AGNICO EAGLE

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FROM Agnico Eagle

CC Indigenous and Northern Affairs Canada

COMMITMENT 24 – SOCIO-ECONOMICS ADDENDUM

During the technical meeting, held in Baker Lake, Nunavut on April 28-29, 2017 the following commitment was made (Commitment 24): AEM committed to provide an updated rationale (in the form of an addendum) for no-linkage pathways, residual impact classification and cumulative pathway analysis that provides rationale for the conclusions in the FEIS, using literature review and other existing evidence prior to final hearing.

1.0 Rationale for No-Linkage Pathways

Further rationale for the assessment of no-linkage pathways as described in the Whale Tail Pit Project FEIS (Agnico Eagle 2016) has been provided below in relation to the following VSECs:

- Population Demographics;
- Infrastructure and Services;
- Governance and Leadership; and
- Non-Traditional Land Use.

Population, Infrastructure and Services

Consistent with guidance provided by Indigenous and Northern Affairs Canada (INAC) to the NIRB following the submission of the FEIS (AANDC 2016), this addendum "make[s] use of existing documentation from past assessments" when providing rationale for assessing no linkage impacts on population, infrastructure and services. The Meliadine FEIS was reviewed during the preparation of the Whale Tail Pit Project FEIS. For this addendum, the recent Back River Project (Back River) FEIS and addenda were also reviewed. Other information reviewed to reinforce the rationale for no-linkage pathways includes:

- information regarding community-identified priorities related to VSECs;
- data on existing and population trends in communities; and
- Agnico Eagle's operational practices aimed at mitigating population-related effects.

Past Assessment Conclusions

The rationale for ruling out the potential for population change and associated impacts on infrastructure and services is not unique to the Whale Tail Pit Project FEIS. The Back River FEIS (Sabina 2015) underwent review in 2016, ultimately being required to submit addenda for consideration in the Minister's decision. Addenda that would alter the assessment that the mine is not expected to impact population, infrastructure or services were not required. The Back River FEIS addendum reiterates this conclusion in Section 8.3 (FHR-NIRB 5.9) when discussing the potential for project-driven housing impacts. Rationale provided in the Back River FEIS and addendum that supports the conclusion regarding no-linkage effects on population, infrastructure and service is similar to that presented in the Whale Tail Pit Project FEIS (Table 24-1).

Table 24-1 Predicted Potential Effects of the Back River and Whale Tail Pit Projects

VSEC	Back River FEIS Conclusion	Whale Tail Pit Project FEIS Conclusion
Population Demographics	"[Direct employees] who are not local residents will be housed in … camp facilities … during both the Mobilization and Construction, and Operation phases. In-migration to the Kitikmeot is not anticipated as a result of direct employment… Individuals who obtain direct Project employment and who are regional residents will have access to multiple pick-up-points, reducing the potential for intra-regional migration. Intraregional migration is not anticipated as a result of direct employment during the Mobilization and Construction or Operation phases… While there is some potential for a few individuals to relocate to the region as a result of increased local economic development (indirect and induced employment), this level of migration would not represent a meaningful change to population demographics (e.g., as occurs due to natural growth in the Kitikmeot Region)."	"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."
Infrastructure and Services	"The Project is not anticipated to affect Community Infrastructure and Public Services as Project employees will be housed in one of three camps at the Project site and will be provided with duplicative infrastructure and services. … Project employees will be transported to and from the Project via their home community and, therefore, will continue to access infrastructure and services either in their home community, where services are currently accessed, or at the Project site. … Project employees obtained from southern communities will continue to access services such as dental care, standard health care (e.g., general practitioner or family doctor), mental health care, and other services in their home communities."	"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."

Most of the direct operational employment demand from the Whale Tail Pit Project will be filled by the existing Meadowbank Mine workforce. At the time of writing, data presented in the FEIS suggest that the additional workforce required to operate the Whale Tail Pit Project would amount to 150 to 200 new positions, about half of which were expected to be Nunavummiut drawn from Kivalliq communities. Worker transportation to and from all Kivalliq communities is provided by Agnico Eagle, as mandated by the Inuit Impact Benefit Agreement (IIBA) with the Kivalliq Inuit Association (KivIA). The remainder of the workforce requirement will be sourced from southern Canada, and will be transported to site where they will be housed in self-contained camp accommodations as is the current practice at the Meadowbank Mine.

It may be reasonable to suggest that, where a new mining operation with a large requirement for a new workforce (e.g., Back River) and a longer operational life (i.e., 10 years) is not assessed to have potential effects on population, infrastructure or services, an extension to an existing mine (i.e., Whale Tail) with a shorter operational life (i.e., 3 years) drawing largely on an existing workforce would likely have similar, or potentially lesser effects on these VSECs. However, given that the Whale Tail Pit Project occurs in a different region and is developed by a different proponent, further discussion of the rationale behind the FEIS pathway analysis has been provided below to enhance confidence in the FEIS conclusions. Determining if these VSECs are priority areas, and analysing data on past population trends relative to workforce requirements of the Meadowbank Mine supports the confidence of the FEIS conclusions. Such analysis has been provided below.

Community Priority Areas

Through their IIBA with the KivIA, Agnico Eagle is committed to conducting annual reporting on community wellness in Baker Lake. This is in addition to the preparation of their annual Socio-Economic Monitoring Program (SEMP) Report, which presents regional (Kivalliq) socio-economic trends. The 2016 Baker Lake Wellness Report and Implementation Plan (BLWRIP) (Stratos 2017) aims to determine how the Meadowbank Mine has affected the wellness of the Inuit of Baker Lake, and opportunities for Agnico Eagle and the community to collaborate on enhancing community wellness. The BLWRIP identified elements of community wellness through a series of workshops with community members and representatives of community and government organizations, public meetings to present and validate the wellness report findings and solicit input from participants on wellness vision and priorities, and interviews with stakeholders and Baker Lake Hamlet administration. Of these elements (listed below) five priority areas were identified (*), two of which were selected as the focus of the 2016 implementation plan (**):

- Health
    - Mental Health and Addiction*
    - Children, Youth and Families*
- Infrastructure
- Community Governance*
    - Community Wellness Planning and Management**

- Education and Training
- Economy and Employment*
    - Employment, Income and Financial Management**
- Environmental Health
- Demographics and Migration
- Culture and Traditional Lifestyle
    - Inuit Culture and Traditional Practices*

The following excerpt from the 2016 Kivalliq Socio-Economic Monitoring Committee (SEMC) report (Government of Nunavut Department of Economic Development and Transportation 2016) provides a summary of the community needs by priority area, as identified by community representatives:

> "***Employment, Income and Financial Management***
>
> *The community needs: Training, job opportunities and financial management skills. Opportunities to make things better: Deliver financial planning programs and services in Baker Lake; Improve AEM programs to address employment, cultural, and gender issues.*
>
> ***Mental Health and Addiction***
>
> *The community needs: Love, support and happiness; Balance and stability; Strong sense of identity and self-esteem. Opportunities to make things better: Hire full-time, permanent mental health and addictions counselors; Improve access to AEM programs*
>
> ***Children, Youth and Families***
>
> *The community needs: To show responsibility for children and youth; To invest in children for the future; Healthy, respectful family relationships. Opportunities to make things better: Increase childcare spaces; Provide space for wellness programming*
>
> ***Inuit Culture and Traditional Practices***
>
> *The community needs: Traditional knowledge and skills to be kept alive; Multiple generations speaking, reading and writing Inuktitut; Strong Inuit values of respect and support. Opportunities to make things better: Include Inuktitut and traditional knowledge in more programs; Provide infrastructure that supports traditional practices (e.g. community freezer).*
>
> ***Planning and Coordination of Community Wellness***
>
> *The community needs: Wellness priorities and programs that are based on community input and support; AEM priorities and programs that align with the community's; Awareness of and access to programs. Opportunities to make things better: Get more people working together to set priorities and develop plans; Share knowledge between communities.*"

Demographics, migration and infrastructure, while identified as elements of community wellness, were not included as priority areas in the BLCWRIP. This is not to say that these are not important facets of

community wellbeing. A number of community service and specific infrastructure needs were identified through workshops conducted as part of the BLWRIP (e.g., increased childcare spaces, programs to support families, full-time in-community mental health worker, community wellness facilities, school programming relevant to Inuit life). However, workshop participants also identified the provision of these needs as the responsibility of the Hamlet of Baker Lake and the Government of Nunavut (Stratos 2017 Appendix A). Agnico Eagle will continue to support community wellbeing through the implementation of wellness-related programming detailed in the BLCWRIP (Stratos 2017). A summary of Agnico Eagle's involvement in employment and community wellbeing programming has been extracted from the BLCWRIP presented in Appendix 24-A of this addendum for ease of reference.

Review of Population Trend Data

A review of population data provides some insight into why demographics and migration were not identified as priority areas by the Baker Lake Wellness Report and Implementation Plan. The 2015 Meadowbank SEMP Report (Stratos 2015) indicates the following observation regarding the linkage between population change and the Meadowbank Mine:

> "*Yearly population estimates do not indicate an increase in the population growth rate of Baker Lake or other communities with significant Meadowbank employment (Arviat, Rankin Inlet) since the mine opened, or relative to other communities in the region. If other factors (births and deaths) are assumed constant, the population data does not suggest significant migration induced by Meadowbank*."

This assertion is supported by data regarding incremental annual changes in the Meadowbank Mine workforce (Stratos 2017, Table 24-2), and data from the Kivalliq Socio-Economic Monitoring Committee (GN EDT 2016, Table 24-3). Table 24-2 compares incremental annual population change in Baker Lake to the annual fluctuation in the total and Inuit workforce at the Meadowbank Mine. The comparison does not yield a clear trend or correlation between ongoing fluctuations in workforce demand at the mine, and population change in the community. For example, in 2013 when the total Meadowbank Mine Inuit workforce shrank by 3, and the total workforce by 1, the population of Baker Lake grew by 69. This was the largest incremental annual increase in the community's population since the Meadowbank Mine began operations.

Conversely, during the greatest increase in the total and Inuit workforce at the Meadowbank Mine (i.e., when it opened in 2010[1]), the incremental annual increase in the population of Baker Lake was only 50 individuals. At this time, the incremental increase in workforce demand was larger than that required for the Whale Tail Pit Project. The lack of a correlation between workforce requirement fluctuations and population change in Baker Lake suggests that other factors (e.g., natural fluctuation with births and deaths, response of individuals to other movement stimuli) have influenced population change in the

[1] While the total 2010 operational workforce was 602 (246 of which were Inuit), some employees may have transitioned from construction to operations positions. Given the limited overlap between many construction and operational positions, it is reasonable to assume, however, that the first year of operation at the Meadowbank Mine represented the largest incremental workforce increase.

community since 2010. Detailed intra-regional migration data is not presented for Kivalliq communities in the annual SEMC report, Statistics Canada census, or Nunavut Bureau of Statistics data.

Table 24-2 Annual Change in the Meadowbank Mine Workforce and Baker Lake Population

Metric	2010[1]	2011	2012	2013	2014	2015
Incremental change in MBK Total Workforce	602	90	119	-1	21	12
Incremental change in MBK Inuit Workforce	246	3	-2	-3	25	33
Incremental change in Baker Lake Population	50	60	39	69	21	32

Sources: Government of Nunavut Department of Economic Development and Transportation 2016; Stratos 2017.

Table 24-3 shows population change in Kivalliq communities and the regions of Nunavut. Between 2006 and 2015, average annual population growth in the Baker Lake (2.2%) has been in line with that of the Kivalliq Region overall (2.2%). The same is true when comparing average annual change since the Meadowbank Mine opened in 2010 (2.3% for both). Of Kivalliq's largest communities (i.e., Rankin Inlet, Arviat and Baker Lake), population growth in Baker Lake has occurred at a pace in the middle of the range (i.e., 1.9%, 2.3%, and 2.5%, since 2010, respectively). The highest average annual growth rate in Kivalliq has occurred in Repulse Bay (3.4% from 2006 to 2015, and 4.0% from 2010 to 2015). These data suggests that population growth in Baker Lake has been in line with the Kivalliq region as a whole, and has occurred at a pace roughly in the middle of the range of growth rates for Kivalliq communities, even though it is nearest the Meadowbank Mine and has the greatest representation amongst the mine's workforce.

Table 24-3 Annual Population Change in Kivalliq Communities and the Regions of Nunavut, 2006-2015

Community	2006	2007		2008		2009		2010		2011		2012		2013		2014		2015		Average Annual Change, 2006-2015	Average Annual Change, 2010-2015
	#	#	Change	#	Change	#	Change	#	Change	#	Change	#	Change	#	Change	#	Change	#	Change		
Arviat	2,196	2,258	2.8%	2,278	0.9%	2,322	1.9%	2,365	1.9%	2,444	3.3%	2,510	2.7%	2,558	1.9%	2,615	2.2%	2,687	2.8%	2.3%	2.5%
Baker Lake	**1,728**	**1,757**	**1.7%**	**1,787**	**1.7%**	**1,825**	**2.1%**	**1,875**	**2.7%**	**1,935**	**3.2%**	**1,974**	**2.0%**	**2,043**	**3.5%**	**2,064**	**1.0%**	**2,096**	**1.6%**	**2.2%**	**2.3%**
Chesterfield Inlet	411	420	2.2%	435	3.6%	441	1.4%	448	1.6%	454	1.3%	459	1.1%	470	2.4%	475	1.1%	484	1.9%	1.8%	1.6%
Coral Harbour	855	872	2.0%	892	2.3%	921	3.3%	947	2.8%	997	5.3%	999	0.2%	1,012	1.3%	1,006	-0.6%	1,043	3.7%	2.2%	2.1%
Rankin Inlet	2,394	2,431	1.5%	2,439	0.3%	2,477	1.6%	2,536	2.4%	2,614	3.1%	2,647	1.3%	2,716	2.6%	2,749	1.2%	2,775	0.9%	1.7%	1.9%
Repulse Bay	775	801	3.4%	825	3.0%	829	0.5%	850	2.5%	914	7.5%	936	2.4%	977	4.4%	1,015	3.9%	1,049	3.3%	3.4%	4.0%
Whale Cove	363	372	2.5%	394	5.9%	400	1.5%	413	3.3%	421	1.9%	421	0.0%	430	2.1%	430	0.0%	439	2.1%	2.1%	1.6%
Kivalliq Region	**8,722**	**8,911**	**2.2%**	**9,050**	**1.6%**	**9,215**	**1.8%**	**9,434**	**2.4%**	**9,779**	**3.7%**	**9,946**	**1.7%**	**10,206**	**2.6%**	**10,354**	**1.5%**	**10,573**	**2.1%**	**2.2%**	**2.3%**
Kitikmeot Region	5,588	5,716	2.3%	5,828	2.0%	6,032	3.5%	6,152	2.0%	6,327	2.8%	6,410	1.3%	6,508	1.5%	6,603	1.5%	6,710	1.6%	2.1%	1.8%
Baffin Region	16,502	16,768	1.6%	17,014	1.5%	17,353	2.0%	17,767	2.4%	18,090	1.8%	18,373	1.6%	18,721	1.9%	19,126	2.2%	19,636	2.7%	2.0%	2.1%

Note: The Meadowbank Mine opened in 2010. Data in this year has been shaded in grey above.

Source: Government of Nunavut Department of Economic Development and Transportation 2016.

Agnico Eagle's Operational Practices and Monitoring

It is recognized that the decisions of individuals in terms of movement between communities are outside the control of the developer, and some may still choose to relocate even without a confirmed employment position. The FEIS acknowledges the challenging housing situation in Kivalliq and its constituent communities, and recognizes that population change driven by a project could exacerbate the already constrained housing system. As described above, however, the Project does not represent an entirely new development. Rather, the Project acts to extend existing employment at the Meadowbank Mine while requiring a relatively small number of additional workers during its three year operational life. This additional workforce is expected to be drawn from Kivalliq communities that Agnico Eagle (through their IIBA) has committed to providing worker transportation to and from, and from southern Canada. The southern workforce will be housed in self-contained camp accommodations.

To avoid over-speculation regarding employment opportunities, Agnico Eagle will clearly communicate labour force requirements to community liaisons in advance of construction and operations, and will work with communities and local governments to provide clear information regarding the recruitment process for Project employment opportunities. The IIBA for the Meadowbank Mine stipulates that "[*Agnico Eagle] will arrange and pay for transportation of the Inuit employees between their respective Points of Hire*[2] *and the Meadowbank Mine*". Agnico Eagle will continue to offer worker transportation to and from all Kivalliq communities, removing the practical need for jobseekers from these communities to relocate. Agnico Eagle will maintain camp accommodations sufficient for housing the Project workforce, and will fill labour requirements with priority given to qualified local labour, supplemented by rotational labour from the south.

Since opening in 2010, the on-site medical clinic at the Meadowbank Mine has received between 2,600 and 4,000 visits from employees for non-work-related conditions of injuries (Agnico Eagle 2016 Appendix 7-B Socio-economic Baseline). Without the clinic, some of these visits would have otherwise occurred at public healthcare facilities in communities. Agnico Eagle will maintain the on-site medical clinic for use by the Whale Tail Pit Project workforce, reducing the potential for its workforce to place strain on healthcare services. The existing Employee and Family Assistance Program (EFAP) will be continued, including the provision of counselling and other support services to employees and their families. Agnico Eagle will also continue existing initiatives to support the financial literacy and planning capabilities of its workforce, with an aim to enhance the ability of employees to access a range of housing options. Other initiatives aimed at supporting the health and wellbeing of Agnico Eagle's workforce and their families identified in the Socio-Economic Management and Monitoring Plan (Appendix 8-E.6 of the FEIS) and the BLWRIP will continue to be offered. Through these practices, Agnico Eagle hopes to limit the potential for speculative migration in hopes of securing employment, or fluctuation in the demand for housing, infrastructure and services.

[2] "Point of Hire" includes all Kivalliq communities.

Agnico Eagle will continue to monitor and report on socio-economic conditions in Kivalliq communities via their annual SEMP Report. Annual monitoring of community wellness and reporting on community priorities and Agnico Eagle's wellness programming will also be continued via the BLWRIP. Agnico Eagle will continue their involvement in the Kivalliq SEMC, including participation in the annual SEMC meetings to present findings of their SEMP Report, and the BLWRIP. In addition, ongoing engagement with communities is expected to further aid in identifying changing socio-economic conditions and emergent trends. With an aim to support adaptive management, Agnico Eagle will share information regarding changing socio-economic conditions in communities, including challenges identified with respect to housing, infrastructure, and service provision, with the Government of Nunavut and the Nunavut Housing Corporation.

Conclusion Regarding Potential Project Impacts on Population, Infrastructure and Services

The FEIS evaluates the results of past assessment work, population trends, operational practices of Agnico Eagle, and early engagement activities noted above when assessing potential Project-driven impacts on population, infrastructure and services. In consideration of the information presented above, and of the nature of the Whale Tail Pit Project as an extension of the Meadowbank Mine with limited new demand for labour, the FEIS concludes that the Project is not expected to influence in-migration at a scale meaningfully impacting population dynamics and associated demand for housing, infrastructure and service. In presenting greater detail regarding the rationale behind the FEIS conclusion, this addendum reaches the same conclusion.

Governance and Leadership

Governance and Leadership was not included as a VSEC in the original Meadowbank Mine FEIS, or the recent Back River FEIS. Nor was it identified as a required VSEC for the Whale Tail Pit Project FEIS by the Draft Scope List issued by NIRB (September 19, 2016), approved of by INAC (October 11, 2016). While Governance and Leadership ultimately did not appear in the Final Scope List issued by NIRB (November 10, 2016 Public Registry Identification 305624), the Whale Tail Pit Project FEIS considered the ability of the Project to interact with this VSEC. The Whale Tail Pit Project FEIS concludes the following:

> "*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.*" (Agnico Eagle 2016).

This rationale is considered appropriate for the assessment that potential adverse impacts from the Project on Governance and Leadership are not anticipated, and classifying this as a no-linkage pathway. Further description of the Projects positive impacts on government finances is assessed under the Economic Activity and Business Development VSEC, with additional detail provided in the response to the Government of Nunavut Technical Commitment 38.

Non-Traditional Land Use

The Whale Tail Pit Project FEIS concludes that *"[t]he 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*." Further rationale for the assessment conclusion "*[t]he Project is therefore not expected to interfere with non-traditional land use in its vicinity, or near Baker Lake*" is provided below.

Development of the Whale Tail Pit Project will occur on Agnico Eagle's existing Amaruq Exploration property, within an area identified as a High Mineral Potential Area (NPC 2016). The Project itself is located in Special Management Area 167. The establishment of tourism facilities, conservation areas and parks within this Special Management Area is prohibited (NPC 2014). Given the high mineral potential designation, and the prohibition of other non-traditional land uses in the future, the Project is expected to be compatible with the intended non-traditional land use in the area. The pathway between the development of the Project and adverse impacts on non-traditional land use has been assessed as having no-linkage.

2.0 Rationale for Residual Impact Classification

Following the Technical Sessions, INAC provided a request for additional information on the assumptions, evidence, models and analytical methodologies for predicting impacts for each VSEC, and the approach to determining significance. This section incorporates additional information on the approach to predicting impacts by VSEC with the Technical Comment Response INAC-TRC-11, which addresses the approach to determining significance.

Approach to Predicting Impacts

Quantitative analysis (i.e., Input-Output [I-O] modelling) is conducted to determine the Project's potential effects on economic conditions, government revenues, employment, and incomes. Modelling is based on a series of assumptions and inputs relating to the construction and operation of the Project, and incorporates adjustments to reflect the unique economic environment of Nunavut. Model outputs are assessed against existing economic conditions when describing level of impact, and in consideration of data regarding the existing workforce of the Meadowbank Mine (e.g., turnover rates, incomes, mobility of workforce). A full description of the assumptions used and the approach to economic modelling is provided in Appendix 24-B. When determining the Project's impact on contracting and community investment, the FEIS compares projected Project spending to the existing value of spending associated with the Meadowbank Mine (i.e., the current major source of mining-related contracting opportunities in the Kivalliq region).

When determining the Project's potential impacts that do not lend themselves to quantitative modelling analysis, the FEIS identifies existing trends and, where possible, contributing sources, and then considers the nature of the Project and its ability to influence trends. Information reviewed includes publicly available date from Statistics Canada censuses, data from the Nunavut Bureau of Statistics, and monitoring data and observations provided in socio-economic monitoring reports published by the Kivalliq SEMC and through Agnico Eagle's SEMP. Other assessments (e.g., Meliadine Mine, Back River Project) are also reviewed when identifying potential impacts.

In some cases, effects are identified only insofar as their potential to occur. For example, changes in health and safety culture, and the potential for the occurrence of accidents or emergencies are less predictable than a Project's contribution to the GDP of an economy. The FEIS assumes that the potential exists, and carries forward these potential adverse effects for assessment. Similarly, it is not considered appropriate to attempt to model and quantify the impacts of a Project on indicators of community cohesion for the purpose of an FEIS. Rather, the FEIS identifies the potential for the Project to contribute adversely to elements of community cohesion, and details mitigation and social management measures in place and planned to limit or remove the potential adverse effect. Such measures are detailed in the Socio-Economic Monitoring and Management Plan submitted as Appendix 8-E.6 to the FEIS.

Approach to Determining Significance

The methods that Agnico Eagle applied in completion of the FEIS were consistent with those used in previously approved environmental assessments in Nunavut (e.g., the Meliadine Mine). The significance of socio-economic effects must often be determined qualitatively. For example, it may be straightforward to conclude that an effect is not significant if it is very small, is of short duration, and affects almost no one; or to conclude that an effect is significant if it is very large, of long duration, and affects most people.

However, determining significance in cases that are less well defined necessarily depends on qualitative data and interpretation, observations of the economic and social reality of a project area, and lessons learned from other experiences. As a result there may appear to be a stronger element of professional judgment, as opposed to the use of quantitative tools (such as decision trees or valued matrices), in reaching conclusions on significance for socio-economic effects. The FEIS draws upon observations of economic and social conditions and trends in Kivalliq during the development and operation of the Meadowbank Mine, and incorporates lessons learned from the mine, and from the Meliadine Mine FEIS.

The FEIS determines significance by considering the residual effects criteria assigned to effect pathways. The determination of the magnitude of an effect considers the context in which an effect plays out. For example, in the context of the Nunavut and Kivalliq labour markets and the impending closure of the Meadowbank Mine, the continuation of employment for the existing workforce, and the creation of an estimated 65 to 78 new positions accruing to Nunavummiut, is considered high magnitude. This magnitude drives the determination of significance of an effect pathway, but the determination is refined based on the other residual effects criteria of duration and geographic extent. In the same example of employment, in the event that employment extension and new opportunities lasted for only a period of several weeks, while the magnitude may be high, the very short-term duration of the effect might result in a determination that the effect is not significant. In the case of the Project, however, the employment effect is more sustained, continuing for a number of years through construction and operations, bridging the gap between the closure of the Meadowbank Mine and opening of the Meliadine Mine. Each VSEC is evaluated based on these criteria, and a qualitative determination of significance is reached. Further description of key socio-economic residual effects criteria is provided below in Table 24-4, in supplement to Section 3.7.1 of the FEIS.

Table 24-4 Definitions of Criteria Used in the Assessment

Direction	Magnitude	Geographic Extent	Duration
Negative: Adverse effect on a VSEC **Positive:** Beneficial effect on a VSEC	**Negligible:** Indicates no discernible change to a VSEC **Low:** Indicates a discernible effect on a VSEC but the effect is not expected to materially affect people's quality of life **Moderate:** Indicates a noticeable and potentially detrimental or beneficial change to people's quality of life **High:** Indicates that the effect is expected to substantially interfere with or enhance people`s quality of life	**Local:** Effect is within Kivalliq Region and/or within its communities **Regional:** Effect may extend beyond the Kivalliq Region to Nunavut	**Short:** Effect occurs during the two year construction period **Medium:** Effect occurs over both the two year construction period and the three year operational period **Long:** Effect persists beyond operations

Socio-economic criteria do not include frequency and likelihood as it is assumed that the impacts have a high likelihood to occur continuously during the assessment period.

Table 24-5 summarizes the analytical method, as well as the rationale for the determination of significance employed by the FEIS, by VSEC and effect pathway.

Table 24-5: Residual Impacts Classification and Determination of Significance for Socio-Economics

VSEC	Pathway	Direction	Magnitude	Geographic Extent	Duration	Significance	Method of Analysis	Rationale for Determination of Significance
Economic Activity and Business Development	The Project will continue to contribute to territorial economic activity	Positive	High	Regional	Medium-term	Significant	Economic Input-Output (I-O) modelling was conducted to quantify the effect of the construction and operation of the Whale Tail Pit Project on Gross Domestic Product in Nunavut, including direct, indirect and induced impacts.	The Project will represent a contribution to territorial GDP representing over 10% of the current GDP of Nunavut. This impact bridges the gap between the closure of the Meadowbank Mine, and the opening of the Meliadine Mine, and prevents the sudden drop in territorial economic activity that would otherwise occur. An economic contribution of 10% of the territorial economy from a single project is assessed as a significant impact, given the magnitude of the impact relative to the economic base.
	The Project will continue government revenues	Positive	High	Regional	Medium-term	Significant	Economic I-O modelling was conducted to quantify the effect of the construction and operation of the Whale Tail Pit Project on government revenues, including direct, indirect and induced revenues from personal and corporate income taxes, taxes on unincorporated businesses, non-renewable resource revenues, and sales and excise taxes.	Project-generated government revenues amount to $24.9 million during construction, and $205.1 million annually during operations. Of this, Government of Nunavut-specific revenues would be $6.3 million during construction, and $60.0 million annually during operations[3]. This represents approximately a quarter of the anticipated annual territorial non-transfer payment-based budget, and would accrue in a period when revenues would otherwise drop without the Project due to the gap between the closure of the Meadowbank Mine and the opening of the Meliadine Mine. This is assessed as a significant impact to territorial revenues given the magnitude of the fiscal impact.
	The Project will sustain local business development and contracting	Positive	High	Local to Regional	Medium-term	Significant	Feasibility planning for the Whale Tail Pit Project construction and operation includes financial forecasting that identifies goods and services required by the Project. Procurement analysis is conducted to forecast where the goods and services can be sourced from. This planning and analysis benefits from an existing understanding of procurement requirements and sources for the Meadowbank Mine. This information was provided by Agnico Eagle for presentation in the FEIS.	Project construction would generate approximately $58.3 million in procurement from Nunavut sources, $46.6 million of which would accrue to Baker Lake. Average annual operational procurement from Nunavut sources would amount to $118.2 million ($26.7 million accruing to Baker Lake sources). This compares favourably with the current operational procurement at the Meadowbank Mine ($105.1 million to Nunavut sources). Project procurement would continue demand for Nunavut and Baker Lake suppliers of goods and services in a period when demand would otherwise drop significantly with the closure of the Meadowbank Mine. This sustained source of local and territorial business revenues is substantial in magnitude, and given the strategic timing of the project, assessed as significant.
Employment and Education	The Project will create direct, indirect, and induced employment opportunities	Positive	High	Local to Regional	Medium-term	Significant	Economic I-O modelling was conducted to quantify the effect of the construction and operation of the Whale Tail Pit Project on employment, including the generation of direct, indirect and induced employment opportunities.	Direct annual demand for construction employment is expected to increase from 279 in year 1 of construction to 583 in year three. Most (75%) of this will be met by specialized contractors from southern Canada working on rotation and housed in camps. The remaining 25% sourced from Nunavut are expected to come from the existing Meadowbank Mine workforce as the mine's operation slow pre-closure. Direct average annual demand for operational employment is expected to be 931 positions, 392 of which would be sourced from Nunavut. The existing Meadowbank Mine permanent workforce is expected to transition to the operation of the Whale Tail Pit Project. At the time the FEIS was written, the existing workforce was 693. This number grew to 705 in 2015, and has continued to grow into 2017. The resulting incremental increase in direct employment demand from the Project is, therefore, small, at about 100 to 150 positions. The determination of significance for the Project's impacts on employment is less based on the incremental demand for *new* labour, than on the role of the Project in maintaining employment for the existing Meadowbank Mine workforce. With no other mining Projects entering operation in the Kivalliq region between the closure of the Meadowbank Mine and the opening of the Meliadine Mine, this workforce would be find itself out of employment. For the local Nunavummiut workforce of around 400 (concentrated in the Kivalliq Region), few-to-no comparable opportunities would be available locally. This in turn could have knock-on effect on regional unemployment rates, and, should those unemployed seek mining employment elsewhere, out-migration. The Project is strategically timed to avoid this situation coming to fruition. The maintenance of operational labour force demand by the Project is assessed as significant based on the magnitude of the impact for those employed, and those dependent on them.
	The Project will generate direct, indirect, and induced incomes	Positive	High	Local to Regional	Medium-term	Significant	Economic I-O modelling was conducted to quantify the effect of the construction and operation of the Whale Tail Pit Project on employment, including the generation of direct, indirect and induced employment incomes.	In extending employment for the existing Meadowbank Mine workforce, and creating a small amount of additional direct employment, the Project also extends employment incomes past the closure of the Meadowbank Mine. Incomes at the mine ($50,000 to $100,000 for most positions occupied by Nunavummiut) are high relative to territorial and national medians. The Baker Lake Wellness Report and Implementation Plan (Stratos 2017) notes that, in Baker Lake, many who are employed by the existing Meadowbank Mine share their incomes with their extended family and the community. This behaviour is not expected to change with transition to employment at the Whale Tail Pit Project, spreading the benefit of Project incomes further into the community.

[3] Note: this includes updated Personal Income Tax estimates based on on-going workforce planning information not available at the time at which the FEIS was written. Further breakdown of fiscal impacts to the Government of Nunavut is provided in the response to Commitment 38.

VSEC	Pathway	Direction	Magnitude	Geographic Extent	Duration	Significance	Method of Analysis	Rationale for Determination of Significance
Employment and Education (continued)	The Project will provide workforce training and support community education	Positive	Moderate	Local to Regional	Long-term	Significant	Review of existing Meadowbank Mine training opportunities, career advancement program, and community contributions to educational programming.	On the job training opportunities and skills developed through employment are long-term benefits of the Project that extend beyond the life of the mine. Many are transferrable, improving the ability of the trained labour force to access future opportunities, both at the forthcoming Meliadine Mine, and other potential development occurring in Nunavut. Agnico Eagle's summer student program, haul truck driver training, process plant trainee program, Arviat Community Training Program, financial literacy program, and E-Training program will all be continued by the Whale Tail Pit Project. As will the career path program, which has been designed with the intention of supporting upward mobility of the Inuit workforce, and the apprenticeship program, which provides opportunities for the Inuit workforce to be trained in skilled trades (Stratos 2017). In addition to direct on the job training, the Project will sustain contributions to educational programming in communities. In 2014, Agnico Eagle contributed $280,000 to community education programs, and a further $3,8 million to mine training education (Agnico Eagle 2016). Between 2013 and 2015, Agnico Eagle has contributed $6.8 million in cash and in-kind support for the Kivalliq Mine Training Society (Stratos 2017). Agnico Eagle has signed a Memorandum of Understanding with the Government of Nunavut Department of Education with a focus on increasing the number of students in Kivalliq who are able to transition from high school to trades and mining-related career opportunities. While the magnitude of the contribution is moderate, it is anticipated to last indefinitely into the long-term; therefore these contributions are considered to be significant in the context of the Kivalliq region.
Individual and Community Wellbeing	The Project will continue positive fiscal effects in communities	Positive	High	Local to Regional	Medium-term	Significant	Review of existing fiscal effects of Agnico Eagle's Nunavut operations on communities, and consideration of the Project's ability to extend these positive effects.	Inuit employment income has remained steady at about $18 million per annum, representing a substantial contribution to incomes within Kivalliq communities. The Baker Lake Wellness Report and Implementation Plan (Stratos 2017) notes that, in Baker Lake, many who are employed by the existing Meadowbank Mine share their incomes with their extended family and the community. The Project will extend employment for the existing Meadowbank Mine workforce, and generate a small number of additional employment positions targeted to Kivalliq communities. The Project will also see the continuation of community contributions (cash and in-kind) and those associated with the IIBA, serving to provide stability between the closure of the Meadowbank Mine and the operation of the Meliadine Mine. Given the limited sources of employment with incomes comparable to those at the Meadowbank Mine, the high-magnitude value of community contributions, and the importance of stable IIBA contributions to the KivIA, this pathway has been assessed as significant.
	The Project may improve worker and public health and safety	Positive	Moderate	Local to Regional	Long-term	Significant	Review of existing Health and Safety training provided to the Meadowbank Mine workforce and healthy living programming delivered with support from Agnico Eagle to communities, and consideration of the Project's ability to extend these positive effects.	The Project is expected to maintain health and safety awareness amongst its workforce, their families, and Kivalliq communities through ongoing on-site training and community-based health and safety-related programming and policies, including those pertaining to healthy lifestyles. As with education, this training does not cease with Project closure, instead continuing to influence health and safety awareness into the future. The FEIS considers this long-term, beneficial impact of the Project to be significant.
	The Project has the potential to result in accidents and emergencies	Negative	n/a			Significant	Acknowledgement of the potential for accidents and emergencies to occur, and review of Agnico Eagle's current emergency response and medical practices at the Meadowbank Mine.	While accidents are not necessarily predictable, and despite Agnico Eagles best efforts to maintain best workplace safety management practices, accidents and emergencies may still occur. Given that the scale of an accident can range from a near miss (negligible magnitude) to a fatality (high magnitude), the FEIS conservatively suggests that accidents impacting worker health could potentially have significant deleterious impacts. It is noted that this determination of significance assumes a worst case scenario, and that it is possible that no such scenario may come to fruition.
	Project incomes and rotational employment may affect family and community cohesion	Negative	Moderate	Local to Regional	Long-term	Significant	Review of monitoring data from Agnico Eagle and the Kivalliq SEMC regarding social indicators in communities, their variation since the operation of the Meadowbank Mine, and the potential for continuation of adverse effects with the Project. Agnico Eagle's approach to social and workforce management is also incorporated into the analysis of potential Project effects.	It is difficult to assess the extent of effects on community cohesion, the effectiveness of mitigation and benefit enhancement measures, and the response of individuals, families and communities to both. The FEIS acknowledges that some existing adverse trends in community cohesion linked to social ills are potentially influenced by things like increased incomes, rotational employment, and associated knock-on effects. As with the assessment of potential accidents and emergencies, the FEIS takes a conservative approach to assessing potential impacts to community wellbeing, noting that an exacerbation of existing adverse trends related to community cohesion could potentially have a significant impact to individuals, families, and communities, and that this impact could extend into the long-term.

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3.0 Rationale for Cumulative Pathway Analysis, Including Closure Planning

Cumulative Effects

Direction provided by INAC regarding the approach to cumulative effects assessment indicates that "[g]iven the current and increasing levels of mineral development in the Kivalliq Region … [the] cumulative effects assessment [should focus] on impacts from reasonable foreseeable mine and transportation infrastructure developments" (AANDC 2016). The socio-economic assessment presented in the FEIS considers the reasonably foreseeable developments [RFDs] in the Kivalliq Region potentially coinciding to have cumulative socio-economic effects. The socio-economic assessment has been conducted to capture the cumulative effect of the Meadowbank Mine, the Meliadine Project, and the Whale Tail Pit Project. The approach of focusing the socio-economic cumulative effects assessment on Kivalliq was considered appropriate based on direction from INAC, a review of Agnico Eagle's current operational data, and the results of other recent FEISs submitted in Nunavut – namely, the Back River FEIS.

Data regarding the current Meadowbank Mine operation suggests that the vast majority of the Inuit workforce is from the Kivalliq Region. Of the Inuit workforce in 2015 (302), 93% resided in Kivalliq. The remaining 7% (21) residing outside of Kivalliq had relocated to the south (Stratos 2017). Agnico Eagle prioritizes the Kivalliq labour force for employment opportunities and, as noted above, provides fly-in fly-out services in Kivalliq communities. Agnico Eagle does not provide fly-in fly-out services in Kitikmeot or Baffin communities, and does not target the labour force in these regions for employment to the extent done in Kivalliq. Similarly, Agnico Eagle targets Kivalliq suppliers for contracting and procurement opportunities (Agnico Eagle 2016). The Whale Tail Pit Project is expected to extend the prioritization of Kivalliq employment candidates and businesses, and the commitments regarding procurement identified in the IIBA.

Mining and large transportation projects within Kivalliq were considered for the socio-economic cumulative effects assessment. Those without approval, or that do not temporally overlap with the Whale Tail Pit Project are not considered as reasonably foreseeable developments from a socio-economic perspective. The AREVA Kiggavik Project was considered, but ultimately not included in the cumulative effects scenario for the socio-economic assessment based on the affirmative INAC Ministerial decision regarding NIRB's recommendation that the project not be approved. While the Greyhound exploration property is located in close proximity to the Whale Tail Pit Project, exploration and development is not at a stage that would suggest definitive construction and operations periods coinciding with the respective phases of the Whale Tail Pit Project. Ownership of the property is still in option, and a Preliminary Economic Assessment may be forthcoming. Thus, the ability for the Greyhound Project to interact cumulatively with the Whale Tail Pit Project to compete for employment and contractors (and associated knock-on effects) is not considered likely. The Manitoba to Nunavut road is expected to have pronounced economic and social effects in the future; however, construction of the road, should it move forward, is not expected to occur until several years after the closure of the Whale Tail Pit Project, removing the potential for cumulative socio-economic interaction.

While Back River occurs during the Project timeframe, primary communities potentially affected by the mining project (i.e., Kugluktuk, Cambridge Bay, Gjoa Haven, Kugaaruk, and Taloyoak) do not coincide with those potentially impacted by the Whale Tail Pit Project (Sabina 2015). The cumulative effects assessment for Back River does not identify the Meadowbank Mine as an existing Project with potential for cumulative effects on Back River's primary communities. Given this determination, and that the Whale Tail Pit Project is an extension of the Meadowbank Mine that continues to focus on the Kivalliq Region, the Back River Project has not been included in the cumulative socio-economic effects assessment presented in the FEIS.

Closure

The closure of the Whale Tail Pit Project has been considered in the FEIS as part of the cumulative interaction between Agnico Eagle's operations in Nunavut, coinciding with early operations at the Meliadine Mine. The Socio-Economic Management Plan (Section 5.9 in Appendix 8-E.6 of the FEIS) discusses the high-level socio-economic approach to closure, including temporary, unplanned closure. Agnico Eagle is committed to engaging with parties potentially impacted by the closure of the Project to support a future socio-economic component to ongoing closure planning at the appropriate time. Parties involved in the closure planning process are expected to include representation from the Hamlet of Baker Lake, the KivIA, the Kivalliq SEMC, the Government of Nunavut, and INAC. Other parties may be identified as appropriate. In consultation with these parties, Agnico Eagle will identify potential effects of closure relative to socio-economic conditions near the closure period, as well as priority areas for sustained socio-economic benefits. Key issues identified through socio-economic closure planning may include:

- viability of local economy including the loss of business in small/medium enterprise;
- end of employment and IIBAs;
- effects on government revenue; and
- uncertainty about the social and economic environment at closure.

Goals of closure planning typically involve the following:

- social risk assessment;
- engagement planning;
- monitoring, evaluating and reporting on social performance; and
- agreements and commitments related to closure.

Desired outcomes of socio-economic closure planning are agreed to between parties prior to planning, and may involve commitments around:

- local economic development/diversification;
- community investment (e.g., foundations to manage social/community investment funds, or endowments invested with a percentage to be spent annually);
- workforce planning and capacity building including skills upgrading and transfer;
- career transition services; and
- scholarship funding (annual commitment for a fixed number of years).

References:

Aboriginal Affairs and Northern Development Canada (now Indigenous and Northern Affairs Canada [INAC]) AANDC. 2016. Letter from Stephen M. Van Dine, Assistant Deputy Minister, Northern Affairs to Elizabeth Copeland, Chairperson, Nunavut Impact Review Board. Date Stamp 01 Sept 2016.

Agnico Eagle Mines Ltd. (Agnico Eagle). 2016. Final Environmental Impact Statement for the Whale Tail Pit Project.

Government of Nunavut Department of Economic Development and Transportation. 2016. Kivalliq Socio-Economic Monitoring Committee. 2016 Annual Meeting Report. Baker Lake, Nunavut - December 6, 2016. Appendix B. Available at: http://nunavutsemc.com/wp-content/uploads/2017/03/2016AppendixB-Stats-ENG.pdf.

Nunavut Bureau of Statistics. 2014. Excel table: Nunavut Population Projections, 2014 to 2035. Available at: http://www.stats.gov.nu.ca/en/Population%20projections.aspx. Accessed July 20, 2015.

Nunavut Planning Commission (NPC). 2016. Interactive Map: Schedule B Valued Ecosystem and Socio-Economic Components. Available at: http://www.nunavut.ca/en/node/873

NPC. 2014. Interactive Map: Schedule A Draft Nunavut Land Use Plan, Land Use Designation Interactive Map. http://www.nunavut.ca/en/node/873.

Sabina Gold and Silver Corp. 2015. The Back River Project. Final Environmental Impact Statement. November 2015.

Stratos (Stratos Inc.). 2017. 2016 Baker Lake Wellness Report and Implementation Plan – Final March 6 2017.pdf

Stratos. 2015. Meadowbank Gold Mine 2014 Socio-Economic Monitoring Report. Final Report December 17, 2015.

APPENDIX 24-A

Agnico Eagle's Involvement in Employment and Community Wellness Programming

(as presented in the Baker Lake Community Wellness Report and Implementation Plan)

Program	Purpose / Description / Outcomes
MOU with Department of Education	A Memorandum of Understanding was signed in April 2012 to establish a strengthened partnership between the Government of Nunavut Department of Education and Agnico Eagle, with a focus on increasing the number of students in the Kivalliq region who are able to successfully transition from high school to trades and mining-related career opportunities. This work involved *Mining Matters*, a branch of the Prospectors and Developers Association of Canada (PDAC) that is dedicated to bringing knowledge and awareness about Canada's geology and mineral resources to students and educators. In 2013, Agnico Eagle and the *Mining Matters* group participated with the GN Department of Education, Curriculum Review Services to assist in a review of the Earth Sciences Curriculum of Nunavut Schools. During 2014, Agnico Eagle continued to sponsor the Mining Matters program as part of the MOU with Education. Agnico Eagle continued to pursue a renewed MOU with the Department of Education during 2016 and is hoping to re-establish an agreement in 2017. Agnico Eagle is working with the Baker Lake Education Authority to organize and deliver a range of education initiatives, including the *Mining Matters* program that will be delivered in 2017.
Kivalliq Science Educations Community	In 2015 Agnico Eagle invested $25,000.00 towards the regional Math Camp, Science Camp and Kivalliq Science Fair programs operated by the Kivalliq Science Educators Community. The regional Science camp was organized just outside of Whale Cove and the weeklong program included a mix of traditional, cultural and educational studies related to sciences. The program provides science credits to participants.
Kivalliq Mine Training Society	The KMTS is an Inuit-private sector partnership created to strengthen the Kivalliq region labour force through the creation and funding of training opportunities in the seven Kivalliq hamlets. Agnico Eagle has provided $6.8 million in cash and in kind support towards the overall initiative. The KMTS has also enjoyed financial support from the Nunavut Department of Economic Development and Transportation. Over a two year period, from April 2013 to the end of March 2015 the KMTS program was valued at approximately $9.5 million. A one year extension of the program for 2015-16 has been approved by Employment and Social Development Canada (ESDC). The 2015-16 KMTS program is valued at $3.65 Million to the end of March 2016, of which Agnico Eagle will contribute $2.18 Million. A further extension of the program is currently being considered by the KMTS Board for 2016-17. A major focus of the KMTS program has been to support Agnico Eagle's Mine Training Initiatives, such as the Career Path, Apprenticeship and Haul Truck Operators' programs. The KMTS supported the development and delivery of the community based Work Readiness and Labour Pool initiatives (described in greater detail below) to help prepare Inuit for employment opportunities. The KMTS also supported the Arviat Drillers program as well as some other community-based initiatives, such as the Making it Work program, which provide support to employees and their families to cope with the challenges that come with employment.
Labour Pool Initiative	The Labour Pool initiative, implemented in 2014, is based on an agreement between Agnico Eagle, the KMTS and the KivIA to offer pre- employment opportunities to Inuit from all Kivalliq communities. The goal of the program is to pre-qualify candidates from Kivalliq communities through 3 steps: online application (usually facilitated by Employment Information Sessions), the Work Readiness Program and the Site Readiness Program (more details provided below). In 2015, Agnico Eagle visited six Kivalliq communities (Arviat, Baker Lake, Chesterfield Inlet, Coral Harbor, Rankin Inlet and Whale Cove) to provide information sessions and conduct interviews with potential candidates. In 2016 Agnico plans to review and revise the program and introduce new components to the Labour Pool initiative.

Program	Purpose / Description / Outcomes
Work Readiness Training Program	In collaboration with the Kivalliq Mine Training Society (KMTS), Agnico Eagle developed a Work Readiness Training program as a pre- employment initiative. The Work Readiness program is the first step of the Labour Pool initiative for those individuals who have applied online. The objective of the program is for Inuit workers to be better prepared for the work environment in an industrial setting. Graduates of the program are eligible to join the Agnico Eagle Labour Pool. The program provides coaching on a range of issues including: awareness of employers' unspoken expectations, communication in the workplace, and problem solving skills for resolving workplace issues. The program was implemented in April 2013. The program is delivered over a 5 day period at the community level and is scheduled throughout the year. In 2015, the program was delivered in six Kivalliq communities resulting in 155 graduates from various communities.
Site Readiness Program (formerly Orientation Week)	The Site Readiness Program is an updated program that replaced "Orientation Week", which was implemented in April 2015. This program is the second step of the Labour Pool initiative, following the Work Readiness Program. Graduates of the Site Readiness Program are eligible to enter the Labour Pool. The Site Readiness program was built to enhance the worksite orientation for new employees and consists of a one-week on the job training and orientation plan. The Site Readiness program is still in development but provides an opportunity for individuals to see the different careers and opportunities that the mine can offer. They are also provided various training opportunities, site visits, job initiation, information sessions and interviews/discussions about employment. This provides individuals an opportunity to better identify their own career ambitions and work interests at the mine, and this information can feed the Labour Pool. In 2015, 111 individuals participated in Orientation Week.
Summer Student Employment Program	Agnico Eagle offers a summer employment program for the children of all Agnico Eagle employees who are participating in university- level education. In 2015, the Meadowbank mine offered 10 students positions per rotation, for a total of 20 positions available for students. There were 21 applications, of which 19 were selected. There were no applications from Inuit employees in 2015. In 2015, Agnico advertised a new summer student program to attract Inuit post-secondary student's from across the Kivalliq communities, including students enrolled in trade programs at Nunavut Arctic College and in the Nunavut Sivuniksavut program. This program was advertised in each Kivalliq Community. There were 6 applications, of which 3 were declined as they were under the age of 18. Two applicants worked at Meadowbank mine and one worked at the Rankin Inlet office. The program will be offered again in 2016 and will be advertised in all Kivalliq communities.
Haul Truck Driver Training	The Haul Truck Driver Training program is a 28 day (336 hour) program to certify haul truck operators, which includes training on a simulator, in the classroom, and on the job. The program is aimed at existing employees in entry level positions (dishwashers, janitors, chambermaids, etc.). In 2015, 28 Inuit workers (including 7 women) were enrolled. Among those, 25 Haul Truck Trainees (including 6 women) successfully completed the program. Agnico Eagle plans to train 36 new haul truck operators in 2016.
Process Plant Trainee Program	With the success of the Haul Truck Trainee Program, a new Process Plant Trainee Program was developed in 2015. The 28 day program provides employees with an understanding of the mining and milling process and trains them to be competent and certified to fill positions as a process plant helper or a utility person. Launched in April 2015, a total of 10 employees participated in the new program throughout the year. In 2016, 8 trainees are scheduled to enter the program.
Arviat Community Training Programs	In 2011, the Hamlet of Arviat proposed a partnership to invest in a community-based drilling school that would provide Inuit with the skills needed to work in diamond drilling. With advice and support from Agnico Eagle, the Hamlet brought together a range of partners to acquire the drilling equipment, develop the curriculum, and operate the training program. Government training agencies, the KivIA, and drilling companies provided partnership investments. In 2013 the programs was expanded to include a Welders Helpers program. The 2015 drillers program took place between April and June and 12 students participated, of whom 11 graduated. Over the past 4 years the program has graduated 65 trained driller's helpers, all of whom have found employment. 2015 saw the program switch its focus to training welders.

Program	Purpose / Description / Outcomes
Career Path Program	The Career Path Program was designed in 2012 with the intention of supporting upward mobility of Inuit employees at Meadowbank. This program identifies the incremental steps that an employee is required to complete to advance in their chosen career of interest. The Career Path system is currently available in four departments on site: Mine, Maintenance, Process Plant and Energy & Infrastructure. Some of these departments have multiple career paths available. In 2015 the total number of Career Paths available was six (6) including drilling, mine heavy equipment, heavy equipment maintenance, road maintenance, process plant operation, and building mechanic, the latter two being new for 2015. In 2016 the maintenance career path will be updated to include the integration of the Apprenticeship Program. The objective of the Career Path Program is to have only internal promotions for Inuit, and for no external candidates (southerners) to be hired to fill a position that is part of the program.
Training Curriculum	The Training Curriculum program, implemented in 2014, provides tools, tips, guideline and standards to improve the proficiency of Meadowbank trainers. The formal manual includes three sections: training theory, training standards, and training delivery.
E-Learning Training at Meadowbank	Before coming to Meadowbank for the first time, newly hired employees must complete their Mandatory Training on-line. The General Induction chapter provides general information about Agnico Eagle and working life at Meadowbank Mine. The training also ensures that all workers are trained on health and safety matters such as WHMIS, fire extinguishers, etc. prior coming on site. Process plant induction, as well as chemical awareness training, were implemented as e-learning modules in September 2015.
Training and Learning Management System	The Training Management System (TMS) as well as the Learning Management System (LMS) were initially implemented in 2013 in order to ensure better management of training activities and to monitor the proper management of the e-learning training. In response to the GN's request for increased information on training programs in 2014, both systems were modified in 2015. The systems are now capable of producing more detailed reports: by training program, by participation level, by graduation level and by hour.
Apprenticeship Training at Meadowbank	An Apprenticeship Program for the training of Inuit employees in skilled trades is currently under review at Meadowbank. Many fields of study are now available, with Agnico Eagle aiming to expand the range of trades available for apprenticeship at Meadowbank. The apprentice positions lead employees to work in various departments such as Mobile Maintenance, Site Services, Process Plant (Maintenance), Kitchen, and Electrical. In collaboration with the Kivalliq Mine Training Society and Nunavut Arctic College, Meadowbank is also supporting a pre-trade program to support Inuit who lack basic levels of literacy and numeracy required for trade apprenticeships. Seven Inuit employees were enrolled in the pre-trades assessment program in 2015, including 2 women and 5 men. At of the end of December 2015, Agnico's apprenticeship program supported 9 apprentices and 7 pre-apprentices who are alternating between trades school and work, and produced two graduate apprentices who received their Red Seal certification.
Cross Cultural Training Program	Implemented in 2010, the Cross Cultural Training Program was provided to numerous employees. It is a 5 hour in- class training course. This course allows employees from different cultures and backgrounds to understand each other's culture in order to improve understanding and communications at the workplace. The program was revisited with the assistance of the Nunavut Literacy Council in 2013 and a revised program was initiated in 2014. Throughout 2014, 304 employees received the training. Among them, 103 were Inuit employees, including 43 women and 60 men.
Access to Country Food at Meadowbank	Meadowbank serves country food meals (i.e. char or caribou) as part of the standard menu served by the mine's kitchen. In addition, employees can bring their own country foods to the mine site and use a separate Inuit kitchen to prepare and share these foods, at no cost.

Program	Purpose / Description / Outcomes
Inuktitut use at Meadowbank	Meadowbank makes efforts to facilitate the use of the Inuktitut language at the Meadowbank mine* by providing the following documentation and services in Inuktitut: • Policies, employee handbooks, and other human resource related documents • Online mandatory training materials that focus on health and safety • Key directional and safety signage posted in and around the mine site • Spousal counseling sessions delivered by Inuit speaking consultants/counselors • Bilingual human resource counselors • Bilingual employees based in communities (e.g. community affairs) that support recruitment, retention, and other communications • Religious events (services in Inuktitut held monthly or special events at site) • Road signage as well * The *Nunavut Mine Act* requires, for safety reasons, that all communications during operating hours use English as the common language.
Family Employee Assistance Program	This is an external program via Family Employee Assistance Program (Homewood Health). Homewood Health offers a suite of mental health and addiction services including organizational wellness, employee and family assistance programs, assessments, outpatient and inpatient treatment, recovery management, return to work and family support services.
Health Services	A doctor makes regular visits to the mine site to treat or refer employees' health, mental health, and other health issues, including those seeking assistance with substance abuse addictions.
Elder Visitation Program	Monthly visiting Elders program to provide Inuit employees with advice and guidance that is steeped in Inuit cultural values and encourages employees to choose balanced, healthy and productive lifestyles.
Family Network Program	Agnico Eagle is a partner and investor in the Kivalliq Mine Training Society (KMTS). The KMTS has established a community based Family Network program. The program is intended to assist the families of current and potential employees to become more prepared about the expectations and realities involved of having a family member employed at Agnico.
Make it Work Program	In 2014, with support from the KMTS, Agnico Eagle introduced a FIFO (fly in-fly out) program for the spouses of employees to come to Meadowbank to experience what mining life was like at site. The FIFO program includes spousal counseling sessions on effective communications, financial management, conflict resolutions and healthy living.
Financial Literacy Program (launching in January 2017)	Agnico Eagle is working with Chartered Professional Accountants (CPA) Canada to deliver a tailored version of CPA Canada's Community Connect Program in the Kivalliq region. Agnico Eagle is facilitating the delivery of the program which will cover a range of topics including: what is financial literacy, managing a pay cheque, goal setting and tracking spending, budgeting, saving (for retirement, for kids education), credit basics, and being a financial role model. The program will be delivered at several levels: at the mine for employees, in Baker Lake for members of the community, and at schools in Baker Lake. Following initial roll out in Baker Lake, the program will be delivered in other Kivalliq communities.

APPENDIX 24-B

Economic Modelling Summary

Modelling Approach

Both construction and operational impacts were calculated by creating a mixed endogenous–exogenous model. This approach allows modification of the input structure of the expanding industry to reflect the output and input structure of the new development. This approach is appropriate when the input structure of the new development differs significantly from the input structure of the impacted industry. In the case of construction impacts, total cost and employment inputs were provided by Agnico Eagle for modelling purposes. The construction industry inputs structure was exogenized and modified to reflect the addition of mine construction. In both cases (construction and operations) inputs reflect only those that can be locally (i.e., within Nunavut) sourced.

In the case of mixed Input-Output (IO) models, direct gross output impacts equal the initial project outlay. The Gross Domestic Product (GDP) component of the model is the value added portion of the project. Inter-industry inputs, however, are adjusted for leakages. This corresponds to the geographic definition of GDP as activity taking place within a prescribed geography. In other words, since construction takes place within Nunavut, gross output and GDP accrue within the same geography.

Modelling Definitions

Final Demand: sum of personal expenditure, government purchases of goods and services, business and government investment, and net exports.

Gross Output: total expenditures on local goods and services as well as payments to labour and business profits. Gross output includes double counting because it includes the value of inputs used in production rather than net value added alone.

GDP at factor cost: measure of net economic activity within a prescribed geographic area. It represents the payments made to final factors of production: labour, unincorporated business profits, and other operating surplus (corporate profits, interest income, inventory valuation adjustments, and capital consumption allowances). GDP at factor cost excludes the value of intermediate goods and services used in production.

GDP at Basic Prices: GDP at factor cost plus net indirect taxes on production.

Employment: measured in positions. Employment is calculated as a fixed number of positions per dollar of industry output.

Direct Impact: total project expenditure, usually construction or operating outlays.

Indirect Impact: the secondary impact that includes inter-industry transactions, purchases of inputs from supporting industries

Induced impact: the additional impact from changes in household spending as industries modify labour input requirements in response to altered levels of demand for output.

Modelling Assumptions

In order to apply the information provided by the proponent to the Nunavut model, a number of assumptions were made:

- Detailed construction inputs were estimated using the breakdown of construction inputs (including wages) from the Meliadine Project Phase 1 construction.

- A local (Nunavut) procurement goal of 25% was applied during construction. This was applied uniformly across all construction inputs, with the exception of manufactured inputs. With a small manufacturing industry, few manufactured inputs will be available from local production. As such manufactured inputs only represented the wholesale margin on manufactured inputs of 6%, available from the Territorial input-output tables.
- Direct employment requirements for both construction and operations were provided by Agnico Eagle. Indirect and induced employment were model-generated. Annual direct employment requirements were provided by Agnico Eagle in positions.
- Total annual Project operating costs were broken down into the following categories: labour, consumables, power, fuel, transportation, training, and owner's costs.
- Labour costs were assigned to wages, salaries, and supplementary labour income. Consumables, power and fuel were split equally between the manufacturing and utilities industries. Transportation was assigned to the transportation and warehousing industry. Training costs were assigned to professional, scientific and technical services industry and owners' costs were assigned to the administrative and support services, finance and insurance, professional, scientific and technical services, manufacturing, and government services (permits and licensing). As with construction manufactured inputs, manufactured operational inputs only represent the wholesale margin on manufactured goods.
- A local (Nunavut) procurement goal of 41% was applied during operations. This was applied uniformly across the following inputs: utilities, manufacturing, construction industry, and transportation inputs. It was assumed that all technical and financial services were accessed from outside of NU.
- Total annual input costs ($332M) were subtracted from total annual revenues ($406M) and the GDP component of "Operating Surplus" was modified to provide model balance.
- Construction crews are assumed to be rotated in and out of the construction site on a regular basis. As a results, little spending of construction wages in Nunavut by labour on the site is expected to occur. Consequently, construction phase induced impacts are scaled back to 20% (ratio of local to total labour during construction) of the estimated induced impact if all labour was local.
- As in the construction phase, induced operations impacts are scaled back to 30% (ratio of local to total labour during operation) of the estimated induced impact if all labour was local.
- Procurement targets were used to allocate results by geography. Induced impacts (already scaled back) were allocated to Nunavut only.
- Provincial personal income tax is calculated by using the territorial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income. Nunavut personal income tax from Project employment is scaled back by the ratio of local to total employment. Federal personal income tax is calculated by using the federal personal income tax rate that would apply to average industry annual income applied to model-generated labour income. Corporation income tax is calculated by applying the respective territorial and federal corporate tax rate to incremental corporate profits before taxes calculated by the model. Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits calculated by the model. Sales tax calculation is based on the ratio of territorial sales tax collected to retail trade gross output applied to incremental retail trade output calculated by the model. Fuel and tobacco revenues are calculated as a fixed ratio (based on territorial budget figures

of tobacco and fuel tax revenues to total sales tax revenue) multiplied by estimated sales tax revenues.

Mixed Endogenous–Exogenous Input-Output Impacts

Industry outputs are calculated as $(I-D(I-\mu-\alpha-\beta)B)^{-1}D((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)X_d+(I-\mu)X_r)=X$ where:

I = an identity matrix of industry by industry dimension

D = a matrix of coefficients representing commodity output proportions

B = a matrix of coefficients representing commodity input proportions (technical coefficients) by industry

μ = a diagonal matrix whose elements represent the ratio of imports to use

α = a diagonal matrix whose elements represent the ratio of government production to use

β = a diagonal matrix whose elements represent the ratio of inventory withdrawals to use

e = final demand categories of consumption, government purchases of goods and services, business and government investment, and inventory additions.*

X_d = final demand category of domestic exports

X_r = final demand category of re-exports.

In a 3 industry x 3 industry input-output model with industry 3 exogenized, endogenous industry output and final demand X^M $[X_1 \quad X_2 \quad Y^L_3]$ is calculated as follows: $X^M = M^{-1} Y^M$, where:

$$M=\begin{vmatrix} (1-a^L_{11}) & -a^L_{12} & 0 \\ -a^L_{21} & (1-a^L_{22}) & 0 \\ -a^L_{31} & -a^L_{32} & -1 \end{vmatrix}$$

$A^L = (D(I-\mu-\alpha-\beta)B)$

$$Y^M=\begin{vmatrix} Y^L_1+a^L_{13}X_3 \\ Y^L_2+a^L_{23}X_3 \\ -(1-a^L_{33})X_3 \end{vmatrix}$$

$Y^L = D((I-\mu-\alpha-\beta)e^*+(I-\mu-\beta)X_d+(I-\mu)X_r)$