

METALLIC SULFIDE (COPPER-NICKEL) MINING UPDATE SAVE LAKE SUPERIOR ASSOCIATION

Coverage of Environmental Issues was Inadequate Considering Significance

The SME /U of MN mining conference was held on April 17-18, 2012 in Duluth. The geology class was excellent. Otherwise the general attitude about environmental issues and pollution permitting was very disappointing. The prevailing undercurrent focused on deregulating the mining industry. The head of the IRRRB gave the keynote speech and his list of first year accomplishments consisted entirely of success in weakening water quality standards, limiting public participation in the permitting process and defeating the environmental groups that dared sue them for funding land transfers before environmental review had been conducted. His argument for lowering environmental standards was to provide jobs and consumable goods to his heirs. The misguided reasoning being that mining could be done more responsibly in Minnesota than anywhere else. No mention was made of the pollution that we would have to deal with and, if things went their way, there would be a lot of it!

We are supposed to accept polluted water for drinking and feeding infants without regard for the huge volume of evidence that this will cause significant harm physically and mentally. You've heard both sides before. Unfortunately, one of our undecided and potential allies was heralded by the IRRRB Commissioner as being fully behind all of the attacks on environmental regulation and water quality. He was speaking, perhaps less than accurately, for our Governor but the audience nodded favorably. It was an interesting conference but there is a huge push for permitting anything and everything having to do with iron and metallic sulfide mining. We're talking billions of tons of sulfide ores covering the entire central and northeast part of the state. UMD and NRRI fully support all proposed exploration and mining projects. They must think they are running a casino and that those unwilling to gamble are just irritating zombies! We need an area wide cumulative impact study to look at the big picture as well as having each project scrutinized. Potential damage would be too great not to do this now.

85th Annual Meeting of Society for Mining, Metallurgy and Exploration Combined with U of Minnesota 73rd Mining Symposium Notes

Focus was on the Shiny Side of the Coin

As expected, the focus was on all positive financial aspects of mining in Minnesota's Iron Range, Northern Lakes and North Shore areas. Geologists from the U of MN in both the Duluth and Twin Cities campuses presented an elaborate description of the formation and composition of volcanic rock containing billions of tons of sulfide ores with highly disseminated deposits of copper, nickel, gold, PGE and rare earths. Iron formations are well defined and have been mined for years. Metallic deposits form in boundaries of iron and sulfide volcanic intrusions.

Most of NE Minnesota Contains LOW GRADE Metallic Sulfide Ore Deposits

Exploration and speculation are rampant in NE MN and the rest of the Lake Superior watershed. The North Shore of Lake Superior has one well-known sulfide ore deposit near Beaver Bay. The highlands of the North Shore east of Split Rock are also areas formed from metal rich intrusions and will be heavily explored if leased to exploration companies. Gold, rare earths and other metallic sulfide ores in the Ely area are especially attractive to them also. The U of MN geologists were so enthusiastic that they have started summer geology exploration camps there training students to identify the greenstone intrusions. They bombastically proclaimed that they will invite mining companies to the area and ask them, “Where do you want to mine?”

Obviously, the focus was not on the negative consequences of exploration, mining and processing metallic sulfide ores with highly disseminated content of these metals. Rules governing permitting of mines and pollution were uniformly viewed as negative impediments to the “gold rush” in the entire area. The IRRRB Commissioner framed himself and the current state administration as being champions of mining. The recent attack on Minnesota’s mining regulation was presented as his accomplishments during his first year in the office. Streamlining water quality standards and reducing permitting participation by the public to lower levels are viewed as “improvements in efficiency” by agency staff.

Taconite Tailings Ponds are Sources of Sulfates in St. Louis River

Technical presentations on the sources and control of sulfates focused on iron mining with some discussion of sulfate creation and runoff from previous exploration waste at Dunk Pit and AMAX waste pile. Both the U of MN geologists and corporate technical presenters focused on the sulfur present in the Virginia formation as a major source of sulfate discharge into the watershed. Mine pit sulfates are higher than “background level”. In mine pits values range from 50-1000 mg/L. The state discharge standard is 10 mg/L. The DNR expert used isotopes of sulfate to determine that mining presently is responsible for 35 tons/day and non-mining (natural plus sewage plants) puts out 15 tons per day.

Mitigation schemes Would be Used to Control Sulfate Discharges

Some research on the PolyMet “project material” shows that it may oxidize more slowly than the historic test material from AMAX, Dunka and Inco sites. Sub-aqueous storage of waste material with higher sulfur content is one of the “design improvements” being considered for the PolyMet and other Cu-Ni projects.

The emphasis on “mitigation” schemes to control the emission of sulfates from the mining and processing of sulfide ores was evident. Apparently they only need to demonstrate that water exceeding pollution standards will not be released from the project site. The MPCA would then issue NPDES () permits and the project could proceed. Mitigation schemes include sub-aqueous waste storage, seepage collections and

treatment, concurrent disposal of iron tailings and sulfide mine waste rock, designed wetlands, timed release of sulfates to wild rice waters with seasonal storage, wetland flushing, etc.

In each case risk analysis will be used to determine the “potential for exceedence” of standards. If, after all the mitigations and probability analyses, the standards are exceeded, “compliance agreements” to allow the offenders to come into compliance would continue to be a long term tool and one of the main causes of sulfate pollution of the St. Louis River over the past decades.

Public would be Exposed to Long Term Water Pollution

Despite the elaborate schemes to mitigate pollution over the short term, the sulfur bearing waste will be of such huge quantities that perpetual water pollution is inevitable. Basic water chemistry calculations have shown that thousands of gallons of sulfuric acid and sulfates would eventually be released from the first PolyMet project. Millions would be released if and when all of the projects being currently planned were permitted. No one has been able to “Prove it First” that sulfide mining pollution has been controlled anywhere in an environment similar to that in NE MN and the rest of the Lake Superior watershed. SLSA and many other groups will continue to evaluate the progress of new mining projects and expansion of old mines in the context of pollution potential for Lake Superior and its watershed. Even though it cannot be shown that these mines and plants will not pollute, the financial and political pressure to license them is immense. There are no financial vehicles to assure that essentially perpetual water pollution will be treated after the global corporations have gone. Perhaps public education should also be added to the “mitigation packages”. Damage to public health and water quality could be offset by publicly financed health facilities and water treatment plants. That might qualify mining companies for more discounts in financial assurance requirements.

IZAAK WALTON LEAGUE DULUTH CHAPTER SULFIDE MINING FORUM

MCEA, MNDNR, IKES, POLYMET Participate on Panel

The Duluth Chapter of the Izaak Walton League of America sponsored a forum on metallic sulfide (copper) mining on May 2nd. The intent was to further educate the public on the potential environmental effects of the new mining and, what turned out to be, the “mitigation packages” being proposed to control the pollution.

Kathryn Hoffman of MCEA best summarized the position of many citizens and organizations by stating that our quality of life in the long term is more important than the short- term jobs proposed at any environmental cost. Larry Kramka of MNDNR Lands and Minerals indicated that the jobs must exist in a regulated environment but spent a great deal of time defending the DNR’s dual role of both promoting mining and protecting natural resources.

As the first defined copper-nickel project in NE MN, PolyMet will be carrying the brunt of the permitting and environmental review expense according to Brad Moore, their spokesperson at the event. Even though the potential for water pollution is great from the huge quantities reactive waste, they plan to treat polluted water and recycle it. This would be quite a task since the proposed LTV storage basin is currently leaking polluted water into the St. Louis River watershed and has been for years.

Moore also attempted to use the Flambeau Mine in Wisconsin as an example of a successfully close metallic sulfide mine. Hoffman responded that copper and zinc continue to be discharged into the Flambeau River from the most toxic part of the mine pit. No one has been able to prove first that this type of mining can be done safely.

Financial Assurance for Mine Cleanup is Poor Fallback Position

As a result, financial assurance has become a focus and a fallback position for mining supporters. This type of pollution mitigation usually covers short term reclamation of mine sites and avoids the issue of long term, near perpetual, pollution from acid mine drainage of sulfuric acid and sulfates from waste storage piles and pits.

Moore said that Minnesota rules for financial assurance are “strong”. This, of course, is not true when the polluters can very easily leave the cleanup costs to the public after they are gone. The pollution problem left by the asbestos industry in Montana was used as an example of bankruptcy used as a tool to avoid cleanup costs.

MCEA feels that the project must first be set up so it doesn't harm the environment before financial assurance can be effective. US taxpayers are currently on the books for about \$70,000,000,000 in cleanup costs in the Western US just to protect their water resources. MNDNR has some reservations about the effectiveness of current financial assurance tools to control long term pollution.

We Use These Metals but Also Drink This Water

The main corporate and Chamber of Commerce argument for proceeding with permitting Cu-Ni mining has been that we all use and depend upon these metals in our products. Also they say that this mining should be done in Minnesota with our “strict environmental rules” rather than in 3rd world countries with none. The responsible answer was that companies look at global sources of minerals and that Minnesota would be just a small part of the supply. This would not justify destroying our water, air and natural environment so they could make a profit and supply material to countries using slave labor to compete in world markets. Unfortunately, we may need these materials ourselves supplying equipment in future military conflicts.

Mining Proponents Throw Caution to the Wind

Jim Miller, the geology expert from UMD, continues to advocate that these metals are needed globally and that our huge deposits will eventually be mined. If the proposed

“mitigation packages” were used to justify permitting these mines, financial assurance would be weakened to the point of being useless and dangerous, long-term water pollution would be unleashed. A Generic Cumulative Impact Study would show that this activity is not sustainable in terms of public health, energy consumption and financial stability of NE MN and the entire Lake Superior watershed. The MNDNR has the authority to conduct such a study in Minnesota but has shown no inclination to do so.

POST CONFERENCE MEDIA AND LEGISLATIVE ACTIVITY

Local Media Misses the Point

Of course, our favorite mining show in Duluth, “This Week in Mining”, picked up on a PolyMet comment that they have already spent \$40 million on “environmental review”. Actually, the \$40 million has been spent on the design of the mine that was suppose to meet Minnesota’s “strict environmental standards” of which they were aware in the first place and ignored. The USEPA gave the first PolyMet mine design the worst rating possible in terms of preventing discharge of polluted water. The \$40 million cannot be written off as payment for environmental review when it really financed an unsuccessful mining plan. We are not engaged in a “reality show” but are facing a real threat to sustainable living in NE MN.

Politicians Change the Rules; Ignore Public Input

Minnesota School Trust and Federal Lands Now Political Footballs

Land Transfers between the Forest Service and the State School Trust Fund are another example of corporate influence promoting mining in the Lake Superior watershed. SLSA joins the Sierra Club and others in supporting a direct sale of school trust lands in the BWCAW to the federal government with these funds going immediately into the school trust fund.

Local legislators and Congressman Cravaak support a direct one-to-one transfer of forest service land in The Superior National Forest for the more valuable School Trust Land in the BWCAW. They in turn have created special government units, with no MNDNR oversight or federal Weeks Act and NEPA protection, to oversee and “maximize” profits to the schools from mining and forestry. Our local state Representative, David Dill, recommends “Mine the hell out of it” in the Superior National Forest with little or no review of environmental consequences. Good Luck students! Not only will you be short changed on income from the school trust lands but also your ground and surface waters will be polluted with mercury and toxic metals from unregulated mining far into the future.

More Nefarious Mining Action on Federal Land

Federal H.R. 4402 would “expedite” exploration and mining on the federal lands. The BLM and Forest Service could unilaterally decide that a given application to mine does

not “significantly affect the quality of the human environment”. The National Environmental Policy Act (NEPA) review would then be side-stepped. This is much the same as would occur if the Cravaak bill H.R. 5544 affecting Minnesota’s School Trust Lands in the BWCAW were passed. These “representatives” have become drunk with power and are apparently serious in ignoring environmental impacts of mining.

In both cases our rights to engage as citizens in civil action to protect our resources would be minimized. The USEPA, our main scientific authority in protecting the environment, would be left out of the process. Environmental impacts would then be “mitigated” with ineffective regulations while citizen’s health and environmental protection would receive low priority. This 1970s trend will continue until responsible legislators are elected on both the state and federal levels.

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