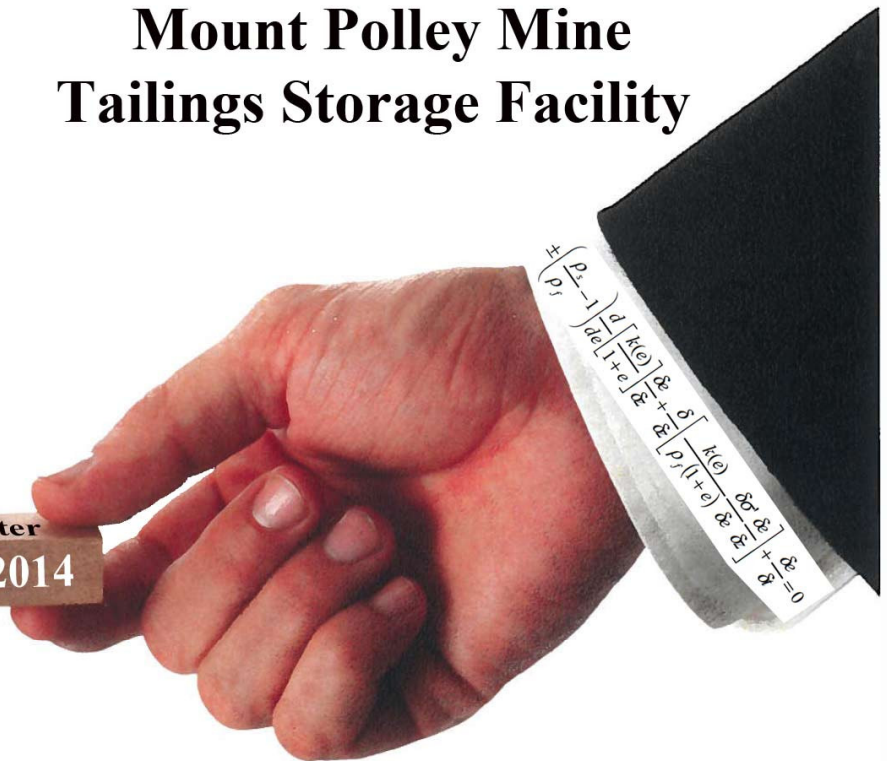


THE SCENE OF THE CRIME



A Preliminary Analysis and History of the Mount Polley Mine Tailings Storage Facility



By Will Koop
December 1, 2014
BC Tap Water Alliance
(www.bctwa.org)

Preface

British Columbia's Mount Polley copper/gold/silver mine waste tailings disaster of August 4, 2014, located near the western-most reach of Quesnel Lake, is among the largest recorded disasters, by volume, in world history, with updated estimates of about 25 million cubic meters of toxic waters and heavy metal mine waste contaminants having escaped into the nearby environments of Hazeltine Creek and Quesnel Lake, destroying and inundating everything in its path, a most terrible and preventable tragedy.

Though others are examining and lab sampling the repercussions and tragic aftermath of the disaster to the receiving environments - its various impacts on living organisms and fresh waters - and though others may be tracing the evolving narratives of how the mining company and the provincial government - set within a devolving political context of environmental deregulation - downplayed the disaster and are keeping a relatively tight lid on it, the focus of this report examines the history of the mine's waste tailings impoundment, which the mining industry and professional engineers more often refer to as a Tailings Storage Facility, or sometimes as a Tailings Management Facility.

This is the first investigative report on Mount Polley since the date of the disaster, 17 weeks previous, and provides an assessment and introductory history behind the inner workings of a terrible tragedy, of what appears to be an environmental crime. And, it is published during a time of interim darkness, as the BC government is temporarily withholding report and related information not already released concerning the planning and operations of the Mount Polley mine, perhaps until the early months of 2015 or later. That is when the reporting of one of a few separate investigations is scheduled for public release: a government-appointed three-panel member review committee (under narrow Terms of Reference) with a deadline to release a final report by January 31, 2015. Amongst the remainder, an internal, technical investigation launched by BC's Chief Inspector of Mines, Al Hoffman (see Appendix G).

In anticipation of those investigative findings, this report presents preliminary accounting and discoveries. It finds very disturbing and disconcerting matters: a mine waste tailings impoundment that was, according to professional engineers the world over, designed inappropriately; accounts from the mine's professional engineers (called the Engineer of Record) that for many years the mining company irresponsibly maintained and monitored its mine waste tailings impoundment. The Tailings Storage Facility is where 60 million or more cubic meters of mined toxic tailing wastes, mine effluent and tailings tainted waters were supposed to be safely stored forever, "in perpetuity."

A large collection of government and mining company information reports was retrieved from various sources, gathered for the most part by the author during his 'holidays' in mid September 2014 (for instance, at the Williams Lake public library), from other parties, and the internet. Thank you to those unnamed sources who freely provided the reports. The author also participated in a private tour of the mine's tailings impoundment on September 16th.

As stated in the title, this is a preliminary report, because only a limited number of annual and special reports submitted to the government by the Mount Polley Mining Corporation were previously made public. As such, the author's report may be updated and revised as more information comes to light, and may therefore be considered a living document. The intense, 'on the side' research analysis and writing of this report, conducted over a nine-week period, was self-financed and self-edited.

Will Koop, December 1, 2014

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EXECUTIVE SUMMARY

*To minimize the risk to which a company is exposed during the lifetime of development of a waste storage site, proper operational control is vitally necessary. ... It is now recognized that a mine waste storage facility is not a temporary asset, that can be disposed of at the end of its useful life. If not decommissioned and closed in an environmentally and socially acceptable manner, including a viable after use, it will constitute an ongoing liability not only to the operating company and its successors, but also to the local community, the country in which it is situated and the rest of the world. (Geoffrey Blight, *Geotechnical Engineering for Mine Waste Storage Facilities*, 2010, page 1)*

This preliminary report, with eleven chapters and 16 appendixes, examines the evolutionary history of the Mount Polley copper/gold/silver mine's Tailing Storage Facility (TSF), a 235-hectare, sequentially-raised, multi-component dam that was designed and licensed to safely contain and forever store extraordinarily large volumes of mined waste heavy metals, effluents and contaminated site water.

The Mount Polley Breach

In the early hours of Monday morning August 4, 2014, a statutory, provincial holiday in British Columbia, Canada, the Mount Polley tailings dam broke open, releasing a massive volume of the dam's contents over a period of many hours, causing a violent, destructive and contaminating environmental catastrophe to the Hazeltine Creek watershed and to the western extremity of Quesnel Lake.

According to an updated internet inventory by WISE (World Information Service on Energy Uranium Project, 2014, [Chronology of Major Tailings Dam Failures, November 16, 2014](#)) of the numerous mine tailings impoundment failure disasters that have occurred throughout the world since 1961, the Mount Polley catastrophe is among the world's largest, by total volume. The largest, in a "major tailings dam failures" category of 97, appears to have occurred in January 1992, where 80 million tonnes of copper mine tailings (equivalent to about 55 to 60 million cubic meters) were released from Hong-Kong based Philex Mining Corporation's Number 2 tailings pond, into the receiving environment of Padcal, Luzon, in the Philippines. No release volume statistics are yet available for 19 (20 percent) of the world's 97 major tailings failures. In total, there are over 3,500 tailings impoundments the world over, with a failure rate in the range of two to five per year, with 83 percent failures attributable to 'active' dams.

Based on monthly tailings data collected from the Mount Polley Mining Company (see Appendixes K and I), at the time of the disaster the dam held over 10 million cubic meters of supernatant water, and about 87 million tonnes of tailings, the equivalent of about 62 million cubic meters of saturated tailings (a combination of about 35.5 million cubic meters of tailings, and about 26.5 million cubic meters of pore / interstitial water).

In a September 1, 2014 internet website update, Imperial Metals Corporation re-estimated its initial estimated escaped volumes upward by 10 million, to about a combined total of 25 million cubic meters of mixed mined heavy metals waste tailings and effluents, interstitial (tailings mass pore water) and supernatant waters. After examining Mount Polley's TSF water balance table data for 2013, the author of this report believes Imperial Metals Corp.'s estimated interstitial component volume was too low, and could be about 10 million cubic meters greater, bringing the final total figure of escapement to be somewhere in the neighbourhood of 35 million cubic meters.

By comparison to other similar disasters, the Mount Polley liquefaction failure event of about 25 million cubic meters (as re-estimated by Imperial Metals) was eight times larger, and many hours longer in duration, for instance, than the notorious 1997 tailings failure event in Los Frailes, Spain, a mine which was owned by Boliden Apirsa, a Canadian company that subsequently went bankrupt.



The “In Perpetuity” Mandate

Chapters One (*Big Questions*), Four (*Centreline Tailings Dam*), and Five (*The “In Perpetuity” Mandate and Mount Polley’s Upstream Tailings Dam*) of this report describe how professionally designed and engineered mine waste tailings dams / impoundments, in which milled toxic heavy metal wastes and mill processing effluents are stored, are required to be constructed so as to last “in perpetuity,” forever. In fact, Imperial Metals Corporation clearly stated this objective in Volume One of its *Stage 1 Environmental and Socioeconomic Impact Assessment* report of 1990: “the tailings pond ... will be designed to operate in perpetuity.” The perpetual, physical security of mine waste contaminated tailings within any impoundment structure is a central inherent or foundational

purpose apparently agreed to by all professional geotechnical engineers, as stated repeatedly in numerous professional papers, reports and books.

If the purpose, then, of its tailings impoundment was to last an eternity, as a perpetual monument for keeping its contents securely and safely stored, why did the Mount Polley Mining Corporation (MPMC), wholly-owned by Imperial Metals Corporation, fail so miserably in its promise to British Columbians to do so?

The findings of this preliminary / interim report provide important clues and disturbing insights for this crucial question, and for other related questions, findings that reveal a long-held trail of company carelessness, stupidity and incompetence, as randomly catalogued from 2008 to 2010 by its former Engineer of Record in only three among many annual TSF inspection reports that have been published for public review from 1998 to 2013. In association are implications that the provincial mining regulator may have failed to properly implement its “duty of care” to British Columbians in preventing this tragedy, those public lands and waters which have been entrusted through legislation to the regulator’s legal service and administrative jurisdiction.

The findings in this preliminary report help stimulate an inevitable and sobering conclusion - that the Mount Polley mine tailings storage catastrophe could have been, and should have been, preventable. And, therefore the big questions: was this an environmental crime scene, and was there a previous and subsequent cover-up?

Limited Source Findings and Governmental Restrictions

The findings in this preliminary report are based on limited documents published by MPMC, on professional mining books, reviews and reports, and on a few statements made by knowledgeable individuals and insiders for investigative media interviews in August 2014.

Conditions in two government permits originally issued to MPMC in 1995 and 1997, with amendments made to the permits over the mine’s life, state that MPMC had to file annual *Environmental and Reclamation* reports to two ministries, Mines and Environment, with the Ministry of Environment permit stating that the reports were intended for public release and review. As stated in the Ministry of Environment effluent permit PE-11678 in 1997:

The Permittee shall submit a comprehensive annual report, in a format suitable for public release, by April 30th of each year. The annual report shall include:

- **3.8.1** *an annual report on the construction and performance of the tailings impoundment and dam, including a review of the results and analysis of hydrogeological data;*
- **3.8.2** *progress on reclamation and any updating of the reclamation plan; and,*
- **3.8.3** *an evaluation of the impacts of the mining and milling operation on the receiving environment from the previous year, including results of any biological monitoring that may have been done.*

The reporting requirements were later updated and more elaborately described, as cited in a May 2005 amendment to the Ministry of Environment permit, “The Permittee shall submit a comprehensive annual report, in a form suitable for public release....”

The Annual Environmental & Reclamation reports, along with Dam Safety Review (DSR) reports are legal, conditional requirements shared, mostly, under both ministerial permits for Mount Polley. Annual inspection reports are required under Section 10.5.3 of *Health, Safety and Reclamation Code for Mines in British Columbia*. (See Appendix H) They are intended to provide transparency and accountability, whereby the public, to whom the government is beholden, may freely review and scrutinize their contents. And so it should be.

However, many of the required annual reports for Mount Polley are either missing or were never filed with public or university libraries. Following the tailings disaster, the BC Ministry of Energy and Mines (the Chief Inspector of Mines) has refused to release these public documents related to the operational history of this mine site not already found or filed in the public domain, provoking the logical question of “why not?”

As discovered by the author and a few investigators in early October 2014, three successive annual TSF inspection reports spanning the years 2011 - 2013, attached as separate appendixes within the permit-mandatory Annual Environmental and Reclamation reports, were mysteriously withheld by MPMC when they were released for public review and forwarded to public libraries. They have yet to be released to the public by the provincial government despite ongoing public requests. The withholding of these three recent inspection documents by the government strongly suggests some sort of cover-up, despite spoken and written remarks by top bureaucrats that to do so would somehow interfere with government investigations of the Mount Polley tailings disaster. The bureaucrats’ orders originate from their bosses - the members of the provincial Cabinet, some key members of which have made misleading public comments, i.e., ‘we don’t know why this happened,’ ‘it was just another avalanche,’ ‘the water is safe to drink,’ ‘he was just a disgruntled employee,’ etcetera.

The Mining Company and its Professional Association

The Mount Polley copper/gold mine facilities and operations - a few open mine pits and an underground ore body, with Potentially Acid Generating (PAG) and Non-Acid Generating (NAG) mine waste piles, and with its current destabilized and dysfunctional TSF - is located on Crown (Public) lands, situated about 55 kilometres northeast of Williams Lake and about 10 kilometres southwest of the town of Likely. These mineral claimed lands are leased to Imperial Metals Corporation (Mining Lease Tenure Numbers 345731, 410495, 524068, 566385, 573346, and Mining Claim 514039) through its division, the Mount Polley Mining Corporation (MPMC, Incorporation No. BC0778466).¹ MPMC is headquartered in Vancouver, British Columbia, a joint venture formed in April 1996 and later wholly owned by Imperial Metals by late 2000.

Imperial Metals Corporation owns and operates other mine sites, such as the copper/gold mine south of Smithers, BC, the Huckleberry mine site, which has acid generating tailings and waste rock under permanent water cover. Other than the perpetual presence and problematic containment of ARD (Acid Rock Drainage, a central problem also identified at Imperial Metal’s future Red Chris

¹ In total, the Mount Polley property has 43 mineral claims over 16,478 hectares.

mine site near Iskut, BC), according to Imperial Metals Corp.'s 1997 report both mine sites have a number of commonalities: i.e., milling output, open pits, and metal concentrates shipped to Japan. Another commonality is that the feasibility reports for each claimed promises that the mine site would almost be mine-waste-effluent-discharge-free.

From August 31, 1994 to 2001, Alberta billionaire N. Murray Edwards was former chairman and CEO of Imperial Metals. As stated in successive Imperial Metals annual reports from 2002 onward, Edwards remains a "significant" shareholder. Edwards also controls Edco Capital Corporation (formerly, Edco Financial Holdings Ltd.) a private investment company which has financed loans, "lines of credit," to the Mount Polley mine and to the operations of Imperial Metals over time. Recently, in a September 3, 2014 press release (see Appendix I), Imperial Metals announced that Edco Capital offered Imperial a "non-brokered private placement of \$115 million" payment, allowing Edwards to obtain an option for "an additional 3,333,333 common shares of Imperial," making Edwards an increasingly "significant" shareholder.

Imperial Metals Corporation is a recent member of the Mining Association of Canada (MAC). The Association's subcommittee, the MAC Tailings Working Group, which issued a three page Backgrounder on August 8, 2014, *The Mount Polley Incident and Tailings Management*. The MAC published a series of three lengthy guides since 1998 for its mine operator company members "to improve tailings management" and to set "global standards" in tandem with "the Towards Sustainable Mining Initiative."²

*Mount Polley is in its second year of implementation of Toward Sustainable Mining (TSM); a program administered by the Mining Association of Canada (MAC) that provides a public and transparent commitment to responsible mining. The principles of TSM demonstrate leadership in the areas of community engagement and globally recognized environmental practices, and a commitment to the safety and health of employees and surrounding communities. TSM's tools and indicators drive performance and ensure key mining risks are managed responsibly.*³

Though members of the Association have "been required to measure their performance" from tailings management guides and initiatives, one of its new members has evidently and severely tarnished the Association's reputation.

Conditional Permitting

MPMC operates under an initiating October 6, 1992 Mine Development Certificate (Mine No. 1101163), and two subsequent and primary operating permits: an August 3, 1995 BC Ministry of Mines Permit (M-200, *Approving Work System and Reclamation Program*), and a May 30, 1997 Ministry of Environment effluent discharge permit (PE-11678). Both of these permits have experienced numerous amendments and updating since their originating issuances to MPMC, during which time MPMC has sought to increase the projected operational life of its mine site from 14 to 25 years due to newly discovered ore bodies. The significant increase in mine life eventually

² The 2010 paper, *Hydromechanical Analysis of Upstream Tailings Disposal Facilities*, states that the Mining Association of Canada's guidelines and standards "present management guidelines only, without offering any technical frameworks or even general guidelines concerning the stability of Upstream Tailings Disposal Facilities."

³ Page 80, Imperial Metals Corporation, *2013 Annual Report*.

challenged the 2005 amended design and mine waste disposal features for its TSF by its Engineer of Record, eventually forcing the Ministry of Environment to significantly amend its permit in June 2013 to allow the final crest height of the TSF to be built to 1,000 meters in elevation, 30 meters higher than the present crest height of the TSF. With the exception of M-200, about half of the basic amendment history of PE-11678 has yet to be released to the public.



The Tailings Storage Facility (TSF)

Professional geotechnical engineers design tailings dams under three different construction criteria methods: Upstream, Centreline, and Downstream. Some of the more recent tailings dams have been designed to incorporate an intricate blending of two or more of these methods. Downstream type dams are the strongest and most expensive, typically used to contain large bodies of water, i.e., for hydro electric dams, the life spans of which pale in comparison to the eternal life expectancy of tailings dams to contain geologic waste and chemical contaminants.

Mount Polley's 235-hectare TSF is primarily an Upstream method designed dam, the cheapest, weakest and most inappropriate sort of dam design for a TSF in a wet climate. For more than three decades, professional engineers have condemned the use of this method due the sorry history of tailings breach failures the world over resulting from this inherently weak design, a fact which was well known by government and consulting engineers when this dam was approved in October 1992, and when it subsequently went under construction in 1996 to 1997.

The Mount Polley TSF is a three-sided artificial impoundment, with the fourth and northern side positioned against up-sloping contours of a natural hill slope. Described in Chapter 4, *Mount Polley's 'Modified Centreline' Tailings Dam*, MPMC developed a mythology about its TSF, calling

it a 'Modified Centreline' impoundment, undoubtedly to avoid unwanted attention to its true design method, an Upstream dam.

Under resulting provincial concession for the application of Imperial Metals Corporation's Upstream method, strict provisions were therefore incorporated in both government permits on the staged construction and maintenance of Mount Polley's TSF. The permits stipulated that the mining operator correctly and meticulously observe all of the stated rules, which were further outlined and included in Mount Polley's annually updated *Operation, Maintenance and Surveillance Manual (OMS)*. Without adhering to the strict wording and conditions in the maintenance of its Upstream type dam, and without proper concurrent and regular oversight by the Engineer of Record and the provincial regulator, Mount Polley's Upstream dam could be in risk of failing.

The Mount Polley TSF was sequentially raised in numerous Upstream method construction stages or phases from 1997 to 2014, through eleven amendments under Mines permit M-200, rising from its lowest or deepest contour point at about 915 meters in elevation (in the middle of the Main Embankment, with the other embankments starting at about contour level 930 meters) to almost 970 meters during final crest construction elevation when the impoundment eventually failed at a susceptible, weak corner located at the northern extremity of the Perimeter Embankment.

The Engineer of Record

Knight Piésold, an international (engineering) consulting group, which has designed and shepherded many other tailings impoundments and mine sites, was Imperial Metals' Engineer of Record for a lengthy term, a contractual relationship lasting almost 22 years from 1989 to February 2011. Knight Piésold's duties for the TSF were in "providing design, technical specifications, contract documents, construction supervision and quality assurance/control, reviews of instrumentation and monitoring records and annual inspections."⁴ Following Knight Piésold's mysterious parting-of-the-way in February 2011 (partial information about which was issued in a August 8, 2014 Knight Piésold media release), AMEC, an international engineering company, became the subsequent Engineer of Record on March 8, 2011, under whose professional and transitional watch the disaster occurred some three and half years later.

Findings

This report makes the following implicit and explicit findings:

1. After Imperial Metals Corporation filed its feasibility reports and mine site designs in 1990 following, in October 1992 the BC regulator approved an Upstream phased engineering structural design of the Mount Polley TSF, the weakest and most susceptible method design for storing hazardous mine wastes forever. Some have described these types of tailings dams as "unforgiving structures." As was stated by United States-based geotechnical engineers at the time, wet climates, in which the Mount Polley TSF was built, are not suitable for such a design method. Structural amendments to this Upstream dam design were presented in two reports to the Ministry of Mines in 1995 by Mount Polley's Engineer of Record, which were then formally approved by the Ministry's

⁴ Page 69, *Technical Report. Feasibility Study: Springer and Bell Pits Mount Polley Mine*, August 30, 2002.

expert staff. Further amendments of the TSF design by the mining company's Engineer of Record were submitted as reports to the Ministry in 2005, and subsequently approved by the Ministry.

2. It appears that the probable risks and associated liabilities posed to the public and its lands from such a TSF design, or any other proposed design, were not properly or sincerely communicated to the public by either the mining development proponent or by government. Had those risks been properly identified, clearly communicated and fully understood, an informed public may have either condemned the proposed Upstream structure design outright, or would have conditionally forced the government to create a special legislated monitoring program and committee to annually evaluate the performance of both the mining company and the regulator on the regular maintenance and integrity of the highly susceptible TSF.

3. In the absence of such public awareness and a conditional monitoring program, as the years progressed, both into preliminary construction phase of the mine site and after mine start-up in 1997, the mining company, the provincial regulator and the professional engineering community in British Columbia failed to heed the dire and growing warnings from professional geotechnical engineers the world over on the condemnation and susceptibility of the Mount Polley TSF Upstream method design, and therefore failed to implement amendments to the Mines M-200 permit to structurally remedy the said TSF to make its performance stronger and to enhance its integrity and longevity. Professional-code-of-ethics speaking, failure to act responsibly over critical designed structures means complicity in future outcomes.

4. Despite specific TSF maintenance performance tasks elaborated in both the Mines and Environment permits, and despite performance instructions in its Operation, Maintenance and Surveillance Manual (OMS), the mining company's Engineer of Record stated that the company failed to comply with some of its duties / responsibilities over the TSF during the "Care and Maintenance" years, the three and half year period when the Mount Polley mine was temporarily shut down from October 2001 to March 2005. The 2008 annual TSF inspection report stated that during this period the company failed to record data from piezometers that had been installed to measure foundation flow drains and upstream toe drain flows.

5. During the Care and Maintenance period, in which time "a substantial accumulation of water" had collected in the TSF, Google Earth imagery shows that the Mount Polley Mining Corporation failed to keep the supernatant water or pond line well away from the embankment crests of the TSF during its adolescent years, a serious taboo, or no-no for Upstream method built dams.

According to a series of subsequent aerial photographs taken by the mining company itself, and other photos collected from satellite imagery, the mining company appears to have acted similarly, and repeatedly so, over the following ten years, up until the moment of the dam's failure in August 2014. In fact, in about May 2014 following, there had been so much supernatant water present that it spilled over the embankment crests, which resulted in strong (yet unpublished) warnings from the Ministries of Environment and Mines.

Geotechnical engineers have provided many stern warnings against such practices in text books, reports and presentations. Whenever the supernatant "pond" comes in close proximity to or is even,

heaven forbid, positioned directly against the crests of the embankments in Upstream type dams, the water table (phreatic line) rises and creates excess vertical water presence, saturation pressure and flows within the prism of the embankments, thereby making the outer or downstream embankment walls, which are composed of mixed earthen materials, susceptible to liquefaction failure.

Added to this susceptibility, as documented by the Engineer of Record in a 2010 inspection report, the angle of the TSF's outer or downstream walls were, for many years, still too steep, and had not been properly flattened by the Mount Polley Mining Corporation to help further strengthen the already vulnerable tailings dam.

The various photos taken over a ten year period, which are shown in this report, demonstrate that the mining company had been regularly gambling with its TSF and the public's trust, breaking the most sacred of geotechnical principles and rules, pushing its luck for many years, and playing, figuratively, with fire.

6. As an example of ongoing maintenance transgressions outlined in point number 5 above, the mining company's Engineer of Record summarily stated in its 2010 inspection report that the regulator, the Ministry of Mines, conducted a geotechnical inspection of the Mount Polley TSF sometime in 2008. The resulting inspection report, which has not been made public, documented a critical "deficiency." That deficiency concerned a "lack of tailings beach development" in the TSF, whereby increasing and concentrated volumes of tailings slurry that were being deposited from large pipes in the northeast corner of the TSF, nearest to the mill, had become so large they forced or pushed the supernatant waters away in the opposite direction to the southwest corner, directly "in contact with" two embankments, the South and Main embankments. The very same "deficiency" found by the regulator in 2008 had also been documented two years earlier in a report filed by AMEC for the mining company's first formal Dam Inspection Report (DSR) - "prolonged discharge of tailings from the Perimeter Embankment has resulted in the tailings pond migrating over to the Main Embankment" - the findings of which no doubt prompted the regulator to launch its own inspection in 2008, with the alarming discovery that the former transgression was yet carelessly unresolved.

7. From the mining certificate approval stage to the early years after mine start-up (1990-2001), both the mining company and the regulator failed to properly investigate, enunciate and communicate the long term problems of cumulative mine site water balance issues and effluent discharge scenarios into the receiving environments near and into Quesnel Lake.

The mining company proponent originally sold the public a false bill of goods, making a promise in 1990 that its copper/gold mine operational life would not create a mine effluent discharge problem over time. However, as time marched onward, the water balance scenario quickly changed from "recycle" containment to "net precipitation," meaning that rain and snow melt waters were creating a steady problematic overload inside the expanding operational permit footprint of the mine site, the collective waters of which, according to the Ministry of Environment's effluent permit, were all to be contained, unless amended otherwise. The matter was left to nightmarishly fester for so long, that even after a special public review of mine effluent proposals from 2007 to 2011, and even after an amendment was granted by 2012 in effluent permit PE-11678, the mining company was unable to properly discharge enough diluted toxic mine effluent into Hazeltine Creek because of its low flows according to the *2013 Environmental and Reclamation Report*.

Because of the mining company's blinding bottom-line focus on production and profits, it was unable to halt production earlier on in the game to stand back, carefully contemplate and tackle a critical problem that ultimately led to an unspeakably horrible catastrophe - the overcapacity of the TSF with supernatant waters and the liquefaction event of August 4, 2014, after many years of TSF mismanagement and transgressions.

8. In May 2014, during the onset of the Spring freshet (snow melt, thaw), the supernatant pond waters rose passed freeboard and spilled overtop of the crest of the TSF's embankments. This was apparently the first time this had occurred at Mount Polley since operations began in 1997, an extremely serious event and crisis. Ministry of Mines and Environment staff were immediately notified and then came to assess and document the condition of the dam (this assessment and documentation has not yet been revealed to the public). Both the mining corporation and the regulator subsequently failed to notify the public of the real possibility of dam failure and the consequences of such to local residents and the environment - no condition or status of high alert was communicated. Instead, both parties allowed the matter to fester for the remaining months of June and July, until the unfortunate and catastrophic incident of August 4, 2014.

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