



Copper mining – a Primer

Most of the world's roughly 100 active porphyry copper mines have deposits ranging from 0.8 – 2% copper, much higher than the Catface Mountain deposit in Clayoquot Sound which contains only 0.4% copper. Thus, there are many uncertainties regarding the long-term economic viability and environmental effects of a potential Catface mine. Unfortunately, because of the complexity of accurately assessing such deep and diffuse copper deposits, these uncertainties will only be clarified with certainty after strip mining has commenced and the scale of the deposit can be physically determined.

Most of the world's high quality copper deposits have now been exhausted, and this has resulted in increasing dependency on deposits where the copper is in low quality porphyry distributed at low concentrations throughout the host rock, and in isolated cracks and quartz veins deep underground. The only economically viable method to remove such copper is through large-scale strip mining, and then only if gold, silver, and molybdenum deposits can augment the low value of the copper. The result is that there are currently a record number of copper mines in production, producing more waste and occupying a larger footprint, and spreading their toxic legacy across larger landscapes.

Global copper deposits are still relatively abundant, but mostly in deposits containing less than 1% copper. As many of the large profitable copper mines were exhausted over the past 10 years, and as demand for copper grew from developing countries, principally India and China, the price of copper increased from about \$1 per pound in 1995 to about \$4 per pound today. This led to a massive increase in development of low quality copper deposits. Today, there is a glut of copper on the global market because of over-production, and the price is gradually decreasing from a high of about \$5 per pound in 2007. Copper values are expected to stabilize for the short term at about \$3-\$5 per pound.

Historically, copper was mined in areas of the world where it occurred in much higher concentrations than at Catface, such as Montana (USA), Peru, and central Mexico. These sites contained massive quantities of higher quality copper that sustained local communities for decades. Now, however, the world's large supplies of high quality copper are exhausted and the mine sites have contaminated large areas. The copper mines at Butte, Montana, for example, are the site of the largest "Superfund" toxic mine waste clean-up in US history. The citizens of Butte continue to suffer a host of illnesses, and the highest rates of bone and brain cancer in North America. These cancers have been positively linked to toxic chemicals present at the former copper mining sites.

The citizens and government of Puerto Rico, when exposed to the reality of a series of low-quality porphyry copper mines (similar to the one that might occur at Catface), had scientists conduct extensive soil, water and rock analysis, and studied the environmental effects of other copper mines. They subsequently passed laws prohibiting such mines from occurring in Puerto Rico.

—excerpt from Wilderness Committee's spring 2008 report *Catface—Stop the Mine*

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