THE MOUNT POLLEY “TAILINGS STORAGE FACILITY”: 
Landsat 8 Satellite Imagery, 2009 - 2014

On August 17, 2014, the NASA Earth Observatory website featured an article, *Dam Breach at Mount Polley Mine in British Columbia*, with two comparative before (July 29) and after (August 5) higher resolution satellite images. The article included a link to the Operational Land Manager website which, in turn, includes a data link to the USGS Landsatlook Viewer.

The USGS Viewer has extensive archived satellite (low resolution) imagery of North America. For the Mount Polley mine area are about 230 images, some of which were selected for this pictorial report. The chosen images feature the Mount Polley’s Tailings Storage Facility from 2009 onward, showing the amount of water area (shown in blue, or in white during winter months) in the Facility at different dates during the second phase of accelerated mine operations by Imperial Metals.

What is not shown (or known) in the images is the relative height of the Storage Facility (earthen dam) perimeter over time, information which would help determine the relative depth or height and volume of the untreated water body present for each image. Water infiltration to the Tailings Storage Facility over time included precipitation (rain & snow), industrial mill waste, and unidentified groundwater rates and sources. No detailed accounting of these water sources and rates have been released to the public, merely estimates and assumptions.

Further research using both higher resolution satellite imagery and more imagery sampling over time will be critical tools to understand and unlock the serious concerns related to Imperial Metals' controversy of increased water containment in the Tailings Storage Facility for which it was never designed, including associated concerns about unreported escapement and leakage from the tailings impoundment waters into Hazeltine Creek over time.

According to recent various sources, an assumed average of 1.4 million cubic metres excess water accrued within the Tailings Storage Facility each year. This water volume does not account for the full water balance, since evaporation and the mine mill removed water volumes from the site. Since the 2007 re-opening of the mine this issue was identified as a “problem” ... with an Imperial Metals/Mount Polley Mine Application to MoE for an effluent discharge Permit submitted in 2009, but never finalized.

On September 1, 2014, Imperial Metals released new data (Mount Polley Update), stating that an astounding 25 million cubic metres of combined waters, tailings slurry and construction materials gushed out of the Mount Polley Tailings Storage Facility from August 4, 2014 onwards.

Will Koop, Coordinator, September 1, 2014
Above: Close-up of an August 2014 satellite image posted within Imperial Metals' September 1, 2014 Mount Polley Update, showing the Mount Polley mine Tailings Storage Facility. The re-rendered photo shows the perimeter distance of the storage facility, totalling 6,000 metres. **This is equivalent to an area of 2.25 square kilometres, or 225 hectares.** Below, Imperial Metals website PR photo showing the discharged piped water from Polley Lake into Hazeltine Creek.