%	198%
Theft	170%	102%	124%	65%
Breaking and Entering	-23%	11%	76%	-12%
Other Violations	4%	46%	95%	34%
Sexual Assault	82%	61%	76%	-1%

Source: Statistics Canada (2014c).

3.8.4 Housing

The housing situation in Nunavut and the Kivalliq Region is often referred to as a crisis by the Nunavut Housing Corporation (NHC) and the Government of Nunavut (NHC 2014a; Nunatsiaq Online 2010). The Government of Nunavut Long-term Comprehensive Housing and Homelessness Strategy highlights the need for additional housing to address the persistent issues of housing shortages, overcrowding, and units that are in need of major repairs (NHC 2013a). High costs of constructing and maintaining housing combined with the nature of Nunavut's economy where wage labour is limited and often seasonal, makes the attainment of home ownership difficult for most residents (NHC 2013a). As such, most residents in the Kivalliq Region, like the rest of Nunavut, live in

subsidized non-market rental units maintained by the NHC, a public agency of the Government of Nunavut (NHC 2013a). The NHC's Housing and Homelessness Strategy (2013a) states that the territory's large size, its challenging climate and legacy of underinvestment in basic infrastructure has held back the social and economic development required to keep pace with the long-term housing needs of Nunavut's growing population.

With respect the housing supply and demand the NHC has published the following information:

- In 2014, the NHC estimated that 3,580 new social housing units are required to meet Nunavut's immediate housing needs, with an additional 90 units per year (Nunatisaq Online 2014c).
- The NHC will have a total of 1,611 public housing units in the Kivalliq Region and 419 public housing units in Baker Lake once construction of new housing units[5] is complete in 2016 (NHC 2014b).

Demand for housing is high and significant portions of the Kivalliq Region and Baker Lake populations remain on the housing wait list (Nunavut Bureau of Statistics and Statistics Canada 2011):

- In 2010, there were 1,120 persons aged 15 years and over (17% of the population 15 years and over) in Kivalliq who were on the public housing wait list.
- Approximately 390 residents aged 15 years and over (35%) reported being on the waiting list for at least one year but less than three years, while 200 residents (18%) reported being on the wait list for five years or more.
- In Baker Lake there were 300 persons aged 15 years and over who were on the public housing wait list (19% of the population 15 years and over).
- Approximately 100 Baker Lake residents aged 15 years and over (33%) reported being on the waiting list for at least one year but less than three years, while 50 residents (17%) reported being on the wait list for five years or more.

The cost of construction is the most cited challenge to increasing the availability of homes in Nunavut. Contributing factors include the following (NHC 2013a):

- a short construction season;
- limited local skilled workers;
- limited essential goods and services that can cost up to two to three times more than in southern Canada; and
- high operating and maintenance costs which can be five to ten times more expensive in Nunavut.

These high costs restrict market participation and place limits on both public and private housing construction due to the high level of perceived risk.

[5] These include new public housing units provided by funding from the Government of Canada, Government of Nunavut and Canada Mortgage and Housing Corporation funding.

The most recent data available regarding housing conditions indicates that homes the Kivalliq Region and Baker Lake are in poorer condition than in Nunavut as a whole (Figure 3.8-5). Poor housing conditions in the region and in Baker Lake are due primarily to crowding.

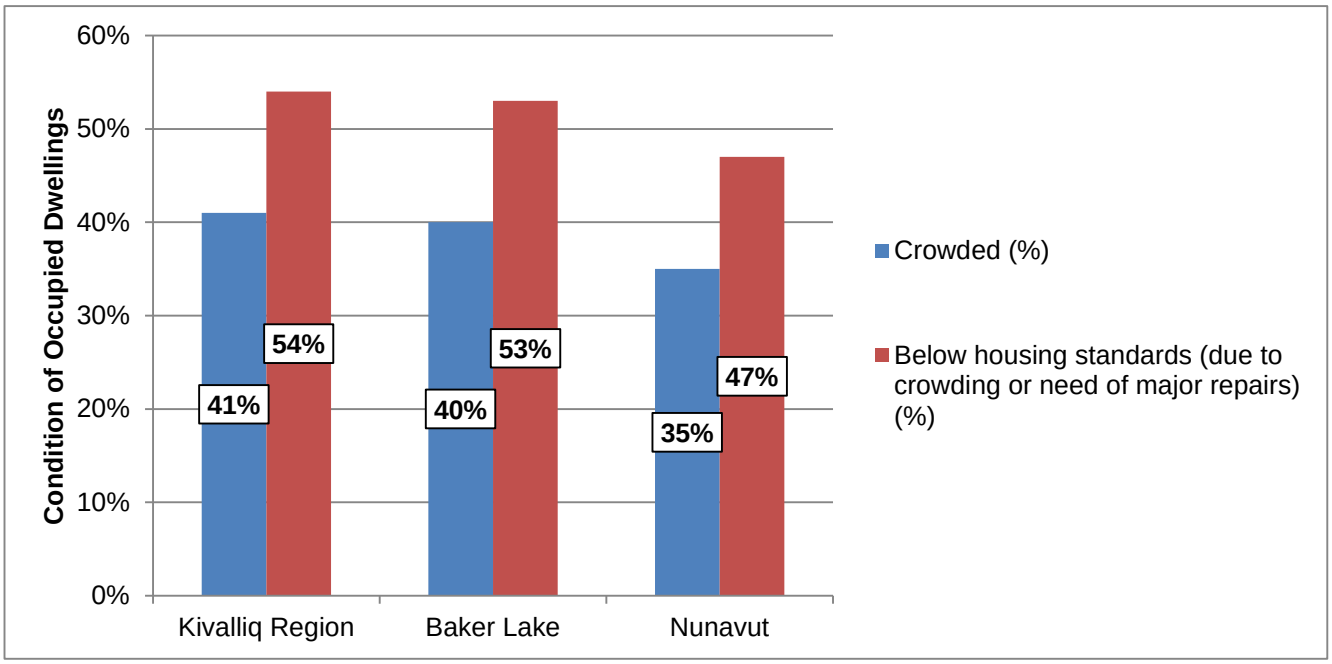


Figure 3.8-5: Housing Conditions, 2009-2010

Source: Nunavut Bureau of Statistics and Statistics Canada (2011).

Note: The need for major repairs is based on the opinion of the respondent. A dwelling is classified as crowded if there is a lack of sufficient number of bedrooms for household members.

Overcrowded conditions have both economic and social costs. Overcrowding increases wear and tear and contributes to higher operating and maintenance costs. The NHC (2013a) states that overcrowded living conditions also raise the potential for stress, violence, food insecurity, abuse, addiction, and suicide (NHC 2013a). These provide additional burdens on health and social services.

A contributing factor to overcrowded homes is the limited number of emergency shelters for the housing vulnerable. No emergency shelters for men and only one for women is available in the Kivalliq Region, in Rankin Inlet (Government of Canada 2013, 2015a). These limited housing options, combined with the cold weather conditions that prevent people from sleeping outside and the Inuit cultural values that encourage people to take in the homeless (Laird 2007; Webster 2006), results in fewer people living on the streets. Those without housing find temporary shelter in the homes of relatives and friends, living in a state of 'hidden homelessness', thereby contributing to the state of overcrowded homes. The 2009-2010 Nunavut Housing Survey (Nunavut Bureau of Statistics and Statistics Canada 2011) found that:

- About 400 Kivalliq residents (4% of the region's population) did not have a usual home at the time of the Nunavut Housing Survey and were in immediate need of housing.
- 30% of occupied dwellings in the Kivalliq Region housed temporary residents without a usual home elsewhere.

- About 60 Baker Lake residents (3% of the hamlet's population) did not have a usual home at the time of the Nunavut Housing Needs Survey and were in immediate need of housing.
- 25% of occupied dwellings in Baker Lake housed temporary residents without a usual home elsewhere.

Budgetary constraints limit the NHC's construction of new public housing as the NHC's funding comes primarily from the territorial and federal levels of government. While the NHC received $100 million in federal funding in 2013, which resulted in an additional 213 units for 12 communities, additional funding in later years was more modest with Nunavut receiving $15 million in 2014 to allocate over the course of five years (CBC 2015a; Nunatsiaq Online 2014c; CMHC 2014). In the 2015-2016 capital budget the Government of Nunavut approved of $10 million towards new public housing units for Nunavut (GN – Department of Finance 2014a). The Kivalliq Region was allocated $1.2 million for homeownership programs. As the construction of a new housing unit in Nunavut costs approximately $400,000, the rate at which new housing units in Kivalliq could be built cannot sufficiently meet demand.

With a high demand for housing throughout Nunavut, the NHC uses a formula to determine the allocation of where new housing stock in Nunavut should be constructed. It uses needs list numbers (the number of applications waiting for the allocation of a unit) and current public housing stock numbers to create a ranking of needs list as a percentage of existing stock (NHC 2014b). This ranking is calculated by dividing the needs list number by the amount of public housing stock in the community to produce a percentage that measures relative need (NHC 2014b). Housing needs are variable between the Kivalliq communities, with some in greater housing need than others. In 2014, Arviat had the most acute shortage of public housing in the Kivalliq Region, placing fourth in all of Nunavut, with a 39% public housing shortage (NHC 2014b). Baker Lake placed 23rd out of the 25 communities in Nunavut, with a 19% public housing shortage. As such, Arviat was allocated construction of 15 new units in 2014, which increases its housing stock by 4%. Limited funding meant that no other Kivalliq community was allocated funds for new housing units in 2014.

Most housing in the Kivalliq Region (77%) and in Baker Lake (81%) is rental housing (Statistics Canada 2013a; 2013b). In 2011 (the most recent year of available data), approximately 87% of the rental dwellings in Baker Lake and the Kivalliq Region were subsidized in (Statistics Canada 2013a; 2013b). The NHC creates, coordinates and administers affordable housing programs for residents of Nunavut. Programs including home ownership assistance (i.e., assisting with home purchasing, repair, renovation and maintenance), public housing, and government staff housing (NHC no date, a). Applications for home ownership and government staff housing in Kivalliq are sent to the district office in Arviat, while public housing applications are sent to the Local Housing Organizations (LHOs) in the individual Kivalliq communities. Some applications, such as the home ownership assistance applications, require verification of income and employment verification (NHC no date, b).

Public housing is allocated through LHOs, which assign points to applicants based on a set of eligibility criteria. These include meeting a residency requirement, having a household income no greater than a certain minimum level which varies depending on community, and good standing (the applicant must not owe money to the NHC) (Nunatsiaq Online 2011). Additional consideration is given based on the amount of time spent on the housing waiting list, if applicants are victims of violence, have lower income, or whose current accommodations are damaging to their health.

The NHC's Public Housing Program is an income tested rental housing program that provides subsidized housing to tenants based on their income and ability to pay rent using a geared- to- income rent scale. In 2013, in an effort to allow tenants to accumulate wealth and advance in their field of employment, the NHC revised the Public Housing Rent Scale (Table 3.8-3), which reduced the rent for most tenants (NHC 2013b). The NHC acknowledged that the reductions in Income Support payments would result in approximately $2.4 million in lost revenue in 2013, but would create long-term benefits such as greater workforce participation, reduced reliance on GN social programs, and greater economic prosperity and social well-being.

Table 3.8-3: Nunavut Housing Corporation Public Housing Rent Scale, 2013

Gross Annual Income of Primary Tenant(s)	Monthly Rent
Under $22,000[(a)]	$60.00
$22,000-$40,000	20% of annual gross income
$40,000-$80,000	25% of annual gross income
$80,000-$97,200	30% of annual gross income

Source: NHC 2013b.

[(a)] The Minimum Rent Threshold, is based on the equivalent gross income of one 40 hour per week full-time employment at minimum wage, which was $22,000 in 2013, and results in a minimum rent of $60 a month.

Before the revised rent scale, Rent Geared to Income (RGI) public housing comprised 51% of Nunavut's housing stock, and housed 60% of the population, of whom 58% paid $60 or less based on their household income, a percentage that was expected to increase to 76% after the revised rent scale (NHC 2013b). If tenants secure employment or receive a pay raise, rent will not increase until September 1 of the following year. The Public Housing Program allows for immediate decreases to the assessed rent for seasonal workers and tenants that lose their employment. Full-time students and those attending pre-trade and trade courses and other academic upgrading are exempt from rental assessments (NHC 2013b).

3.8.5 Suicide

The Kivalliq SEMC monitors annual suicide rates as it is an issue that affects all Nunavummiut. Suicide is significant because it can deeply impact the core structure and mental health of families and communities, negatively impacting their overall well-being" (GN – EDT 2014a). Nunavut communities are small and deaths due to suicide strongly affect wellbeing across the community. High suicide rates are therefore considered both a symptom and cause of poor community wellbeing. The suicide rate in Nunavut is 13 times higher than in the rest of Canada (Stratos Inc. 2015).

Recent suicide statistics are presented in Figure 3.8-6. More detailed statistics are available in Appendix A. When comparing average suicide rates before 2010 and after 2010 (the approximate midpoint of data available), the data shows a 6 point increase in Nunavut (87 to 93 per 100,000), a steady average rate in the Qikiqtaaluk Region (108 per 100,000), a 67% increase in the Kivalliq Region (49 to 82 per 100,000) and a drop in the average in the Kitikmeot Region (86 to 65 per 100,000). Annual rates fluctuate considerably however, and therefore these numbers do not point to a particular trend. This data is one indicator of community wellbeing that should be reviewed in the context of other community wellbeing indicators such as income, housing conditions, food security, crime and others.

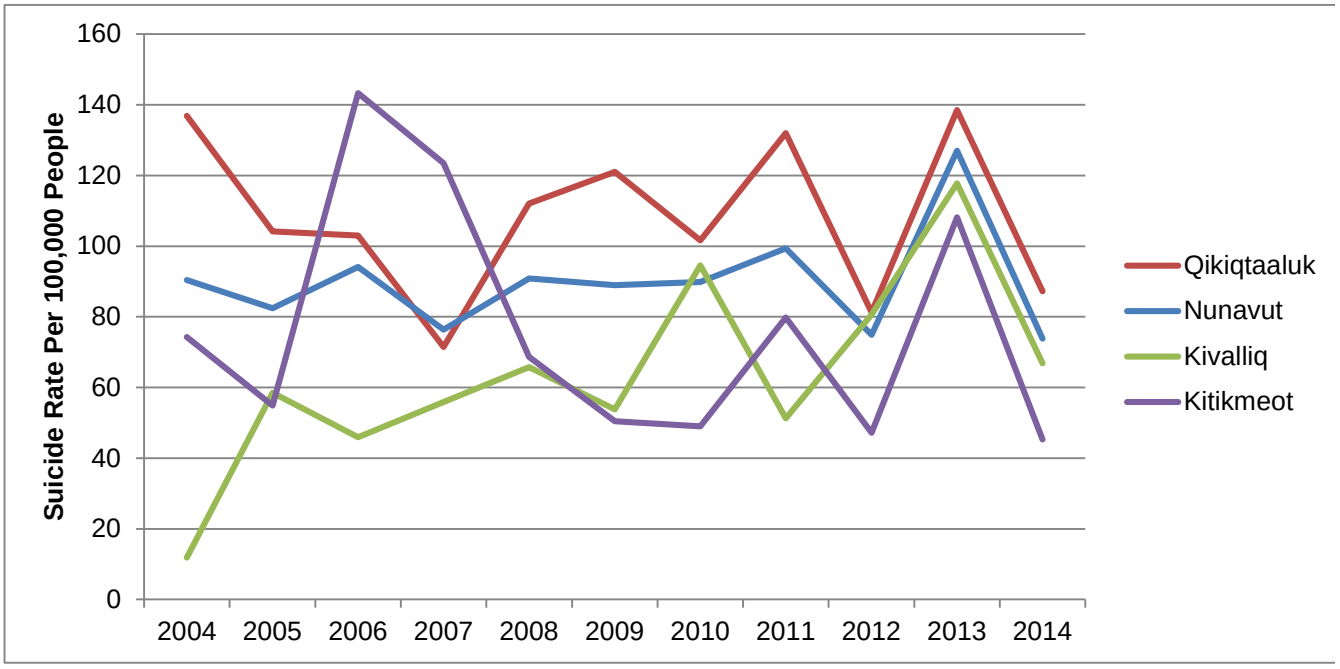


Figure 3.8-6: Suicide Rates per 100,000 by Region, 2004-2014

Source: GN – Department of Justice (2015).

Notes:

Region refers to the jurisdiction where the death occurred.

Suicide Rate is calculated by dividing the number of suicides by the estimated population and multiplying the result by 100,000.

Population estimates used to calculate suicide rates are as of July 1 and are based on 2011 Census counts adjusted for census net undercoverage.

Community level statistics do not reveal a discernable trend as the number of suicides in each year is small and variable. For example, there were 3 suicides in Baker Lake in 2010 and 2013, and 1 suicide in each year in 2011, 2012 and 2014 (Stratos Inc. 2015). Even one suicide in a community the size of Baker Lake affects the whole community. A community group called Baker Lake Against Suicide Team organized a Suicide Prevention Walk in 2013 to show support to those in the community that may be struggling.

3.8.6 Worker Health and Safety

3.8.6.1 Counselling Programs and Usage at Meadowbank

In response to concerns regarding the community and family level effects of Meadowbank, Agnico Eagle offers several family counselling programs at the mine (Table 3.8-4). In addition to the programs listed below, Agnico Eagle has subcontracted the development and delivery of a Work Readiness Training program through the KMTS for workers and their families (see Section 3.6.1.3). During 2014, the program was delivered in each Kivalliq community and a total of 128 people attended, of which 111 successfully completed the program. In 2014, 57 graduates of the program were hired by Agnico Eagle, including 24 women (AEM 2015a).

Table 3.8-4: Family Counselling Programs Offered, 2010-2014

Program	Description	Start Year	Notes on Program Use
Family Employee Assistance Program	External program via Homewood Health, offering mental health and additional services including organizational wellness, assessments, outpatient and inpatient treatment, recovery management, return to work and family support services.	2011	Demand to date has been very low, between 2 and 6 employees a year access this program.
On-site Councillors Program	Inuit employee councillors on-site provide first line support on coping with employment.	2010	not available
Elder Visitation Program	Monthly visiting Elder's program to provide Inuit employees with advice and guidance rooted in Inuit cultural values and encourages employees to choose balanced, health and productive lifestyles.	2012	A total of 32 Inuit employees have participated in these visits to date.
Family Network Program	Agnico Eagle is a partner and investor in the KMTS. The KMTS has established this program intended to assist the families of current and potential employees to become more prepared about the expectations and realities involved in having a family member employed at Meadowbank.	2013	not available
Make it Work Program	With support from the KMTS, Agnico Eagle introduced a fly in-fly out program for the spouses of employees to come to Meadowbank to experience what mining life was like. The program includes spousal counselling sessions on effective communications, financial management, conflict resolution and healthy living.	2014	24 participants in its first year.

Source: Stratos Inc. (2015).

Due to privacy concerns it can be difficult to assess participation in counselling programs, however, where data is and can be collected there is evidence of use of these programs by their intended audience. Over the long-term, through ongoing socio-economic monitoring, it may be possible to identify a correlation between usage of counselling programs and positive changes in community wellness (Stratos 2015).

3.8.6.2 Health and Safety On-Site

Figures 3.8-7 and 3.8-8 provide an overview of the health and safety statistics for Meadowbank. Figure 3.8-7 provides the combined lost-time and light duty incident frequency on site, per 200,000 person-hours. Lost-time and light duty incident frequency has been decreasing consistently since 2011. It is not unusual to see an increase in accidents in the early years of an operation (2010-2011) when there is a new and inexperienced workforce. Figure 3.8-8 shows the total number of visits by employees to the on-site clinic. Since, the vast majority of visits to the clinic are for non-work related conditions, it appears as though the clinic serves an important function in addressing the health and medical needs of workers. The decline in visits for work-related injuries coincides with the declining lost-time and light duty incidents over the same period.

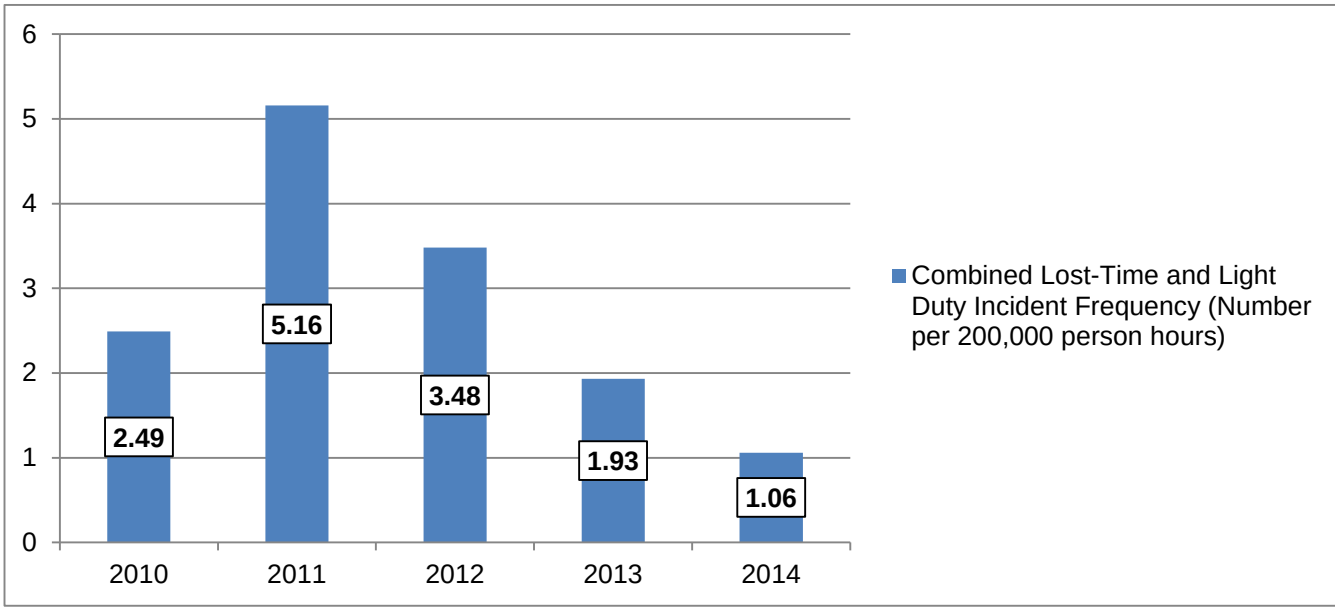


Figure 3.8-7: Combined Lost-Time and Light Duty Accident Frequency, 2010-2014

Source: Stratos Inc. (2015).

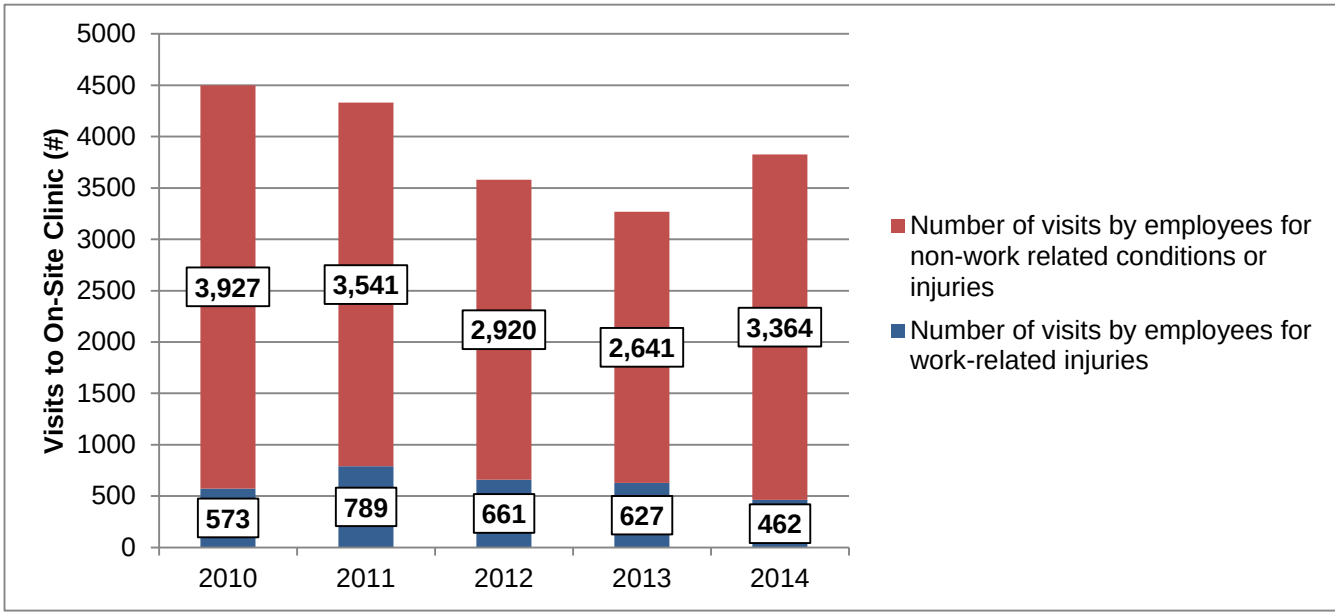


Figure 3.8-8: Number of Visits by Employees to Meadowbank On-Site Clinic, 2010-2014

Source: Stratos Inc. (2015).

3.8.7 Baker Lake Wellness Study

Since construction and operations began at Meadowbank mine in 2010, Agnico Eagle has reported that a number of community members are concerned with the influx of money, southern material goods and technologies that are providing “too many distractions”, and limiting healthy socializing and volunteerism in the community. There is concern that growing individualism and materialism are displacing Inuit values and the influence of elders (AEM 2015b). Baker Lake residents are also very concerned about the proportion of income spent on alcohol, drugs and gambling. Residents have noted to Agnico Eagle that drug and alcohol use is affected by underlying social issues (e.g., a history of drug or alcohol use and abuse in the family), rising incomes, the two-week rotational schedule, and population growth. The two weeks of downtime without structure, combined with a lack of money management skills, was also identified as a concern, and a cause of reckless spending, including gambling and drug and alcohol consumption (AEM 2015b). Agnico Eagle’s ability to manage the downtime of their employees is limited. In some cases, not having a job or any structure or routine can also lead to increased drug and alcohol consumption if there are no other outlets for socialization or activities available or perceived to be available. Agnico Eagle offers orientations to employees and their family members to learn about the potential stresses of a rotational schedule and coping strategies as well as financial literacy training.

Also, in response to these concerns and because of a commitment in the IIBA, in 2012, Agnico Eagle began funding a study developed by researchers at the University of Guelph and the Hamlet of Baker Lake that lead to an Annual Wellness Report and Implementation Plan. The annual report will track community wellness over time based on indicators that are meaningful to Baker Lake residents (SEMC 2012). Wellness indicators were drawn from primary data sources collected in Baker Lake 2011 and 2012. A local steering committee and the study team then adapted the identified community issues, concerns and hopes into indicators of wellness. The objective of each annual report and implementation plan is to provide an overview of any impacts of the Meadowbank Mine on the wellness of Baker Lake Inuit residents in as much detail as practically possible (SEMC 2012). These include any impacts on residents’:

- state of physical and mental health;
- extent of alcohol and drug abuse;
- personal and family relationships, including any impacts attributable to employment at a remote work site under a rotational work schedule;
- migration into or out of the community;
- prevalence and use of Inuktitut;
- Inuit culture and traditional practices;
- job satisfaction of those Inuit residents of Baker Lake employed at the Meadowbank project;
- management of personal finances; and
- any other aspect of the wellness that the Meadowbank Mine could reasonably be expected to affect.

A draft list of wellness indicators was released in March 2013. An assessment of wellness for the hamlet of Baker Lake will be derived from a census-style questionnaire that is based on the wellness indicators developed from the first Annual Wellness Report (SEMC 2012). The questionnaire will be administered to all of households in the hamlet and will be repeated every other year to provide data on wellness in Baker Lake over time.

This initiative has faltered in the past primarily due to lack of capacity within the Hamlet governance to lead community involvement. The researchers were not getting the necessary feedback and thus forward movement on this initiative stalled in 2013. Therefore in 2015 Agnico Eagle brought in an outside consultant to reinvigorate this initiative with the first Wellness Report now in preparation and due to be completed before the end of 2015.

3.9 Community Infrastructure and Services

3.9.1 Government

The Kivalliq Region holds six of the 22 seats in the Legislative Assembly of Nunavut (Legislative Assembly of Nunavut 2013). These six constituencies are Aivilik (includes Repulse Bay and Coral Harbour), Baker Lake, Rankin Inlet North – Chesterfield Inlet, Rankin Inlet South, Arviat North – Whale Cove, and Arviat South. The community of Rankin Inlet is the centre of government for the Kivalliq Region.

For the 2015/2016 fiscal year, the Government of Nunavut is budgeting to receive $1.5 billion from federal transfers and a total of $186.8 million from own-source revenues (taxes, revolving funds, other own-source), for a total of $1.7 billion in revenue (GN – Department of Finance 2015). The Kivalliq Region was allocated $254.7 million (17.4%) out of the Government of Nunavut's total operating and maintenance expenditure budget of $1.5 billion (GN – Department of Finance 2015). Capital expenditures for the fiscal year totalled $27.6 million for the Kivalliq Region.

The municipal government in Baker Lake consists of eight locally elected counselors and a mayor. The Senior Administrative Officer (SAO) oversees local departments such as housing maintenance, water/sewage and garbage pickup, heavy equipment and garage maintenance, community economic development, recreation, by-law enforcement, municipal building permits, and other community services (Baker Lake 2011a). Simeon Mikkungwak represents the hamlet as a Member of the Legislative Assembly of Nunavut in the Nunavut Government (GN – Assembly 2015). Hunter Tootoo represents the hamlet as the Member of Parliament in the Government of Canada (CBC 2015b).

3.9.2 Physical Infrastructure

3.9.2.1 Use of Physical Infrastructure Related to Meadowbank

The Meadowbank mine has its own dedicated energy, water, and communication infrastructure that are independent of public (i.e., Baker Lake) physical infrastructure. Agnico Eagle's use of Baker Lake's public infrastructure is limited to the use of airports for travel to and from the mine, the use of community meeting space for public engagement and the use of local health care facilities as needed (Stratos Inc. 2015). The use of health care facilities is discussed in Section 3.9.3.

Agnico Eagle's use of public physical infrastructure related to the operations of Meadowbank consists of use of the Baker Lake airport (300-400 passenger flights/year), use of other Nunavut airports (200-400 passenger flights/year), and use of the Baker Lake Community Centre (5-10 times per year). These numbers have been estimated by Agnico Eagle and do not include use of infrastructure by employees while they are not actively travelling for work related purposes (e.g., personal travel) or whey they are doing non-work related activities (Stratos Inc. 2015).

3.9.2.2 Transportation

The Community and Government Services (CGS) department provides programs and funding that supports municipal operation, infrastructure development and land development. The department assists in securing and allocating GN and federal funds for municipal infrastructure projects. In 2015-2016, the department had the third largest budget, with $27.9 million, or 13.5% of the total capital budget for Nunavut (GN – Department of Finance 2014a). The Kivallliq Region was allocated $2.3 million out of the CGS's capital budget for 2015-2016. The transportation branch of the Department of Economic Development and Transportation had the largest capital budget, with $81.4 million, or 39.6% of the total capital budget for Nunavut (GN – Department of Finance 2014a).

No roads connect communities within Nunavut or to southern Canada (GN no date). While winter roads and ATV trails facilitate some access, the most common means of transportation in Nunavut is by air. Calm Air, First Air and Keewatin Air provide scheduled passenger and cargo service to the Kivalliq Region (Nunatsiaq Online 2015a). Calm Air is the main service provider for most of the Kivalliq Region's air travel. The airline operates daily flights between Rankin Inlet and all Kivalliq communities, with the new aircraft hangar in Rankin Inlet serving as the regional hub. The new hangar, constructed in 2014, replaces the Churchill, Manitoba location as Calm Air's Nunavut hub, allowing for fresh food to arrive in Kivalliq communities three days earlier (Nunatsiaq Online 2015a).

Aviation weather and communication service is provided by the Community Aerodrome Radio Stations (CARS) that are available at all small airports in the Kivalliq Region, and the Flight Service Station (FSS) in Rankin Inlet (Nav Canada 2015). With the exception of the paved runway in Rankin Inlet, all airports in the Kivalliq Region have gravel runways (NEDA 2014).

With no roads, the Kivalliq Region is dependent upon sealift for resupply shipments that are scheduled from July to September and air transports for the other months of the year (NSSI 2015; Prolog Canada 2011). These economic resupply shipments are critical for communities in the Kivalliq Region for economic development and for exploration activities. Almost all non-perishable goods, such as fuel, construction materials, vehicles, and dry goods, needed in Nunavut move by water as it is a more economical method of transportation (GN – CGS 2015). Sealifts of goods and supplies to the Kivalliq Region are offered by NEAS (Nunavut Eastern Arctic Shipping) and NSSI (Nunavut Sealink and Supply Inc) from Sainte-Catherine, Quebec and Churchill, Manitoba (NEAS 2015; NSSI 2015). Each company will offer two scheduled cargo deliveries to the communities in Kivalliq in 2015.

Table 3.9.-1 provides a summary of the traffic forecast for the Kivalliq Region. Baker Lake is served year-round by daily scheduled flights from Calm Air, with additional flights scheduled during the summer months (Calm Air 2015). With the new codeshare agreement between First Air and Calm Air in place after July 2015, Baker Lake will have 20 flights a week, with most connecting directly to the Kivalliq hub of Rankin Inlet (Nunatsiaq Online 2015a). Charter flights are also available from Kivalliq Air and Ookpik Aviation. Two companies offer taxi service in Baker Lake (Explore Nunavut 2015a).

Table 3.9-1: Traffic Forecast for the Kivalliq Region (Tonnes/Year)

Freight/Cargo/Passengers	2010	2015	2020	2025	2030
Sealift Transport (Tonnes/Year)					
Mines					
General Freight	17,100	38,100	68,000	68,000	16,500
Bulk Fuel	23,200	52,200	78,000	78,000	24,000
Total	**40,300**	**90,300**	**146,000**	**146,000**	**40,500**
Communities					
General Freight	14,592	15,403	16,126	16,748	17,892
Bulk Fuel	27,696	29,233	30,606	31,786	32,029
Total	**42,288**	**44,636**	**46,732**	**48,534**	**49,921**
Total					
General Freight	31,692	53,503	84,126	84,748	34,392
Bulk Fuel	50,896	81,433	108,606	109,786	56,029
Total	**82,588**	**134,936**	**192,732**	**194,534**	**90,421**
Air Transport					
Air Cargo (tonnes/year)	4,298	5,457	6,615	8,205	9,705
Air Passenger (passengers/year)	175,000	197,050	217,525	240,275	265,300

Source: Prolog Canada (2011).

Sealift of goods and supplies to Baker Lake are offered by NEAS and NSSI from July to September (NEAS 2015; NSSI 2015). In 2015, each company will deploy two sealifts to Baker Lake. In 2014, three dedicated shiploads, one part shipload from Churchill, Manitoba and two tug and barge deliveries from Bécancour, Québec were made to support service to Agnico Eagle at Baker Lake (GN – CGS 2015).

Short-term and medium-term needs were identified in 2010 regarding building a new freight storage facility, increasing capacity of the Baker Lake airport terminal and expansion of the airstrip (Aarluk Consulting 2010). As of 2015, the Baker Lake airport has received $5 million in funding for various improvements. Substantial upgrades to the airport such as runway expansion, construction of a conveyor belt in the terminal and other changes to improve the capacity and efficiency of the airport were once proposed in joint agreement with the Building Canada Fund, but a finalized arrangement could not be settled upon (Legislative Assembly of Nunavut 2014).

Baker Lake has a marine dock, public dock, and community mooring bollards (Aarluk Consulting 2010). Residents identified the need to build a marshalling area for materials and supplies and the need to relocate the marine dock 4 km from town for safety reasons in the short-term. The dock in Baker Lake has been in operation since 2010 and handles approximately 125,000 tonnes per annum goods and port of loading inbound (WorleyParsons Canada 2014). Vessel traffic from the Baker Lake area has increased from an average of seven transits a year from 2002 to 2006 to an average of 30 transits a year from 2007-2011 (OAG 2014).

3.9.2.3 Communications

The communities in the Kivalliq Region have access to various communication infrastructure including postal, radio, telephone, internet, and satellite television services.

Canada Post provides mail service to all communities in the Kivalliq Region by airlift to each community's Air Stage Office (Canada Post 2015a,b). The Kivalliq News and Nunatsiaq News publish weekly newspapers to all communities in the Kivalliq Region. Nunatsiaq News is a bilingual newspaper that publishes in English and Inuktitut (Nunatsiaq Online 2015b).

Most radio stations in the Kivalliq Region are community-owned and rebroadcast CBC-Radio North. The medium is an important method of communication with residents that transmits community, business, and political news. CBC Radio in Nunavut broadcasts out of Iqaluit and Rankin Inlet and is rebroadcasted to the other communities in the Kivalliq Region (CBC 2015b).

Multiple television stations are available in Inuktitut, Inuinnaqtun, Inuvialuktun, and English. With the expansion of internet availability, the distribution of television content in these Inuit languages is more readily available to residents. CBC Television broadcasts out of Iqaluit and Rankin Inlet and is available through satellite television. The national broadcaster, Aboriginal Peoples Television Network (APTN) is the sole Nunavut-wide broadcaster of Inuit language programs (Nunatsiaq Online 2015c).

Telephone service is direct-dial in every Kivalliq Region community. Internet service is also available in every community through Northwestel, a subsidiary of Bell Canada, and the Qiniq network, operated by SSI Micro (Nunavut Broadband Development Corporation 2015). The Community Access Program (CAP), funded by the Government of Nunavut's Department of Education provides free, public internet access across Nunavut at public locations such as libraries and community centres (Nunatsiaq Online 2015d). In July 2015, the Government of Canada announced $35 million in funding for SSI Micro to extend and enhance satellite Internet service for approximately 8,600 homes in Nunavut, including all communities in the Kivalliq Region. The program will be available starting in 2016, providing download speeds of at least three megabits per second (Mbps) (Government of Canada 2015b).

All communities in the Kivalliq Region have access to satellite television. Arviat, Baker Lake, and Rankin Inlet have access to cellular service, which is provided by Bell Canada (Northwestel 2013; Bell Canada 2015). Rankin Inlet is the one community in the Kivalliq Region with 4G cellular service (Nunatsiaq Online 2014d).

Multiple internet service providers are available to the residents of Baker Lake, with Northwestel offering DSL service (Nunavut Broadband Development Corporation 2015). Internet packages from Northwestel range from $80 to $150 per month (Northwestel 2015). One radio station, CKQN-FM is based out of Baker Lake (GN 2013). Bell Canada provides telephone service to Baker Lake.

Baker Lake's communication infrastructure was identified in 2010 as being challenged to provide adequate support to the increasingly diversified local economy community (Aarluk Consulting 2010). One recommendation was to establish a publicly accessible computer facility in the community, such as a CAP site. The Connecting Canadians program will see the extension and enhancement of satellite Internet service for Baker Lake by extending the leases that provide satellite Internet services and improving Internet speed for residents to at least three megabits per second (Government of Canada 2015b).

3.9.2.4 Protection

Royal Canadian Mounted Police detachments are located in every community in the Kivalliq Region (RCMP 2015). In 2014, Nunavut had a total of 119 police officers, or 325.3 police officers per 100,000 people (Statistics Canada 2015b). The police officers per 100,000 population rate have been decreasing in the last five years.

The Hamlet of Baker Lake is responsible for fire protection and relies on approximately 20 volunteers trained by the Hamlet Fire Chief, the assistant Fire Chief, and the Nunavut Fire Marshall's office.

Baker Lake has a fire hall and fire truck whose projected years of remaining life will last until 2031 and 2020, respectively. The need for minor repairs at the fire hall and minor repairs to the community's fire truck was identified as short-term priorities (within the next five years) (Aarluk Consulting 2010).

No issues were identified in regards to search and rescue in 2010; however, a need to review search and rescue equipment needs and acquire, upgrade, and update as required were evaluated as a short-term (within the next five years) priority (Aarluk Consulting 2010).

The Nunavut Court of Justice's (NCJ) Circuit Court travels to the 24 communities throughout Nunavut to administer trials and sentencing. In 2014, the NCJ introduced a monthly remand court in Iqaluit for citizens detained in the Kivalliq Region. Video or telephone appearances have been used for citizens held in Rankin Inlet for the purpose of procedural appearances (Nunavut Court of Justice 2015). There are currently six resident judges of the NCJ, of which five travel within the Circuit Court. In 2014, Baker Lake had five scheduled circuit weeks.

3.9.2.5 Retail Services

Baker Lake has seven retail stores which provide groceries, equipment supply, clothing, video rentals, and general retail (Explore Nunavut 2015b). The Northern Store offers general retail, groceries, and light banking and the Sanavik Co-op is a grocery and retail co-op that also offers hotel accommodation. One hotel, two lodges, and a bed and breakfast are located in Baker Lake that can accommodate approximately 119 people in total (Explore Nunavut 2015c; Nunamiut Lodge Hotel, no date; Iglu Hotel, no date; Baker Lake Lodge, no date). Other facilities include the Vera Akumalik Visitors Centre, the Inuit Heritage Centre, the Okpiktuyuk Art Gallery and the Qatqa Sports Hunting outfitting service (Explore Nunavut 2015d).

3.9.2.6 Recreation

Baker Lake has a recreation centre (which contains an arena and community hall), an indoor swimming pool and four playgrounds (Aarluk Consulting 2010). As of 2010, the projected remaining years of life for the recreation centre was 18 for the recreation centre, 28 for the swimming pool, and 8 for the playground in the indoor arena. In 2010, recreational infrastructure needs such as additional outdoor recreational facilities, enlargement of playground sizes, relocation of the baseball diamond and the installation of a concrete pad in the arena were identified as issues (Aarluk Consulting 2010). While the Baker Lake Integrated Community Infrastructure Sustainability Plan (ICISP) calls for a new multi-use recreation centre by 2014, an outdoor multiplex facility and a new youth centre by 2007, no additional steps have been taken since the report's publication. The report also identified the medium-term need for a new swimming pool.

Baker Lake received funding from the Government of Nunavut, the Baker Lake Hamlet and the Canadian Northern Economic Development Agency (CanNor) for a $400,000 upgrade to the local arena. An eco-ice system increases arena use from three to four months per year to eight to nine months per year (CanNor 2013).

3.9.2.7 Water, Sanitation, and Waste Disposal

Baker Lake's water, sewage, and solid waste infrastructure were identified in 2010 as under pressure due to the growth in the community. Priority short-term and medium-term needs were identified for the hamlet. Since the publication of the infrastructure investment priorities in 2010 (Aarluk Consulting 2010), the water, waste water, and sewage disposal needs were addressed by the upgrading of the water treatment facility, sewage disposal facility, and new water pump house.

Water for the community is sourced from Baker Lake and is delivered to residents by trucked services for scheduled water delivery to all houses and other buildings (GN – CGS 2011). In 2011, a new water treatment facility was constructed in Baker Lake. The water treatment process consists of four pressure media filters, UV disinfection and chlorine injection prior to storage in a 360,000 L tank. Baker Lake's residential water use is not expected to exceed the annual 100,000 cubic metres (m^3) authorized quantity limit until 2030 (GN – CGS 2011). Baker Lake also received a new water pumphouse in 2014, at the cost of $4.5 million (GN – Department of Finance 2014a).

Trucked sewage collection services are provided to the residents of Baker Lake. A Sewage Disposal Facility, which was upgraded in 2010, is located 1.2 km north of the community and consists of two sewage discharge points, a large holding cell, flow attenuation structures, and a wetlands/lake area (GN – CGS 2011). Sewage is collected from the houses and buildings by vacuum truck and discharged from one of two built out gravel pads. Effluent flows downslope to the sewage treatment wetland for 10-month storage with decanting over the late summer/early fall into Finger Lake, which then flows to Airplane Lake, which drains into Baker Lake. The hamlet identified the medium-term need for an additional sewage truck to assist with sewage disposal (Aarluk Consulting 2010).

The community's Solid Waste Disposal Facility is located adjacent to wetlands and Finger Lake. The facility was constructed in 1991 and expanded in 1998. The facility is made up of a fenced disposal area for municipal solid waste, and a separate storage area for bulky metals, hazardous wastes and waste oil. The municipal solid waste disposal area is approximately 25,000 square metres (GN – CGS 2011). The Solid Waste Disposal Facility and the bulky metals/hazardous waste storage area is unlined and runoff drains directly into Finger Lake and the sewage treatment wetland. Since the 2010 Baker Lake ICISP, the solid waste facility has not been relocated or upgraded to a site further away from the community.

A long-term infrastructure priority identified for Baker Lake was the establishment of a water and sewer utilidor in the main part of town that would service all major buildings and schools as well as some residential areas (Aarluk Consulting 2010). Nunavut's 2015-2016 Capital Budget Estimate allocated $121,000 towards a feasibility study for a new utilidor (i.e., piped water and sewage system) in Baker Lake (GN – Department of Finance 2014b). The Hamlet of Baker Lake is required to hold a water licence, issued by the Nunavut Water Board in for the use, management of fresh water and waste disposal infrastructure. Their current licence (Licence No. 3BM – BAK1015) was amended in 2011 and expires in 2015 (NWB 2010; NWB 2011).

3.9.2.8 Heat and Power

Qulliq Energy Corporation supplies Baker Lake with diesel driven electricity. The power system consists of three generators, four diesel storage tanks and four gasoline storage tanks. The power plant converts fuel oil that is delivered by barge in the summer to electricity (Baker Lake 2011b). In 2010, the community identified the need for an increase in bulk fuel storage capacity of diesel and gasoline as a priority (Aarluk Consulting 2010). To address this, Inukshuk Construction was contracted in 2014 with the upgrade of the fuel storage facility. A new 3,400 m^3 diesel fuel storage tank will be installed and the existing 941 m^3 storage tank will be converted from diesel fuel to gasoline (Inukshuk Construction Limited 2014). Hydrostatic testing of fuel storage tanks are currently proposed to be completed by October 2015 (NIRB 2015).

Table 3.9-2 presents details of power infrastructure and capacity as of 2010.

Table 3.9-2: Power Infrastructure in Baker Lake (2010)

Component Asset	Acquired (Year)	Project Useful Life (Year)	Years of Remaining Life	Capacity/Utilization
QEC Power Plant	2003	2043	33	Adequate
QEB 800 kW Generator	1994	2014	4	800 kW
QEB 972 kW Generator	2005	2028	18	972 kW
QEB 1229 kW Generator	2005	2028	18	1,229 kW
Diesel Storage Tanks (4)	-	-	-	7,816,011 L
Gasoline Storage Tanks (4)	-	-	-	1,688,462 L

Source: Aarluk Consulting (2010).

3.9.3 Health Services

3.9.3.1 Use of Community Health Centres by Community

All communities in the Kivalliq Region have health centres, managed and staffed by nurses. All communities also have emergency medical evacuation services. Regular fly-in specialists include doctors, physiotherapists, optometrists, psychiatrists, and dentists. Rankin Inlet is the exception as its new Kivalliq Health Centre is staffed full time with doctors, nurses and midwives.

The number of health centre visits per capita by community is reported annually by the Kivalliq SEMC. The most recent statistics are presented in Figure 3.9-1. The number of visits is an indicator of demand for services in the community. To control for population and for ease of comparison between the region and communities, the data on community health centre visits is presented per capita.

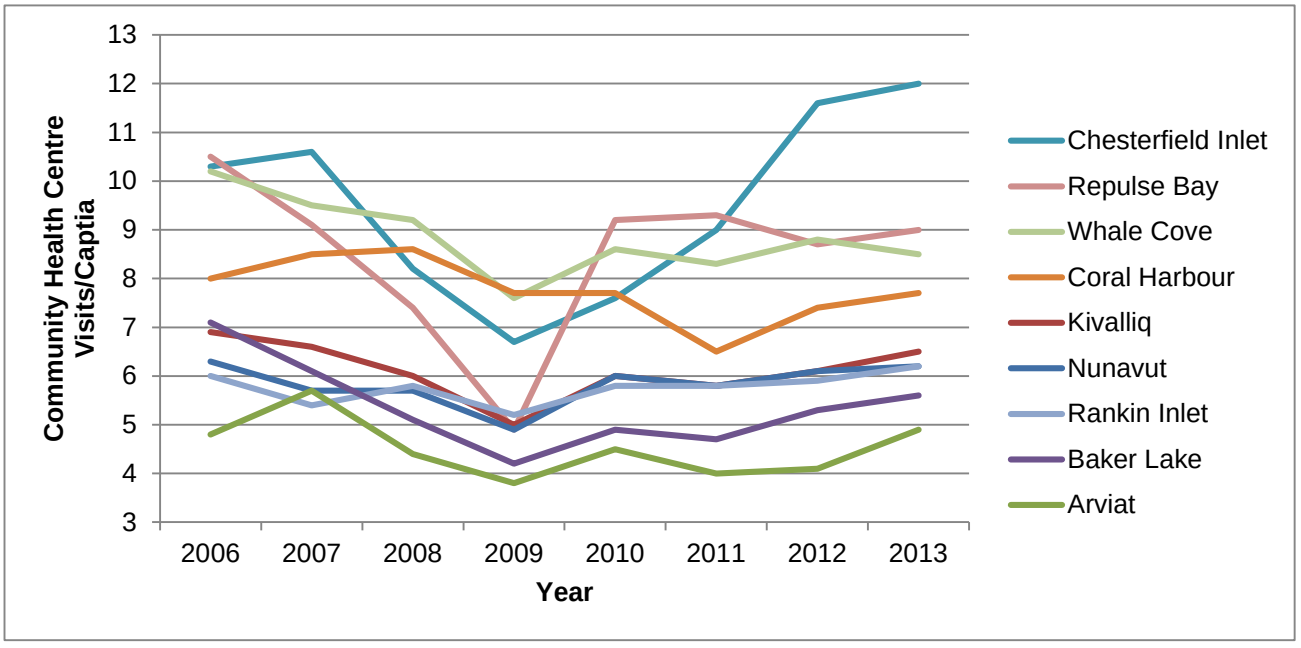


Figure 3.9-1: Community Health Centre Visits per Capita, 2006-2013

Sources: GN – Department of Health (2014); Nunavut Bureau of Statistics (2014e).

The following key observations are evident from this data:

- Kivalliq communities experienced steady or declining community health centre visits per capita between 2006 and 2009.
- Between 2009 and 2010, when Meadowbank operations began, per capita visits increased in every community except Coral Harbour.
- Since 2010, per capita visits have remained relatively steady in all communities except Chesterfield Inlet and Baker Lake. While visits per capita increased in Baker Lake from 2011 to 2013, they remain lower than 2006 and 2007 levels.
- Of those communities with the most Meadowbank employees (Baker Lake, Rankin Inlet and Arviat) health centre visits per capita have not shown a substantial increase since Meadowbank began operating in 2010.
- The data do not suggest that the presence of Meadowbank has influenced the number of community health centre visits overtime in Baker Lake or in the Region. Demand for services has remained relatively stable throughout the eight year period with only small or infrequent annual fluctuations in visits per capita in most communities except Chesterfield Inlet and Repulse Bay.

Increased demand may be an indicator of several factors including an increasing population, an aging population, a disease or illness outbreak, or an increase in demand for regular check-ups or health consultations by otherwise healthy people (e.g., immunizations for children, pregnancy check-ups, etc.). Additional information about these factors could explain the reasons for annual changes in each community, including the noteworthy increase in Chesterfield Inlet between 2009 and 2013.

The Baker Lake Health Centre is staffed by nurses, community health representatives, and support workers (Cumberland Resources Ltd. 2005). Throughout the year, family and specialist physicians visit the community to provide additional medical services. (Cumberland Resources Ltd. 2005). Mental health services, including group, family and one-on-one counselling, suicide prevention and interventions are provided in the community by nursing staff (Cumberland Resources Ltd. 2005). Pregnant women are flown to Rankin Inlet, Churchill or Yellowknife for delivery. If the delivery is considered high risk, the women are flown to Winnipeg (Cumberland Resources Ltd. 2005).

Baker Lake has an alcohol and drug program, a youth drop-in centre, and Elder's centre, a home care program, women's shelter, and counselling services. Addictions workers employed by the Hamlet provide counselling services through the Tunganiq Addiction project (Cumberland Resources Ltd. 2005). The youth drop-in centre has been credited with reducing incidences of vandalism in the community (AREVA 2011).

3.9.3.2 Use of Health Services by Meadowbank Employees

All Agnico Eagle employees at Meadowbank are required to provide a medical health certificate before they are offered a permanent position. In 2014, Agnico Eagle provided new medical exam services at Meadowbank using qualified medical staff brought in from outside Nunavut. These services are provided at no cost to employees.

Table 3.9-3 shows the number of visits by employees to the Agnico Eagle clinic at Meadowbank, the number of visits due to work-related injuries and the number of onsite accidents that required the use of off-site Nunavut health services.

Table 3.9-3: Use of the Agnico Eagle Clinic and Community Health Centres by Employees

Usage	2010	2011	2012	2013
Number of visits by employees to Agnico Eagle clinic	4,500	4,330	3,581	3,268
Number of visits to Agnico Eagle clinic for work-related injuries	573	789	661	627
Number of on-site accidents requiring use of community health centres	14	27	18	47

Source: AEM (2015c).

Since 2011, almost 4 in 5 visits to the Agnico Eagle clinic have been for non-work-related injuries or illnesses. In 2013, the number of on-site accidents requiring use of Nunavut Health Centres (47) represented less than 1% of visits to the Baker Lake Community Health Centre, however, this data alone does not indicate whether a Meadowbank worker is a higher user of community health care services than other community members or visitors.

3.9.4 Social Services

3.9.4.1 Social Assistance

Social Assistance, or income support, is a program for Nunavummiut who, because of inability to obtain employment, loss of principal family provider, illness, disability, age, or any other cause cannot provide adequately for themselves and their dependents (GN – Department of Family Services 2014a). Social assistance is provided by the Government of Nunavut in the form of monthly financial payments to help individuals meets a minimum standard of living. All residents of Nunavut between the ages of 18 and 59 can apply.

Between 2008 and 2011, when Meadowbank mine was constructed and began production, the number of social assistance recipients declined by approximately 15% from 2008 to 2011, in the three communities with the largest representation of Meadowbank employees in the Region (Baker Lake, Rankin Inlet and Arviat) (Stratos Inc. 2015). The relative number of recipients has levelled off or slightly increased in these communities in 2012 and 2013 (Figure 3.9-2). Future monitoring of this data will confirm whether this is the sign of a negative trend or if the number of recipients may drop further in communities where employees and contractors are living.

Per capita social assistance expenditures began to increase in 2010-2011 for several communities (including Baker Lake and Arviat) (Figure 3.9-3), following a period of declining or steady expenditure in earlier years, including a notable decline in 2007/2008 coinciding with the start of Meadowbank's construction. While positive trends in social assistance expenditures and the number of social assistance recipients seem to be associated with the timeline for the construction and operation of Meadowbank, the degree to which these activities have influenced social assistance delivery in the Region remains unclear. Further monitoring and discussion of the factors influencing social assistance expenditures through regional monitoring initiatives may help to determine whether the mine is affecting social assistance needs in the Kivalliq Region overall.

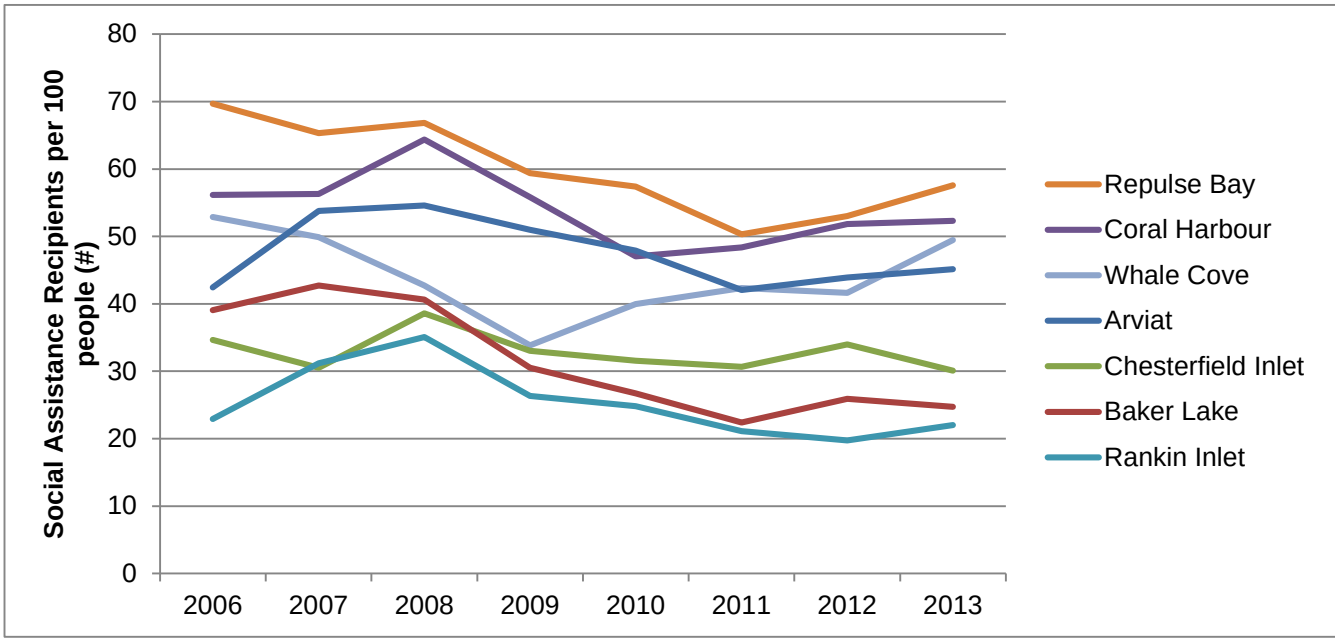


Figure 3.9-2: Social Assistance Recipients (normalized by population) by Kivalliq Community, 2006-2013

Sources: GN – Department of Family Services (2014a); Nunavut Bureau of Statistics (2014e).

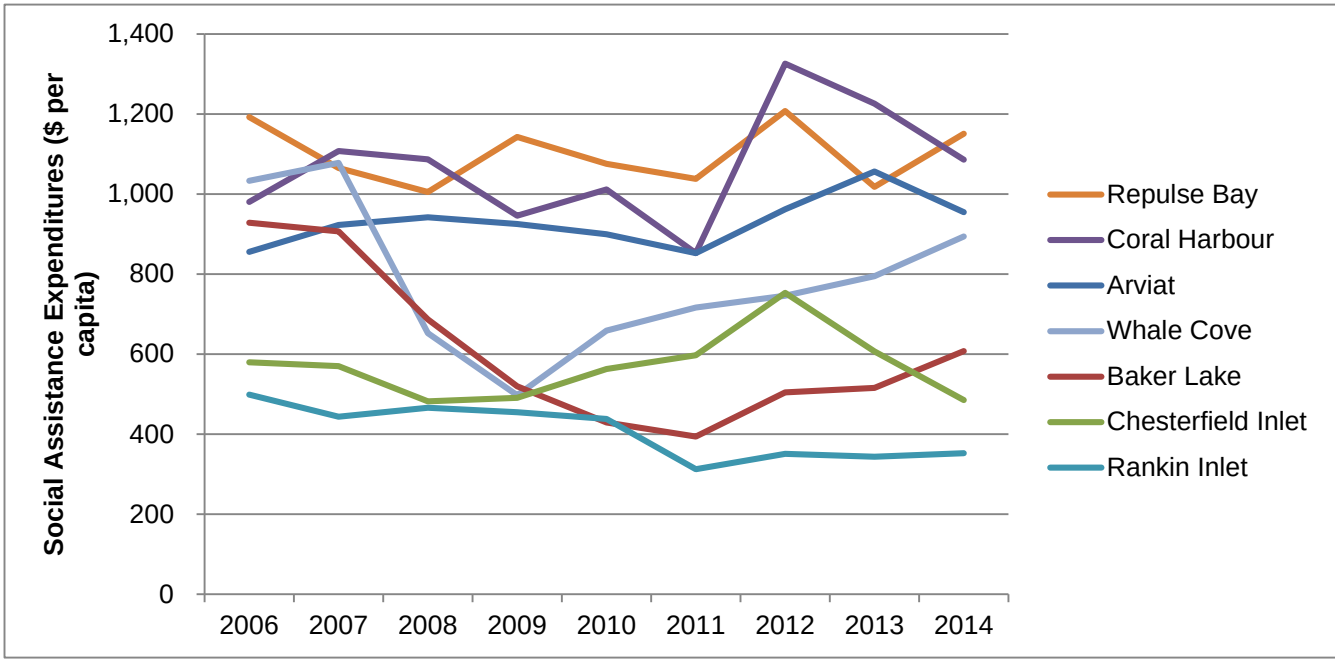


Figure 3.9-3: Per Capita Social Assistance Expenditures by Kivalliq Community, 2006 to 2014

Sources: GN – Department of Family Services (2014b); Nunavut Bureau of Statistics (2014e).

3.9.4.2 Families and Child Care

Children Receiving Care

The number of children receiving Child and Family Services Care are presented in Figure 3.9-4. To control for population growth, the number of children receiving services is also presented as a proportion of the total population under the age 14 in the region and territory. The SEMC monitors this data as an indicator of the health of communities. In general, fewer children are expected to need services in communities with more stable family situations. The data shows that case rates are lowest in the Kivalliq Region and that the trend in the percentage of children receiving care is flat (around 2% of children under 14 years of age). Based on this data, it is unlikely that the presence of the Meadowbank mine is influencing family dynamics in the Region such that more children are receiving care. There is ongoing concern however, that employment of one or more spouses at the mine is affecting familial relationships in a negative way in the community of Baker Lake (Pauktuutit Inuit Women of Canada and the University of British Columbia 2014).

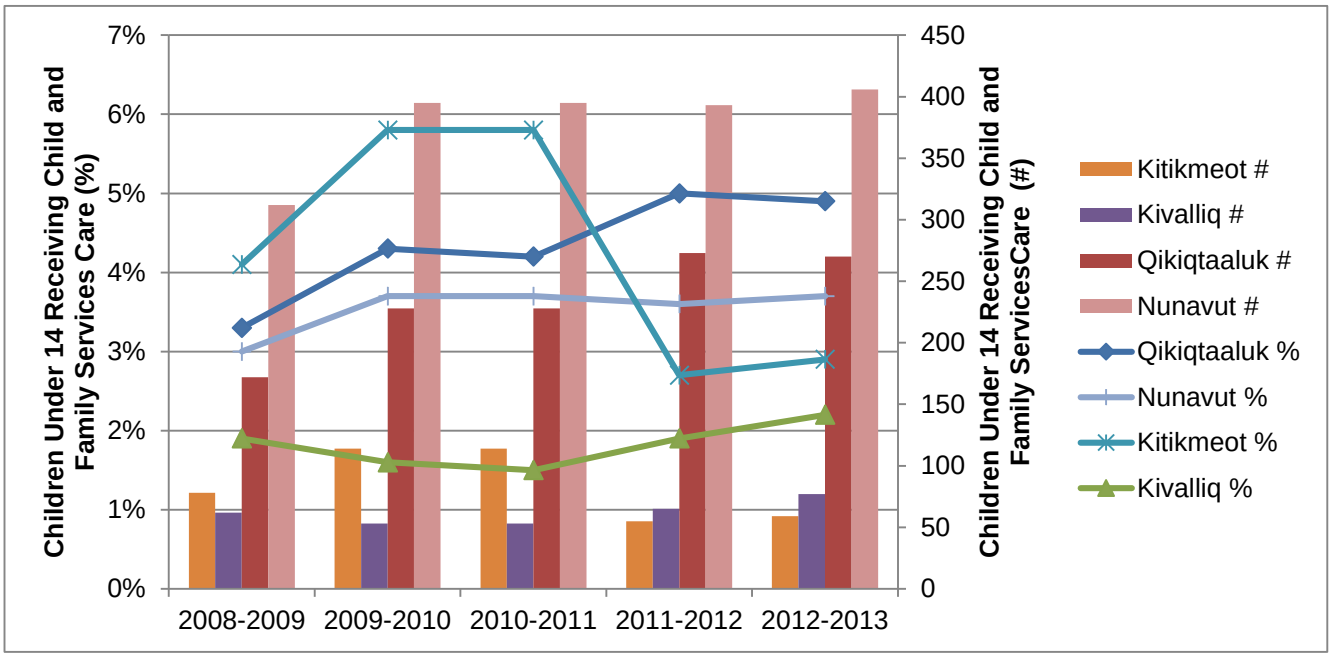


Figure 3.9-4: Children under 14 Receiving Child and Family Services

Sources: GN-HSS (2011, 2012); GN – Department of Family Services (2014c); GN – EDT (2014a).

Note: Yearly child welfare statistics are based on the fiscal year (ending March 31).

% = the number of cases expressed as a percentage of children under the age of 14 for the year end of the fiscal year (e.g., 2008-2009 uses population statistics for 2009 and so on). This data should be interpreted with caution and is considered an estimate and is likely conservative (higher than actual rates). The age group was chosen based on the availability of population statistics for each region. All children under the age of 18 may be eligible to receive care from Child and Family Services.

Family Stress

While not formally studied in Baker Lake, Agnico Eagle has learned through community meetings that the two-week rotation has contributed to spousal stress in Baker Lake, and that gossip and rumours of infidelity are causing relationship problems. A recent study focused on the impacts of mining on Baker Lake women found through discussions with RCMP that the jealousies created by having a partner working away from home for weeks at a time can lead to an increase in domestic abuse files (Pauktuutit Inuit Women of Canada and the University of British Columbia 2014).

Agnico Eagle has reviewed and considered the results and recommendations of the Pauktuutit study. In response, they are currently conducting a third party audit. The audit includes a review of different policies and programs and confidential interviews with Agnico Eagle active and former employees, community representatives, and other stakeholders. Once the audit is completed a report will be submitted to Agnico Eagle that will lead to an action plan to address the concerns raised in the study. Agnico Eagle first and foremost wants to provide a safe workplace for female employees and wants to eliminate any real or perceived employment barriers for women (GN – EDT 2014b).

A recent article in Nunatsiaq Online profiled the experience of two mothers who work at Meadowbank to support their families (Nunatsiaq Online 2014a). They both receive support from family members that look after their children while on rotation, but it is still a stressful situation. When employment options in town are limited and social assistance is not an option, working at the mine is an important means to feed their families. The article quotes the KMTS and describes recent efforts to provide skills training, as well as emotional support for families of employees and potential employees.

The relative impact of the two week in-two week out schedule on families varies greatly according to participants of the 2011 SEMC meeting. Participants indicated that working out of the community for two weeks at a time is a big adjustment for those who are not use to maintaining a strict work schedule. For some, leaving the community for two weeks at a time presents huge challenges for childcare and family obligations. This raises concerns of socio-economic inequality (AEM 2015b). All large projects like Meadowbank have the potential to create inequities in nearby communities as not everyone can benefit equally from employment or contracting opportunities. This can cause disruption where everyone had relatively equal (if equally low) incomes in the past. Changes in income for certain segments of the population (i.e., working age men) can create new social hierarchies and influence community values and dynamics. This has been evident in comments received through community meetings held by the SEMC in recent years.

The Agnico Eagle human resource department is currently aware of the stresses caused by the rotational work and recognize that stress at home impacts work life (Nunatsiaq Online 2014a). In 2014 (in cooperation with its partners, the Kivalliq Mine Training Society and the Kivalliq Partners in Development), Agnico Eagle started delivering the Make it Work Program to its Inuit employees. In its first year 24 employees participated in the program. The Make it Work Program is a workshop where the Inuit employee and his/her spouse learn how to deal with the challenges that they face as a result of the fly-in-fly-out two week rotational work schedule; challenges that they face both on and off the mine site as a result of the family separation. The Make it Work Program teaches both the employee and his/her spouse skills on how to communicate effectively and efficiently through conflict resolution. The length of the program is two and half days and is delivered on site. Through this program employees have gained great confidence in continuing with their work as they no longer need to try an explain to their spouses as to what life experiences they go through in a normal work setting at the mine. The origin of this program is from the October 2014 Ilitaqsiniq Nunavut Literacy Council Report. It is given in partnership with the KMTS.

As part of their Work Readiness Program for the existing Meadowbank mine operations, Agnico Eagle is trying to integrate the future employee's family in the process. In addition, Agnico Eagle has started bringing families to the mine when a person is hired. The purpose of such a visit would be to show families that the mine is a controlled environment and that people work and then relax in the evening (e.g., there are no parties). The hope is that these types of visits will reduce the potential for rumours about extra-marital affairs. The Agnico Eagle human resources department is also looking at working with community groups to see part-time baby-sitting services offered in some of the Kivalliq communities to offer spouses or family members of employees a break from parenting.

3.10 Nunavut Economy

3.10.1.1 Royalties and Taxes Paid by Agnico Eagle

Table 3.10-1 show the compensation, royalties and taxes paid to NTI, the KIA and the Government of Nunavut.

Table 3.10-1: Compensation, Royalties and Taxes Paid

Payment Type	Recipient	Timeframe	Amount ($M)
resource royalties	NTI	Total, 2007-2014	$5.3
compensation (i.e., IIBA implementation costs, quarry and other usage fees)	KIA	Total, 2007-2014	$6.5
payroll taxes	Government of Nunavut	Average Annual Value	$3.0
property taxes	Government of Nunavut	Average Annual Value	$1.1
payroll taxes	Government of Canada	Average Annual Value	$30

Source: Stratos Inc. (2015).

The Meadowbank Mine provides revenue to the Inuit, Nunavut and federal governments through royalties, taxation and compensation paid to the KIA. Given the location of the mine on Inuit-owned lands, all resource royalties flow directly to the NTI as the Inuit government authority. Since 2007, Agnico Eagle has provided $11.8 million to NTI and the KIA.

3.10.1.2 Nunavut's Gross Domestic Product

The top industries in Nunavut (in terms of contribution to real Gross Domestic Product [GDP]) include the following and account for about two thirds of the Nunavut GDP in 2014 ($2.1 billion, 2007 chained dollars) (Nunavut Bureau of Statistics 2015c):

- public administration ($397 million);
- mining, quarrying, and oil and gas extraction ($366 million);
- construction ($343 million);
- educational services ($159 million); and
- health care and social assistance ($110 million).

Between 2010 and 2014 the contribution of the mining and construction industries to GDP increased by $298 million dollars or 72%. This increase accounted for 71% of the increase in GDP in that period (Nunavut Bureau of Statistics 2015c). A detailed table showing Nunavut GDP by industry is available in Appendix A. Therefore, the importance of current mining operations (and related construction) to the Nunavut economy cannot be overstated.

The overall value of Nunavut's GDP, in current prices is show in Figure 3.10-1.

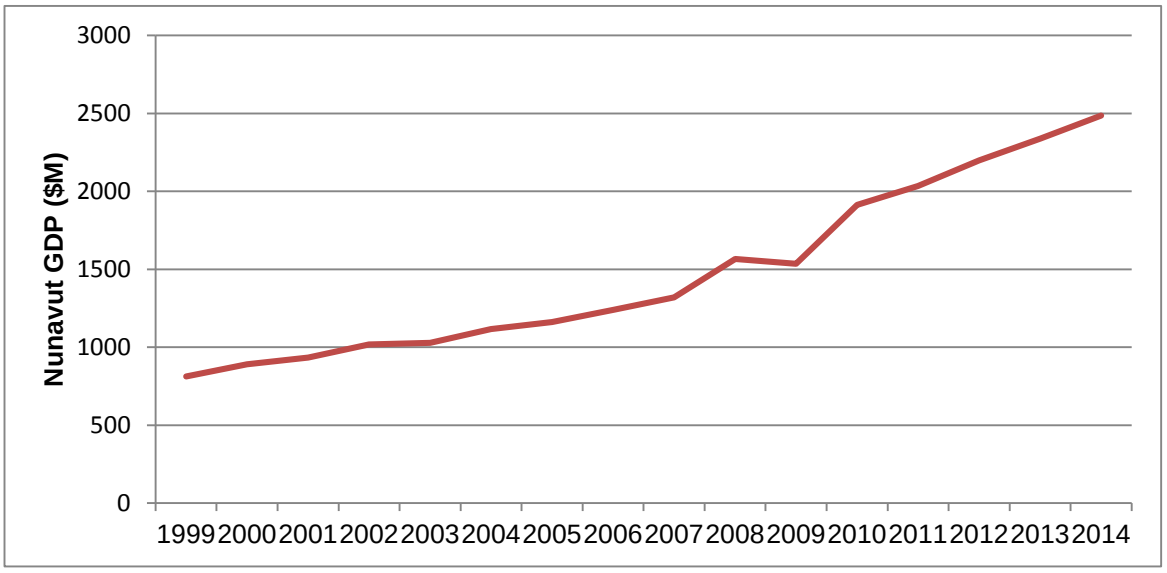


Figure 3. 10-1: Nunavut GDP, current prices, 1999-2014

Source: Statistics Canada 2015c.

A few key findings are evident from the data:

- Nunavut's GDP increased steadily between 1999 and 2008 prior to the global recession in 2009.
- When Meadowbank began production in 2010 Nunavut's GDP began to increase again and at a faster rate.
- Since 2010, (i.e., during Meadowbank's operations phase) these increases ranges from $127 million to $388 million.
- As the only operating mine in the territory, Meadowbank has been a driver of these higher rates of GDP growth since 2010.

4.0 SUMMARY OF KEY RESULTS

The socio-economic baseline presents current information and data for and discusses factors affecting selected indicators of the following Valued-Socio-Economic Components (VSECs):

- Demographics;
- Employment;
- Income;
- Contracting and Business Opportunities;
- Education and Training;
- Culture and Traditional Economy;
- Individual and Community Wellness;
- Community Infrastructure and Services; and
- Nunavut Economy.

Table 4.1 highlights key findings or observations for each VSEC.

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
Demographics	**Population Growth** ■ Average annual population prior to and after Meadowbank construction averaged 2-3% a year in the Kivalliq Region and Baker Lake. ■ Population estimates do not indicate that the construction and operation of Meadowbank has influenced the overall rate of population growth in the Region or in Baker Lake **Migration** ■ Migration and mobility data indicate the Meadowbank may have influenced migration to the Region and to Baker Lake between 2006 and 2011. ■ There has been a gradual increase in the number of Inuit workers moving to southern provinces, from 7 in 2011 to 12 in 2014 (or less than 5% of the Inuit workforce). **Age, Gender and Ethnicity** ■ In Baker Lake between 2006 and 2014: ▪ The male population in increased by 20% (1,019) while the female population increased by 15% (726). ▪ The working age population grew faster in the hamlet than at the regional level. The proportion of the working age population increased from 62% (1,113) to 66% (1,423) of the hamlet's population. The pace of growth of this segment of the population was 3.5% a year on average compared to 2.9% a year in the Kivalliq Region. ▪ The non-Inuit population increased at a faster rate than the Inuit population. The non-Inuit population in Baker Lake has increased by 94% (143) or 11.8% a year, while the Inuit population has increased by 13% (214) or 1.6% a year. The same trend is evident at the regional level although it is not as pronounced.
Employment	**Meadowbank Employment** ■ Female employees are more likely to be employed in temporary positions than permanent positions. ■ In 2014, 15% of Meadowbank employees were female, which is just below the Canadian mining-sector average of 17%. ■ Representation of female employees in Meadowbank's workforce has remained steady between 2012 and 2014. ■ Inuit employees are more likely to be employed in temporary positions than permanent positions and more likely than non-Inuit employees to be employed in temporary positions. ■ Representation of Inuit employees in Meadowbank's workforce has remained steady between 2012 and 2014 (in the range of 31%-34%). ■ There was an increase in the representation of Inuit temporary employees from 71% to 95% between 2012 and 2014. ■ Over this five year period, employees from the Kivalliq Region represented about one third of all Meadowbank employees, over half of which were from Baker Lake. ■ The number of employees from Baker Lake who worked at Meadowbank has increased from 84 employees in 2010, to 155 workers in 2014. **Meadowbank Turnover** ■ In 2014, the turnover rate of Inuit employee's occupying permanent positions increased to 26% from 23% in 2013. However, the global Inuit turnover rate has decreased from 38% to 36%, when considering both permanent and temporary employees.

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
	Labour Force Participation ■ The total Kivalliq labour force increased by 11.1% (360 people) between 2006 and 2011. This timeline coincides with pre-Meadowbank construction (2007) and post-Meadowbank start-up (2010). ▪ The increase in the Baker Lake labour force (130 people), represented over one-third of this increase. ■ The increase in the people employed in Baker Lake between 2006 and 2011 represented over two thirds of the increase in employed people in the Region (105 of 155 people). ■ The increase in the total regional labour force (360 people) and the number of people employed (155 people) between 2006 and 2011 is due in large part to employment opportunities at Meadowbank. **Employment by Industry** ■ The top five industries in the Kivalliq Region in 2011 (in terms of employment) were as follows: 1. public administration; 2. retail trade; 3. educational services; 4. health care and social assistance; and 5. construction. ■ In Baker Lake, the top five industries were: 1. public administration; 2. mining, quarrying, and oil and gas extraction; 3. retail trade; 4. construction; and 5. educational services.
Income	**Income Paid to Meadowbank Inuit Employees** ■ Inuit employment income has remained steady at about $18 million per year since 2011. **Median Income by Kivalliq Community** ■ Baker Lake has had the highest percentage increase in median income of all the Kivalliq communities (59%). ■ Baker Lake is the only community to show above average increases in median income since 2010, when production began at Meadowbank. ■ The highest increases in median income in Baker Lake came between 2007 and 2009, during the Meadowbank construction phase. ■ The trend for increases in median income of taxfilers in Baker Lake is on pace to surpass the regional average for the first time since 2009.
Contracting and Business Opportunities	■ The relative proportion of contract expenditures in the North was over 50% in 2011 and 2012 and dropped to 48% in 2013. In 2014, Nunavut captured 46% of of contract expenditures in Nunavut was 46%, indicating a further downward trend. ■ In absolute dollar terms, the annual value of Agnio Eagle contract expenditures has fallen significantly since 2012, reasons for this decline include:

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
	▪ Postponement of a number of capital projects due to the low price of gold. ▪ Temporary cessation of exploration activity at Meadowbank over the past few years as the company has shifted more of its resources towards the Meliadine exploration project. ■ Expenditures on Inuit-owned businesses (NTI-registered) have been declining since 2012 as well, however, their relative share of contract expenditures is on an upward trend, representing 37% in 2014.
Education and Training	**Education Services** ■ Regional and community-level education services are provided by Kivalliq School Operations, Nunavut Arctic College and the Kivalliq Mine Training Society. **Educational Attainment** ■ While the majority of the Kivalliq Region population 15 years and over have no certificate, diploma or degree, the proportion has decreased from 2006 from 65% to 61% in 2011. ■ In 2011, men in Baker Lake and the Kivalliq Region were three and four times more likely than women to have an apprenticeship or trades certificate or diploma, while women were more likely than men to have a college or university education. ■ From 2006 to 2011, educational attainment in the Kivalliq Region has increased in every measured category, with more people achieving high school diplomas, apprenticeships, college diplomas, and university education. ■ The majority of the Baker Lake population 15 years and over have no certificate, diploma or degree, and this proportion has remained virtually unchanged between 2006 and 2011. ■ From 2006 to 2011, educational attainment in Baker Lake has increased in the percentage of people with high school diplomas and apprenticeships but a lower proportion has received college or university diplomas or degrees. ■ Since 2009, graduation rates in the Kivalliq Region have been higher than the territorial average and the average for both other regions. **Agnico Eagle Investments in Education Initiatives** ■ Agnico Eagle has made total contributions of approximately $284,000/year to a variety of school-based initiatives. ■ AEM's financial investments in externally-delivered training programs have been steady at just under $4 million per year for the past three years, with the Kivalliq Mine Training Society being the largest recipient. **Training at Meadowbank** ■ The scope of, and participation in, in-house training and apprenticeship programs have been relatively consistent throughout the mine's operation ■ Annual fluctuations in the number of specific training hours and haul truck driver program graduates largely reflect changing demand at Meadowbank for additional positions for which specific training is provided.
Culture and Traditional Economy	**Language** ■ There appears to be a decline in the use of Aboriginal language (i.e., Inuktitut) in the home. This trend seems to be more severe in Baker Lake than in the Kivalliq Region. **Traditional Economy**

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
	■ Average participation in traditional activities in Kivalliq communities is higher than in Nunavut as a whole. Among Kivalliq communities, participation in hunting and fishing is lowest in Baker Lake and Rankin Inlet. ■ Community representatives have reported to Agnico Eagle an increase in the number of trips on the land by those with income from the mine. Others have suggested that the stress associated with life in a community, and increasingly work and school schedules, limit the length of time that individuals can spend on the land. ■ Current mine operational impacts on harvesting activities have been discussed more frequently during ongoing community consultations than general environmental impacts, and seem to the most important environmental concern for Baker Lake residents.
Individual and Community Health and Wellness	**Food Security** ■ While food prices elsewhere in Canada increased approximately 5.5% between 2011 and 2014, the average cost of the RNFB fell by 11.3% or $51.99 in the Kivalliq Region. ■ Food costs in Baker Lake are among the lowest in the Region and that cost of the RFNB decreased by about $73 or 16% between 2011 and 2014. **Sexual Health** ■ Unlike, other regions in the territory, the Kivalliq Region experienced increasing STI rates in 2009 and 2011 and by 2011 had the highest STI rates in Nunavut. **Crime** ■ Baker Lake and Rankin Inlet have both experienced large increases in crime rates as Meadowbank entered its production phase in 2009 and 2010, but rates have since levelled off and started to decrease in 2011. ■ In Baker Lake, rates of mischief, disturbing the peace, and harassment and theft more than doubled or tripled in the years since the mine began production (2010-2012). The rates of more serious crimes including assault and sexual assault also increased substantially (49%-82%) during this same period. ■ In Baker Lake, rates for most types of violations decreased in 2013 (except assault, impaired driving, and drug violations), coinciding with the decrease in the overall crime rate. **Housing** ■ In 2014, the NHC estimated that 3,580 new social housing units were required to meet Nunavut's immediate housing needs, with an additional 90 units per year. ■ In 2010, there were 1,120 persons aged 15 years and over (17% of the total population 15 years and over) in Kivalliq who were on the public housing wait list. ■ Housing conditions in Kivalliq and Baker Lake are poorer than for Nunavut as a whole. In 2011: ▪ 37% of private households in the Kivalliq Region and 32% of private households in Baker Lake did not have a suitable size and number of bedrooms for their occupants compared to 31% in Nunavut as a whole. **Suicide**

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
	■ Suicide rates in the Kivalliq region do not follow a discernable trend. Overall, however, suicide rates in Nunavut are 13 times higher than in Canada as a whole. **Worker Health and Safety** ■ Lost-time and light duty incident frequency has decreased substantially and consistently since 2011, as have visits to the Meadowbank clinic for work-related injuries. ■ The data suggests that the Meadowbank clinic serves and important function in addressing non-work related health and medical conditions amongst workers.
Community Infrastructure and Services	**Physical Infrastructure** ■ Agnico Eagle's use of public physical infrastructure consists of use of Baker Lake airport (300-400 passenger trips/year), use of other Nunavut airports (200-400 passenger trips/year), and use of the Baker Lake Community Centre (5-10 times per year). ■ Infrastructure needs identified by third party consultants in Baker Lake include: ▪ a new freight storage facility; ▪ increasing capacity of the Baker Lake Airport terminal and expansion of the airstrip; ▪ a marshalling area for materials and supplies and relocation of the marine dock; ▪ minor repairs to the fire hall and community fire truck; ▪ review of search and rescue equipment needs; ▪ additional outdoor recreational facilities; ▪ enlargement of playgrounds; ▪ relocation of the baseline diamond; ▪ installation of a concrete pad in the arena and upgrades to the arena; ▪ a new swimming pool; ▪ an additional sewage truck; ▪ a piped water and sewage system; and ▪ increased bulk fuel storage capacity. **Health Services** ■ Kivalliq communities experienced steady or declining community health centre visits per capita between 2006 and 2009. ■ Between 2009 and 2010, when Meadowbank operations began, per capita visits increased in every community except Coral Harbour. ■ Since 2010, per capita visits have remained relatively steady in all communities except Chesterfield Inlet and Baker Lake. While visits per capita increased in Baker Lake from 2011 to 2013, they remain lower than 2006 and 2007 levels.

Table 4-1: Summary of Key Results

Valued Socio-Economic Component	Key Results
	■ Of those communities with the most Meadowbank employees (Baker Lake, Rankin Inlet and Arviat) health centre visits per capita have not shown a substantial increase since Meadowbank began operating in 2010. ■ The data do not suggest that the presence of Meadowbank has influenced the number of community health centre visits overtime in Baker Lake or in the Region. Demand for services has remained relatively stable throughout the eight year period with only small or infrequent annual fluctuations in visits per capita in most cases. ■ The number of employees referred to community health centres for personal or work-related reasons ranged from 14 to 47 people per year and has been highest in recent years. ■ In 2013, the number of on-site accidents requiring use of Nunavut Health Centres (47) represented less than 1% of visits to the Baker Lake Community Health Centre. This data alone does not indicate whether a Meadowbank worker is a higher user of community health care services than other community members or visitors. **Social Services** ■ Between 2008 and 2011, when Meadowbank mine was constructed and began production, the number of social assistance recipients declined by approximately 15%, in the three communities with the largest representation of Meadowbank employees in the Region (Baker Lake, Rankin Inlet and Arviat). ■ Per capita social assistance expenditures began to increase in 2010-2011 for several communities (including Baker Lake and Arviat), following a period of declining or steady expenditure in earlier years, including a notable decline in 2007/2008. ■ Data for the percentage of children under 14 receiving child and family services care shows that case rates are lowest in the Kivalliq Region and that the trend in the percentage of children receiving care is flat (around 2%).
Nunavut Economy	**Royalties and Taxes Paid** ■ Since 2007, Agnico Eagle has provided $11.8 million to NTI and the KIA. ■ Employment taxes at Meadowbank provide $30 million on average per year to the federal government, $3 million on average per year to the Government of Nunavut. ■ Property taxes paid to the Government of Nunavut are by Agnico Eagle are on average $1.1 million per year. **Nunavut GDP** ■ As the only operating mine in the territory, Meadowbank has been a driver of Nunavut's GDP growth since 2010.

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APPENDIX A

Detailed Statistics

Demographics

Table 1: Demographic Profile of the Kivalliq Region, 2006 to 2014

Demographics	2006		2007		2008		2009		2010		2011		2012		2013		2014	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Population	8,722	100	8,949	100	9,117	100	9,301	100	9,511	100	9,755	100	9,928	100	10,187	100	10,467	100
Gender																		
Male	4,430	50.8	4,560	51.0	4,668	51.2	4,777	51.4	4,900	51.5	5,059	51.9	5,155	51.9	5,285	51.9	5,449	52.1
Female	4,292	49.2	4,389	49.0	4,449	48.8	4,524	48.6	4,611	48.5	4,696	48.1	4,773	48.1	4,902	48.1	5,018	47.9
Age																		
14 years and younger	3,118	35.7	3,158	35.3	3,215	35.3	3,235	34.8	3,315	34.9	3,421	35.1	3,442	34.7	3,509	34.4	3,583	34.2
15-64	5,356	61.4	5,532	61.8	5,618	61.6	5,787	62.2	5,913	62.2	6,042	61.9	6,175	62.2	6,370	62.5	6,562	62.7
65+	248	2.8	259	2.9	284	3.1	279	3.0	283	3.0	292	3.0	311	3.1	308	3.0	321	3.1
Population 15 years and over	5,604	64.3	5,791	64.7	5,902	64.7	6,066	65.2	6,196	65.1	6,334	64.9	6,486	65.3	6,678	65.6	6,883	65.8
Ethnicity																		
Inuit	7,889	90.4	8,081	90.3	8238	90.4	8,370	90.0	8,517	89.5	8,706	89.2	8,837	89.0	9,028	88.6	9,189	87.8
Non-Inuit	833	9.6	868	9.7	879	9.6	931	10.0	994	10.5	1,049	10.8	1,091	11.0	1,159	11.4	1,278	12.2
Migration																		
Net interprovincial migration	-59		-107		-9		-25		19		-52		-9		88		n/a	
Net intraprovincial migration	10		22		-45		4		45		37		-12		-12		n/a	

Sources: Nunavut Bureau of Statistics (2014a,b,c); Statistics Canada (2015a).

Note: Population total includes unorganized areas and outpost camps.

Table 2: Demographic Profile of Baker Lake, 2006 to 2014

Demographics	2006		2007		2008		2009		2010		2011		2012		2013		2014	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Population	1,807	100	1,846	100	1,890	100	1,951	100	2,010	100	2,051	100	2,076	100	2,117	100	2,164	100
Gender																		
Male	947	52.4	973	52.7	996	52.7	1,030	52.8	1,072	53.3	1,101	53.7	1,110	53.5	1,138	53.8	1,163	53.7
Female	860	47.6	873	47.3	894	47.3	921	47.2	938	46.7	950	46.3	966	46.5	979	46.2	1,001	46.3
Age of Population																		
14 years and younger	614	34.0	609	33.0	609	32.2	622	31.9	635	31.6	637	31.1	640	30.8	650	30.7	669	30.9
15-64	1,113	61.6	1,158	62.7	1,201	63.5	1,251	64.1	1,298	64.6	1,335	65.1	1,355	65.3	1,391	65.7	1,425	65.9
65+ (%)	80	4.4	79	4.3	80	4.2	78	4.0	77	3.8	79	3.9	81	3.9	76	3.6	70	3.2
Population 15 years and over	1,193	66.0	1,237	67.0	1,281	67.8	1,329	68.1	1,375	68.4	1,414	68.9	1,436	69.2	1,467	69.3	1,495	69.1
Ethnicity																		
Inuit	1,655	91.6	1,681	91.1	1698	89.8	1,729	88.6	1764	87.8	1,796	87.6	1826	88	1,850	87.4	1,869	86.4
Non-Inuit	152	8.4	165	8.9	192	10.2	222	11.4	246	12.2	255	12.4	250	12	267	12.6	295	13.6

Sources: Nunavut Bureau of Statistics (2014a,b,c).

Table 3: Nunavut Population Projections, 2015 to 2023

Total	2015	2016	2017	2018	2019	2020	2021	2022	2023
Nunavut	**37,099**	**37,667**	**38,232**	**38,805**	**39,377**	**39,951**	**40,523**	**41,086**	**41,641**
Qikiqtaaluk Region	19,751	20,035	20,319	20,609	20,896	21,187	21,476	21,764	22,041
Kivalliq Region	10,653	10,856	11,057	11,260	11,464	11,673	11,880	12,083	12,288
Kitikmeot Region	6,695	6,776	6,857	6,936	7,016	7,091	7,166	7,239	7,312

Source: Nunavut Bureau of Statistics (2014d).

Note: Region totals include unorganized areas and outpost camps.

Table 4: Kivalliq Region Population Projections by Community, 2015 to 2035

Total	2015	2016	2017	2018	2019	2020	2021	2022	2023	Average Annual Change (%)
Kivalliq	**10,653**	**10,856**	**11,057**	**11,260**	**11,464**	**11,673**	**11,880**	**12,083**	**12,288**	**1.8**
Arviat	2,671	2,737	2,804	2,870	2,937	3,006	3,075	3,143	3,210	2.3
Baker Lake	2,194	2,229	2,264	2,299	2,333	2,369	2,404	2,435	2,468	1.5
Chesterfield Inlet	392	398	402	407	413	418	423	428	433	1.3
Coral Harbour	979	998	1,016	1,034	1,053	1,073	1,093	1,112	1,131	1.8
Rankin Inlet	2,864	2,908	2,953	2,998	3,046	3,093	3,139	3,185	3,228	1.5
Repulse Bay	1,091	1,118	1,144	1,170	1,195	1,220	1,244	1,272	1,302	2.2
Whale Cove	461	468	474	481	488	494	502	509	515	1.4

Source: Nunavut Bureau of Statistics (2014d).

Note: Region totals include unorganized areas and outpost camps.

Employment

Table 5: Meadowbank Employees on Agnico Eagle Payroll

Agnico Eagle Employees at Meadowbank Mine	2012		2013		2014	
	#	%	#	%	#	%
Number of employees who are permanent employees	**673**	**85.5**	**672**	**87.8**	**693**	**88.0**
of these employees who are Inuit/Nunavummiut	166	24.7	158	23.5	179	25.8
of these employees who are female	74	11.0	41	6.1	89	12.8
Number of employees who are temporary employees	**114**	**14.5**	**93**	**12.15**	**95**	**12.0**
of these employees who are Inuit	81	71.1	86	92.5	90	94.7
of these employees who are female	40	35.1	36	38.7	31	32.6
Total number of employees	**787**	**100.0**	**765**	**100**	**788**	**100.0**
of these employees who are Inuit/Nunavummiut	247	31.4	244	31.9	269	34.1
of these employees who are female	114	14.5	77	10.1	120	15.2

Sources: AEM (2013, 2014a, 2015a).

Table 6: Positions Held by Inuit/Nunavummiut at Meadowbank Mine by Skill Level

Skill Level of Position	2012		2013		2014	
	#	%	#	%	#	%
Management	1	0.4	n/a	n/a	n/a	n/a
Skilled	30	12.1	22	9.0	35	13.0
Semi-skilled	90	36.4	175	71.7	183	68.0
Unskilled	126	51.0	47	19.3	51	19.0
Total	**247**	**100**	**244**	**100**	**269**	**100**

Sources: AEM (2013, 2014a, 2015a).

Table 7: Home Communities of Nunavut-Based Employees at Meadowbank Mine

Community	2010		2011		2012		2013		2014	
	#	%	#	%	#	%	#	%	#	%
Arviat	26	17.4	48	19.3	44	17.8	28	11.5	38	14.1
Baker Lake	84	56.4	138	55.4	154	62.3	162	66.4	155	57.6
Chesterfield Inlet	4	2.7	5	2.0	5	2.0	3	1.2	3	1.1
Coral Harbor	6	4.0	4	1.6	1	0.4	3	1.2	5	1.9
Rankin Inlet	24	16.1	35	14.1	29	11.7	31	12.7	44	16.4
Repulse Bay	3	2.0	2	0.8	2	0.8	4	1.6	10	3.7
Whale Cove	2	1.3	10	4.0	2	0.8	3	1.2	2	0.7
others	-	0.0	7	2.8	10	4.0	10	4.1	12	4.5
Total	**149**	**100.0**	**249**	**100.0**	**247**	**100.0**	**244**	**100.0**	**269**	**100.0**

Sources: AEM (2013, 2014a, 2015a).

Table 8: Labour Force Participation in Kivalliq Region, 2001, 2006 and 2011

Labour Force Participation	2001			2006			2011		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Persons 15 years and older	n/a	n/a	n/a	5,255	2,660	2,595	5,730	2,955	2,780
In the Labour Force	n/a	n/a	n/a	3,240	1,695	1,545	3,600	1,940	1,660
Employed	2,435	1,255	1,175	2,730	1,375	1,355	2,885	1,505	1,380
Unemployed	n/a	n/a	n/a	510	320	190	710	435	280
Not in the labour force	n/a	n/a	n/a	2,015	970	1050	2,135	1,020	1,120
Participation Rate (%)	66.9	69.2	64.5	61.7	63.7	59.5	62.8	65.7	59.7
Employment Rate (%)	54.4	55.3	53.4	52.0	51.7	52.2	50.3	50.9	49.6
Unemployment Rate (%)	18.6	19.7	16.9	15.7	18.9	12.3	19.7	22.4	16.9

Sources: Statistics Canada (2001d, 2007b, 2013a).

Note: Totals may not add up due to rounding by Statistics Canada.

Table 9: Labour Force Participation in Baker Lake, 2001, 2006 and 2011

Labour Force	2001			2006			2011		
	Total	Male	Female	Total	Total	Total	Total	Male	Female
Persons 15 years and older	n/a	n/a	n/a	1,115	585	535	1,270	665	600
In the Labour Force	n/a	n/a	n/a	660	360	295	790	445	350
Employed	445	230	210	535	270	255	640	350	285
Unemployed	n/a	n/a	n/a	125	90	35	150	95	55
Not in the labour force	n/a	n/a	n/a	460	220	240	480	220	255
Participation Rate (%)	65.0	66.0	64.0	59.2	61.5	55.1	62.2	66.9	58.3
Employment Rate (%)	48.6	48.9	47.2	48	46.2	47.7	50.4	52.6	47.5
Unemployment Rate (%)	26.1	25.8	26.3	18.9	25	11.9	19.0	21.3	15.7

Sources: Statistics Canada (2001e, 2007a, 2013b).

Note: Totals may not add up due to rounding by Statistics Canada.

Table 10: Employment by Industry in the Kivalliq Region, 2006 and 2011

Industry	2006						2011					
	Total		Male		Female		Total		Male		Female	
	#	%	#	%	#	%	#	%	#	%	#	%
Total labour force population	**3,065**	**100.0**	**1,590**	**51.9**	**1,470**	**48.0**	**3,600**	**100.0**	**1,935**	**53.8**	**1,660**	**46.1**
Agriculture, forestry, fishing and hunting	125	4.1	90	5.7	30	2.0	15	0.4	10	0.5	0	0.0
Mining, quarrying, and oil and gas extraction							235	6.5	190	9.8	50	3.0
Utilities	n/a	n/a	n/a	n/a	n/a	n/a	45	1.3	30	1.6	20	1.2
Construction	190	6.2	180	11.3	10	0.7	270	7.5	265	13.7	15	0.9
Manufacturing	55	1.8	30	1.9	25	1.7	25	0.7	20	1.0	10	0.6
Wholesale trade	50	1.6	35	2.2	10	0.7	60	1.7	35	1.8	25	1.5
Retail trade	390	12.7	185	11.6	205	13.9	455	12.6	175	9.0	275	16.6
Transportation and warehousing	n/a	n/a	n/a	n/a	n/a	n/a	215	6.0	170	8.8	50	3.0
Information and cultural industries	n/a	n/a	n/a	n/a	n/a	n/a	50	1.4	30	1.6	20	1.2
Finance and insurance	145	4.7	105	6.6	45	0.0	30	0.8	10	0.5	15	0.9
Real estate and rental and leasing							140	3.9	100	5.2	35	2.1
Professional, scientific and technical services	n/a	n/a	n/a	n/a	n/a	n/a	45	1.3	25	1.3	20	1.2
Management of companies and enterprises	n/a	n/a	n/a	n/a	n/a	n/a	0	0.0	0	0.0	0	0.0
Administrative and support, waste management and remediation services	n/a	n/a	n/a	n/a	n/a	n/a	45	1.3	30	1.6	20	1.2
Educational services	450	14.7	150	9.4	305	20.7	370	10.3	120	6.2	250	15.1
Health care and social assistance	335	10.9	55	3.5	280	19.0	280	7.8	60	3.1	220	13.3
Arts, entertainment, and recreation	n/a	n/a	n/a	n/a	n/a	n/a	55	1.5	40	2.1	15	0.9
Accommodation and food services	n/a	n/a	n/a	n/a	n/a	n/a	155	4.3	50	2.6	105	6.3
Other services	n/a	n/a	n/a	n/a	n/a	n/a	60	1.7	35	1.8	20	1.2
Public administration	n/a	n/a	n/a	n/a	n/a	n/a	830	23.1	435	22.5	400	24.1
Business Services	360	11.7	250	15.7	110	7.5	n/a	n/a	n/a	n/a	n/a	n/a
Other Services	960	31.3	510	32.1	450	30.6	n/a	n/a	n/a	n/a	n/a	n/a

Sources: Statistics Canada (2007b, 2013a).

Notes: Statistics Canada's 2006 Community Profile and the 2011 National Household Survey used different categories of industry classifications; therefore comparable data for each category is not available. Some categories from the 2006 Community Profile have been disaggregated in 2011 into separate categories. Totals may not add up due to rounding by Statistics Canada.

n/a = not available.

Table 11: Employment by Industry in Baker Lake, 2006 and 2011

Industry	2006						2011					
	Total		Male		Female		Total		Male		Female	
	#	%	#	%	#	%	#	%	#	%	#	%
Total labour force population	**615**	**100**	**335**	**100**	**275**	**100**	**790**	**100**	**445**	**100**	**350**	**100**
Agriculture, forestry, fishing and hunting	45	7.3	25	7.5	20	7.3	0	0.0	0	0.0	0	0.0
Mining, quarrying, and oil and gas extraction							125	15.8	95	21.3	30	8.6
Utilities	n/a	n/a	n/a	n/a	n/a	n/a	20	2.5	0	0.0	15	4.3
Construction	40	6.5	35	10.4	10	3.6	75	9.5	70	15.7	10	2.9
Manufacturing	10	1.6	0	0.0	10	3.6	0	0.0	0	0.0	0	0.0
Wholesale trade	15	2.4	10	3.0	0	0.0	0	0.0	0	0.0	0	0.0
Retail trade	95	15.4	45	13.4	50	18.2	105	13.3	40	9.0	65	18.6
Transportation and warehousing	n/a	n/a	n/a	n/a	n/a	n/a	60	7.6	40	9.0	20	5.7
Information and cultural industries	n/a	n/a	n/a	n/a	n/a	n/a	10	1.3	0	0.0	0	0.0
Finance and insurance	20	3.3	20	6.0	10	3.6	0	0.0	0	0.0	0	0.0
Real estate and rental and leasing							25	3.2	20	4.5	10	2.9
Professional, scientific and technical services	n/a	n/a	n/a	n/a	n/a	n/a	0	0.0	0	0.0	0	0.0
Management of companies and enterprises	n/a	n/a	n/a	n/a	n/a	n/a	0	0.0	0	0.0	0	0.0
Administrative and support, waste management and remediation services	n/a	n/a	n/a	n/a	n/a	n/a	0	0.0	0	0.0	0	0.0
Educational services	95	15.4	30	9.0	60	21.8	75	9.5	20	4.5	55	15.7
Health care and social assistance	60	9.8	10	3.0	45	16.4	40	5.1	0	0.0	40	11.4
Arts, entertainment and recreation	n/a	n/a	n/a	n/a	n/a	n/a	10	1.3	15	3.4	0	0.0
Accommodation and food services	n/a	n/a	n/a	n/a	n/a	n/a	40	5.1	15	3.4	25	7.1
Other services	n/a	n/a	n/a	n/a	n/a	n/a	10	1.3	0	0.0	10	2.9
Public administration	n/a	n/a	n/a	n/a	n/a	n/a	130	16.5	80	18.0	45	12.9
Business Services	60	9.8	50	14.9	10	3.6	n/a	n/a	n/a	n/a	n/a	n/a
Other Services	170	27.6	100	29.9	70	25.5	n/a	n/a	n/a	n/a	n/a	n/a

Sources: Statistics Canada (2007a, 2013b).

Note: Statistics Canada's 2006 Community Profile and the 2011 National Household Survey used different categories of industry classifications; therefore, comparable data for each category is not available. Some categories from the 2006 Community Profile have been disaggregated in 2011 into separate categories. Totals may not add up due to rounding by Statistics Canada.

n/a = not available.

Income

Table 12: Median Total Income of Taxfilers by Community (%), 2004-2013

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Arviat	$16,700	$19,500	$19,100	$19,200	$20,380	$19,970	$21,690	$23,020	$22,600	$21,330
Baker Lake	$16,800	$17,100	$17,800	$20,510	$22,780	$24,210	$24,070	$25,120	$26,500	$26,680
Chesterfield Inlet	$21,600	$24,100	$27,700	$30,000	$29,260	$28,700	$29,070	$27,740	$28,040	$27,500
Coral Harbour	$18,600	$19,000	$20,200	$17,720	$18,250	$18,530	$19,680	$19,860	$21,400	$22,180
Rankin Inlet	$28,500	$29,400	$30,800	$31,100	$32,330	$33,740	$34,610	$36,480	$39,080	$39,930
Repulse Bay	$17,400	$17,300	$17,100	$17,660	$18,720	$18,000	$19,460	$22,240	$23,760	$21,480
Whale Cove	$20,400	$21,000	$23,700	$22,630	$24,210	$21,840	$22,010	$21,560	$22,770	$18,640
Kivalliq Region	$19,900	$21,000	$22,000	$22,320	$23,630	$23,760	$24,790	$26,250	$26,970	$26,580

Source: Nunavut Bureau of Statistics (2015a).

Contracting and Business Opportunities

Table 13: Agnico Eagle Contract Expenditures

Businesses	$/%[a]	2007-2010 (Construction)	2011	2012	2013	Total
Baker Lake Businesses	$	108,156,042	78,849,786	120,438,792	81,882,111	**389,326,731**
	%	8.6	22.4	30.8	22.5	**16.4**
Nunavut Businesses	$	347,445,670	190,481,655	230,319,652	171,871,274	**940,118,251**
	%	27.6	54.0	58.8	47.3	**39.7**
Northern Businesses (NU and NWT)	$	519,256,846	205,121,222	231,570,321	172,980,838	**1,128,929,227**
	%	41.2	58.2	59.2	47.6	**47.7**
Canadian	$	1,260,413,840	352,463,982	391,452,712	363,413,892	**2,367,744,426**
	%	100	100	100	100	**100**

Source: AEM (2015c).

[a] Percentage of total contract expenditures in Canada.

Education and Training

Table 14: Educational Attainment in the Kivalliq Region, 2006 and 2011

Highest Level of Educational Attainment	2006			2011		
	Total	Male	Female	Total	Male	Female
Total population aged 15 years and over	5,255	2,660	2,595	5,735	2,955	2,780
No certificate, diploma or degree (%)	64.6	63.5	65.7	60.9	58.0	64.0
High school diploma or equivalent (%)	10.1	9.0	11.0	12.8	12.5	13.3
Apprenticeship or trades certificate or diploma (%)	6.4	10.2	2.5	7.8	12.5	2.9
College, CEGP or other non-university certificate or diploma (%)	10.8	9.8	11.8	10.9	10.3	11.3
University certificate, diploma or degree at bachelor level or above (%)	6.4	5.6	7.1	6.8	5.9	7.6

Sources: Statistics Canada (2007b, 2013a).

Note: Totals may not add up due to rounding by Statistics Canada.

Table 15: Educational Attainment in Baker Lake, 2006 and 2011

Educational Attainment	2006			2011		
	Total	Male	Female	Total	Male	Female
Total population aged 15 years and over by highest certificate, diploma or degree	1,115	585	530	1,270	665	605
No certificate, diploma or degree (%)	66.4	64.1	68.9	66.9	65.4	68.6
High school diploma or equivalent (%)	10.3	10.3	10.4	13.4	13.5	13.2
Apprenticeship or trades certificate or diploma (%)	6.7	10.3	2.8	7.1	9.8	3.3
College, CEGP or other non-university certificate or diploma (%)	10.3	9.4	10.4	5.9	5.3	7.4
University certificate, diploma or degree at bachelor level or above (%)	6.3	5.1	7.5	5.5	4.5	7.4

Note: Totals may not add up due to rounding by Statistics Canada.

Sources: Statistics Canada (2007a; 2013d).

Table 16: Training Hours for Agnico Eagle Employees (2011 to 2014)

Employees	2011[(a)]	2012	2013	2014
Inuit Employees	22,060	8,662	13,530	14,344
Non-Inuit Employees	16,027	16,506	15,054	18,398
Total	**38,087**	**25,168**	**28,584**	**32,742**

Sources: AEM (2013, 2014a, 2015b).

[(a)] Data for 2011 is for Nunavut and non-Nunavut Based Employees.

Culture and Traditional Lifestyle

Table 17: Use and Knowledge of Aboriginal Language in the Kivalliq Region, 2001, 2006, and 2011

Use and Knowledge of an Aboriginal Language	2001	2006	2011
% of the Aboriginal identity population whose mother tongue is an Aboriginal Language	86.7[(a)]	87.2	85.0
% of the Aboriginal identity population who speak an Aboriginal language most often at home	90.0[(b)]	66.6	62.7
% of the Aboriginal identity population with knowledge of Aboriginal languages	95.5	95.1	94.8

Sources: Statistics Canada (2001a, 2007c, 2013c).

(a) 2001 data for this category was categorized as "% of the Aboriginal identity population with Aboriginal language(s) first learned and still understood.

(b) 2001 data for this category was categorized as "% of the Aboriginal identity population with Aboriginal language(s) spoken at home.

Table 18: Use and Knowledge of Aboriginal Language in Baker Lake, 2001, 2006, and 2011

Use and Knowledge of Aboriginal Language	2001	2006	2011
% of the Aboriginal identity population whose mother tongue is an Aboriginal Language	75.2[(a)]	69.2	69.3
% of the Aboriginal identity population who speak an Aboriginal language most often at home	80.9[(b)]	28.5	28.9
% of the Aboriginal identity population with knowledge of Aboriginal languages	92.6	88.8	87.1

Sources: Statistics Canada (2001b, 2007d, 2013e).

(a) 2001 data for this category was defined as "% of the Aboriginal identity population with Aboriginal language(s) first learned and still understood.

(b) 2001 data for this category was defined as "% of the Aboriginal identity population with Aboriginal language(s) spoken at home.

Table 19: Traditional Activities and Harvesting in the Past 12 Months, 2006

	Hunting	Fishing	Gathering Wild Plants	Trapping
Nunavut	71	76	79	30
Arviat	81	80	86	42
Baker Lake	68	77	87	44
Coral Harbour	71	81	76	53
Rankin Inlet	67	71	81	x
Repulse Bay	82	85	78	46

Sources: Statistics Canada (2011a-f).

x = suppressed to meet the confidentiality requirements of the *Statistics Act*

Individual and Community Health and Wellness

Table 20: Cost of the Revised Northern Food Basket ($), 2011 to 2014

Kivalliq Community	2011	2012	2013	March 2014	Change 2011 to March 2014	
					$	%
Arviat	$463.23	$425.71	$411.44	$401.27	-61.96	-13.4
Baker Lake	$465.13	$435.06	$408.01	$392.41	-72.72	-15.6
Chesterfield Inlet	$463.80	$446.58	$417.58	$400.55	-63.25	-13.6
Coral Harbour	$476.35	$437.29	$429.31	$441.67	-34.68	-7.3
Rankin Inlet	$431.35	$407.99	$398.91	$391.98	-39.37	-9.1
Repulse Bay	$459.22	$424.34	$417.46	$419.27	-39.95	-8.7
Regional Average	**$459.85**	**$429.50**	**$413.79**	**$407.86**	**-51.99**	**-11.3**

Sources: Nutrition North Canada (2013b-c; 2015).

Note: The data presented for 2011, 2012, and 2013 is the average cost of the Revised Northern Food Basket for the months of March, June, September and December. Data for 2014 is available for March.

Table 21: Chlamydia and Gonorrhea Rates per 100,000 by Region, 2006-2011

Region	2006		2007		2008		2009		2010		2011	
	C	G	C	G	C	G	C	G	C	G	C	G
Nunavut	**3,766**	**364**	**3,930**	**486**	**4,154**	**1,126**	**3,772**	**1,588**	**4,243**	**1,974**	**3,922**	**1,780**
Qikiqtaaluk	3,567	356	3,828	521	3,661	905	3,534	1,867	3,224	1,570	2,951	1,044
Kitikmeot	4,173	913	4,592	724	5,075	1,628	3,854	1,108	5,628	2,407	3,731	1,628
Kivalliq	3,856	53	3,696	290	4,420	1,197	4,077	1,399	5,107	2,371	5,633	3,074

Source: GN Department of Health (2012).

C = Chlamydia; G = Gonorrhea

Table 22: Crime Rates per 1,000 People by Region, 2004 to 2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Actual Violations[a]										
Canada	83.9	80.9	80.0	77.1	74.8	72.8	70.0	66.3	64.6	59.7
Nunavut	385.4	366.0	330.4	318.5	369.1	393.6	410.3	394.4	405.7	343.5
Qikiqtaaluk	427.1	435.9	361.6	353.3	445.6	469.5	479.6	454.7	474.2	408.4
Kivalliq	254.4	208.4	185.7	196.8	205.9	228.8	288.8	308.1	293.2	248.4
Kitikmeot	465.6	403.9	464.1	408.5	401.7	430.4	398.3	354.4	383.5	305.6
Criminal Code Violations (Excluding Traffic)										
Canada	76.0	73.3	72.5	69.1	66.3	64.6	61.6	57.8	56.3	51.9
Nunavut	367.3	348.6	312.6	301.3	349.4	372.4	390.1	375.3	381.6	323.5
Qikiqtaaluk	408.1	415.8	343.6	337.1	424.9	446.2	456.8	434.2	447.0	387.2
Kivalliq	241.8	198.8	173.8	182.8	191.0	213.6	274.2	289.5	272.4	229.0
Kitikmeot	441.3	382.3	438.1	382.2	377.4	406.1	377.1	338.4	362.6	287.5
Criminal Code Traffic Violations										
Canada	3.8	3.8	3.8	4.0	4.4	4.4	4.2	4.2	4.1	3.9

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nunavut	7.6	7.5	10.2	10.7	10.1	11.2	8.0	6.9	11.4	8.8
Qikiqtaaluk	6.0	6.6	8.4	8.8	9.1	11.4	8.0	6.6	10.6	8.0
Kivalliq	6.5	6.2	9.1	10.1	10.3	10.5	7.1	7.7	12.1	10.8
Kitikmeot	14.1	12.3	17.2	17.5	12.5	11.4	9.6	6.5	12.7	7.9
Violent Crimes										
Canada	14.0	13.9	13.9	13.5	13.3	13.2	12.9	12.4	12.0	10.9
Nunavut	100.0	94.2	85.2	90.4	96.5	92.5	102.2	96.1	97.7	86.6
Qikiqtaaluk	102.9	103.6	90.5	108.4	113.8	101.3	110.1	102.5	105.2	95.2
Kivalliq	67.6	58.1	57.3	52.7	55.0	59.7	84.9	78.7	75.5	72.3
Kitikmeot	141.8	122.7	113.0	96.7	111.2	118.3	106.1	104.5	110.5	84.2
Non-Violent Crimes										
Canada	51.2	48.8	48.1	45.3	42.6	41.2	38.4	35.4	34.3	31.5
Nunavut	166.7	148.1	138.4	136.3	156.3	166.1	167.5	161.9	161.0	129.3
Qikiqtaaluk	181.1	172.4	148.2	146.9	183.9	190.6	198.7	188.7	183.4	152.1
Kivalliq	109.6	84.7	69.3	84.3	93.7	94.5	108.4	118.9	116.7	89.4
Kitikmeot	212.8	174.9	217.3	187.2	173.9	206.7	168.9	151.4	165.7	126.2

Source: Statistics Canada (2014b).

Notes:

Actual violations per 1,000 persons were calculated by dividing Actual Violations (Table 1) by population estimates and multiplying the result by 1,000.

Traffic violations include dangerous or impaired operation of a motor vehicle and driving a motor vehicle while prohibited to do so.

Violent incidents involve offences that deal with the application, or threat of application, of force to a person. These include homicide, attempted murder, various forms of sexual and non-sexual assault, robbery, and abduction. Traffic incidents that result in death or bodily harm are included under Criminal Code traffic incidents according to the most serious offence. The violent crime offence category has been revised to include a number of offences which were previously considered to be “other Criminal Code’ offences, but which have a clear component of targeting and impacting individual victims. These offences include: sexual offences against children, forcible confinement or kidnapping, extortion, uttering threats, and threatening or harassing phone calls.

The non-violent crime offence category consists of the former Property Crime and Other Criminal Code offences categories. The following crimes can be combined, and represent crimes against property violations: breaking and entering, possession of stolen property, theft of a motor vehicle, theft over $5,000 (non-motor vehicle), theft under $5,000, fraud, mischief, and arson.

[a] Violations (Reported, Unfounded, Actual) When a crime is reported to the police, the violation is recorded as a ‘reported’ violation. Police then conduct a preliminary investigation to determine the validity of the report. Occasionally, crimes reported to the police prove to be unfounded. Unfounded violations are subtracted from the number of reported violations to produce the number of ‘actual violations’. Numbers and rates of crime are calculated on the basis of ‘actual violations ‘categorized according to the most serious offence.

Table 23: Crime Rates per 1,000 People by Community, 2004 to 2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Actual Violations[a]										
Kivalliq	254.4	208.4	185.7	196.8	205.9	228.8	288.8	308.1	293.2	248.4
Arviat	127.5	191.4	184.7	147.6	132.7	158.5	257.1	223.3	196.7	185.4
Baker Lake	203.4	154.1	174.9	164.1	156.1	164.7	302.6	367.6	372.1	326.6
Chesterfield Inlet	106.3	119.7	143.3	166.7	152.8	198.9	233.2	183.3	118.0	170.5
Coral Harbour	286.5	155.5	76.0	135.6	133.0	154.9	196.8	152.6	179.7	182.0
Rankin Inlet	468.0	354.4	289.9	343.4	364.9	404.1	414.0	507.0	470.1	360.1
Repulse Bay	100.3	52.0	42.2	96.4	139.5	115.4	130.8	91.3	102.6	41.4
Whale Cove	195.5	121.9	130.8	53.1	198.5	261.2	211.2	193.5	183.7	224.6
Criminal Code Violations (Excluding Traffic)										
Kivalliq	241.8	198.8	173.8	182.8	191.0	213.6	274.2	289.5	272.4	229.0
Arviat	123.2	184.8	179.1	137.6	126.1	145.6	244.4	192.9	177.9	167.9
Baker Lake	200.5	147.8	162.7	149.5	139.2	152.4	286.7	354.5	349.1	294.4
Chesterfield Inlet	97.7	114.0	128.9	155.4	138.9	173.7	216.3	177.8	112.6	157.8
Coral Harbour	271.1	141.4	73.5	132.0	123.5	145.5	190.1	149.3	175.4	174.6
Rankin Inlet	438.8	337.1	265.2	317.1	340.6	382.6	391.9	482.4	437.8	336.9
Repulse Bay	94.8	50.7	42.2	92.8	133.7	104.1	126.4	83.0	96.5	39.4
Whale Cove	187.0	119.1	125.3	53.1	173.4	246.3	203.9	186.5	158.7	209.5
Criminal Code Traffic Violations										
Kivalliq	6.5	6.2	9.1	10.1	10.3	10.5	7.1	7.7	12.1	10.8
Arviat	1.0	4.2	3.7	6.8	5.3	7.8	7.2	7.9	7.3	4.8
Baker Lake	2.9	3.4	8.9	8.1	9.0	6.2	9.5	7.8	15.4	17.3
Chesterfield Inlet	0	2.9	5.7	2.8	2.8	14.0	8.4	0	5.4	12.7
Coral Harbour	1.3	1.3	1.3	3.6	1.2	3.5	1.1	1.1	1.1	4.2
Rankin Inlet	19.2	14.1	21.1	21.9	21.5	19.5	9.3	14.4	21.6	16.6
Repulse Bay	0	1.3	0	1.2	4.7	5.7	1.1	1.0	3.1	1.9
Whale Cove	2.8	2.8	0	0	12.6	12.4	4.9	0	13.6	10.8
Violent Crimes										
Kivalliq	67.6	58.1	57.3	52.7	55.0	59.7	84.9	78.7	75.5	72.3
Arviat	29.6	52.9	73.2	54.3	50.4	56.6	87.4	73.8	53.5	58.6
Baker Lake	72.3	66.5	66.4	44.4	51.3	45.2	81.6	101.9	101.4	102.3
Chesterfield Inlet	54.6	34.2	28.7	45.2	41.7	86.8	67.4	55.6	37.5	76.3
Coral Harbour	78.0	48.8	33.6	55.7	54.6	54.0	89.4	57.1	75.2	58.2
Rankin Inlet	107.8	75.5	63.6	73.4	65.3	67.6	93.7	94.6	87.9	80.7
Repulse Bay	27.9	18.7	14.1	14.5	43.4	52.0	60.4	33.2	53.9	26.0
Whale Cove	68.0	58.2	49.1	31.8	70.4	102.0	89.8	65.3	81.6	86.4
Non-Violent Crimes										
Kivalliq	109.6	84.7	69.3	84.3	93.7	94.5	108.4	118.9	116.7	89.4
Arviat	64.5	81.9	50.0	55.2	61.5	66.1	88.3	62.1	72.2	79.0
Baker Lake	88.0	48.9	44.8	68.3	58.2	70.3	130.9	153.1	160.6	112.6

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Chesterfield Inlet	28.7	39.9	63.0	79.1	58.3	61.6	84.3	72.2	56.3	56.0
Coral Harbour	145.8	57.8	31.1	46.0	48.7	65.7	67.9	75.7	75.2	76.2
Rankin Inlet	194.3	157.1	140.9	154.8	178.3	175.5	160.7	207.0	193.2	128.2
Repulse Bay	47.4	21.3	17.9	57.8	83.2	40.7	40.7	28.0	27.4	5.8
Whale Cove	34.0	24.9	19.0	10.6	60.3	69.7	43.7	65.3	27.2	49.7

Notes:

Actual violations per 1,000 persons is calculated by dividing Actual Violations (Table 1) by population estimates and multiplying the result by 1,000.

Traffic violations include dangerous or impaired operation of a motor vehicle and driving a motor vehicle while prohibited to do so.

Violent incidents involve offences that deal with the application, or threat of application, of force to a person. These include homicide, attempted murder, various forms of sexual and non-sexual assault, robbery, and abduction. Traffic incidents that result in death or bodily harm are included under Criminal Code traffic incidents according to the most serious offence. The violent crime offence category has been revised to include a number of offences which were previously considered to be “other Criminal Code’ offences, but which have a clear component of targeting and impacting individual victims. These offences include: sexual offences against children, forcible confinement or kidnapping, extortion, uttering threats, and threatening or harassing phone calls.

The non-violent crime offence category consists of the former Property Crime and Other Criminal Code offences categories. The following crimes can be combined, and represent crimes against property violations: breaking and entering, possession of stolen property, theft of a motor vehicle, theft over $5,000 (non-motor vehicle), theft under $5,000, fraud, mischief, and arson.

[a] Violations (Reported, Unfounded, Actual) When a crime is reported to the police, the violation is recorded as a ‘reported’ violation. Police then conduct a preliminary investigation to determine the validity of the report. Occasionally, crimes reported to the police prove to be unfounded. Unfounded violations are subtracted from the number of reported violations to produce the number of ‘actual violations’. Numbers and rates of crime are calculated on the basis of ‘actual violations ‘categorized according to the most serious offence.

Source: Statistics Canada (2014b).

Table 24: Suicides by Region, Sex and Age Group, 2004-2014

Region/Gender/ Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number of Suicides by Region											
Nunavut	27	25	29	24	29	29	30	34	26	45	27
Qikiqtaaluk	22	17	17	12	19	21	18	24	15	26	17
Kivalliq	1	5	4	5	6	5	9	5	8	12	7
Kitikmeot	4	3	8	7	4	3	3	5	3	7	3
Suicide Rate per 100,000 by Region											
Nunavut	90.4	82.4	94.1	76.4	90.9	89.0	89.9	99.4	74.9	127.0	73.8
Qikiqtaaluk	136.9	104.2	103.0	71.5	112.1	121.0	101.6	132.0	81.3	138.5	87.2
Kivalliq	11.9	58.5	45.9	55.9	65.8	53.8	94.6	51.3	80.6	117.8	66.9
Kitikmeot	74.3	54.9	143.3	123.5	68.7	50.5	49.0	79.8	47.2	108.2	45.3
Percentage of Suicides by Sex											
Males	81.5	84.0	75.9	75.0	86.2	79.3	76.7	79.4	76.9	73.3	77.8
Females	18.5	16.0	24.1	25.0	13.8	20.7	23.3	20.6	23.1	26.7	22.2
Percentage of Suicides by Age Group											
Under Age 20	40.7	60.0	31.0	33.3	37.9	41.4	23.3	32.4	42.3	24.4	40.7
Age 20 to 29	33.3	24.0	44.8	41.7	41.4	24.1	53.3	38.2	38.5	44.4	29.6
Age 30 to 39	18.5	8.0	17.2	16.7	13.8	24.1	16.7	11.8	11.5	17.8	14.8
Age 40 to 49	7.4	8.0	3.4	8.3	6.9	6.9	3.3	8.8	3.8	6.7	11.1
Age Over 50	0.0	0.0	3.4	0.0	0.0	3.4	3.3	8.8	3.8	6.7	3.7

Notes:
Region refers to the jurisdiction where the death occurred.
Suicide Rate is calculated by dividing the number of suicides by the estimated population and multiplying the result by 100,000.
Population estimates used to calculate suicide rates are as of July 1 and are based on 2011 Census counts adjusted for census net undercoverage.
Source: GN – Department of Justice (2015).

Community Infrastructure and Services

Table 25: Traffic Forecast for the Kivalliq Region (Tonnes/Year)

Freight/Cargo/Passengers	2010	2015	2020	2025	2030
Sealift Transport (Tonnes/Year)					
Mines					
General Freight	17,100	38,100	68,000	68,000	16,500
Bulk Fuel	23,200	52,200	78,000	78,000	24,000
Total	**40,300**	**90,300**	**146,000**	**146,000**	**40,500**
Communities					
General Freight	14,592	15,403	16,126	16,748	17,892
Bulk Fuel	27,696	29,233	30,606	31,786	32,029
Total	**42,288**	**44,636**	**46,732**	**48,534**	**49,921**
Total					
General Freight	31,692	53,503	84,126	84,748	34,392
Bulk Fuel	50,896	81,433	108,606	109,786	56,029
Total	**82,588**	**134,936**	**192,732**	**194,534**	**90,421**
Air Transport					
Air Cargo (tonnes/year)	4,298	5,457	6,615	8,205	9,705
Air Passenger (psgrs/year)	175,000	197,050	217,525	240,275	265,300

Source: Prolog Canada (2011).

Table 26: Power Infrastructure in Baker Lake (2010)

Component Asset	Acquired (Year)	Project Useful Life (Year)	Years of Remaining Life	Capacity/Utilization
QEC Power Plant	2003	2043	33	Adequate
QEB 800 kW Generator	1994	2014	4	800 kW
QEB 972 kW Generator	2005	2028	18	972 kW
QEB 1229 kW Generator	2005	2028	18	1,229 kW
Diesel Storage Tanks (4)	-	-	-	7,816,011 L
Gasoline Storage Tanks (4)	-	-	-	1,688,462 L

Source: Aarluk Consulting (2010).

Table 27: Community Health Centre Visits 2006 to 2013

		2006	2007	2008	2009	2010	2011	2012	2013
Nunavut	# of visits	193,219	179,891	180,270	160,100	199,649	198,601	212,266	220,780
	visits/capita	6.3	5.7	5.7	4.9	6.0	5.8	6.1	6.2
Kivalliq	# of visits	60,012	59,411	54,512	46,246	56,634	56,165	60,235	65,988
	visits/capita	6.9	6.6	6.0	5.0	6.0	5.8	6.1	6.5
Arviat	# of visits	10,330	12,534	10,056	8,723	10,594	9,702	10,130	12,324
	visits/capita	4.8	5.7	4.4	3.8	4.5	4.0	4.1	4.9
Baker Lake	# of visits	12,903	11,262	9,597	8,150	9,847	9,548	11,019	11,859
	visits/capita	7.1	6.1	5.1	4.2	4.9	4.7	5.3	5.6
Chesterfield Inlet	# of visits	3,604	3,764	2,966	2,388	2,704	3,226	4,314	4,532
	visits/capita	10.3	10.6	8.2	6.7	7.6	9.0	11.6	12.0
Coral Harbour	# of visits	6,435	7,052	7,244	6,464	6,763	6,008	6,810	7,402
	visits/capita	8.0	8.5	8.6	7.7	7.7	6.5	7.4	7.7
Rankin Inlet	# of visits	14,814	13,685	14,654	13,192	14,875	15,302	15,639	16,835
	visits/capita	6.0	5.4	5.8	5.2	5.8	5.8	5.9	6.2
Repulse Bay	# of visits	8,191	7,547	6,315	4,280	8,314	8,822	8,420	9,142
	visits/capita	10.5	9.1	7.4	4.9	9.2	9.3	8.7	9.0
Whale Cove	# of visits	3,735	3,567	3,680	3,049	3,537	3,557	3,903	3,894
	visits/capita	10.2	9.5	9.2	7.6	8.6	8.3	8.8	8.5

Sources: GN – Department of Health (2014); Nunavut Bureau of Statistics (2014e).

Table 28: Use of the Agnico Eagle Clinic and Nunavut Health Services by Employees

Usage	2010	2011	2012	2013
Number of visits by employees to Agnico Eagle clinic	4,500	4,330	3,581	3,268
Number of visits to Agnico Eagle clinic for work-related injuries	573	789	661	627
Number of on-site accidents requiring use of Nunavut Health Centres	14	27	18	47

Source: AEM (2015c).

Table 29: Social Assistance Recipients by Community, 2006-2013

Region/ Community	2006	2007	2008	2009	2010	2011	2012	2013
Kivalliq	1,020	1,012	968	987	945	904	948	1,200
Baker Lake	239	206	156	135	124	123	132	150
Nunavut	**3,594**	**3,725**	**3,646**	**3,806**	**3,822**	**3,838**	**4,083**	**4,382**

Source: GN – Department of Family Services (2014a).

Table 30: Number of Children Receiving Child and Family Services Care in Nunavut by Region

Region	2008-2009		2009-2010		2010-2011		2011-2012		2012-2013	
	#	%	#	%	#	%	#	%	#	%
Qikiqtaaluk Region	172	3.3	228	4.3	228	4.2	273	5.0	270	4.9
Kivalliq Region	62	1.9	53	1.6	53	1.5	65	1.9	77	2.2
Kitikmeot Region	78	4.1	114	5.8	114	5.8	55	2.7	59	2.9
Nunavut	**312**	**3.0**	**395**	**3.7**	**395**	**3.7**	**393**	**3.6**	**406**	**3.7**

Note: Yearly child welfare statistics are based on the fiscal year (ending March 31).

% = the number of cases expressed as a percentage of children under the age of 14 for the year end of the fiscal year (e.g., 2008-2009 uses population statistics for 2009 and so on). This data should be interpreted with caution and is considered an estimate and is likely conservative (higher than actual rates). The age group was chosen based on the availability of population statistics for each region. All children under the age of 18 may be eligible to receive care from Child and Family Services.

Sources: GN-HSS (2011, 2012); GN – Department of Family Services (2014b); GN – EDT (2014a).

Nunavut Economy

Table 31: Nunavut Real Domestic Product by Industry, 2010 to 2014

NAICS category	2010	2011	2012	2013	2014	% of Total in 2014	% Change 2010-2014
	Millions of chained (2007) dollars						
All industries	1,666.5	1,742.6	1,761.7	1,963.5	2,085.1	100.0	25.1
Public administration	381.1	386.3	386.5	387.3	397.2	19.0	4.2
Mining, quarrying, and oil and gas extraction	201.5	250.6	285.2	333.2	366.2	17.6	81.7
Construction	209.7	184.4	131.4	236.9	342.5	16.4	63.3
Educational services	149.3	150.4	152.8	155.7	158.5	7.6	6.2
Health care and social assistance	99.8	102.7	104.0	107.2	110.4	5.3	10.6
Retail trade	68.5	70.1	73.8	76.1	75.0	3.6	9.5
Utilities	62.2	65.2	66.7	67.1	69.0	3.3	10.9
Administrative and support, waste management and remediation services	40.0	43.7	46.7	47.1	46.9	2.2	17.3
Transportation and warehousing	39.9	44.1	41.0	42.1	44.3	2.1	11.0
Information and cultural industries	33.6	36.5	36.8	37.4	37.5	1.8	11.6
Finance and insurance	33.5	34.0	35.2	37.6	37.1	1.8	10.7
Wholesale trade	31.9	32.1	54.1	77.3	32.5	1.6	1.9
Other services (except public administration)	23.7	24.4	24.8	24.5	24.6	1.2	3.8
Accommodation and food services	21.5	23.9	22.3	21.3	21.5	1.0	0.0
Manufacturing	3.4	3.4	12.0	14.8	12.9	0.6	279.4
Agriculture, forestry, fishing and hunting	2.7	3.0	3.1	3.0	3.0	0.1	11.1
Arts, entertainment and recreation	2.6	2.4	2.5	2.6	2.6	0.1	0.0

Source: Nunavut Bureau of Statistics (2015c).

Note: The totals for each category may not add up to the total GDP for all industries due to data suppression for smaller industries not included in this table.

NAICS = North American Industry Classification System