

## SUSTAINABLY ADVANCING THE KSM PROJECT

### The KSM Project

Located 65 kilometers northwest of Stewart BC, Seabridge Gold's KSM Project is a Canadian based proposed copper, gold, silver and molybdenum mine with a 52-year life. As a result, it is subject to Canadian environmental laws and regulations. The KSM Project successfully concluded a joint harmonized **Environmental Assessment (EA)** by the Canadian Environmental Assessment Agency (CEAA) and the British Columbia Environmental Assessment Office (BC EAO) in **2014**, after an almost 7-year review process.

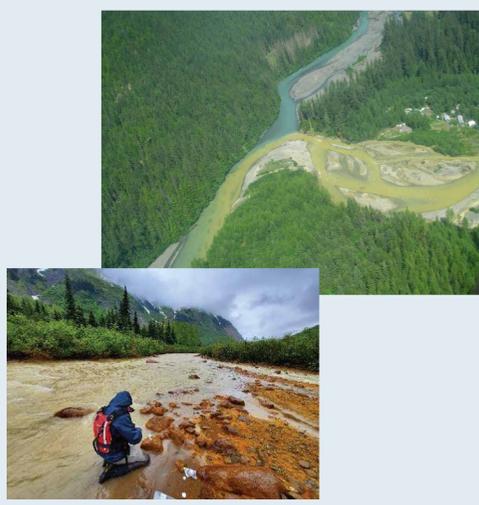
The Project will be operated as a **combined open-pit and underground mine** in which the Kerr and Sulphurets deposits will be open-pits. Iron Cap will be mined underground, while Mitchell will be a combined open-pit and underground operation.

Seabridge is committed to the responsible development of the KSM Project while protecting the natural environment, and the Project is being advanced using best available technology and robust sustainable practices. With a **52-year life**, the KSM Project has the potential to bring significant **economic benefits** and create **multi-generation job opportunities** for Northwest BC, a region that lacks major industries.

The Minister of Environment, in her decision statement approving KSM Project, stated **"The project is not likely to cause adverse environmental effects as defined in the former Act (referring to the Canadian Environmental Assessment Act 1992), taking into account the implementation of mitigation measures described in the report" and "the mitigation measures and follow up programs described in the Report are appropriate for the project."**

The Minister, in making her decision, relied upon a Canadian Environmental Assessment Agency scientific report which stated, **"The agency has concluded that no significant adverse impacts on water quality, water quantity, fish, or human health are expected on the Alaskan side of the Unuk River."**

The British Columbia Ministers of Environment and Energy and Mines concluded, **"the project will be constructed, operated and decommissioned in a way that ensures that no significant adverse effects are likely to occur."**



### Water Quality Near the KSM Project

Since 2007, Seabridge Gold has been conducting ongoing water quality and hydrology monitoring within both the Unuk River, which drains into the Alaska border, and tributaries of the Bell Irving River. Based on the data collected, it has been determined that Mitchell and Sulphurets creeks (flowing into the Unuk River) are **degrading naturally** resulting in elevated concentrations of selenium and other metals within water. Treaty Creek, located downstream of the yet to be constructed Tailings Management Facility (TMF) location, also has elevated levels of minerals due to the upstream stream location of mineralized zones of exposed bedrock, which are naturally oxidizing and eroding. Hence, the water quality in these watersheds cannot be characterized as pristine. **Water quality flowing into Alaska will not degrade as a result of the KSM Project**, beyond the naturally occurring mineralization. This includes **selenium levels**, which will also **not increase**, in waters flowing across the BC/Alaska border, in the Unuk river.

### Selenium Treatment

During EA, potential impacts to environment arising from selenium and other naturally occurring metals were thoroughly evaluated and assessed. The BC Environmental Assessment process required Seabridge to evaluate and adopt an effective selenium treatment technology for the KSM Project. The proposed **Water Treatment Plant** at the KSM project will not only manage water that has been in contact with mining activities but will also **improve the existing naturally poor water quality**. Seabridge adopted **Selen-IX technology** developed by selenium technical experts BioteQ Environmental Technologies, Inc (BQE) which received a **US patent** in 2018.

This treatment was successfully **tested and proven** during a pilot plant evaluation in 2015. Furthermore,

in 2020, BQE Water completed commissioning and Performance Test of First Selen-IX™ Plant for selenium removal at the Kemess Property in BC.



### Tailings Management Facility (TMF)

Once built, the lifespan (52 years) of the KSM Project will be on average more than three to four times the lifespan of the majority of the mining projects currently operating in BC. KSM Project's TMF was designed by considering the long lifespan and the resultant tailings. Hence, the TMF design, using the best available technology, can store 2.3 billion tonnes of tailings. The design and operational method for KSM's TMF dams have been specifically engineered to be stable under all conditions, including earthquakes, and comply with the highest standards of static stability.

The TMF **drains into Canadian waters and not US waters** and is situated in waters not frequented by salmon. The location of the TMF site was selected after completing an extensive alternative assessment which examined **14 different sites**. The site was chosen owing to its stable geological conditions, potential to minimize environmental impacts including those associated with land disturbance and aquatic impacts, and for being the most secure site from operability and closure perspectives.

Additionally, water management volumes are also minimized as TMF is located in an alpine valley with no surrounding glaciers.

- ▶ KSM Project's TMF is annually reviewed by the **Independent Geotechnical Review Board (IGRB)** formed by Seabridge in 2015, which is comprised of world-class experts in tailings management with more than 300 years combined experience. In April 2016, the IGRB confirmed that the design of the proposed structures for KSM Project were **appropriate and safe**.
- ▶ Seabridge Gold also voluntarily initiated a **Best Available Tailings Technology (BATT) Review** of the planned management approach for the KSM Project which confirmed that the existing **tailings management facility design** is the best available technology for tailings deposition and the most environmentally responsible plan to minimize long term risks associated with the proposed tailing storage facility for the KSM Project and that **dry stacking was not a viable deposition method**. In actuality, dry stacking of tailings would result in greater environmental impacts.
- ▶ Furthermore, Seabridge also commissioned an **independent review of the BATT report by Dr. Dirk van Zyl**, a world-recognized expert in tailings, mined-earth structures and sustainability with more than 40 years of experience. He also sat on the Mount Polley Independent Expert Review Panel. In his review, Dr. van Zyl concluded: **"I support the overall conclusions of the KSM BAT report."**



### Indigenous Engagement

To Seabridge, working alongside Indigenous groups during Project permitting, planning and development stages is critical to the success of all Projects. We take an open-minded approach to input we receive and based on feedback and requests from Indigenous and other working groups, we incorporated several **design changes** into the project, adding more than **\$300 million** to the project's capital cost. To ensure a mutually beneficial project, Seabridge also executed far-reaching **benefits agreements** with the **Nisga'a Nation** in 2014 and **Tahltan Nation** in 2019 covering protections of Indigenous rights, the environment and shared economic benefits for the KSM Project.

### Working with Alaska

Due to the deposit's location, concerns of Alaskans along with the potential impacts to Alaskan waters were an important focus and carefully evaluated during both the provincial and federal environmental assessment reviews. Seabridge Gold voluntarily conducted **130 meetings/interactions** during the EA process with Alaskan community members, Federal and State regulators and Tribes to ensure that downstream waters were not impacted by the proposed operations. This lack of impact was confirmed by both the federal and provincial governments in their decision statements approving the environmental assessment for the KSM Project.

### Reclamation Cost

The provincial government establishes the bond value required to reclaim and monitor the site and **Seabridge is prepared for and has included full reclamation costing** in all of our financial models to reclaim and monitor the KSM Project site. If the government were to find any project proponent, including Seabridge, incapable of posting the necessary funds to reclaim or monitor the site, they would not issue permits to build and operate the mine.

The KSM project has been through extensive environmental and technical evaluations by independent experts, including those of Indigenous Nations, to ensure its operation will not cause harm to the surrounding environment, including waterways and fish. Once the KSM Project begins operations, it will be subject to monitoring requirements under a variety of approved plans including aquatic effects management, salmon monitoring, selenium management, wildlife management and the Canadian federal government Metal Mining and Effluent Regulations.

### Learn more about the KSM Project

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