

# KSM MINING ULC

A SUBSIDIARY OF SEABRIDGE GOLD INC.

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Email: [emma@thenarwhal.ca](mailto:emma@thenarwhal.ca)

Attention: Emma Gilchrist  
Editor-in-Chief/Executive Director

Dear Ms. Gilchrist:

Re: Corrections to *Six years after Mount Polley disaster, expert recommendations not fully implemented: report*, written by Matt Simmons, local journalism initiative reporter.

I am writing to correct the record with regard to the Narwhal's August 4<sup>th</sup> article: *Six years after Mount Polley disaster, expert recommendations not fully implemented: report*, written by Matt Simmons, local journalism initiative reporter.

In the article, Mr. Simmons reports "If approved, the KSM mine would have a tailings pond that holds 28 times the volume of Mount Polly's, and would be kept behind a 239-metre dam above an important salmon watershed." This statement is both erroneous and misleading in many ways.

The KSM Project is an '**approved project**'. The KSM Project underwent a rigorous independent joint-harmonized BC-Canada Environmental Assessment. After a seven-year review process, KSM received approvals under the British Columbia Environmental Assessment Act, the Canadian Environmental Assessment Act (1992) and the Nisga'a Lisims Treaty.

Between 2008 and 2014, 250 independent scientists from across 20 disciplines along with a cadre of geophysical, geotechnical mining, design and civil engineers, social scientists and Indigenous traditional scientists worked together to research and publish 36,000 pages of scientifically rigorous information as it related to the environment, economic, social, heritage, cumulative, International and health impacts of this project. This review included information related to potential transboundary concerns. This information was then independently reviewed by both the Tahltan First Nation and Nisga'a Lisims' scientists, who considered both the traditional scientific knowledge and traditional values as it related to the project.

Once the 36,000 pages of scientific information were collected and collated, The Canadian Environmental Assessment Agency, The British Columbia Environmental Assessment Agency along with twenty US Federal and Alaska regulatory agencies and the Nisga'a Lisims' Government conducted extensive,

independent reviews of the information. During this time, Seabridge Gold scientists conducted 115 meetings with the independent regulators to answer questions about their peer review of the science. The Canadian Government as represented by the Minister of the Environment, in her decision statement approving KSM, concluded *“The project is not likely to cause adverse environmental effects as defined in the former Act (referring to the Canadian Environmental Assessment Act 19912), 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.”* Furthermore, 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.”*

Additionally, Alaskans were closely involved with the KSM environmental assessment review including extensive discussions on water quality concerns, despite there being no US regulatory triggers, as Seabridge deemed it important for the Alaskans concerns to be identified. The involvement of Alaskan regulators was documented in a 2014 *Juneau Empire* article which summarized the conclusions of these regulators, *“four of the same resource managers and specialists who reviewed Alaskan mines have examined KSM’s plan. They found no significant issues with the application.”*

Concurrently with the environmental assessment review, and as a prerequisite to permitting projects in Canada, Seabridge Gold was required to gain a social license to operate from the local communities and First Nation rights holders.

After over a decade of consultation and engagement with the local community members and First Nations rights holders, responding to 15,000 questions and comments, 76 percent of the local community members strongly supported the KSM project environmental assessment application. Additionally, both the Tahltan Nation and the Nisga’a Lisims Treaty Nation, (the First Nations on whose traditional territory the KSM Project is located) both signed economic benefit agreements in support of the KSM Project.

I’m confident, Mr. Simmons could have found this information through a quick search on the KSM Project website ([www.ksmproject.com](http://www.ksmproject.com)) and reported correctly that the KSM Project is an approved project.

Next, Mr. Simmons erroneously and misleadingly implies the KSM tailings management facility is similar in design to the Mount Polly’s tailings facility.

The engineering of the KSM tailings management facility and the Mt Polley facilities are very different. At the Mount Polley Mine, the tailings management was an earthen ring dam comprised of pit run mine waste, surrounding a tailings pond that contained waste water in contact with the dam.

The KSM tailing management facility will not be holding back a tailings pond (i.e water) as Mr. Simmons insinuates, rather the facility will hold predominantly sand. The KSM tailings management facility design (including tailings dams) is world class and designed using the most modern technology with an emphasis on safeguards.

- Design similar to tailings dams at the Highland Valley Copper and Gibraltar Mines, both located within BC, with the dams designed at a 3:1 downstream slope to height ratio.
- Designed to work within a natural valley which provides natural containment, with extensive and comprehensive monitoring throughout and, in particular, at the two ends of the valley. The KSM TMF is not surrounded by a ring dyke, but instead comprised of cross-valley embankments.
- The KSM TMF was permitted as a discharge facility after undergoing an extensive environment review. It has not been designed as a zero-discharge facility (which was the status of the Mount Polley facility at the time of the tailings release incident). As a result, water will not accumulate within the facility.
- The facility has been designed with contingency to store a peak flow, sustained over 30 days.
- Annual release of environmentally acceptable discharge, without water treatment, will occur and there will be no downstream environmental impacts as identified in the environmental assessment review. The discharge will be staged to coincide with peak flows in the nearby receiving water courses.
- Dams will be constructed as compacted cyclone sand dams over compacted, engineered controlled fill starter dams and will not be coarse gravel embankments or pit-run mine waste. The dams will contain extensive monitoring and dewatering systems to ensure that pore pressures do not build up within the structure.
- The TMF will be operated in such a manner that accumulated pond water will remain at great distance away from the dam crests at both ends of the containment cell, such that free standing water is not in direct contact with upstream dam faces.
- Construction and operation will occur in a series of stages with independent cells in each stage. This staged construction approach will minimize surface disturbance and potential environmental impacts.
  - Approximately 90% of the tailings material will be sand and will be classified as non-potentially acid generating material. Potentially acid generating material, comprising roughly 10% of the total tailings volume, will be deposited in the centre cell. This cell will be lined and isolated from the main portion of the TMF and the natural environment and the waste will be stored underwater.
- Tailings dams have been designed to the high-quality Canadian Dam Association Guidelines, some of the most stringent standards globally. These dams are capable of withstanding earthquakes.

A KSM TMF fact sheet is attached for additional information.

Further, had Mr. Simmons done his due diligence, and doubled sourced his article, he would have learned that Seabridge established in January 2015, an Independent Geotechnical Review Board (IGRB) which further has investigated the design, construction methodology, operation and closure plans for the KSM tailings management facility. After a comprehensive review by these leading geotechnical, engineering and mining experts with over 300 years of world class expertise, the Board concluded, “***The layout and type of structures, the tailings management approach, runoff and seepage control measures, and the closure plans are appropriate for the site conditions and intended purposes.***” The IGRB’s reports are publicly available on KSM’s project website.

In addition to undergoing an Independent Geotechnical review, the KSM Tailings management facility and operation plans were further put to the test, through an Independent Best Available Technology Review. This Review followed the methods required by Environment Canada’s Guidelines for the Assessment of Alternatives for Mine Waste Disposal, supplemented with additional analysis specific to various potential tailing management disposal methods. Seabridge voluntarily initiated the study, following receipt of the Project’s environmental approvals in 2014, to further review the proposed tailing management strategy to confirm that the current plan is the most appropriate strategy to minimize physical, geochemical, biophysical, and social risks over the life of the tailing facility.

The Best Available Tailings Technology (BATTT) Study concluded the cyclone sand tailing management facility is the best available technology. The authors of the Study concluded “***The robust and resilient design of this alternative is backed by a proven technology, minimizing potential impacts to water quality and fish habitat, failure risks, and project costs, while maximizing technical feasibility and socio-economic benefits. The tailing technology selected provides both chemical and physical stability after Project closure, allowing the site to return to its baseline conditions. The design is also the most technically feasible to construct, operate and close in a safe manner, and has the fewest associated socio-economic concerns.***”

As a further step in its review process for the KSM tailing management approach, Seabridge commissioned an independent review of the BAT report by Dr. Dirk van Zyl. Dr. van Zyl is a world-recognized expert in tailings, mined-earth structures and sustainability with over 40 years of experience. He is currently a faculty member at UBC's Faculty of Applied Science and was a member of the Independent Expert Engineering Investigation and Review Panel investigating the Mount Polley tailing storage facility breach. In his review of the report, Dr. van Zyl stated: “***I support the overall conclusions of the KSM BATT report. The evaluation shows that using filtered tailings at this project is not a feasible option as it will not result in moving to zero failures. Adding complexity in tailings management, as filtered tailings will do at the KSM site, does not promote the overall goal of moving to zero failures.***” Both of these previous referenced reports/reviews are also available on KSM’s project websites.

Finally, I think it is important to note that for the past 12 years Seabridge Gold, the owners of the KSM Project have worked closely with the local communities to gain the social license to operate. Because of the trust built through these consultations, engagements and the accommodations made to address concerns, Seabridge has entered into comprehensive Benefits Agreements with the two groups on whose treaty and traditional territories the mine is located--the Nisga'a Nation and the Tahltan Nation. Seabridge Gold also has an environmental agreement with the Gitanyow Wilps and the Gitxsan Hereditary Chiefs have endorsed the Project with a letter of support for the environmental assessment approval. We have also received letters from the local communities of Terrace and Smithers both supporting the KSM Project.

I fully support independent journalism and the role publications such as the Narwhal have an in filling the void resulting from loss, amalgamation and the lack of media independence in Canada. In the same vein, I also feel it is critical if independent journalism is going to successfully fill this void, it must provide honest and fully transparent reporting. Mr. Simmons himself is quoted in his biography as saying "there's a pretty clear distinction between simple news where you can get your facts and interpret them as you like and good journalism that goes deeper and gives the reader a chance to have some understanding of the complexity of an issue — and the issues are always complex." Unfortunately, Mr. Simmons fell short of his own definition of good journalism in this article by not presenting the facts.

I am confident, given these facts I have provided, you will make the appropriate changes and retract the inaccuracies and misconceptions predicated about the KSM Project by Mr. Simmons in this article and stop any future attempts to compare KSM to Mount Polley.

Regards,

A handwritten signature in blue ink, appearing to read "R. Brent Murphy". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

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

RBM/RS/...

Attachments