Testimony against Proposed Chapter 200: Metallic Mineral Exploration, Advanced Exploration and Mining, a Major Substantive Rule of the Department of Environmental Protection

Submitted to the Bureau of Environmental Protection, September 15, 2016

My name is Peter Kallin from Rome, Maine, and I urge you to reject the proposed rules. In the past two years, the legislature overwhelmingly rejected very similar weakened rules and I urge you to make the same, wise decision. These rules are a very modest (and I stress modest) improvement in some areas over the last iteration but are still insufficient to protect water quality or Maine taxpayers.

I hold a Ph.D. (Princeton) in Civil and Environmental Engineering. I am a retired Professional Wetland Scientist (PWS) and the coauthor of a book chapter on arsenic geochemistry in The Geochemical Society Special Publication #7: Water-Rock Interactions, Ore Deposits, and Environmental Geochemistry (2002, 462 pages). As an environmental consultant in NJ and PA, I used to design wetland systems to remediate contaminated water and sediments, especially involving heavy metal pollution, as well as acid mine drainage. I have seen firsthand the environmental damage caused when mining companies are allowed to mine using inappropriate techniques with inadequate regulatory oversight. It isn't pretty.

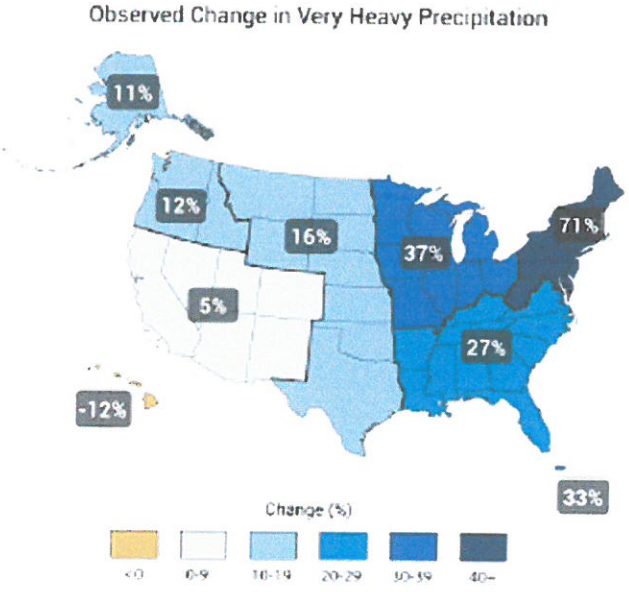
Open pit mining for sulfide minerals is a technique that is suitable where the annual rainfall is measured in inches, rather than feet. It is completely unsuitable in a state like Maine that averages over four feet of rain annually and has virtually no carbonate minerals to buffer the acid mine drainage (AMD) that is inevitable when the mine tailings are exposed to air and water. The Bald Mountain site is a potential environmental disaster in the making that threatens significant Class A waters that harbor a native brook trout fishery that provides ecotourism jobs to hundreds of Aroostook County residents and recreation to thousands of Maine residents who come to this area to fish. Because of Maine's geology, these headwater streams such as Bald Mountain Brook and Clayton Stream are very low in alkalinity and are particularly sensitive to acid runoff and the native trout are extremely sensitive to exposure to aluminum, copper, zinc, and arsenic that will inevitably be mobilized by the mining operations.

The ore bodies at the Bald Mountain site in particular have extremely high arsenic content (up to 29,155 ppm, nearly 3%) that will contaminate both ground and surface water if mobilized. Arsenic is a known human carcinogen and has been shown to reduce IQ in children who are exposed. The mining companies must be held accountable to post an adequate bond up front to ensure that water quality is maintained and the inevitable cleanup that will be required is done at their expense and not the taxpayers. While the Irving Company is claiming they will create 700 direct and indirect jobs, the majority of these jobs will go to Canadians and out of state residents with mining equipment and experience and experience conducting cleanup of acid mine drainage. The existing jobs that will be lost by the destruction of the native brook trout

habitat will end up being covered by the taxpayers of the State of Maine. Historically, the mining companies have an abysmal track record in cleaning up their sites. As soon as the price of gold drops, the LLC (Limited Liability Company) that did the mining declares bankruptcy and the taxpayers are left holding the bag. We need look no farther than the Callahan Mine in Brooksville, ME to see where over $30M of our tax dollars have already been spent. This must not be allowed to happen again. I ask you to reject the current proposal and direct DEP to write more protective rules not weaker rules. The DEP should use a true stakeholder process to refine these rules and include representatives with expertise in environmental cleanup, mining safety, climate change, environmental geochemistry, and water quality in addition to the mining industry consultants they used to prepare these rules.

The proposed rules are completely inadequate for permitting mines that produce Group A (Acid Producing) mine wastes, especially in areas that contain Class A and Class AA headwater streams that are critical to our native Brook Trout and Atlantic Salmon. The rules rely on inadequate measures to prevent exposure of these wastes to air and water, which is necessary to prevent Acid Mine Drainage (AMD) and inadequate measures to buffer surface and groundwaters from contamination. Recent studies such as the National Climate Assessment of 2014 have identified changes in precipitation trends that show a 71% increase in heavy precipitation events in our region from between 1958 and 2012. Earlier this summer, Somerset County got over 7 inches of rain in 24 hours. The picture below shows some of the damage to roads similar to the proposed mining access roads that are supposed to be separated from nearby streams by 75 ft of undisturbed vegetation. Such a storm in an area of mine tailing storage would be a disaster as British Columbia found out when a "modern" mine (Mount Polley) storage area was flooded and dumped tens of millions of cubic yards of contaminated sediment into nearby waterbodies. This must not be allowed to happen here in Maine. Thank you for your consideration. I would be happy to answer any questions.

State Rep. Larry Dunphy, of Embden, stands by a washed-out road in northwestern Somerset County Wednesday. Dunphy said he is trying to help secure financial help for residents of the area to fix the damage, which is estimated to be hundreds of thousands of dollars. Contributed photo (Waterville Sentinel July 1, 2016).



This map is from the National Climate Assessment, 2014 showing percent increases in heavy precipitation events between 1958 and 2012 by region. (Figure updated from Karl et al, 2009)

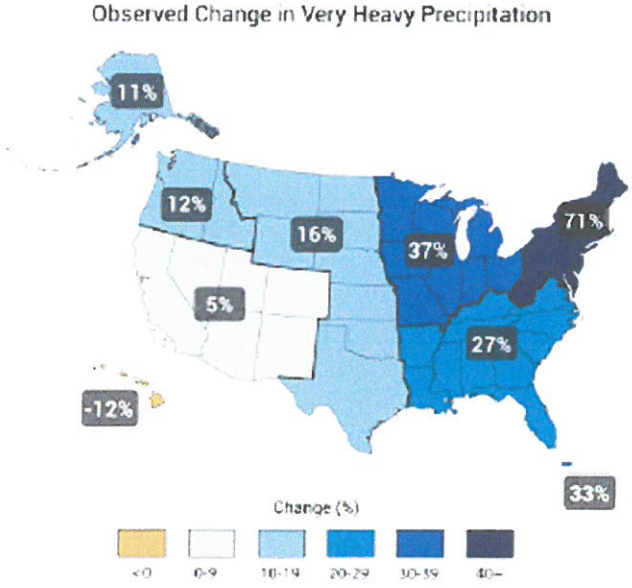
References:

Hellmann, Roland and Scot A. Wood (Editors), 2002: Geochemical Society Special Publication No. 7: Water-Rock Interactions, Ore Deposits, and Environmental Geochemistry- A Tribute to David A. Crerar. (462 pages)

Karl, T. R., J. M. Melillo and T. C. Peterson, 2009, Global Climate Change Impacts in the United States, National Science and Technology Council, Cambridge University Press.

National Climate Assessment 2014. A report by the U.S. Global Change Research Program 1800 G Street, NW, Suite 9100, Washington, D.C. 20006 GlobalChange.gov

State Rep. Larry Dunphy, of Embden, stands by a washed-out road in northwestern Somerset County Wednesday. Dunphy said he is trying to help secure financial help for residents of the area to fix the damage, which is estimated to be hundreds of thousands of dollars. Contributed photo (Waterville Sentinel July 1, 2016).



This map is from the National Climate Assessment, 2014 showing percent increases in heavy precipitation events between 1958 and 2012 by region. (Figure updated from Karl et al, 2009)