



July 24, 2019

Mr. Morisset, Ms. Belloni
Canadian Securities Administrators
Tour de la Bourse
800, Square Victoria Suite 2510
Montreal, QC, H4Z 1J2
Canada

Dear Mr. Morisset and Ms. Belloni:

Re: Tailings Dams in Developing Countries and the Canadian Securities Regulations

About a decade ago I was standing on a hill top mine site project looking onto a picturesque and lush African valley. A chill went through me as I thought of what could happen if the then yet to be built tailings dam ever failed. That worry has haunted me ever since.

My worries on these huge earth structures are now the worries of many others. As a result of the tragic dam failure of Vale's Corrego do Feijão mine in Brumadinho, Brazil in January there has been a huge push on several fronts to make a step change in the governance of mine tailings dams (often called tailings storage facilities or "TSFs"). These efforts are discussed below. A large impetus behind these efforts is coming from ESG minded European pension funds such as the Church of England and the Swedish National Pension Fund. I am heartened by these and other such efforts. Like these pension funds, I believe that the investor community has the responsibility to push for good environmental governance by mining companies. However, there is something that is being missed and we worriers need security exchange level regulatory help.

One tailings dam expert told me this year: "Tailings dams include some of the largest and least understood structures on earth. Yet they are one of the least regulated." As an investor traveling to mines in the developing world, I have long worried about tailings dams in countries where regulatory oversight is poor or worse and local awareness and skills in environmental areas are in their infancy. My objective in writing this letter is to persuade the Canadian Securities Administrators ("CSA") and its members including the Ontario Securities Commission ("OSC"), the British Columbia Securities Commission, the Alberta Securities Commission and the Autorite des marches financiers to require the disclosure of an Engineer of Record and an Independent Reviewer of every tailings dam of every Canadian listed company in the same way that these regulatory bodies require the disclosure of mineral exploration and reporting of resources and reserves in the National Instrument 43-101. That instrument

has successfully brought accountability to the “Qualified Person” publically signing off on reserves and resources. I believe the same accountability with tailings dams would materially reduce the risk that mining companies, especially junior and distressed ones, escape scrutiny if they build substandard TSFs or poorly operate and maintain them.

Tragedy in Nambutu

Consider this fictitious scenario. A single asset company (“Grief Resources”) builds a mine in a poor undeveloped country called Nambutu. The mine is built on a hill overlooking a lush river valley in a seismic part of the country. Most of senior management is from abroad and lives abroad but the company is TSX listed. Reputable third party engineers are contracted to design a very high wall dam. Below the dam is a fertile valley with farms and small villages. The dam’s initial build is done to professionally acceptable standards. Lending banks helped make sure that this was the case. However, this large dam requires continual expansion and wall raising. Among many challenges, there is no nearby suitable sand for the dam filter drains so it has to be hauled from a long distance on poor roads.

Two years later, around 2020, Grief Resources is in financial distress. The company lives hand to mouth in paying its bills. It cuts back on tailings dam building activity. Management saves money and effort by steepening the dam slope angle and using less suitable local sand for the filters. It also terminates its contract with its third party design engineers and takes on the responsibility of dam management directly. Desperate for revenue, management keeps the mill going as hard as possible which keeps up the full flow of tailings. The “freeboard” (the vertical distance between the top of the dam and the water level) falls to less than design and best practice levels.

A year later, there is a large storm event that results in an overflow and a washout of a large part of the dam. Within a few short minutes, the deluge of water and solids from the dam rush down the valley in a deathly torrent and wipes out a small village and several farms. Many are killed. Several square miles of farmland are smothered and contaminated with tailings material that has arsenic and other harmful elements. The cost in human life and impact on livelihood of the survivors is almost incalculable. The storm is declared to have been more than a “100 year event” although there was only 20 years of climate data history in that part of Nambutu.

The tragedy makes front page headlines around the globe. “Tailings Dam Failure by Canadian Miner Kills Many in Nambutu”, Major Environmental Damage.” Grief Resources ceases production and goes bankrupt. The Nambutu government is stuck with the environmental mess but has no money. Another Canadian owned mine under construction in the country is ordered to suspend construction. Nambutu bans new mining projects indefinitely. New projects are also challenged in neighboring countries. The Canadian mining industry takes a big reputation hit and the memories of “that Canadian mining company responsible for the Nambutu disaster” last in the region for generations.

These are some of the questions asked concerning how this happened:

Why were the government regulatory authorities not reviewing the situation?

A: There were none. Nambutu is a developing country and had no skilled mine or environment department staff members. Although the company is Canadian listed, Canadian environmental agencies have neither jurisdiction in, nor any obligation to, Nambutu.

What about the investors and banks that financed the mine?

A: The banks did do their due diligence before lending. However, Grief Resources found alternative funding two years before and the banks were long gone.

As Grief Resources was a Canadian listed company, why were Canadian tailings dam best practices as set out in The Mining Association of Canada's "**A Guide to the Management of Tailings Facilities**" not followed?

A: Grief Resources did not have to. There is no legal requirement to follow those guidelines. In addition, Grief Resources was struggling to survive below the radar screen company operating in Nambutu. Living up to those guidelines was anything but a focus. In other words there was no "squeaky wheel". Grief Resources also had no legal requirement to respond to the new GTR standard (see below).

Why was there no independent professional Independent Reviewer reviewing the tailings dam?

A: Again, there was no requirement to do so in Nambutu.

What about the Church of England's list of company's contacted in its Tailings Safety Initiative?

A: Grief Resources was not material enough to make that list. However, it would likely have simply declined to reply to the initiative if it had been contacted. The company had few European institutional investors.

What about the tailings dam disclosure in the Grief Resources last NI 43-101?

A: The disclosure in Grief Resources last NI 43-101 was quite good as was the work being done at the time on the TSFs. However, that was 5 years ago before things deteriorated. There was no requirement to file another NI 43-101 since then.

Luckily this story is fictitious. It has not happened.

However, I have seen enough mines in remote places to know it could happen. I have also seen failures happen to mines in developing countries owned by Canadian companies I followed years ago. While there was no loss of life, there was environmental damage. In one of those countries, I recall that there was no new foreign owned mining projects for a decade. There was also reputational damage to some good companies with good people. Today's best practices may have avoided these failures.

As a Canadian, a concerned member of the mining industry, and someone who cares about the people in the Nambutus of the world, I want to do what I can to help reduce the chances that a Nambutu like failure ever happens.

In the last five years we have had the Mt. Polly failure in BC, and two major iron ore dam failures in Brazil including Brumadinho in January. This month we have reports of another dam failure, albeit a small one, at the Cabriza mine in Peru owned by a company in liquidation.

The North American Mining Industry including several major mining company CEO's have responded admirably to these failures and credit must be given to them. There has been an effort by some companies to improve their disclosure of tailings dams in their sustainability reports. Board level Tailings Dam Committees with outside consultants are becoming common. I should also point out that, from what I can find, Mt. Polly was the only major tailings dam breach by a Canadian listed company in well over 10 years.

The Mining Association of Canada this year put out a new third version of its "***A Guide to the Management of Tailings Facilities***" (The "Guide"). The first edition of the Guide was published in 1998 in response to a series of tailings dam failures in the 1990s. This third edition released in 2017 recommends that the owner of a mine appoint an Engineer of Record ("EoR") responsible for ensuring the dam is designed, constructed and continuously operated properly. It also recommends a "regular" Independent Review ("IR") of all aspects of a tailings facility by a professional independent third party that if concerned has a responsibility to communicate directly with the Chief Executive of the company. I welcome and applaud these recommendations.

The Guide is an impressive piece of work. Two things I would like to see added is a definition of what is "regular" and, arguably, the ability for the Independent Reviewer to go public if he or she sees a major concern that the mine owner does not agree to rectify. Also, although admittedly difficult to do, I wish there was extra level or care required for dams in developing countries to compensate for things like the lack of in country regulatory oversight, local skill levels, climate data, etc.

In February, in response to the Brumadinho TSFs failure the London based International Council of Mining and Metals ("ICMM") created a Global Tailings Review ("GTR") in cooperation with the United Nations Supported Principles of Responsible Investment. The GTR's aim is to create an international standards and best practices for tailings dams by the end of the year. The effort looks serious and promising. The standard will include an independent review requirement. I am hoping it will also require the disclosure of an EoR.

I believe that both a documented EoR and an annual or at least bi-annual IR should be mandatory for all tailings dams. The names of the EoR and the Independent Reviewer should be made public. Yes, Vale's Brumadinho dam had an IR (although neither the name of the reviewer nor the name of an EoR was publically disclosed) and it still failed. These measures are not the be all and end all but they would be a strong start.

So how does that involve the CSA and its provincial members including the OSC, the BC Securities Commission, the Alberta Securities Commission and the Autorite des marches financiers which regulates most Canadian companies with operating mines?

The only way to force a Grief Resources to appoint and publically disclose an EoR and conduct and disclose an IR is to require all Canadian listed mining companies to do so. The CSA and its provincial members have long partnered with the Canadian Institute of Mining (“CIM”) on required National Instrument 43-101 disclosures that are made public on Sedar. Why can’t the CSA partner with the Mining Association of Canada in a similar way to require appropriate EoR and IR disclosures on Sedar? If that is an issue with the CSA because it currently only partners with the CIM (a professional body) then the CIM should be urged to adopt the same or similar guidelines as the Mining Association of Canada or the standards the GTR sets. Unlike the National Instrument 43-101s, tailings dam EoR and IR disclosures may not necessarily have to show all the work. There could be a simple disclosure naming the EoR and the IR for each tailings facility along with perhaps a sign off by the IR saying there were no major areas of concern that are not being addressed by management.

The accountability created by such disclosure would better motivate strong due diligence and best practices by both the EoR and the IR no matter whether the mine was in British Columbia belonging to a major mining company or in a valley near Timbuktu owned by a distressed Canadian junior. It’s the latter I worry most about. If you look at the tailings dams and mine environmental disasters from around 1991 to 2000 you will find many in this second category. I want to get less of a chill when I look down some valleys from hill top mines. In those places for those distressed companies mining association best practices are going to be of limited help. The CSA and its members can make the difference no other body can. It can make that wheel squeak and possibly even scream.

CSA members recognize that ESG concerns are quickly becoming important to investors and other corporate stakeholders. I believe CSA members will agree with me that over time the CSA will require disclosures related to ESG concerns. No question there will be a lot of things to consider relating to mining companies, be it social responsibility, carbon emissions, NOx emissions, hazardous material transport, footprint size, water usage, etc. How to deal with all these concerns appropriately may take years. Let’s not wait on mine tailings. Let’s address the elephant in the room now!

Sincerely,



Daniel R McConvey

CC: Stan Magidson, Chair and CEO, Alberta Securities Commission
Brenda Leong, Chair and CEO, British Columbia Securities Commission
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