

## Executive Summary

### Overview

AuRico Metals Inc. (AuRico) is proposing the construction, operation, and closure of the Kemess Underground Project (KUG Project), located approximately 250 kilometres (km) north of Smithers in north central British Columbia (BC). The KUG Project would be an underground copper-gold mine which is designed to process an average of approximately 24,650 tonnes of ore per day over a 13-year mine life. During the life of mine operations, the KUG Project would produce an anticipated 1.3 million (M) ounces of gold and 563 M pounds of copper. AuRico is a Canadian precious metals royalty and development company and has 100% ownership of the KUG Project.

The KUG Project is subject to an environmental assessment (EA) under BC's *Environmental Assessment Act* (the Act) by the BC Environmental Assessment Office (EAO), and the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) by the Canadian Environmental Assessment Agency (the Agency). On April 8, 2014, the former federal Minister of the Environment approved the substitution of the federal EA process under CEAA 2012 with the process conducted under the Act. The substitution decision was granted in consideration of the approach set out in the *Memorandum of Understanding between the Canadian Environmental Assessment Agency and BC's Environmental Assessment Office on the Substitution of Environmental Assessments, 2013* (MOU).

EAO prepared this Assessment Report in consultation with an Advisory Working Group (Working Group), made up of federal, provincial and local government representatives with mandates and skill sets relevant to the review of the KUG Project, and in collaboration with representatives of Takla Lake First Nation (TLFN), Tsay Keh Dene Nation (TKD) and Kwadacha Nation (KwN), collectively known as Tsay Keh Nay (TKN). The Agency also provided advice to EAO in relation to fulfilling the requirements related to CEAA 2012.

EAO undertook consultation activities during the course of the EA, including holding three official comment periods. All public comments, comments from Aboriginal groups and AuRico and EAO's responses to these comments, were considered in completing the EA.

In conducting this EA, EAO considered the potential environmental, economic, social, heritage, and health effects; including cumulative effects of other projects or activities, of the KUG Project for the provincial EA. For the purposes of meeting the CEAA 2012

substitution requirements, EAO considered effects that the KUG Project may have on environmental effects described in subsections 5(1) and 5(2) of CEAA 2012, as well as the *Species at Risk Act* (SARA), subsection 79(2).

## **Assessment of Effects**

EAO uses valued components (VC) as an organizing framework for the assessment of the potential effects of proposed projects. VCs are components of the natural and human environment that are considered by AuRico, the public, Aboriginal groups, scientists and other technical specialists, and government agencies involved in the assessment process to have scientific, ecological, economic, social, cultural, archaeological, historical or other importance.

The EA included VCs related to air quality, greenhouse gas (GHG) emissions, hydrogeology, surface hydrology, surface water quality, fish and aquatic habitat, wildlife, terrain and soils, terrestrial ecology, economic and social conditions, heritage resources, and human health.

EAO assessed the potential for the KUG Project to have significant adverse effects on the VCs and on the requirements of CEAA 2012. This included an assessment of the impacts the KUG Project could have on Aboriginal groups and their interests. The assessment also considered how accidents and malfunctions and changes to the environment could affect the VCs and Aboriginal peoples. These assessments were based on the Application provided by AuRico and informed by comments received from the Working Group, Aboriginal groups and the public.

AuRico proposed mitigation measures to avoid or minimize the adverse effects of the KUG Project. In consideration of AuRico's proposed mitigation measures and the comments received during the review of the Application, EAO is proposing 33 conditions, each of which includes measures to mitigate the effects of the KUG Project. If provincial Ministers issue an Environmental Assessment Certificate (EAC), they may establish these conditions as legally binding requirements. Mitigation conditions will also be proposed by the Agency for consideration by the federal Minister of Environment and Climate Change as legally binding conditions in a CEAA 2012 decision statement should the KUG Project be allowed to proceed.

The following are some of the key mitigation measures that are included in the conditions EAO proposes to provincial ministers:

- An Aboriginal groups monitoring program that provides employment opportunities for individuals of TKN to participate in environmental monitoring of KUG Project activities;

- Establishment of an Environmental Monitoring Committee to provide a forum for information sharing, and discussion of topics of interest to TKN including water management and water quality monitoring to ensure that TKN and relevant government agencies are involved in the ongoing development of the mine, mitigation and monitoring measures and adaptive management;
- A communication plan for accidents and malfunctions to address how Aboriginal groups, communities and other users of the area would be notified in the event of an accident (e.g., tailings breach), the remedial action being taken by AuRico and subsequent monitoring;
- Surface water quality monitoring for Amazay Lake and groundwater monitoring to detect potential groundwater movement from the underground workings towards Amazay Lake;
- Treatment of the effluent from the KUG Project tailings storage facility (TSF) for metals and selenium (Se) until it is acceptable for discharge to the receiving environment;
- Se concentrations of the discharge to Waste Rock Creek from the KUG Project TSF during post-closure do not incrementally affect Se concentrations in Waste Rock Creek;
- Staged discharge from the KUG Project TSF to Attichika Creek to a volume proportional to the Attichika Creek monthly streamflow and restricted to the open water months;
- A fish and aquatic effects monitoring plan to monitor concentrations of bioaccumulative substances in bull trout in Thutade Lake;
- An ecosystems management plan, which would include monitoring and mitigation of effects to wetlands;
- A wildlife management and monitoring plan, which would address monitoring and mitigation of effects to wildlife, birds, bats, alpine species, caribou and effects to wildlife along the Omineca Resource Access Road;
- An air quality management plan that would include mitigations and/or monitoring for particulate matter, dust emissions and metals in dust at the camp;
- A health services management plan to address the provision and coordination of health services to employees of the KUG Project; and
- A socio-community and economic effects management plan to address mitigation measures and potential impacts to communities from the KUG Project.

Prior to construction, AuRico would also be required to obtain a *Mines Act* permit issued by the Ministry of Energy and Mines and an effluent discharge permit issued under the *Environmental Management Act* by the Ministry of Environment and various ancillary permits issued by other provincial agencies. The coordinated authorizations process for

these permits would involve the requirements for additional conditions and/or mitigation measures. Permit application requirements would include, but are not limited to the following:

- Planning for reclamation and effective mine closure;
- Detailed mine plans with specific requirements for underground workings, processing plants, tailings management facilities and other components;
- Specific requirements for the protection of land and watercourses including wastewater treatment, storage and effluent discharge;
- Geotechnical, hydrological and hydrogeological considerations for the management of the mine site (i.e., the disturbed area and infrastructure associated with the mine); and
- Mine management plans to address environmental, operation and health and safety issues associated with mine construction, operations and closure.

In consideration of the mitigation measures that would be required of the KUG Project, either in the EAC, if approved, or in subsequent regulatory processes, EAO concludes that the KUG Project would result in residual adverse effects that include:

- A contribution to climate change from GHG emissions from stationary fuel combustion and transportation;
- Impacts to groundwater quantity and surface hydrology from underground development and streamflow alterations resulting from KUG Project discharge;
- Impacts to groundwater and surface water quality resulting from sedimentation, erosion and increased concentrations of contaminants of potential concern (COPC);
- Impacts to fish and aquatic habitat quality due to increased water quantity and decreased water quality in Attichika and Waste Rock creeks;
- Direct and indirect wildlife mortality and wildlife habitat loss and alteration due to land clearing, new infrastructure and subsidence, roads and attractants;
- Effects on terrain stability and soil quantity and quality due to KUG Project development and subsidence;
- Loss and alteration of harvestable plant habitat, alpine and parkland and forested ecosystems; and
- Impacts to labour market condition due to loss of employment at closure and competition for skilled labour and wage inflation during construction and operations.

For the purposes of the EA required under CEAA 2012, EAO concludes that the KUG Project would result in residual adverse effects that, in addition to those above, include:

- Impacts on Aboriginal peoples' resource harvesting and current use of lands and resources for traditional purposes (CULRTP) due to:
  - Access restrictions;

- Impacts to resources (e.g., wildlife);
- Potential impacts to quality of experience through increased human presence in the area; and
- Perception of country foods contamination;
- Habitat loss, alteration and/or sensory disturbance for SARA-listed wildlife species including woodland caribou, western toad, rusty blackbird, common nighthawk, olive-sided flycatcher, little brown myotis, and short-eared owl; and
- Impacts on migratory birds from habitat loss and alteration and sensory disturbance.

## **Aboriginal Consultation**

EAO and the Agency worked together to identify which Aboriginal groups could potentially be impacted by the KUG Project based on the following factors:

- Strength of the case for the asserted or established Aboriginal rights, including title and treaty rights (Aboriginal Interests) that may be adversely affected; and
- Seriousness of the KUG Project’s potential to adversely impact these Aboriginal Interests.

The KUG Project is within the traditional territories of TLFN and TKD, and immediately upstream of KwN territory. The KUG Project is adjacent (upstream) to the traditional territory of Gitxsan wilp Nii Kyap. The KUG Project is within the Treaty 8 disputed area<sup>1</sup> and West Moberly’s preferred territory. Métis Nation BC (MNBC) asserts rights and traditional uses over the entire province of BC and has indicated that historic, current and potential future resource harvesting and cultural activities occur in a “buffer zone”, which is within 200 km of the KUG Project. EAO notified MNBC of key milestones during the EA to meet federal consultation agreements consistent with the MOU.

EAO worked in collaboration with TKN, according to a mutually agreed-upon collaboration plan, throughout Application review to discuss project-specific issues, assess the potential adverse effects of the KUG Project on the Aboriginal title, rights, and interests of the TKN, and seek consensus on proposed conditions and recommendations to provincial Ministers. Prior to Application review, EAO provided TKN with opportunities for review and comment on key EA documents (including the VC Selection Document and Application Information Requirements). TKN was an active member of the Working Group. EAO notified Gitxsan, Treaty 8 First Nations and MNBC of EA milestones and provided them with the opportunity to comment on the Application

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<sup>1</sup> Treaty 8 secures treaty First Nations the right to hunt, fish and trap within the treaty area, subject to the right of the Crown to “take up” lands for various purposes. The KUG Project is within an area which is subject to ongoing litigation with the Province regarding the location of the western boundary of Treaty 8 territory.

and EAO's assessment report. All Aboriginal Groups were provided an opportunity to comment on draft provincial and federal conditions.

Taking into consideration EAO's significance analysis of residual adverse effects from the KUG Project and the available information on Aboriginal groups' areas of traditional use within the KUG Project area, EAO concludes that the KUG Project has the potential to impact the Aboriginal title, rights, and interests of the TKN related to hunting, fishing, trapping, gathering, effects to water quality, sense of connection to the land and access to trails and travel ways. EAO and TKN conclude that the key mitigation measures, proposed conditions and accommodation measures would adequately accommodate the assessed potential effects to the Aboriginal title, rights, and interests of the TKN from the KUG Project at the EA stage. EAO concludes that the KUG Project is not expected to impact the Aboriginal Interests of Gitxsan, Treaty 8 or MNBC, including use of culturally significant sites. In the context of potential impacts on Aboriginal Interests EAO also considered: the importance of the KUG Project to the local, regional, and provincial economy; the resources or values that may no longer be available for future generations; and the benefits of the KUG Project to Aboriginal groups.

## **Conclusion**

EAO concludes that, considering the analysis and implementation of the proposed conditions, the KUG Project would not result in significant adverse effects.