

# KSM MINING ULC

A SUBSIDIARY OF SEABRIDGE GOLD INC.

August 23, 2020

Via Email:

[christopher.sergeant@umontana.edu](mailto:christopher.sergeant@umontana.edu)

**Attention: Chris Sergeant**  
**Research scientist at the University of Montana**

Dear Mr. Sergeant:

Re: Inaccurate Information about Selenium Removal Technology adopted at KSM Project

In an August 19, 2020 The Narwhal article titled ‘Seabridge Gold asks B.C. for more time to begin KSM mine construction, citing COVID-19’ you were quoted as saying - *“Water that contacts the mine on the Unuk River side will drain directly into a water storage reservoir. This water would receive treatment before discharge into the Unuk watershed. But there isn’t currently a proven method for sufficient removal of selenium — which has been shown to negatively impact fish populations — and mine operations are expected to increase selenium levels in the water.”* **This statement is incorrect.**

Seabridge has adopted a non biological treatment method referred to as Selen-IX technology, developed by Se technical experts BioteQ Environmental Technologies, Inc. for the removal of selenium from waters in northwest BC. In 2015, Seabridge successfully completed a pilot plant evaluation of this new process. The pilot plant was constructed and operated by BQE Water. Selen-IX involves two key unit operations that work in tandem to remove selenium from water and fix it as a stable solid product. The first unit is ion exchange, which selectively removes selenium from impacted water, generating clean water for discharge and a concentrated selenium brine solution. The second unit is an electrochemical treatment system which treats the brine to precipitate selenium and allow re-use of the brine in the ion exchange circuit. This selenium treatment technology was able to reduce selenium concentrations to 1 ppb in water extracted from the KSM project site and thus, satisfied a key legally binding condition of the BC Environmental Assessment Certificate which Seabridge received for the KSM Project on July 30, 2014. The KSM Se treatment information was shared with the public in 2015. In 2018, the Selen-IX™ treatment technology was issued a US patent further validating Seabridge Gold’s chosen approach for selenium treatment at the KSM Project. Over the last 20 months there have seen a major increase in the number of projects where Selen-IX is selected as the treatment technology of choice by project owners, approved by regulators, and advanced into implementation.

The KSM Project underwent a joint BC-Canada independent environmental assessment review as mandated by the BC Environmental Assessment Act and the Canadian Environmental Assessment Act (1992) respectively and during this review the potential impacts to environment arising from Se and other naturally occurring metals was thoroughly evaluated and assessed.

With respect to Se, it is important to highlight that the BC Ministers of the Environment and Energy and Mines respectively, in making their decision to approve the KSM Project, attached a legally binding condition to the KSM Environmental Certificate which stated:

*Within one year of the issuance of an EAC, the EAC Holder must construct and operate a pilot water treatment plant (the “Pilot Plant”) to evaluate the feasibility of treating selenium to the concentrations assumed in the water quality predictions and effects assessment for the project. The Pilot Plant must be operated with local runoff from Mitchell Creek that has been modified to represent the range of expected water quality and conditions for seepage from the Mitchell/McTagg rock storage facility. The Pilot Plant must be operated at a sufficient flow rate to prove the feasibility of the treatment process.*

*The EAC Holder must submit a report describing the results of the Pilot Plant and assessing its feasibility for the treatment requirements for the Project, to MOE, MEM and the Environmental Assessment Office (EAO) within 12 months of completion of the Pilot Plant work.*

This work was completed throughout the fall of 2014 by our water treatment experts BQE Water and the results which proved the feasibility of the treatment method were submitted to the appropriate regulatory agencies including Alaskan authorities in the spring of 2015. Thus this legally binding condition has been fulfilled by Seabridge Gold.

Additionally, we wish to highlight that we have more than 10 years of baseline data on the Unuk River, data which is publicly available and has been shared with regulatory authorities, including Alaskan based agencies. From this data and other baseline work completed by Seabridge, it has been determined that the Mitchell and Sulphurets creeks are degraded naturally due to the natural erosion and leaching of the exposed KSM mineral deposits. These natural processes have resulted in elevated concentrations of Se within water, as well as other metals such as Cu and Fe effectively creating a chemical barrier to fish activity within these headwaters streams to the Unuk River. This natural degradation of water quality is also observed within the Unuk River and with the planned project mitigations, impacts to the Unuk River resulting from the development and operation of the KSM Project will not occur.

For Seabridge Gold, protection of the environment in both Canada and in the US, is a guiding principle behind the design of the KSM Project. The company has put the KSM project through extensive environmental and technical evaluations by independent experts to ensure its operation will not cause harm to the surrounding environment, including waterways and fish, and has worked closely with all stakeholders, including Alaskans, to ensure that their concerns were acknowledged and addressed throughout the environmental assessment review. We are confident in our design and the robustness of the environmental assessment review processes that were mandated by BC and Canada, respectively.

We strongly encourage you to fully educate yourselves with all KSM Project facts before sharing information with the media or engaging in public dialogue regarding our project, so as to eliminate transmitting any further factual errors. In closing, I would be happy to answer any questions you have about the KSM project, including our planned Se treatment, and the rigours of the independent British Columbia and the Canadian Environmental review processes.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Brent Murphy". The signature is fluid and cursive, with the first name "R. Brent" and the last name "Murphy" clearly distinguishable.

R. Brent Murphy, M.Sc., P.Geol  
Senior Vice President, Environmental Affairs  
Seabridge Gold

RBM/RS/...