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## Toxic water leaches into prime Alaska, Canada salmon habitat

60 years later, British Columbia still won't commit to cleaning up the Tulsequah Chief Mine



The Tulsequah Chief Mine is seen on Sept. 26, 2016. The yellow water is Acidic Mine Drainage from shuttered mine adits. It drains into an “exfiltration pond,” pictured, which overflows into the Tulsequah River. (Courtesy Photo)

The year the Tulsequah Chief Mine began polluting Alaska waters, a gallon of gas cost 31 cents, baseball great Jackie Robinson announced his retirement and the electric watch hit retail shelves for the first time.

Since 1957, a Canadian facility 40 miles from Alaska's capital has leached toxic water into prime Alaska and Canada salmon habitat.

Mining officials have issued numerous pollution abatement orders to mine owners over the years, but none have stuck. In the meantime, Alaska environmental groups and salmon industry advocates have called for the B.C. government to clean up the mess themselves.

A recent \$1.2 million financial seizure from the B.C.'s Ministry of Energy and Mines marks the most concrete step to date toward cleaning up the TCM. Additionally, B.C. and the state of Alaska are working harder than ever to come up with a solution through their Transboundary Mining Work Group.

But other indications show that no cleanup effort may be coming anytime soon. Canada still won't commit to a firm timeline to stop the pollution as B.C. still holds out hope a new developer will buy the beleaguered mine.

So the question remains: who will clean up the Alaska's longest-running environmental mess?

**The dumping is illegal, but is it harmful?**

The pollution, called “Acid Mine Drainage,” stems from several mine adits which leach toxic chemicals through a retaining pond or overflow from a holding pond after rain showers.

It’s brown and nasty and likely lethal to fish that swim directly through it. Recent estimates indicate that 12.8 liters per second, or over 400 million liters per year, of AMD are leaching from the site.

It’s a point of contention between environmentalists and mining officials in B.C. just how much of an effect the AMD is having. Most studies show that it currently isn’t harming fish stocks. The Taku River watershed is the biggest intact watershed on the West Coast, with the power to dilute the pollution many times over.

But with the mine leaching AMD for so long, environmentalists say they don’t want to wait for fish to go belly up before cleaning up the site.

B.C.’s Minister of Energy and Mines Bill Bennett said in a Friday phone interview that, “We’re operating right now on the basis of some research at the site, in the river by both Alaska and British Columbia and that research has indicated at this point and time that there is no contamination in the river.”

Bennett has repeatedly made this claim to media, citing unnamed Alaska scientists. He said he gathered this information from a joint meeting between Alaska and B.C. officials in the past several years.

“I stood in a room in Juneau when an Alaskan official spoke up, on her own, and told us that all of their studies have indicated that there was no contamination,” Bennett said. When asked for a source, Bennett said, “I haven’t been there in a couple years so I don’t remember” but he’d have his staff look into it.

The Alaska Division of Habitat’s Jackie Timothy, when reached for comment about Bennett’s claim, stressed that the minister is “working very hard” to end the pollution, but has a “30,000-foot view” which may prevent him from speaking precisely on the issue.

She was also a little taken aback by Bennett’s claim that the TCM isn’t contaminating the river.

“It’s hard for me to believe that he (Bennett) said that. He understands, he’s been there and he’s seen it. There is drainage from that mine that has been draining into the Tulsequah for 60 years and the drainage has been documented as acid drainage,” Timothy said. “He’s fully aware of that.”

Bennett may simply be operating on a misunderstanding. The river is being contaminated, “clearly,” in Timothy’s words, but maybe not enough to be hurting fish. However, to say there’s no contamination coming from the TCM simply isn’t true.

When asked for clarification through text message, Bennett said the Empire could replace the word “contamination” with “harm.”

When asked about a study done by the mine's most recent owner, Chieftain Metals, which shows water quality exceeds acceptable levels for parts of the year, Bennett said:

"It doesn't show that harm is being done. It shows that it exceeds water quality standards. That's not the same as saying harm is being done," Bennett said. "What I am saying to you is there is not currently an emergency that we are aware of. We are going to deal with this. We're going to do our Ecological Risk Assessment in the spring, then we'll make a determination whether there is environmental harm being done."

In a Jan. 4 email response to Rivers Without Borders, a conservation group based in Juneau, Michelle Hale, Director for the Division of Water at the Department of Environmental Conservation, explained that Water Quality Standards are put in place to protect wildlife.

"WQS are intended to protect different beneficial uses of marine and fresh waters, including the growth and propagation of aquatic life," Hale wrote.

But she also clarified that her data does not show that the TCM is currently having any effect on salmon.

"... With that said, the data and information we have looked at to date has not caused us to conclude a WQS is being exceeded in the Taku River in Alaska due to the mine drainage from the Tulsequah Chief site."

Whether or not the pollution has yet affected fish stalks is debatable, but the existence of the pollution is illegal. It violates Canadian fisheries law, mine permits and

agreements with the Taku River Tlingit First Nations.

### **Studies are inconclusive**

The TCM's toxic water first dumps into the Tulsequah River, then makes its way into the Taku River, where a lucrative commercial fishery operates seasonally. The river is home to a vulnerable population of king salmon that faces unprecedented low numbers.

Studies indicate that this pollution is probably not currently killing fish. Tissue samples taken from Dolly Varden Char, a salmonid, have not shown elevated levels of concentrated metals from populations of fish below the mine runoff.

No similar studies have been conducted on the chum, sockeye and coho salmon important to Taku River commercial and sport fishermen.

The acid mine drainage does have the potential to harm ecosystems even if fish aren't currently going belly up, said Timothy.

"It could affect bugs and sediment. It could make it so that you don't have algae growing on rocks, the normal things you would be seeing," Timothy said.

The AMD shows high concentrations of copper, a mineral which can disrupt a salmon's ability to "smell," in a sense, leaving them disoriented and vulnerable to predators. AMD water flowing out of the mine has shown levels of copper up to 52,000 parts per billion.

That's many thousands of times higher than it takes to effectively kill a salmon, but as the AMD gets diluted, its effects lessen.

Studies of water quality on the Taku and Tulsequah rivers show mixed results on whether there's enough copper in the river to affect fish downstream. They also don't clearly show that this copper is coming directly from the mine.

A 2014 study conducted by two third-party B.C. environmental consultants revealed that water quality below the mine exceeds acceptable standards for parts of the year while meeting standards at other times. That study was part of the Environmental Risk Assessment B.C. ordered Chieftan to conduct before closing the plant.

But there were numerous flaws in that study, leading the MEM to order Chieftan to start the study over. The company went bankrupt before it could complete a new ERA.

Another study finds copper exceedances both upriver and below the mine, with levels of copper peaking in low flow months of January and February. The Tulsequah lies in a "mineral rich" valley, Timothy said, meaning it's already rich with some of the same minerals leaching out of the TCM.

B.C. has used \$1.2 million in a recently-seized bond from Chieftan Metals to conduct a new ERA, which will come out in March or April, according to an email from Barbara Blake, Senior Advisor to Governor Bill Walker and Lt. Governor Byron Mallott.

"The consultant is currently finalizing the report with B.C.," Blake wrote.

That bond money was also used to secure some on-site chemicals used for Chieftain's shortlived water treatment facility.

Bennett said he's waiting on that ERA to decide whether or not to commit government funds to the cleanup.

"Our laws don't allow inadvertant surface discharge that is happening at Tulsequah. And we will repair the settling ponds this summer," Bennett said. "But again, if the ERA fails to reveal environmental harm, we will not spend tax dollars. We will wait a while to see if a private sector party will assume the cost in return for a permit and a bond."

### **Shopping for a new buyer**

The TCM has changed hands several times. The last two companies to own the mine — Redfern Resources Ltd. and Chieftain Metals — gave up on plans to revamp the project and have since gone bankrupt.

Neither company has followed through on pollution abatement or mine closure plans written into project proposals. As a result, the provincial government has taken control of the project twice in an attempt to wrest funds out of the failed mine.

Redfern Resources Ltd. bought the mine in 1997 and handed it over to B.C. in 2009. After taking control of the mine in 2009, B.C. sold the project to Chieftain Metals, who agreed to address the Acid Mine Drainage when they bought the property in 2010.



Chieftain went bankrupt last fall and the project remains in a second round of receivership, with B.C. hoping Toronto-based firm Grant Thornton LLP can sell the project once again and pass the buck off to a new developer.

Jennifer Kwon, a junior partner with Thornton, said they are still in the process of looking for a buyer and don't have a time limit to finding one.

"We are running a sales process and haven't identified a purchaser yet," Kwon said. There's "no deadline per se" to sell the project, but Grant Thornton is "exchanging correspondence with potential buyers."

### **The end game**

The existence of an ecological emergency is "what's driving the timetable" in Bennett's words.

"If there's contamination happening ... the province would then step in and clean it up, but we don't have evidence of that right now" he said. "The ecological risk assessment will be the final word on that."

If the ERA doesn't constitute an emergency, which, if past studies are any indication, it won't, B.C. will continue to allow the TCM to illegally dump millions of tons of untreated water into the river.

If a buyer shows interest in the mine and purchases it, Bennett has promised that he will include "ironclad" agreements to hold the new owners responsible for clean up.

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