



Impact Assessment
Agency of Canada

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July 5, 2021

Craig Hudson
Atlantic Mining NS Corp.
409 Billybell Way, Mooseland
Middle Musquodoboit, NS B0N 1X0

SUBJECT: Fifteen Mile Stream Gold Project – Information Requirements (Round 1, Part 2)

Dear Craig Hudson:

The Impact Assessment Agency of Canada (the Agency) has completed its technical review of the Environmental Impact Statement (EIS) and associated EIS Summary for the proposed Fifteen Mile Stream Gold Project (the Project).

The Agency has determined that additional information is required, as per the information requirements (IRs) attached. This is the final part of the Round 1 IRs and includes information pertaining to the Mi'kmaq of Nova Scotia and cumulative effects.

With the issuance of the Round 1, Part 1 IRs on June 15, 2021, the federal timeline within which the Minister of Environment and Climate Change must make a decision was paused. Once Atlantic Mining NS Corp. submits responses to all the IRs, the Agency will determine if the information provided is complete and the timeline for the environmental assessment will resume. For further information, please consult the Agency document on Information Requests and Timelines: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/information-requests-timelines.html>

The responses to IRs may be in a format of your choice; however, the format must be such that the responses to individual IRs can be easily identified. You may wish to discuss certain IRs with the Agency or other government experts, as necessary, to obtain clarification or additional information, prior to submission of the responses. Working directly with government experts in this manner will help to ensure that IRs are responded to satisfactorily. The Agency can assist in arranging meetings with government experts, at your request.

The IRs and your responses will be made public on the Canadian Environmental Assessment Registry (CEAR) Internet site: <https://iaac-aeic.gc.ca/050/evaluations/proj/80152>.



Please confirm receipt of this message and contact me if you require further information.

Sincerely,

<Original signed by>

Kathryn MacCarthy

Project Manager, Impact Assessment Agency

Atlantic Region

Cc: Suzanne Wade & Stephen Zwicker - Environment and Climate Change Canada
Matthew Baker & Janice Ray - Fisheries and Oceans Canada
Shelley Ball & Peter Unger - Natural Resources Canada
Jason Flanagan - Transport Canada
Joel Kaushansky, Jeff Reader & Beverly Ramos-Casey - Health Canada
Jason Flanagan – Transport Canada
Bridget Tutty – NS Environment and Climate Change

Attachment:

Attachment 1 – Round 1, Part 2 - Information Requirements for the Fifteen Mile Stream Gold Project

**Fifteen Mile Stream Gold Project
Information Requirements (Round 1, Part 2) from Environmental Impact Statement Review:
July 5, 2021**

INTRODUCTION

The Impact Assessment Agency of Canada (the Agency) completed its technical review of the Environmental Impact Statement (EIS) and associated EIS Summary for the proposed Fifteen Mile Stream Gold Project. The Agency's review is supported by submissions from government experts, the Mi'kmaq of Nova Scotia, and the public. The Agency determined that information is required, as per the information requirements (IRs) below.

ACRONYMS AND SHORT FORMS

Agency	Impact Assessment Agency of Canada
COPC	contaminant of potential concern
EA	Environmental Assessment
EIS	Environmental Impact Statement
FMS	Fifteen Mile Stream Gold Project
HC	Health Canada
IR	information requirement
KMKNO	Kwilmu'kw Maw-klusuaqn Negotiation Office
VC	valued component
ZOI	zone of influence

INFORMATION REQUIREMENTS FOR THE FIFTEEN MILE STREAM GOLD PROJECT – ROUND 1, PART 2

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
Mi'kmaq of Nova Scotia					
IR-109	HC IAAC KMKNO MFN	Part 2, Section 7.1.10. Mi'kmaq of Nova Scotia Part 2, Section 7.3.5. Mi'kmaq of Nova Scotia	Section 6.13.2.2.3. Current Mi'kmaq Land and Resource Use	<p>The EIS Guidelines require baseline information for current use of lands and resources for traditional purposes (hunting, fishing, trapping, plant gathering) and a characterization of all attributes of the activity that can be affected by environmental changes including locations, frequency, duration and timing of traditional practices to assess health (includes physical, mental and social well-being) and socio-economic conditions.</p> <p>Section 6.13.2.1 of the EIS indicated that detailed baseline information about current land and resource use by the Mi'kmaq populations of Nova Scotia related to their health and socioeconomic conditions were not provided to the Proponent, despite a variety of engagement activities over the course of the last 18 months to two years. Consequently, the evidence-based projected health effects of the Project on the Mi'kmaq populations of Nova Scotia cannot be fully assessed.</p> <p>Detailed baseline information has not been provided in the EIS with respect to the following topics:</p> <ul style="list-style-type: none"> • sites or areas that are used by the Mi'kmaq of Nova Scotia for permanent residences or on a seasonal/temporary basis; • drinking water sources (permanent, seasonal, periodic, or temporary); • consumption of traditional foods (location, frequency, duration, timing of harvesting of wildlife species, plants, or natural resources; sub-population groups involved in harvesting and consumption); • recreational uses; and • traditional, subsistence, and commercial activities (e.g., fishing, trapping, hunting, forestry, outfitting). <p>Additional data gaps include:</p> <ul style="list-style-type: none"> • Table 6.13-1 in Section 6.13-2.1 states that “no data was available related to age of population”; however, this data is readily available from the 2016 census; • Section 6.13.1.3 of the EIS states that “publically-available Indigenous knowledge related to the Mi'kmaq of Nova Scotia” was used for baseline information; however it does appear to have been validated with the individual communities in Nova Scotia; • Project effects on individual Mi'kmaq communities should be assessed, with a focus on those most affected. • An assessment of how the Project could impact food security of the Mi'kmaq of Nova Scotia. <p>As this information above is required for the environmental assessment, the Proponent should consider alternate approaches to obtaining the information or completing the analysis in a manner that is acceptable to, and respectful of, the Mi'kmaq keepers of that information. Implement the tenets of ownership, control, access and possession (OCAP)¹ into any information sharing agreements and research methodology when obtaining information from the Mi'kmaq of Nova Scotia.</p> <p>This information is required to assess the potential risks to human health related to noise, air quality, water quality, and country foods resulting from the Project.</p>	<p>a) Provide information on the location, type and timing of current land and resource use by the Mi'kmaq of Nova Scotia to assess potential risks to human health within the Project, local and regional assessment areas, including but not limited to:</p> <ul style="list-style-type: none"> • sites or areas used for permanent or seasonal residences; • drinking water sources; • consumptions of traditional foods (location, frequency, duration, and timing of harvesting wildlife, plants, or natural resources and differences on sub-populations); • recreational uses; and • traditional, subsistence, and commercial activities. <p>b) Address the additional data gaps identified.</p> <p>c) Engage with the Mi'kmaq of Nova Scotia to determine an acceptable and respectful manner to obtain traditional knowledge and community information (including age-related data) from the Mi'kmaq of Nova Scotia, with a focus on those communities most affected. Implement the tenets of OCAP when obtaining information from Mi'kmaq communities and their members. If it is not possible to obtain this information, provide an opportunity for the Mi'kmaq of Nova Scotia to validate the publically available data used and any assumptions made in the assessment.</p> <p>d) Update the effects assessment, mitigation, and monitoring for related valued components (VCs), as appropriate.</p>

¹ [The First Nations Principles of OCAP® | The First Nations Information Governance Centre \(fnigc.ca\)](https://www.fnigc.ca/)

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-110	KMKNO	Part 2, Section 7.3.5. Mi'kmaq of Nova Scotia	Section 6.13.5.1 Project Interactions with Mi'kmaq Traditional Use/Rights	<p>The EIS Guidelines require changes caused by the Project that affect current use through interactions with access to areas and resources without difficulty or additional cost used to conduct an activity or practice, and in consideration of preferred areas, timing of harvest, and options of travelling there in preferred manner.</p> <p>Section 6.13.5.1 of the EIS states that the Project will reduce the overall area of access for current Mi'kmaq of Nova Scotia traditional use within and potentially near the Project for a period of eleven years. However, the EIS does not consider the long-term impacts to the availability of traditional resources. The restoration efforts described in the EIS would not leave the site in the same condition at closure as it is before the Project. It can take decades to re-establish forest conditions. The residual effects on traditional use could extend beyond the eleven years of construction, operation and closure.</p> <p>This information is required to assess the effects of the Project on the Mi'kmaq of Nova Scotia.</p>	a) Update the effects assessment and residual effects on traditional use and the availability of traditional resources in consideration of the time required for forest conditions to be re-established at the Fifteen Mile Stream (FMS) Site.
IR-111	KMKNO MFN	Part 2, Section 7.5 Significance of residual effects	Section 6.13.5 Project Activities and Mi'kmaq of Nova Scotia Interactions and Effects	<p>The EIS Guidelines require the following criteria to be used in determining the significance of residual effects: magnitude; geographic extent; timing; duration; frequency; reversibility; ecological and social context; and existence of environmental standards, guidelines or objectives for assessing the effect.</p> <p>When assessing effects on the Mi'kmaq of Nova Scotia, Section 6.13.5 substitutes measures of duration to describe the magnitude of the potential effects. Magnitude is a description or measure of the severity of an environmental effect. In contrast, duration refers to the amount of time over which an effect will occur or be observed. It is not a replacement for magnitude.</p> <p>This information is required to assess the effects of the Project on the Mi'kmaq of Nova Scotia.</p>	a) Re-assess (with supporting rationale) the magnitude of the effects of the Project on the Mi'kmaq of Nova Scotia, including for traditional use and rights; health and socioeconomic conditions; and the human health risk assessment.
IR-112	HC	Part 2, Section 7.3.5 Mi'kmaq of Nova Scotia	<p>Appendix C.1 Human Health Risk Assessment – Section 2.2 Problem Formulation Outcomes</p> <p>Appendix C1 Human Health Risk Assessment - Figure 2-1 Human Health Conceptual Site Model</p>	<p>The EIS Guidelines require a description and analysis, for the Mi'kmaq of Nova Scotia, of how changes to the environment caused by the Project will affect the health and socio-economic conditions; physical and cultural heritage including any structure, site or thing of historical, archaeological or paleontological importance; and current use of lands and resources for traditional purposes.</p> <p>Section 2.2 of Appendix C.1 is blank and does not contain any text. The outcomes of the problem formulation stage are not provided. Figure 2-1 in Appendix C.1 contains an illustration of the Human Health Conceptual Site Model. The model indicates that the exposure pathway for "Ingestion of Game" is incomplete for "Incidental Land Users (Travelling/Camping)". However, no description is provided explaining why the exposure pathway is considered incomplete (i.e. inoperable).</p> <p>This information is required necessary to assess the completeness of the human health risk assessment.</p>	<p>a) Provide the requisite text for section 2.2 of Appendix C.1 concerning the outcomes of the problem formulation.</p> <p>b) Provide the supporting evidence as to why the exposure pathway is incomplete concerning "Ingestion of Game" for "Incidental Land Users (Travelling/Camping)".</p>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-113	HC IAAC KMKNO MFN	Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia Part 2, Section 7.3.5 Mi'kmaq of Nova Scotia Part 2, Section 9.2 Monitoring Part 2, Section 5 Engagement with the Mi'kmaq of Nova Scotia and Concerns Raised Part 2, Section 7.4 Mitigation Measures Part 2, Section 9 Follow-up and Monitoring Programs	Section 6.13.5.3 Human Health Risk Assessment Summary of Methods and Results Section 6.13.8 Proposed Compliance and Effects Monitoring Program Section 10.0 Follow-up and Monitoring Programs Proposed Appendix C.1 –Human Health Risk Assessment - Conclusion	<p>The EIS Guidelines require the preparation of an environmental monitoring program for all phases of the Project including the description of the characteristics of the monitoring program where foreseeable (e.g., location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, human and financial resources required).</p> <p>Insufficient information was provided for the monitoring/follow-up program to determine the accuracy of the human health risk assessment predictions. Monitoring commitments are described in Table 10.1-1 in section 10 of the EIS. Section 6.13.8 of the EIS states that <i>“the effects monitoring program will verify the effectiveness of mitigation measures associated with minimizing any potential effects to human health from consumption of or contact with country foods, water and soils, and results will be shared with local Indigenous groups.”</i> However, few aspects of the Proponent’s monitoring plan are developed and provided for review at this time.</p> <p>Health Canada’s Guidance for evaluating human health impacts in environmental assessment: Human Health Risk Assessment (Health Canada, 2019) advises that monitoring may help determine the accuracy of the human health risk assessment predictions, including whether the assumptions used were appropriate.</p> <p>Section 6 of Appendix H.1 of the EIS provides the impacts and recommendations for mitigations as part of the Mi'kmaq Ecological Knowledge Study. Many of these recommendations were not carried forward into the EIS and no explanation as to why they were not brought forward was provided. For example, Section 6.3 of Appendix H.1 recommends that an environmental protection committee be established.</p> <p>Recommendations in Section 6.3 of Appendix H.1 of the EIS should either be incorporated into the EIS or a rationale should be provided as to why a recommendation could not be incorporated.</p> <p>Table 6.13-7 in Section 6.13.6 of the EIS provides the mitigation for potential effects on the Mi'kmaq of Nova Scotia. These mitigations are ambiguous:</p> <ul style="list-style-type: none"> • support Mi'kmaq third party review of the EIS; • continue to work with the Mi'kmaq to delineate traditional use; • meet with Mi'kmaq of Nova Scotia to receive feedback on EIS and conclusions; • provide Mi'kmaq users the opportunity to walk the FMS Study Area with Proponent representatives to identify and document sensitive sites prior to construction; and • provide a tour of the FMS mine site and information on project operations. <p>These items do little to mitigate the effects on the Mi'kmaq of Nova Scotia and additional mitigation measures should be considered to avoid or reduce potential adverse environmental effects, including offering training and employment opportunities to the First Nations people, working with the Mi'kmaq of Nova Scotia to facilitate advance harvest of resources prior to site preparation and construction activities; and developing reclamation plans that include traditional resources.</p> <p>This information is necessary to determine the accuracy of the human health risk assessment predications and to ensure effects of the Mi'kmaq of Nova Scotia are mitigated.</p>	<p>a) Develop and provide a plan for the monitoring of contaminants in environmental media to validate that predictions are accurate (in particular when risk estimates approach acceptable levels and/or if risks may have been underestimated) and/or determine the effectiveness of the mitigation measures.</p> <p>b) Incorporate the recommendations in Section 6.3 of Appendix H.1 into the EIS or provide a rationale on why these recommendations could not be incorporated.</p> <p>c) Assess the technical and economic feasibility of additional mitigation measures to avoid or reduce potential adverse effects on the Mi'kmaq of Nova Scotia, including offering training and employment opportunities; facilitating advance harvest of resources prior to site preparation and construction activities; and developing reclamation plans that include traditional resources.</p>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-114	HC	Part 2, Section 7.1.1 Atmospheric environment Part 2, Section 7.2.1 Changes to the atmospheric environment Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia Part 2, Section 7.3.5 Mi'kmaq of Nova Scotia	Appendix C.1 – Human Health Risk Assessment – Section 2.7 Identification of Contaminants of Potential Concern Appendix C1 Human Health Risk Assessment – Section 4.2 Selection of Chemicals of Potential Concern	<p>The EIS Guidelines state that when risks to human health due to changes in one or more project components are predicted, the Proponent is expected to complete a human health risk assessment examining all exposure pathways for contaminants of potential concern (COPCs) to adequately characterize potential risks to human health. The Proponent must provide a justification if it determines that an assessment of the potential for contamination of country foods (or other exposure pathways, such as inhalation) is not required or if some contaminants are excluded from the assessment.</p> <p>The human health risk assessment describes the selection of COPCs for evaluation to be carried forward in the multimedia risk assessment model. However, there was insufficient scientific rationale for the exclusion of certain COPCs in the assessment. This includes select metals (Section 4.2 of Appendix C.1) as well as air contaminants (e.g. total suspended particulates; PM10; PM2.5, NOX; SO2; diesel particulate matter) (Section 2.7 of Appendix C.1).</p> <p>This information is necessary to assess the completeness of the human health risk assessment.</p>	a) Include all COPCs in the multi-media human health risk assessment, including select metals and air contaminants (Total suspended particulates; PM10; PM2.5, NOx; SO2; diesel particulate matter) or provide a rationale with supporting scientific evidence for their exclusion.
IR-115	HC KMKNO MFN	Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia	Appendix C1. Human Health Risk Assessment – Section 9.1 Methods	<p>The EIS Guidelines require baseline information for health and socio-economic conditions, including which country foods are consumed by which groups, how frequently, and where these country foods are harvested.</p> <p>Section 9.1 of Appendix C.1 provides a description of the traditional food sources (e.g., berries, plants, fish, and game meat) and consumption patterns (i.e., amount, frequency) likely representative of the Mi'kmaq of Nova Scotia. Due to a lack of site-specific data, the human health risk assessment relies on the 2017 <i>First Nations Food, Nutrition and Environment Study for Atlantic Canada</i>. Ideally, consumption rates for country foods utilized in the area impacted by the Project should be obtained via engagement with land users.</p> <p>Additional sources of uncertainty resulting from the assumptions made in the human health risk assessment are as follows:</p> <ul style="list-style-type: none"> • comparison of the Mi'kmaq of Nova Scotia's assumed leafy vegetation consumption with First Nations in Northern Alberta; • decision to use, without an evidence-based rationale, deer consumption as a surrogate for all game meat consumption; • reliance on a single "local fisherman", who's Indigenous status was not indicated, for information about the number of fish typically caught in the Anti Dam Flowage; and • statement indicating that the human health risk assessment does not include all country foods that could be consumed from the project area. <p>The uncertainties associated with country food sources consumed by the Mi'kmaq of Nova Scotia may result in an underestimation of the potential health risks of the Project on country foods.</p> <p>This information is necessary to assess the health risks associated with site-specific country food sources consumed by the Mi'kmaq of Nova Scotia.</p>	<p>a) Update the human health risk assessment to reflect the site-specific traditional food sources and consumption patterns (i.e., amount, frequency). Alternatively, provide the Mi'kmaq of Nova Scotia the opportunity to validate the assumptions made in the human health risk assessment and provide rationale for the assumptions made, including justification on the representativeness of the surrogate data.</p> <p>b) Update all relevant sections of the human health risk assessment and effects assessment accordingly.</p>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-116	HC KMKNO MFN	Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia Part 2, Section 7.3.5. Mi'kmaq of Nova Scotia	Appendix C.1 Human Health Risk Assessment Section 3.2 - Soils and Vegetation	<p>The EIS Guidelines require baseline information required for health and socio-economic conditions including which country foods are consumed by which groups, how frequently, and where these country foods are harvested.</p> <p>Table 3-2 of the human health risk assessment states that blueberries, raspberries, cranberries, blackberries, bunch berries, black huckleberries, and sweet gale leaves were collected in 2018 along the Beaver Dam Mine Haul Road to establish a contaminant baseline for vegetation and berries in the area.</p> <p>Of the plants sampled, only blueberries and cranberries were identified as traditional foods in the Mi'kmaq Ecological Knowledge Study. It is unclear why raspberries, blackberries, bunch berries, black huckleberries, and sweet gale leaves were identified by the Proponent as being harvested in the area and consumed, while other plant species listed in the Mi'kmaq Ecological Knowledge Study were not considered part of the human health risk assessment.</p> <p>Section 6.13.5.3 of the EIS identifies the ingestion of berries and traditional vegetation as a possible exposure pathway. Based on the plants identified in the Mi'kmaq Ecological Knowledge Study for food, medicinal and/or decorative purposes, it is possible that some of the plants are used as dermatological aids and applied topically (e.g., Bloodroot, Goldthread). Consideration was not given to dermal and inhalation pathways associated with medicinal or traditional uses of plants. Differences in use and experiences between sub-populations (ex. women, youth, elders, etc.) should be considered.</p> <p>This information is necessary to assess the health risks associated with site-specific country food sources consumed by the Mi'kmaq of Nova Scotia.</p>	<p>a) Provide the rationale for the selection of the surrogate berries and vegetation used for the 2018 baseline vegetation survey, including a justification of why these species are representative of the most commonly harvested traditional foods in the area.</p> <p>b) Discuss the operability of the dermal and inhalation pathways associated with medicinal or traditional uses of plants and how engagement with the Mi'kmaq of Nova Scotia informed the conclusion. Update the Human Health Conceptual Model to include dermal and inhalation pathways associated with medicinal or traditional uses of relevant plant species. This should include considerations of differences in use and experiences between sub-populations (ex. women, youth, elders, etc.).</p>
IR-117	HC MFN	Part 2, Section 2.3 Engagement with the Mi'kmaq of Nova Scotia Part 2, Section 4 Public participation and concerns Part 2, Section 5 Engagement with the Mi'kmaq of Nova Scotia and concerns raised Part 2, Section 7.1.1. Atmospheric Environment Part 2, 7.2.1. Changes to Atmospheric Environment Part 2, Section 7.3.5. Mi'kmaq of Nova Scotia Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia	Section 6.1.4 Consideration of Engagement and Engagement Results Section 6.13.2.2.3 Current Mi'kmaq Land and Resource Use	<p>The EIS Guidelines require the Proponent to engage with potentially affected Mi'kmaq of Nova Scotia, describe where and how their perspectives were integrated into the EIS, and provide the associated mitigation utilized to manage those effects.</p> <p>There is a discrepancy as Section 6.13.2.2.3 of the EIS indicates no relevant information was collected pertaining to noise impacts on the Mi'kmaq of Nova Scotia; however, Section 6.1.4 of the EIS indicated that consultation and engagement activities with the Mi'kmaq have resulted in the collection of noise-related information.</p> <p>Community engagement has been shown to be beneficial in reducing the number of noise complaints (Health Canada, 2017). As such, if an engagement plan is implemented, this may influence monitoring and mitigation to reduce annoyance or sleep disturbance at nearby receptor locations. Regular reporting is important to support the effectiveness of this engagement plan and to identify whether additional engagement and/or mitigation is required.</p> <p>This information is required to assess potential health concerns raised by the Mi'kmaq of Nova Scotia during consultation activities.</p>	<p>a) Describe the consultation and engagement activities with the Mi'kmaq of Nova Scotia regarding the collection of noise-related information and discuss how this information informed the effects assessment.</p> <p>b) Describe how the Mi'kmaq of Nova Scotia will be involved in monitoring and follow-up related to potential effects of noise from the Project</p>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-118	IAAC KMKNO MFN	Part 2, Section 7.3.5	Section 6.13.5.2 Project Interactions and Mi'kmaq Health and Socio-economic Condition	<p>The EIS Guidelines require the assessment of changes to the environment on the Mi'kmaq of Nova Scotia's socio-economic conditions, including, but not limited to: the use of navigable waters; forestry and logging operations; commercial fishing, hunting, trapping and gathering activities; commercial outfitters; recreational use; food security; income equality; changes at the community level that affect socio-economic conditions for the Mi'kmaq of Nova Scotia as a result of increased population, economic activity, cost of living, among other factors; non-commercial / trade economy.</p> <p>Section 6.13.5.2 of the EIS states that <i>"as with the analysis of Project impacts to traditional use, specificity relating to Mi'kmaq land use and baseline health and socio-economic condition is not fully understood, and as a result, some analyses relating to the health and socio-economic conditions have been completed utilizing a series of assumptions."</i> The assumptions made are not clearly stated in the EIS and there is no indication as to whether attempts were made to confirm these assumptions with the Mi'kmaq communities.</p> <p>Section 6.13.5.2 of the EIS also states that <i>"during the course of the EIS review, should additional information become available relating to baseline health and socio-economic conditions of the Mi'kmaq of Nova Scotia beyond what is presented in this document, analyses can and will be reviewed and updated."</i> Further efforts should be made to collect additional data using methods that are acceptable and respectful of the Mi'kmaq of Nova Scotia.</p> <p>This information is required to assess the effects of the Project on the Mi'kmaq of Nova Scotia.</p>	<p>a) Engage with the Mi'kmaq of Nova Scotia, with a focus on the most affected communities, to determine an acceptable and respectful manner to obtain additional data on baseline health and socio-economic conditions. If it is not possible to obtain this information:</p> <ul style="list-style-type: none"> describe all assumptions made to support the assessment of health and socio-economic effects on the Mi'kmaq of Nova Scotia; and provide an opportunity for the Mi'kmaq of Nova Scotia to validate the publically available data used and any assumptions made in the assessment. <p>b) Update the effects assessment, mitigation, and monitoring, as appropriate, if additional data become available.</p>
IR-119	KMKNO MFN	Part 2, Section 7.3.5	Section 6.15.1 Rationale for Valued Component Selection	<p>The EIS Guidelines require the assessment changes to the environment on the Mi'kmaq of Nova Scotia's socio-economic conditions, including but not limited to, changes at the community level because of increased population, economic activity.</p> <p>Section 6.15.1 of the EIS states that the Project will generate employment and require a significant labour force during construction and operation. However, there are no numbers provided and no breakdown of the expected local verses outside labour required.</p> <p>An influx of employees to the area during project construction and operation could increase pressures on species that are traditionally harvested by the Mi'kmaq of Nova Scotia. The EIS fails to consider this in the evaluation of potential environmental effects on the Mi'kmaq of Nova Scotia or sub-populations within the Mi'kmaq of Nova Scotia.</p> <p>This information is required to assess the effects of the Project on the Mi'kmaq of Nova Scotia.</p>	<p>a) Provide an estimate of the labour force required for the construction and operation phases of the Project, including a breakdown of the expected local verses outside labour required.</p> <p>b) Update the effects assessment, mitigation and monitoring to include increased pressure on species traditionally harvested by the Mi'kmaq of Nova Scotia and an assessment on sub-populations.</p>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
Cumulative Effects					
IR-120	IAAC KMKNO MFN	Part 2, Section 7.6.3 Cumulative Effects assessment	Section 8.4.2 Determining the Spatial and Temporal Boundaries	<p>The EIS Guidelines require an assessment of the Project's cumulative effects which must identify and justify the spatial and temporal boundaries for each VC. These cumulative effects boundaries should generally be larger than the boundaries for the corresponding project effects.</p> <p>As stated in the Agency's document <i>Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012</i>², spatial boundaries of a cumulative effects assessment are based primarily on the VC's geographic range and the zone of influence (ZOI) of the Project for the VC. The ZOI sets a spatial limit beyond which the residual environmental effects of the designated project and other physical activities on a given VC are not detectable.</p> <p>Temporal boundaries for assessing a selected VC should take into account past and existing physical activities, as well as future physical activities that are certain and reasonably foreseeable. They should also take into account the degree to which the environmental effects of the physical activities overlap those predicted from the Project.</p> <p>The spatial and temporal boundaries used for the cumulative effects assessment were not adequately justified in the EIS.</p> <p>Section 8.4.2.1.3 of the EIS states that the spatial boundaries that were established for the environmental effects assessment were also appropriate for the cumulative effects assessment. VC-specific justification of how these were determined to be appropriate should be provided.</p> <p>The temporal boundaries used for the cumulative effects assessment were the same used for the Project, however, the cumulative effects assessment should consider the timeframe of all of the effects of the Project, as well as the timeframe of the other projects and activities considered.</p> <p>The EIS only considers cumulative effects when other physical activities or projects overlap with the Project spatially. Cumulative effects that occur through aggregate impacts or overlapping environmental effects should be identified.</p> <p>Justification of how the spatial and temporal boundaries were chosen for the cumulative effects assessment is required to determine the significance of cumulative environmental effects on all VCs.</p>	<p>a) For each VC, identify and justify the spatial and temporal boundaries used for the cumulative effects assessment taking into account past, present and reasonably foreseeable projects and activities.</p> <p>b) Update the cumulative effects maps, if required, to clearly define the spatial boundaries that encompass the potential environmental effects on each VC for the Project in combination with other physical activities or projects that have been or will be carried out.</p> <p>c) Update the cumulative effects assessment to include cumulative effects that occur through aggregate impacts or through overlapping environmental effects of past, present and reasonably foreseeable projects and activities.</p>

² Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html>

IR Number	External Reviewer ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-121	HC	Part 2, Section 7.1.10 Mi'kmaq of Nova Scotia Part 2, Section 7.3.5 Mi'kmaq of Nova Scotia Part 2, Section 7.6.3 Cumulative Effects assessment	Section 6.13.2.2.3 Current Mi'kmaq Land and Resource Use Appendix C.1 Human Health Risk Assessment 10 – Conclusions	<p>The EIS Guidelines require the identification and assessment of the Project's cumulative effects – specifically including the need to identify and provide a rationale for the VCs that will constitute the focus of the cumulative effects assessment; and to identify and justify the spatial and temporal boundaries for the cumulative effect assessment for each VC selected.</p> <p>Section 10 of Appendix C.1 of the EIS states that “cumulative effects of the FMS project, in conjunction with other proposed Projects in the area (such as the Touquoy Mine and Beaver Dam Mine) are not expected as these mines are located some distance from the FMS Mine Site, and the air quality impacts are unlikely to overlap.” However, COPCs in dust is only one potential exposure pathway for off-site receptors (human receptors that visit the area for hunting and gathering purposes, or recreational purposes).</p> <p>The EIS contains insufficient information to support the absence of consideration of cumulative scenarios and effects on country foods. The ingestion of contaminants via food can be a significant pathway of exposure, especially when chemicals that may increase as a result of Project activities possess the ability to bioaccumulate or biomagnify in the food chain. Therefore, evaluating the cumulative effects of past, present and reasonably foreseeable projects in the vicinity of the Project is important. The cumulative effects assessment should be informed by information relating to locations, frequency, duration, and timing of harvesting by the Mi'kmaq of Nova Scotia for specific fish, wildlife species, plants, or other natural resources in the region.</p> <p>This information is necessary to determine the cumulative effects associated with the potential contamination of country foods.</p>	<p>a. Provide rationale to support the qualitative assumption that cumulative effects of the Project to country foods, in conjunction with other past, present and reasonably foreseeable projects and activities in the area, are not anticipated due to the distance between these projects and the FMS Mine Site. Consideration should be given to: locations; frequency; duration and timing of harvesting for specific fish, wildlife species, plants, and other natural resources in the region.</p> <p>b. Alternatively, if the qualitative assumption cannot be supported, include cumulative effects associated with all other potential projects in the human health risk assessment as a future development scenario and update the effects assessment, mitigation and monitoring, as appropriate.</p>
IR-122	KMKNO Public	Part 2, Section 7.6.3. Cumulative Effects assessment	Section 8.4.3.1 Current and Past Projects	<p>The EIS Guidelines require the identification and assessment of the Project's cumulative effects.</p> <p>The assessment of cumulative effects is qualitative, with limited information on the other projects and activities (past, present and reasonably foreseeable). The lack of detail on the projects and activities, and their environmental effects limits the ability to adequately characterize the cumulative environmental effects. The EIS should use quantitative data, when available, to assess cumulative effects.</p> <p>Some projects in the area that are considered in the cumulative effects assessment, such as the Beaver Dam, Touquoy, and Cochrane Hill mines, are owned by the Proponent. Other projects identified in the cumulative effects assessment have undergone, or are currently undergoing the federal or provincial EA process. Comprehensive information about these projects and activities, particularly those owned by the Proponent, should be considered in the cumulative effects assessment.</p> <p>This information is necessary to determine the cumulative effects associated with the Project.</p>	<p>a) Provide quantitative data and analysis for other past, present and reasonably foreseeable projects and activities in the study areas (where available) to substantiate the conclusions in the cumulative effects assessment in the EIS.</p>

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IR-123	KMKNO	Part 2, Section 7.6.3 Cumulative effects assessment	Appendix C.2 – <i>Evaluation of Potential for Aquatic Effects as a Result of Aquatic Releases Related to the Fifteen Mile Stream Gold Project</i> , Intrinsic Corp.	<p>The EIS Guidelines require an assessment of the Project’s cumulative effects on surface water and fish and fish habitat.</p> <p>Section 8.5.4.2.2 of the EIS states <i>“There is direct spatial overlap between the Project and historic mining operations in the FMS Study Area and the Touquoy Mine Site. Any potential cumulative effects from these projects related to surface water would be based on potential impacts to water quality from mobilization of historic tailings. The potential impact of this interaction will be mitigated by implementation of the Historical Tailings Management Plan (Appendix I.1). As such, these historic operations are not carried through the CEA [cumulative effects assessment] process.”</i></p> <p>However, the <i>Evaluation of Potential for Aquatic Effects as a Result of Aquatic Releases Related to the Fifteen Mile Stream Gold Project</i> report (Appendix C.2 of the EIS) conducted modelling for the cumulative scenario, which predicted concentrations at the end of the 100 metre mixing zone in the receiving environment of Moose River. The predictions made for this scenario included releases from the Project combined with releases from Beaver Dam, Cochrane Hill, and Touquoy mine sites. Total cyanide was predicted to be above the free cyanide guideline in the receiving environment, however the report stated that the free cyanide guideline is not an appropriate benchmark for total cyanide. The report states <i>“Based on the predicted future concentrations, relative to available water quality guidelines, total cyanide and cobalt merit further evaluation.”</i></p> <p>Considering this uncertainty and the limitations of this modelling, the cumulative effects assessment lacks information about the potential cumulative effects of predicted metal and contaminant exceedances on surface water, and how it would affect fish and fish habitat.</p> <p>This information is required to determine the cumulative effects on surface water and fish and fish habitat.</p>	<p>a) Provide rational for the statement, “The potential impact of this interaction will be mitigated by implementation of the Historical Tailings Management Plan”.</p> <p>b) Justify why historic mining operations were not considered to cause cumulative effects to surface water and fish and fish habitat, considering the uncertainty raised in the Evaluation of Potential for Aquatic Effects as a Result of Aquatic Releases Related to the Fifteen Mile Stream Gold Project report.</p> <p>c) Given predicted cyanide and cobalt exceedance to water quality guidelines and the statement that concentrations of cyanide and cobalt merit further evaluation; describe the further evaluation that was undertaken, the conclusions drawn, and implications for water management from the Project because of the further evaluation.</p>
IR-124	KMKNO MFN	Part 2, Section 7.3.5 Mi’kmaq of Nova Scotia Part 2, Section 7.6.3 Cumulative effects assessment	Section 8.5.7 Mi’kmaq of Nova Scotia Cumulative Effects Assessment	<p>The EIS Guidelines require an assessment of the Project’s cumulative effects to the Mi’kmaq of Nova Scotia, including to their current use of lands and resources for traditional purposes.</p> <p>Table 8.5-7 in the EIS states that impacts to the traditional use of land would be limited to the cumulative effects identified for noise, air, light, surface water, and fish and fish habitat; however a discussion about how these cumulative effects, including cumulative aggregate effects, would impact traditional use of land was not provided. It is important that the estimation of the cumulative loss of access to lands for the Mi’kmaq includes all foreseeable projects in combination, including forestry.</p> <p>Section 6.13.5.1 of the EIS states that plant species of significance to the Mi’kmaq of Nova Scotia were identified within the FMS Study Area and surrounding Local Assessment Area. The EIS asserts that these plant communities are expected to remain accessible to the Mi’kmaq of Nova Scotia, especially with access routes adjusted to allow for traffic to bypass the FMS Mine Site, and given the large tracts of available crown land surrounding the Project. However, the EIS does not appear to consider the other Project related effects, such as noise and altered landscape that may deter people from gathering in these areas.</p> <p>This information is required to determine the cumulative effects on the current use of lands and resources for traditional purposes.</p>	<p>a) Discuss and quantify how the cumulative aggregate effects for noise, air, light, surface water, and fish and fish habitat would affect the Mi’kmaq of Nova Scotia’s access to and current use of lands and resources for traditional purposes.</p> <p>b) Assess all effects (including noise and altered landscape) that may deter people from using and accessing plant species of significance to the Mi’kmaq of Nova Scotia during all phases of the Project.</p>

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IR-125	KMKNO MFN	Part 2, Section 7.6.3 Cumulative effects assessment	Section 8.5.7 Mi'kmaq of Nova Scotia Cumulative Effects Assessment	<p>The EIS Guidelines require an assessment of the Project's cumulative effects to the Mi'kmaq of Nova Scotia, including to their current use of lands and resources for traditional purposes. Cumulative effects are defined as changes to the environment due to the Project combined with the existence of other past, present, and reasonably foreseeable physical activities.</p> <p>The cumulative effects assessment presented in the EIS primarily focuses on future impacts that will occur. For a meaningful assessment of cumulative effects, consideration should also be given to past physical activities. It is particularly important for assessing the cumulative effects on the Mi'kmaq of Nova Scotia to consider the historical context of the lands that they have traditionally used and how that has been affected over generations. Intergenerational impacts that the Project may have on the Mi'kmaq of Nova Scotia's land use should be considered, including how loss of use may impact children and youth in terms of learning traditional practices.</p> <p>Although access to the FMS Site may be restored after 11 years, the EIS does not consider the longer-term impacts to the availability of traditional resources. The assessment of cumulative effects to the Mi'kmaq of Nova Scotia's current use of land and resources for traditional purposes should also consider the potential effects during all phases of the Project, including long-term impacts that extend into the future after closure.</p> <p>Consideration of changes to the environment due to the Project combined with the existence of other past, present, and reasonably foreseeable physical activities is required to adequately assess the cumulative effects to the Mi'kmaq of Nova Scotia.</p>	<p>a) Update the cumulative effects assessment to include the effects to current use of lands and resources for traditional purposes during all phases of the Project, as well as historical disturbances (e.g. forestry) and long-term impacts that extend into the future after the closure of the mine.</p> <p>b) Assess the intergenerational impacts to the Mi'kmaq of Nova Scotia, particularly the impacts that loss of use may have on children and youth learning traditional practices.</p>
IR-126	KMKNO Public	Part 2, Section 7.6 Other Effects to Consider	Section 6.4.7 Appendix L.1 – EMP2	<p>The EIS Guidelines require potential accidents and malfunctions to be identified and assessed, including the plausible worst case scenarios and the effects of those scenarios.</p> <p>The Environmental Management Plan (EMP2) in Appendix L.1 of the EIS provides the erosion prevention and sediment control plan for the FMS and Touquoy Mines. A number of submission received by the Agency during the public comment period on the EIS reference alleged infringements of federal and provincial legislation with regards to erosion and sediment control at the Touquoy Mine, suggesting that, the sediment and erosion control plan is not protective of the environment. Section 2.7 of EMP2 in Appendix L.1 states "[s]ite roads are constructed from waste rock, which degrades into very fine particulates as traffic compacts and breaks the rock down. Runoff from waste rock areas can be identified by its grey colour. Based on experience onsite, sediment laden runoff from these roadways does not settle well in the smaller basins onsite. The best method that has been found to prevent these fine sediments from leaving the site has been to collect the runoff in collection ponds and pump it to the [tailings management facility] TMF pond where it can settle." It is unclear how all water that has been in contact with any road constructed of waste rock will be pumped to the FMS tailings management facility.</p> <p>The cumulative effects of multiple siltation events should be assessed. Any remedial activities that have been conducted to lessen the cumulative effects should also be described.</p> <p>This information is needed to fully evaluate effects on surface water and subsequently fish and fish habitat.</p>	<p>a) Describe any lessons learned from sedimentation and erosion control concerns at the Touquoy Mine have informed the design of the sediment and erosion control plan and related mitigation measures for the FMS Site.</p> <p>b) Provide a technically and economically feasible plan to isolate, collect, pump and treat all water that comes into contact with roads built from waste rock at the FMS Site.</p> <p>c) Update the cumulative effects assessment to characterize the effects that multiple siltation events would have on fish and fish habitat. Describe any remedial activities that have been conducted to lessen the cumulative effects of these events.</p>
IR-127	KMKNO	Part 2, Section 7.6.3. Cumulative Effects assessment	Section 8.5 Cumulative Effects Assessment of the Valued Components	<p>The EIS Guidelines require the identification and assessment of the Project's cumulative effects.</p> <p>The scoping and analysis in the cumulative effects assessment is based on the results of the effects assessment conducted for individual VCs. When addressing IRs from the Agency, the effects assessment of multiple VCs will likely require revisions. The Proponent should evaluate the revisions for each VC to determine if associated updates are also required to the cumulative effects assessment.</p> <p>This information is required to assess the cumulative effects associated with the Project.</p>	<p>a) Update the cumulative effects assessment to reflect any changes made to the effects assessment for individual VCs as a result of responding to IRs, as required.</p> <p>b) Describe additional measures to mitigate cumulative effects on each VC based on the updated cumulative effects assessment, if required.</p>

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IR-128	MFN	Part 2, Section 7.35 Mi'kmaq of Nova Scotia	Section 6.13.5 Project Activities and Mi'kmaq of Nova Scotia Section 6 of Appendix H.1	<p>The EIS Guidelines require an assessment of current use of lands and resources for traditional purposes to characterize the effects (including cumulative effects) on the use (e.g. hunting, fishing, trapping, plant gathering, and cultural practices) as a result of the underlying changes to the environment (i.e. how the activity will change if the Project proceeds).</p> <p>Section 6 of Appendix H.1 states that land use activities are an integral part of the domestic economy of many households and make an important contribution to their food security. Of the sample of Mi'kmaw individuals interviewed 84% identified the traditional sector of their domestic economy, the harvesting of wildlife and plant resources, as an indispensable component of their families' food security.</p> <p>Section 6.13.5.1 of the EIS states <i>"There will be a reduction in area available for hunting, trapping, gathering, fishing, spiritual ceremonies and other Mi'kmaq traditional activities within the FMS Mine Site. Due to the proximity of the mine to traditional harvesting areas as demonstrated through the MEKS, there will be a loss of access, including a potential exclusion zone in close proximity to the FMS Mine Site for the use of firearms."</i> However, the estimates that have been provided for the amount of land lost for current-use purposes for the duration of the Project are insufficient. Cumulative effects of land loss include areas restricted for firearms use, the presence of wildlife preserves, Nova Scotia Power hydro dams, towns, etc.</p> <p>Section 6.13.5.1 of the EIS states <i>"Plant species of significance to the Mi'kmaq were identified within the FMS Study Area and surrounding LAA. Based on the knowledge of the Project team and the understanding of the regional landscape, these same species that have been documented within the FMS Study Area also exist within the immediate adjacent surrounding area. These plant communities are expected to remain accessible to the Mi'kmaq, especially with access routes adjusted to allow for traffic to bypass the FMS Mine Site, and given the large tracts of available crown land surrounding the Project. The Proponent does acknowledge that there will be destruction of some specimens, therefore altering the habitat and area available to the Mi'kmaq for their use. However, it is the conclusion of the Proponent that the permanent loss of some individual plants does not pose a significant threat to Mi'kmaq use of the species as a whole, given their abundance and availability within close proximity, and the limited development pressures surrounding the FMS Study Area."</i></p> <p>Appendix K.2 states <i>"There are large tracts of crown land in close proximity to the Project Area which may support traditional practices and may mitigate loss of access to the Project Area"</i> as a key proposed mitigation measure to address potential impacts to the Mi'kmaq of Nova Scotia.</p> <p>An assessment of the suitability of lands in close proximity to the project area for the Mi'kmaq of Nova Scotia is not provided.</p> <p>This information is required to assess the cumulative effects on the current use of lands and resources for traditional purposes.</p>	<p>a) Based on the information available, calculate and provide a figure depicting the total area lost for all VCs that may affect the current use of land by the Mi'kmaq of Nova Scotia. The calculation must include the direct loss of land (i.e. the project footprint), as well as indirect loss of land (e.g. visual or noise disturbances, and exclusion zones for the use of firearms, etc.). The direct and indirect loss of land is to be quantified as a surface area measure, and represented in plan view on the figure.</p> <p>b) Explain how lands in close proximity to the project area would be a suitable alternative for the Mi'kmaq of Nova Scotia to practice current use and transfer existing cultural, experiential and biophysical reliance on lands and resources, and how they are sufficient to limit potential impacts on the Mi'kmaq of Nova Scotia. Include a description of the suitable alternative areas that may be used by for current-use and cultural practices (in consideration of other land uses, zoning and ownership) in the local and regional assessment area, and indicate the degree of access to these areas in realistic and quantifiable terms. Describe how these conclusions were informed by engagement with the affected Mi'kmaq of Nova Scotia.</p>