

Mount Polley mine tailings pond breach followed years of government warnings

Imperial Metals was warned about height of wastewater in tailings pond most recently in May

By Jenni Sheppard, CBC News | Posted: Aug 05, 2014 9:50 PM PT | Last Updated: Aug 06, 2014 6:22 PM PT

The B.C. Ministry of Environment says it warned Imperial Metals about the level of wastewater in the tailings pond at its Mount Polley mine repeatedly before this week's devastating breach.

The [breach of the tailings pond dam at the copper and gold mine](#) near Likely, B.C., released 10 billion litres of water and 4.5 million cubic metres of metals-laden fine sand, contaminating several lakes, creeks and rivers in the Cariboo region of central B.C. on Monday.

In an email to CBC News, a Ministry of Environment spokesperson said the ministry gave the company its latest of five warnings in May, this time for exceeding the permitted height of wastewater within its tailings pond.

The ministry said the company has applied for two amendments to its operating permit in recent years to allow the mine to discharge an increasing amount of wastewater.

The first of these, in 2009, prompted the company to commission an [independent review](#) of the proposed increase after the ministry raised concerns. The second, submitted this summer, was under consideration by the ministry at the time of this week's breach.

Brian Olding, the environmental consultant who carried out the 2009 assessment for the company and local First Nations groups, says the pond levels were already getting too high five years ago.

"It means the water is rising, so you have to build the walls of the tailings lagoon higher as you go," Olding said.

Olding's report also criticized the company for not having a contingency plan in case of a tailings pond failure. It wasn't clear Tuesday if such a plan had been developed between the report's completion and the dam breach.

Olding said in an interview with The Canadian Press that no analysis of the dam's structural integrity was done as part of the review.

"I requested a structural engineering company be involved, and that was nixed," Olding said. "They did not want to deal with that problem at that time."

Olding told CBC News he thinks the permit amendment should have been obtained sooner.

"A wastewater treatment process should have been put in," he said.

14 inspections, 5 warnings

The B.C. Ministry of Environment says it has conducted 14 inspections of the Mount Polley mine since the 2012 permit amendment was granted.

In August 2012, the ministry found the mine failed to report the excess height of wastewater for the perimeter pond. The perimeter pond overflowed, releasing approximately 150 cubic metres of wastewater over 13 hours.

- [Residents fear tailings breach debris will wipe out homes](#)
- [Mount Polley mine spill threatens B.C. sockeye salmon run](#)

On two occasions, Imperial Metals failed to submit monitoring data for one of its groundwater monitoring wells, the ministry found.

Then in April of this year, the ministry found the mine experienced high flows due to the spring melt, which blocked the pump system and resulted in an overflow of wastewater. The ministry issued an advisory to the company for bypassing "authorized treatment works." The wastewater did not reach the creek and was directed to another pit.

Pond not discharging water fast enough

When his report was published in 2011, the tailings pond was accumulating water so quickly that it would have needed to discharge about 1.4 million cubic metres of water per year to keep its levels stable.

"A sustainable means of discharging excess water is required because dam building cannot continue indefinitely," the report said in June 2011.

In 2012, the mine was granted the permit amendment it had requested, allowing the company to discharge 1.4 million cubic metres of wastewater per year into nearby Hazeltine Creek.

Finally, three months ago, the ministry warned Imperial Metals yet again after the height of wastewater in the tailings pond exceeded authorized levels.

According to the ministry, the wastewater level eventually returned to normal one month later.

In summer 2014, the firm applied to amend its permit again, this time to allow a discharge of three million cubic metres of treated wastewater or ditch water into Polley Lake, which overflows into Hazeltine Creek. The approval of that change is still pending.

Tailings pond water exceeded guidelines

According to the B.C. Ministry of Environment, staff in the environmental protection division reviewed data submitted by Mount Polley mine about the liquid found in the tailings pond this month.

Concentrations of various metals and compounds in mine wastewater in the province are regulated under a generic set of guidelines known as the British Columbia Water Quality Guidelines. However, because complex factors influence how substances will react in the environment, companies are allowed to develop site-specific standards in many cases.

Upon review, Environment Ministry staff found concentrations of some substances exceeded the preferred levels at the Mount Polley site as follows:

- Selenium – exceeded drinking water guideline of 10 ug/L by a factor of 2.8 times.
- Sulphate – no current problem, but frequently exceeded drinking water guideline of 500 mg/L over the last several years.
- Molybdenum – recent molybdenum concentrations in the tailings pond water exceeded livestock watering and irrigation guidelines of 0.05 mg/L.
- Organic carbon concentrations – exceeded the 4 mg/L guidelines for chlorination.

In addition, staff found the concentration of several other substances in the tailings pond water exceeded aquatic life guidelines, such as nitrate, cadmium, copper, iron and selenium, albeit sporadically, in the last few years.