

Upper Beaver Gold Project – Summary of Issues

This document provides a high-level summary of the issues submitted to the Impact Assessment Agency of Canada (the Agency) on the Upper Beaver Gold Project (the Project) during the comment period on the Initial Project Description submitted by Agnico Eagle Mines Ltd. (the Proponent). The issues highlight information needs to support the Agency’s decision on whether an impact assessment is required under section 16 of the *Impact Assessment Act* and— if an assessment is required—to inform the planning phase documents and further assessment. Original submissions are posted on the Canadian Impact Assessment Registry (Reference Number #82960). Categories of issues are listed in alphabetical order.

Accidents and Malfunctions
Need for information on how the Proponent will prevent accidents and malfunctions associated with construction and operation of project components in light of the existing historic mine infrastructure
Potential effects—including effects on human health and to surface water —of accidents or malfunctions—including spills of hazardous substances or uncontrolled release of pollutants to the environment from transportation of hazardous materials, and failures of project components including the open pit, tailings storage facility, pond liners, and dams—and potential for residual effects following an accident or malfunction
Need for information on emergency response plans and procedures based on potential accidents and malfunctions
Need for information about plans for communication with local residents in cases of accidents and malfunctions, including translation into local Indigenous languages
Acoustic Environment
Potential effects from increased noise levels during all phases of the Project on human health and recreational activity
Need for further information on noise effects, identification of human receptors, proposed noise mitigation measures and monitoring and follow-up measures
Alternative Means
Need for an analysis of alternative means for carrying out the Project that considers alternatives to the proposed operation schedule and alternatives to mineral extraction options that considers stability concerns related to bedrock competence and historical mine workings. The alternatives analysis must also consider adverse and positive effects to the local social and economic conditions
Need for an analysis of alternative means for carrying out the Project that considers carrying out the Project without draining York Lake and diverting the Misema River
Need for an analysis of alternative means for carrying out the Project that considers alternative methods and locations of tailings storage, and associated effects of alternatives to groundwater quality due to acid rock drainage and metal leaching
Need for further information on the process for planning the proposed road network, including how the Proponent considered cultural and environmental valued components in planning
Potential effects of ore processing and mine effluent on fish and fish habitat associated with alternative means of carrying out the Project and a description of whether effects on fish and fish habitat were considered as a criterion in the alternatives selection
Atmospheric Environment
Need for updated baseline studies for air quality, including measurements of nitrogen dioxide, sulphur dioxide, dust (total suspended particles), PM10, PM2.5, carbon monoxide, ozone, volatile

organic compounds (VOCs), polycyclic organic compounds (PAHs), metals and other substances that may be released
Need for air quality dispersion modelling to conduct the effects assessment
Potential effects on air quality during all phases of the Project due to activities including exhaust emissions from diesel combustion, fugitive dust, and vehicular traffic
Need for further information on proposed mitigation measures for effects on air quality and monitoring plans
Potential effects of light pollution from the Project. Need for further information on proposed mitigation measures and monitoring plans
Climate Change and Greenhouse Gas Emissions
Need for further information on net greenhouse gas emissions for each separate phase of the Project (e.g. carbon footprint), including information on which greenhouse gases will be measured and reported publicly, and methodology used. Information provided should be aligned with the Government of Canada's Strategic Assessment on Climate Change (www.strategicasessmentclimatechange.ca)
Need for further information on potential project effects on carbon sinks, such as nearby wetlands
Need for further information on the Project's impact to Canada's ability to meet its climate change target and environmental obligations
Cumulative Effects
Potential cumulative effects - due to current and historical mineral exploration activities, existing mine hazards, nearby forestry activities, downstream water control structures and hydroelectric developments - on wildlife, surface water and groundwater quality and quantity, fish and fish habitat, human health, and social conditions in the surrounding watershed and downstream of the Project
Potential cumulative effects on Indigenous groups including on their traditional territories and cultural land use practices such as hunting, fishing or traditional plant harvesting
Potential cumulative effects on the exercise of Aboriginal and/or treaty rights from the Project in combination with existing projects, such as other mining activities and forestry
Need for further information on the area of influence that is being considered for the assessment of potential cumulative effects
Decommissioning and Reclamation
Need for further information on plans for decommissioning and reclamation which include consideration of historical mine hazards located on site and information on disposal of solid wastes generated during decommissioning
Need for further information on plans for decommissioning and reclamation of the open pit and underground workings, including groundwater filling
Need for further information on waste rock management and the potential for acid rock drainage and metal leaching during decommissioning and reclamation
Need for further information about financial assurance for decommissioning and closure, as required under the Ontario <i>Mining Act</i> , plans for closure if the Project is no longer viable and must close unexpectedly, or whether any suspension criteria or sale would trigger closure
Potential residual adverse environmental effects from reclamation of the project site and tailings
Need for further information on the Proponent's plans for long-term monitoring, from the start of decommissioning until the end of abandonment

Effects of the Environment on the Project
Need for further study on the effects of, and resilience of, project infrastructure - including tailings storage facilities, waste management areas, site drainage and water diversion structures - to climate change
Need for mitigation measures and characterization of residual effects related to the effects of the environment on the Project
Fish and Fish Habitat
Need for baseline studies on fish and fish habitat, including biological indicator species, such as benthic invertebrate species, and further information on the baseline sampling program
Need a full list of project components, including additional details about components to determine potential for effects to fish and fish habitat
Potential effects on fish and fish habitat - including fish spawning and aquatic invertebrates - due to project components and activities such as blasting, dewatering of York Lake, dams, water diversion structures, tailings storage facility, waste rock stockpiles, overburden stockpiles, and ore stockpiles
Potential effects on fish and fish habitat from changes to surface water and groundwater due to the Project, including from acid rock drainage and metal leaching
Need for further information on whether any fish habitat is proposed to be established in the flooded open pit
Need for further information on mitigation measures and monitoring plans, including a characterization of residual effects and the Proponent's plans for developing a fisheries offsetting plan under the <i>Fisheries Act, 2019</i>
Geology and Soils
Need for baseline geochemical studies of waste rock, overburden, ore, tailings, construction rock, and pit walls
Need for further information on plans for managing and rehabilitating historical contamination disturbed or overprinted due to the Project, including historical waste rock stockpiles and tailings storage areas, and standards to be achieved
Need for further information on construction of trails and trenching, including effects due to erosion and the potential for effects on soil quality
Federal Lands
Need for further information to validate the claim that there are no expected project changes to the environment on federal lands
Human Health and Well-Being
Concern about the release of air quality contaminants from mining operations, such as dust from the tailings and metals, and associated impacts on human health
Need for further information on potential impacts on human health from exposure to air pollutants and increased noise levels – including identification of human receptors - and proposed mitigation measures and monitoring plans
Need information on potential electric and magnetic field impacts on human health due to proximity to transmission lines
Need for further information on drinking water sources in the vicinity of the Project - including locations of potable water sources and groundwater wells for water consumption – and potential impacts to health
Need for further information on potential impacts on human health from exposure to contaminated surface water, including proposed mitigation measures and monitoring plans

Potential adverse impacts on health and safety of local communities, due to an increased number of workers in the area
Need for further information on potential impacts on mental health and well-being from items such as changing behaviour patterns of food consumption, substance use, and physical activity
Need for further information in the community health profile to include health outcomes from the social context section of the Initial Project Description
Need for further information on the project's effects to the linkages between social, economic and cultural conditions, and health conditions
Need for the air quality, noise, drinking and recreational water quality, country foods and human health risk assessments be conducted in accordance with Health Canada's Guidance documents for evaluating human health impacts in environmental assessment: Air Quality (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-air-quality.html) Noise (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html) Drinking and Recreational Water Quality (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-water-quality.html) Country Food (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-country-foods.html) Human Health Risk Assessment (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-risk-assessment.html)
Inadequate documentation
Need for further information about the Proponent, including how any recent partnership agreements may affect the Project
Need for defined spatial boundaries for the Project, including rationale for the areas
Need for completed updated baseline studies to identify if the Project will have positive or adverse effects within federal jurisdiction or adverse direct or incidental effects, to assess the required mitigation measures and monitoring plans
Need for information on land ownership - including ownership of lands for the water diversion structures, and the access road to local cottages
Need for further information on the ore deposit
Need for further information and design of all proposed project components - including the processing plant, dams, diversion channels, new roads (public and on-site), aggregate sources (including locations and access routes) and the transmission line
Need for further information on hazardous chemicals used on site
Need for information on any plans for the processing plant to process ore from other nearby deposits, including other deposits owned by the Proponent
Need for further information on methods for transportation of ore on-site to the processing plant, and transportation of processed materials and metal concentrate to locations off-site
Need for further information on how waste will be handled, including information on the transportation of waste off-site and the potential routes that will be used, and the potential requirement for an on-site demolition landfill during decommissioning
Need for further information on the production, transportation, and storage of explosives, as well as explosion protection and response plans

Need for further information on traffic management near the project site, including how signage will be used to ensure public safety from mine vehicles
Need for further information on impacts to public tax funded roads from mine vehicles
Indigenous and Public Engagement
Engagement activities must be respectful of Indigenous protocols and knowledge. Notification of engagement activities must be provided in advance to ensure Indigenous groups have adequate time to coordinate activities with community members
Need for information on the Proponent's future efforts to engage with Indigenous groups, including opportunities to meet with technical experts and review technical materials
Need for further information on future efforts to engage Indigenous groups and the public, given the ongoing COVID-19 pandemic and restrictions on in-person gatherings
Need for further information on efforts to engage with and seek input from the local population, including nearby property owners in and around the Beaverhouse Lake and Misema river system, and downstream stakeholders with regional interests. Recommend open-house events in the communities of Dobie, Larder Lake, King Kirkland, and Virginiatown
Provide a list of all stakeholders that are being (or will be) engaged, such as federal departments, provincial ministries, Indigenous groups, and the general public
Indigenous Participation Opportunities
Need for further information on funding opportunities by the Proponent for Indigenous groups to participate in project activities
Need to describe opportunities for Indigenous participation in collection and validation of environmental baseline data, including the Proponent's studies on wetland characterization, species at risk, migratory birds, wildlife, fish and fish habitat (including fish tissue sampling), water quality and water quantity, and archaeological studies
Request to participate in the Proponent's studies on impacts to country foods and contamination to country foods due to the Project, as well as in a Human Health Risk Assessment
Need to describe opportunities for Indigenous participation in development of the mine plan, including wastewater management and the selection of the effluent discharge location, to ensure that Indigenous knowledge is considered
Need to describe opportunities for Indigenous participation in development of mitigation measures, monitoring plans and management plans, including water and wastewater management plans, waste rock management plans, decommissioning and closure plans, remediation of historical mine contamination, and the land use plan for the site post decommissioning phase, to ensure that Indigenous knowledge is considered
Need for separate, Indigenous group-specific, Traditional Land and Resource Use (TKLU) studies, which includes a Métis-specific TKLU study, which is validated by Indigenous groups and incorporates knowledge from community Elders
Information on existing agreements between the Proponent and certain Indigenous groups in the Initial Project Description is not accurate
Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes
Potential effects on current and future use of lands such as for fishing, hunting, harvesting and gathering, teaching, and knowledge sharing; resources; and access to sites of cultural significance, such as hunting areas located near the tailings storage facility
Potential effects on current use of lands upstream and downstream from the Project due to the water diversion channels and changes in surface water quality

Potential impacts on fishing, hunting, harvesting and gathering from increase in human population due to proposed mine development
Potential effects on fishing due to contamination to fish in Beaverhouse Lake and downstream of proposed effluent discharge locations
Potential effects on the ability to hunt and trap animals, such as moose, due to wildlife disturbance from noise and habitat degradation
Need for further information on medicinal and culturally significant plants and their habitat within the project and regional areas
Need for further information on the sites of cultural significance in the project area, including measures to mitigate potential effects on these sites
Need for further information on potential effects on navigation on all navigable waterways during all project phases, including proposed mitigation measures
The list of communities that are signatories to the Treaties in the project area described in the Initial Project Description should be revised and updated
Indigenous Peoples' Exercise of Aboriginal and/or Treaty Rights
Potential adverse impacts on fishing practices due to the destruction of culturally important fish species and their habitat, including contamination of water quality and changes in water flows
Potential adverse impacts on hunting practices due to effects on culturally important wildlife species, such as moose
Potential impacts on the effectiveness of hunters and gathers through the loss of ecological knowledge from loss of access to preferred harvesting areas
Potential adverse impacts on sensitive cultural sites and areas identified by Indigenous groups
Indigenous Peoples' Health and Well-being
Need for information on potential bioaccumulation of contaminants in country foods due to uptake from air, water and soils, and associated impacts on Indigenous peoples' health, including proposed mitigation and monitoring plans
Potential effects on health, mental health, and well-being as a result of project-related changes to water used for recreational purposes and from a loss of connection to the land
Need for further information on the potential effects to social determinants of health, proposed mitigation measures and monitoring plans
Need for further information on potential effects on food security of Indigenous groups, including proposed mitigation measures and monitoring plans
Indigenous Peoples' Social and Economic Conditions
Potential for positive and adverse effects on social and economic conditions of Indigenous groups. Potential positive effects could include opportunities for employment, training and education and adverse effects could include increased cost of living, impact to the local economy, and reduction in land value
Potential effects on the ability to commercially fish and hunt in the area, which is the livelihood of many local Indigenous people
Need for further information on whether Indigenous peoples and/or businesses in proximity to the Project will receive prioritized employment or business (e.g., procurement or contracting) opportunities
Need for further information (e.g., description and quantification) on economic opportunities for Indigenous groups (direct, indirect, and induced)

Need for information on the potential for racism towards Indigenous peoples, and associated mitigation measures
Reference the Government of Canada's Community Well-being Index to characterize Indigenous groups
Indigenous Peoples' Spiritual, Physical, and Cultural Heritage
Need for further information on cultural heritage environment, including planned, ongoing or completed archaeological assessments
Potential effects on known sites of spiritual significance near the Project
Potential effects on the Indian Trail (referred to as the Traditional Trail in the Initial Project Description), which is one of the main access routes to the area and access to areas of significant cultural value. Recommend building a new access road for the purposes of mining instead of using the Indian Trail
Mitigation Measures and Residual Effects
Where potential effects and mitigation measures are proposed, need for characterization of residual effects
Navigation and Navigable Waters
Need for further information on potential effects on access to Beaverhouse Lake boat launch and Beaverhouse Lake, which provides important access to navigation, during all phases of the Project, including proposed mitigation measures
Need for further information on potential impacts on all navigable waterways, including Beaverhouse Lake, the Misema River, Howard Lake, Misema Lake, and navigable waters impacted by water crossings (e.g., dams, bridges), during all phases of the Project, including proposed mitigation measures
Social and Economic Conditions
Need for information on potential impacts from influx of project workers overwhelming the capacity of travel corridors and local services, such as healthcare services and the accommodation industry
Need for further information on baseline economic conditions such as income, unemployment, labour participation, poverty, dependency/reliance on industry, housing statistics, property and land values
Need for information on economic prosperity and depression cycles regarding mining projects, including proposed mitigation measures to stabilize these cycles for the Project
Potential for positive impacts on local economies due to employment opportunities
Potential long-term impacts to economic conditions. Need for the assessment of economic effects to span beyond the mine life, and to consider long-term impacts to communities to ensure long-term community viability
Need for further information on potential adverse economic impacts, such as impacts on individual stakeholders, local recreation, tourism and forestry industries, other industries competing for labour, and stresses on government resources
Need for further information on job availability by project phase
Need for further information on the breakdown of jobs by occupation, or otherwise provide any other proxy for skill requirements of the jobs that are to be created
Need for further information on the breakdown of employment by full-time with benefits versus part-time without benefits, and expected salaries and wages
Need for further information on whether underrepresented groups will be considered for training and employment opportunities

Need for further information on how company policies, including on sustainable development and diversity and inclusion, will be applied to the Project to ensure maximization of positive outcomes for local communities
Need for further information on whether diversity and inclusion will be supported through the training and hiring strategy, and in the procurement/contracting strategy
Need for further information on proposed plans for draining York Lake, including additional information on the social and economic effects related to this activity
Species at Risk, Wildlife, and their Habitat
Need for additional baseline studies on terrestrial wildlife, species at risk, and migratory birds (including updated breeding bird surveys and fall migratory bird surveys)
Potential effects on the movement, reproductive success and habitat of wildlife, such as loons, ducks, blue herons, moose, black bears, lynx, bald eagles, ospreys, turkey vultures, barn owls, hoot owls, nighthawks, falcons, mice, rabbits, squirrels, and chipmunks
Potential effects on terrestrial wildlife, including migratory birds and species at risk, from Project activities such as deforestation and land-use changes, habitat fragmentation from construction of linear infrastructure such as the transmission line, roads, and the water diversion channels, and associated effects on local biodiversity and species of cultural value
Potential effects on aquatic wildlife, such as amphibians, from dewatering of York Lake and the construction and operation of dams and diversion channels
Concern about the release of air quality contaminants from mining operations, such as dust from the tailings and metals, and associated effects on wildlife and their habitat
Potential effects on wildlife from increased noise levels and light pollution, including proposed mitigation measures
Need for further information on proposed plans for draining York Lake, including additional information on the impacts to terrestrial wildlife and their habitat from this activity, and proposed mitigation measures
Clarity on the specific timing windows being considered to avoid or mitigate potential effects to breeding birds from project construction and tree clearing
Need for further information on mitigation measures for potential effects to species at risk
Sustainability
Need for further information on the Project's over-all contribution to environmental, social, health, and economic sustainability
Need for further information on how the Proponent's company policy on sustainability will be applied to company activities
Need for further information on how the Proponent will ensure environmental resources are sustained over the long term (i.e., the seven generations principle of sustainability)
Transboundary Effects
Potential for transboundary environmental, social, and economic effects between the provinces of Ontario and Quebec
Need for further information on the intended use of the inter-provincial rail line between Quebec and Ontario
Use of lands and resources
Potential effect on access to private properties if currently used access roads are closed for mining activities
Potential degradation of the experience of using Beaverhouse Lake and the Misema River system

Potential degradation of the experience of lands and resources due to light pollution, noise and vibration from the Project, such as at nearby residences and areas used for hunting, fishing and gathering

Vulnerable Population Groups (GBA+)

Need for social and economic information to be disaggregated by identity factors (such as by gender or age group) to identify gaps or inequities among diverse groups of the population

Need for more information on how an Indigenous-focused GBA+ lens is applied to the Project

Clarity on potential issues of gender based violence, such as sexual harassment, violence against women, human trafficking, and means to avoid or mitigate potential issues, including any policies or information on external interactions with Indigenous peoples in or around the Project, including potential for differential effects on women

Water - Surface Water or Groundwater

Need for updated surface water baseline studies, including water quality and hydrology

Need for updated baseline hydrogeological studies, including water levels, groundwater flow directions, hydraulic conductivities and groundwater quality in the overburden, shallow and deeper bedrock

Need for updated sediment baseline studies in the waterbodies where mining effluent will be deposited

Potential effects to surface water and groundwater due to acid rock drainage, metal leaching and seepage from the tailings storage facility, waste rock stockpiles, ore stockpiles, and overburden stockpiles. Need for mitigation measures and monitoring plans

Potential effects on surface water quality and downstream flow from overprinting of waterways and minor creeks by stockpiles and mine infrastructure, and following reconnection of the Pit Lake to the Misema River during decommissioning and reclamation. Need for mitigation measures and monitoring plans

Need for further information on effects on surface water quality and quantity in the project watershed and downstream of the Project, such as to the Grassy Lake Outwash Conservation Reserve, Lake Temiskaming, and the municipality of Temiskaming Shores. Clarify if any other provincial parks or conservation reserves are located within the project watershed. Need for mitigation measures and monitoring plans

Potential effects on surface water levels, including flooding, upstream of the diversion channels, and nearby surface water features. Need for mitigation measures and monitoring plans

Potential effects of water taking from local waterways, including Ava Lake, and effects on surface water levels

Potential effect on groundwater quality due to mine contact water and domestic sewage discharge from the Project. Need for mitigation measures and monitoring plans

Potential effects on groundwater quantity in the vicinity of the site due to dewatering of the open pit and underground workings, resulting in impacts on groundwater users and flows in adjacent surface water bodies. Need for mitigation measures and monitoring plans

Need for further information on the effects to surface water quality and quantity, and groundwater quality and quantity, from draining York Lake and diverting the Misema River. Need for mitigation measures and monitoring

Need information on how final discharge location(s) are chosen, including any modelling undertaken to select the final location

Need for further information on the stormwater management strategy and how it may mitigate potential effects on surface water flow, surface water quality and groundwater quality and quantity. Need for mitigation measures and monitoring plans

Need for further information on the Proponent's water management plans for the Project, such as the design for collection ponds and ditches for waste rock stockpiles and ore stockpiles, the type of liners that will be used for the ditching and collection ponds, and further information on wastewater and effluent treatment

Wetlands

Potential effects on riparian areas in waterbodies

Need for further information on the potential effects on wetlands, such as changes in availability of rare habitat and loss of ecological functions, during all project phases. Need for mitigation measures and monitoring plans