

Counterpoint

by Elanne Palcich

I have spent my lifetime on the Iron Range, watching the expansion of open pits and piles of waste rock that we called “dumps”. As kids growing up, we never questioned that men worked to mine the iron that was made into steel and turned into cars. As a young teacher on the Iron Range, I never questioned how taconite mining was done, or what it would do to the land. When the natural ores were depleted, a process was developed to blast, crush, and grind taconite rock containing 25% iron into pellets. It’s only now, 50 years later, that we are beginning to realize the extent to which taconite mining has disrupted the land with open pits, waste rock piles, tailings basins and surrounding dikes that will be unusable when mining ends. It’s only after our fish have become contaminated with mercury, when haze has become apparent as one drives toward the Range, and when our human population suffers from increasing allergies, asthma and lung disease that we realize there is pollution in our water and our air.

Recently, market demand from China and India created a new wave of mineral exploration in northeast Minnesota. The Duluth Complex of low grade mineralization, including less than 1% copper and nickel, and ounces per ton of platinum, palladium, and gold, is advertised as one of the largest undeveloped metal deposits on earth. If it sounds too good to be true, it is. This low grade mineralization would result in the mining of 99% waste rock. It would come at the expense of forests, wetlands, watersheds—and ultimately, the Boundary Waters Canoe Area Wilderness.

New technology, such as the hydromet, enables companies to make a profit mining low grade metals--providing the price of the metals remains high. Toxic residues from the hydromet process, which leaches and precipitates metals from their ores, would be placed in lined tailings cells, eventually leaking into the ground water.

In a sulfide ore deposit, all of the metals are bonded to sulfur. Acid mine drainage occurs when rock is crushed and ground and the sulfur is exposed to air and water, forming sulfuric acid (H_2SO_4). This sulfuric acid leaches out heavy metals that remain in waste rock piles, tailings, and pit walls. This process can continue for hundreds to thousands of years—until all the sulfur and metals are depleted. Because mining less than 1% ores results in 99% waste rock, there is huge potential for acid mine drainage. The EPA acknowledged this potential when it rated the draft environmental impact statement for PolyMet’s proposed copper-nickel mine as Environmentally Unsatisfactory.

The metallic sulfide ores of the Duluth Complex lie under what is now Superior National Forest—adjacent to the BWCAW. This is an area of forests and wetlands. This water rich environment makes acid mine drainage more problematic—both fueling the process, and distributing the acid-metal load downstream. The destruction of wetlands releases carbon into the air, and removes a source of carbon sequestration. The retention of these native wetlands would help moderate local climate change impacts.

So the questions remain.

Is it wise to mine sulfide ores in a water rich environment because the ores happen to be there in very low grade mineralization? Are we prepared to mine low grade deposits wherever they occur in the landscape?

Is it wise to destroy what is left of our natural environment because it might be worse in some other country? If permitted, PolyMet will likely be purchased by a mining conglomerate. These companies mine on a global level. So why aren't they mining responsibly everywhere?

Are we promoting mining out of fear? Are we afraid that without these metals we will not be able to have our computers, our cell phones, our TV's? Has anyone seen any shortages on the shelves? What happens to the old models that aren't sold before new models replace them? Isn't this a surplus? Do we need an electric grid based on wind turbines, or will new technologies currently being developed replace the grid? Are hybrid and electric cars the answer, or are better forms of mass transportation and city design? Are we afraid to contemplate that a new future is unfolding, and that we might be able to envision northeast Minnesota as a non-mining Mecca that still claims its clean air and waters?

What evidence do we have that it is in the best interest of northeast Minnesota to allow Canadian companies to mine our metals and send them abroad, leaving behind land and water that will be unavailable for tourism, forestry, fishing, hunting, housing development, and drinking?

New mining for northeast Minnesota means digging up new land—that of the Arrowhead. What legacy does “next generation mining” hold for the next generation?

Submitted by Elanne Palcich, retired teacher
Chisholm, MN

Aerial view of Virginia, Minnesota, surrounded by mines and tailings piles - photo SOS Blue Waters



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