



## Let's ask for proof, not promises from promoters of metallic sulfide mining in Minnesota's northwoods

*A kind of mining new to Minnesota has significant long-term risks of pollution and economic instability. This industry has a poor track record of stewardship and integrity. But solutions such as requiring proof it has been done without harm in a similar climate; protecting pristine natural areas from disturbance; not mining where perpetual treatment of drainage pollution is required; and demanding secure and significant financial assurance for reclamation can help keep our waters clean for future generations.*

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**P**ollution from mining of metallic sulfide ore for copper and nickel is much worse than for taconite ore, which is more familiar to Minnesotans. Mining sulfide rock releases acid and toxic metals that pollute rivers and groundwater for hundreds of years, long after the profits are spent and the products buried in landfills. Birch Lake near Babbitt was polluted years ago by the sulfide rock over the iron ore in the Dunka mine and the drainage will require treatment for forever. Ironically, proponents of sulfide mining refer to this costly fix as a “success”.

Sulfide mining is risky to our environment, workers and communities. Such mining also releases sulfates which greatly increases the uptake of mercury into fish. Mercury is a neurotoxin which interferes with human brain development. Nickel and copper even in tiny amounts are deadly to the aquatic life that fish eat and water leaches these minerals out of waste rock, mine pit walls, and tailings dumps.

### **Legacy of long-term pollution, lack of responsibility**

In his book, *Collapse: How Societies Choose to Fail or Succeed*, Pulitzer Prize winner Jared Diamond notes that the sulfide mining industry has "lost its social license to operate" due to decades of poor treatment of neighbors, workers and the environment. Sulfide mining is the leading toxic polluter in the U.S., accounting for nearly half of reported industrial pollution. Nearly half of rivers in the western U.S. have their headwaters polluted by sulfide mining. According to the Mineral Policy Center's peer reviewed study, 76% of metallic sulfide mines ended up exceeding pollution limits despite providing environmental impact statements that predicted they would meet pollution standards. The more informed one gets about copper mining, the more one learns not to trust the industry and to fear the scale and persistence of its pollution.

After closing, drainage from the waste rock and tailings dumps of the proposed PolyMet copper-nickel mine is expected to have to be collected, pumped and run through a costly-to-run treatment plant—perpetually—before it could be discharged into the St. Louis River and Lake Superior. But dump liners fail and leaks are unavoidable. Dr. D. W. Blowes, an advisor to Canada on cleaning up the 10,000 abandoned sulfide copper mines in that country, described perpetual as “just short of forever” at his lecture we attended at the University of Minnesota, Duluth.

Unfortunately, Minnesota law allows mines that require perpetual pollution treatment, so future generations would pay for our choices. This doesn't seem fair. Our state's law on “financial assurance” put by mines for this type of reclamation failure is unlikely to create an endowment fund large enough

to pay for failures common to this type of mine. Our consultant, David Chambers a geophysicist with the Center for Science and Public Participation, is estimated a \$100 million-\$150 million letter of credit would be needed for this class of sulfide mine with perpetual treatment needs for adequate reclamation, treatment and monitoring. A letter of credit is as good as cash and could not be used to pay creditors if the mining company went bankrupt.

In *Collapse*, Diamond describes the incentives sulfide mining companies have to understate the cost of reclamation. Mine operators pursue a “walk-away strategy” of re-grading of disturbed areas to prevent erosion, applying a growth medium like salvaged topsoil to stimulate re-vegetation and treating water flowing out of the mine site for a few years. “The actual direct and indirect costs of cleanup and restoration have typically proved to be 1.5 to 2 times mining industry walk-away estimates for mines without acid mine drainage, and 10 times those estimates for mines with acid drainage” (emphasis added), page 455.

Diamond tells the story of Galactic Resources’ Summitville Mine in Colorado which had financial assurance of only \$4.5 million when it declared bankruptcy and closed the mine with only a weeks notice. A few months later the heap-leach system overflowed, sterilizing an 18-mile stretch of the Alamosa River with cyanide. The cleanup is estimated to cost \$180 million, to be funded by taxpayers, not the mines investors.

“Unfortunately, assurance costs are typically based on a cleanup cost estimate made by the mining company itself, because government regulatory bodies lack the time, knowledge and detailed mine engineering plans necessary to make such an estimate for themselves...” “In many cases...when the government has had to fall back on the assurance, the actual cleanup costs have proved to be up to 100 times the mining company estimate,” page 457. “Previous research by Jim Kuipers demonstrates that taxpayers are potentially liable for up to \$20.4 billion<sup>6</sup> in financial assurance shortfalls at existing mine sites (in addition to the \$20 billion for Superfund sites) – due in large part to inaccurate water quality predictions”<sup>1</sup>

Minnesota needs to give the public a voice in setting the amount of assurance, provide more guidance to the political appointee entrusted to make this determination, to require the full assurance up front before a permit to mine is issued (to prove the company’s ability to fund it) and make sure only a letter of credit is accepted as assurance (because it is the only financial instrument that is bankruptcy proof and where the holder of the funds does not have a financial incentive to withhold or delay release of the funds to the state when needed).

The industry operates on such low profit margins that its average rate of return over the last 25 years hasn’t even met the cost of its capital” page 459—“If you are a miner, it doesn’t pay to invest in your own industry!” “Half of all mines developed prove to be unprofitable.” This means that if the State of Minnesota doesn’t get sufficient financial assurance funds before a mine opens, it may never be funded before the mine declares bankruptcy.

Here’s a surprise: The State of Minnesota subsidizes sulfide mineral exploration drilling and has invested in a metallic sulfide mining company before doing any review of the environmental costs of such mines. The Iron Ranges Resources agency has actually invested millions of dollars of state funds in the Franconia Minerals, which is proposing a sulfide mine next to and under Birch Lake sulfide, before conducting any environmental review. The Division of Minerals of the Department of Natural

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<sup>1</sup> Predicting Water Quality Problems at Hardrock Mines, page 3,  
<http://www.mineralpolicy.org/pubs/PredictionsComparisonsWhitePaperFINAL.pdf>

Resources Division of Minerals is both promoting and regulating sulfide mining, creating a corrupting conflict of interest.

In the mid-1970's the state invested almost \$10 million in a study of copper-nickel mining in this Hoyt Lakes-Babbitt region that is now being explored again. What became a three-year moratorium on mine development was passed by the Legislature and signed by the Governor. Degradation of the air and water of the Boundary Waters Canoe Area Wilderness led to significant and effective public opposition.

### **Proposed PolyMet sulfide mine near Hoyt Lakes, Minnesota starts out on wrong foot**

It's reasonable to be skeptical of companies, like PolyMet Mining, who promise no pollution because:

- 1) No copper mine anywhere has gone without polluting before or after closing
- 2) Mining engineers fail to predict acid mine drainage 76% of the time<sup>2</sup>
- 3) Predictions of the efficacy of pollution mitigations strategies were wrong 77% of the time<sup>3</sup>
- 4) After a mine opens managers get bonuses to cut costs—and cutting-corners on pollution protections would be very tempting at a mine off-limits to public observation.

PolyMet has never even run a gravel pit before—why should we trust them to become the first “global model of responsible stewardship” as their promoters promise? PolyMet won't even test their waste rock for the five years needed to see if it generates acid, instead they are trying to take a short-cut by using data from a different mine.

The draft environmental impact statement for the PolyMet mine has not been published and independent experts have not yet weighed in, so it is premature for MinnesotaMining, as sulfide mining lobby group to call PolyMet a "standard for all mining." Indeed, Senator Thomas Bakk has expressed concerns that the company is telling state regulators that putting waterproof remembrance "liners" under the waste tailings mountain they plan is a "deal killer." This is a quite different attitude than what the sulfide lobbyists are portraying. If the company cannot afford this protective system, then how can they afford to reclaim a large open pit sulfide mine and waste piles when they are done mining?

PolyMet has no track record, which is not to be confused with having a good track record. If PolyMet gets a permit to mine, it may sell it to one of the established “senior” sulfide mining companies which all have bad track records on pollution.

PolyMet has committed to using union construction workers, but has not committed to union miners. A company spokesperson has said at public meetings that it may contract with the non-union Cleveland-Cliffs company to operate the mine, which may make keeping other mines unionized more challenging.

### **Prosperity through new approach to economic development**

We want to protect the people and wildlife that depend on clean air and water for their livelihoods. So the Sierra Club North Star Chapter and the Minnesota Center for Environmental Advocacy commissioned an economic analysis by Dr. Thomas Michael Power, Professor Emeritus and research professor of economics at the University of Montana. Power has specialized in natural resources economics and regional economic development and has written six books in the field. He researched

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<sup>2</sup> Predicting Water Quality Problems at Hardrock Mines: Failure of Science, Oversight and Good Practice, by Alan Septoff, Earthworks, December 2006, page 3

<sup>3</sup> Predicting Water Quality Problems at Hardrock Mines, page 3

the historic economics of metal mining in northeast Minnesota and examined how the sulfide mines differ from taconite mines in their economic and social impacts.

His report concludes that much of recent growth of the northeast has occurred because of the area's natural resources such as woods, trails and lakes, that attract people and businesses and that any expansion of metal sulfide mining and its potential jobs must be weighed against the damage it can do. Environmental quality is not just a matter of 'prettiness' or aesthetic preference; it is a central part of any region's economic base and its potential for economic vitality,' according to the report, *The Economics Role of Metal Mining in Minnesota: Past, Present, and Future*.  
<http://northstar.sierraclub.org/campaigns/mining/media.html>

Business and job are moving to places with high quality environments as improved communications now allow job creators to live outside of big cities. They seek a high quality of life and value the nature, quiet and outdoor amenities that northeast Minnesota has to offer. The work of Richard Florida expands on this idea, adding diversity, tolerance, and coming attitude toward newcomers as factors that help an area attract job creators. His ideas have been adopted by the Duluth-Superior Foundation to keep and attract job creators to that area.

Dr. Power's report shows how the best prospects for stable, high paying jobs require a quality natural environment. The issue is what is the best prosperity and quality of life strategy for NE Minnesota? We believe a quality environment leads to stable jobs in high growth economic sectors. Sulfide mining development conflicts with this strategy. Who would want to move their family and business to a county with "super-fund" toxic waste sites created by sulfide mines? Name calling of those acting on their values to protect the environment, or on the extreme, terrorism against families camping the wilderness drive away job creators in the new economy where growth rates are highest.

Promoters of PolyMet's proposed metallic sulfide mine in St. Louis County like to talk about billions of dollars in mineral sales helping the region's economy. But most of those dollars will never hit the ground in Minnesota. PolyMet's economics consultant estimated an annual mine payroll of \$28 million and \$47 million including spin-off jobs, but Power pointed out that the combined impact would be less than 1 percent of total county income, representing only about 7 months of the average annual income growth seen in recent years. This is hardly the panacea that advocates claim for every challenge we in the northland face.

Yet sulfide mining pollution risks the natural amenities attracting entrepreneurs and high skill workers who are driving most of the economic growth in the region. Mining is the definition of an unsustainable industry because the mine will eventually play out within one generation. Mining advocates are debasing the term "sustainable" by applying it to any business that operates longer than one business cycle. Sustainable businesses may operate for the same perpetuity the acid mine drainage treatment plants would have to operate.

The Power report, using government data, found: Dependence on iron mining in Itasca County has declined from 23 percent to 4 percent, in St. Louis County from 13 percent to 5 percent and in Lake County from 43 percent to 13 percent. We are not advocating ending taconite mining; the point is that northern Minnesota has sustainable growth prospects without sulfide mining. Unfortunately copper mines jobs are less stable than taconite jobs and the low concentration of copper in Minnesota means mines here will be the first closed when prices inevitably decline. A boom and bust employer would not be much of a community asset. The bust will surely follow and the social costs of such swings offset the short-term gains.

The Minnesota Department of Labor is publishing articles about the impending shortage of workers on the Iron Range as baby boomers retire from the taconite mines and jobs in other sectors—healthcare, business management and technical services, hospitality and retirement—grow. For example, the Duluth Clinic is recruiting 100 doctors plus support staff.

Sulfide mine taxes will no pay for the local government costs driven by such development, according to the Regional Copper-Nickel study by the Minnesota State Planning Agency. It predicts that housing costs would rise for people whose paychecks will not increase.

Young families, local football teams and community high schools can be maintained without selling out our natural heritage of wildlife and clean water if leaders open their eyes to new businesses which do not have smokestacks, big machines, or ribbon-cutting ceremonies for politicians to attend.

### **Sulfide mining promoters' claims debunked**

Contrary to the incessant claims of mining executives, Minnesota does not have the highest environmental standards for such mines. Other states with polluting sulfide mines have learned the hard way and have leapt ahead of us. Wherever mining companies are proposing a mine they call the local standards, “the toughest in the world.” They are just trying to lull us to sleep with smooth reassurances about “new technology”. Well they have new technology to process lower grade ore, but it has nothing to do with safely storing a square mile mountain of “hot” acid producing waste rock for many generations. We need proof, not promises that proposed mines won't pollute.

Minnesota metallic sulfide mine promoters cleverly argue, “if we don't mine here it will be done worse somewhere in the third world.” What's the answer? Ask conservationists in other countries and they will tell you that the United State should adopt high standards as an example for the world. Anyway, proponents of mines here cannot control what other companies do elsewhere. Sulfide mines are being opened around the globe. Opening a mine here will only make all other mines less profitable. Is that fair to third-world miners? How will lowering profit margins allow existing mines to pay for pollution prevention? Mining companies are focusing on North America lately because riots closed an Indonesian mine that was a safety and pollution nightmare.

Sulfide mining lobbyists are now braying that a review of public policy on such risky mining “is not fair.” This sounds a bit like a toddler's definition of fairness. Their clients are sophisticated businesspeople who have seeded government advisory boards with their supporters. Pollution control laws have long been updated when new science or the public demands change. What is unfair is how the interests of the boarder public that own the waters of Minnesota have been neglected.

Potential investors and residents of Minnesota will respect a state that asks hard questions of mega-developments that could harm an entire landscape or watershed. Clean water and flourishing wildlife is proving to be an attraction for high value-added businesses that now can locate almost anywhere in the world. Businesses that would be scared off by improved pollution protection are likely not corporate citizens we would like to have come to Minnesota.

Copper mining advocates like to point at our cell phones and say, “you need this mine to have that phone.” My answer is that cell phones eliminate the need for hundreds of miles of copper phone lines and I recycle my phones. Here is a web site on how to recycle your phone:

<http://www.recyclemycellphone.org/recycle.cfm> and the *Electronics Recycler's Pledge of True Stewardship* [http://www.ban.org/pledge/electronics\\_recycler\\_pledge.pdf](http://www.ban.org/pledge/electronics_recycler_pledge.pdf)

Next they like to point out the exotic metals in my car's pollution reduction equipment. I then tell them about the Mercedes' engineer, who upon hearing from his manager of a new law outlawing a toxic metal in catalytic converters, replied, "no one asked us not to use toxics, we have alternative materials that will work well and don't cost more."

Some argue that metallic sulfide minerals are needed for national security therefore should be mined in NE Minnesota. Like many things we buy, sulfide metals are traded globally and by international treaty Minnesota minerals can and will be exported. Does it make more sense to reserve U.S. minerals until when they are many times more valuable and after pollution prevention methods are worked out? Mining publications abound with stories of other copper mines being developed or expanded in the arid SW. Is Canada plotting to cut off the U.S. supply of strategic metals? Would you pay more for U.S. mined copper? The U.S. has handed over manufacturing of many key economic inputs to other countries. Aren't these of more strategic importance than base metals? Other things are critical to the U.S. economy too, like clean water. You can not drink copper wire.

### **A metal sulfide mining company could take your home**

Industry promoters argue that a development of mineral deposits must trump any other uses for that land—such as your home, a historic site, hunting grounds or duck-filled wetland. Our state does not have mine siting criteria that protect special places—only a ¼ mile setback from the Boundary Waters and no mining in state parks. Other states have more balanced siting protections. The proposed PolyMet mine near Hoyt Lakes would be the largest single draining of wetlands in the memory of US Army Corps of Engineer officials. There are at least four mines proposed closer to the BWCAW than the PolyMet site, in the Kawishiwi River watershed. Many homeowners do not own the mineral rights under their property—and state law gives mining companies the power of eminent domain to take your home.

### **Looking forward**

We do use minerals in our lives, but we do recycle. We worked for the law to keep consumer electronics out of landfills and into recycling programs. We all have an impact on the environment, but we do not have to become saints before advocating better personal and collective decisions. We all need the government's help in improving recycling systems and to assure the price of virgin metal reflects its true environmental costs.

Higher prices signal each of us to be more efficient, find substitutes or spend our money on other goods with more benefits per dollar. Substitutes and recycling are viable alternatives to new copper mines. Who would have thought we would be making telephone calls through cables made of sand? The market will balance global supply and demand without a Minnesota sulfide mining district.

And if we wait, the minerals bound up in the sulfide rocks under Birch Lake and in the bend of the Partridge River are not going anywhere. Right now the highest and best use of these lands is not mining. The clean water, wetlands, and quality of life these sites now provide are priceless.

Let's not turn northeast Minnesota into a toxic waste site so we can send profits to distant stockholders and the clean-up tab to our grandchildren.

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