2012 TRIBAL COUNCIL

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Michigan Department of Environmental Quality Office of Oil, Gas, and Minerals, 525 W. Allegan St. P.O. Box 30256 Lansing, Michigan 48909

> Sent via US Mail and email: DEQ-Copperwood@michigan.gov

Re: Comments Of The Keweenaw Bay Indian Community On the Proposed Decision by the Michigan DEQ to Grant a Mining Permit to Orvana Resources US Corp For the Copperwood Mine Project Under Part 632 Of The Natural Resources and Environmental Protection Act

To whom it may concern:

The Keweenaw Bay Indian Community (Community) submits to the Michigan Department of Environmental Quality (MDEQ), the following additional comments regarding the proposed decision by the MDEQ to grant a Mining Permit to Orvana Resources US Corp (Orvana) for development and operation of the proposed Copperwood Mine, Gogebic County, Michigan. A Mining Permit Application (MPA) was filed by Orvana under the Nonferrous Metallic Minerals Part 632 of the Natural Resources and Environmental Protection Act, M.C.L. § 324.63201, *et seq.* (Part 632) and the corresponding administrative rules, R. 425.101, *et seq.* (Rules) on September 23, 2011.

The Community is a federally recognized Indian tribe that, along with its members, reserved their inherent right to hunt, fish, trap and gather in, on and over the lands and waters that were ceded to the United States under the Treaty of 1842. The proposed Coppperwood Mine is within this ceded territory.

Large scale threats to the land, water and natural environment within the ceded territory are of great concern to the Community and the potential adverse impacts of the Copperwood Mine as proposed are significant.

The Community is opposed to issuance of a mining permit for the Copperwood Mine because, as discussed in the Community's comments submitted December 7, 2011, the LAKE SUPERIOR BAND OF CHIPPEWA INDIANS

"Home of the Midnight Two-Step Championship"

information contained in the MPA is insufficient to justify the issuance of a Mining Permit.

The primary problems with granting a mining permit to Orvana are as follows:

- The mining permit requested would authorize Orvana to mine to within 200 feet of Lake Superior and would allow collapse of the mined openings and subsidence of the land surface which together with an upward groundwater gradient, would displace a freshwater cap bringing brine and dissolved metals into Lake Superior.
- The tailings dump (TDF) fills in 8,000 feet of existing streams, over 59 acres of wetlands, destroys at least two local watersheds and has the distinct possibility of requiring perpetual care due to cap maintenance and contaminated tailings leachate after mining ceases and WWTP decommissioning.
- Both the major impacts of subsidence and the large tailings basin could be minimized by backfilling the mine with tailings and /or redesigning pillars.
- Critical studies and required Orvana decisions are missing from the MPA prohibiting the state agencies or the public to fully assess the adverse impacts.
- The contingency plans contained in the MPA for the post-closure period are inadequate.

Given the dire environmental consequences of this project, MDEQ must not proceed with its proposed decision to grant a permit for the Copperwood Mine due to Orvana's failure to address the requirements of Part 632 and the Rules.

In support of the foregoing, the Community hereby submits the additional attached comments on the proposed Orvana Copperwood Mine. Please be advised that the Community reserves the right to supplement the enclosed comments.

Respectfully submitted,

Keweenaw Bay Indian Community

Warren C. Swartz Jr., Pres

Enclosure:

cc: Susan J. LaFernier, Secretary John Baker, Tribal Attorney Todd Warner, Director, Natural Resource Dept. Chuck Brumleve, Mining Specialist Jessica Koski, Technical Mining Assistant

Comments of the Keweenaw Bay Indian Community On the MDEQ Proposed Decision to Grant a Nonferrous Mining Permit for the Orvana Copperwood Project Part 632 of the Natural Resources and Environmental Protection Act

Introduction

The following are the comments of the Keweenaw Bay Indian Community ("Community") to the Michigan Department of Environmental Quality ("MDEQ") regarding their proposed decision to grant a Nonferrous Metallic Minerals Mining Permit to Orvana Resources US Corp (Orvana) under Part 632 of the Natural Resources and Environmental Protection Act ("NREPA"), M.C.L. § 324.63201, et seq. ("Part 632") and the corresponding administrative rules, R. 425.101, et seq. ("Rules") for the Copperwood Project.

The proposed Copperwood Project is located within the Lake Superior watershed in Ironwood and Wakefield Townships of Gogebic County in Michigan's Upper Peninsula, approximately 70 miles from the Community's L'Anse reservation and 45 miles from the Community's Ontonagon reservation lands. The Community is a federally recognized Indian tribe that, along with tribal members, retained an inherent right to hunt, fish, trap and gather in, on and over the lands and waters, that were ceded to the United States under the Treaty with the Chippewa at LaPointe, 7 Stat. 591 ("Treaty of 1842"), which included the lands upon which the proposed Copperwood Project, milling operation and permanent tailings disposal facility would be located.

The Community is disappointed with the proposed decision of the MDEQ to grant a mining permit to Orvana. The Community reviewed Orvana's Mining Permit Application filed with the state last fall and submitted numerous relevant concerns and anticipated problems regarding the proposed Copperwood Mine. The Community's concerns have not been addressed by the proposed permit or permit conditions.

There have not been any amendments to the Mining Permit Application filed with the MDEQ since Orvana's initial permit application on September 23, 2011 so the Community must assume that all anticipated problems spelled out by the Community's comments filed with the MDEQ on December 7, 2011 still apply. The reader of these comments on the proposed decision to grant Orvana a mining permit under Part 632 is encouraged to refer to these previous more detailed comments on the proposed Copperwood Mine.

The site is located between two federally designated Wild and Scenic Rivers, the Black River and the Presque Isle River, and is adjacent to Lake Superior and the Porcupine Mountain State Wilderness Area. The permit requested would authorize Orvana to mine within 200 feet of Lake Superior, intentionally plan for mine subsidence, beneficiate chalcocite-bearing sulfide ore, construct a water-intake system to supply 500,000 gallons of fresh potable water from Lake Superior to the mine operation per day, and discharge wastewater into Namebinag Creek—a stream flowing directly into nearby Lake Superior. In addition, the permit would allow Orvana to construct a 14-story (140 feet) high permanent tailings dump (Tailings Disposal Facility ("TDF")) that would fill in 8,000 feet of

existing streams and 59.5 acres of wetlands. The proposed TDF would leave a 346 acre foot-print on the landscape for the total deposition of approximately 32.2 million tons of tailings.

After reviewing the MPA and previously submitting detailed comments, the Community offers the following comments on the likely potential for Perpetual Care and reminds the State of Michigan it is party to national and international agreements. We respectfully request the MDEQ's attention and consideration of these concerns prior to making a final decision on granting a mining permit to Orvana.

Perpetual Care

The Permit Conditions intended to deal with tailings leachate and decommissioning of the Waste Water Treatment Plant (WWTP) seriously lack long term analysis as is illustrated by reading into Permit Conditions P9 and P10:

Permit Condition P9 "Leachate shall be pumped from the TDF to the WWTP for a period of five years, or until the volume of water coming out of the TDF reduces to a rate that is determined can be contained within the TDF indefinitely without an excessive buildup of water on the liner system." *Permit Condition P10* "The water treatment system shall be removed when it is no longer needed to implement permit condition P9."

The potential problems with these Permit Conditions are as follows:

- a) The primary problems related to the Tailings Disposal Facility are not about the **volume** of water leaching out of the tailings dump. Decisions regarding the continuance of the WWTP need to be based on the **water quality** of the leachate coming out of the TDF not volume. Continued operation of the WWTP should be required if contaminates are leaching out of the TDF above relevant water quality standards.
- b) These two Permit Conditions deal with the time related concerns of the TDF inadequately. After mining ceases, a multi-layer cap is to be constructed over the TDF. Assuming proper QA/QC construction procedures, the cap should be relatively impermeable upon completion and produce little if any leachate for the first five years. Yet this is the time period these two Permit Conditions apply. The volume of leachate will be minimal for the first five years or someone didn't build the cap correctly. But to allow the mining company to remove the WWTP "... for a period of five years, or until the volume of water coming out of the TDF reduces to a rate that is determined can be contained within the TDF indefinitely..." indicates that the decision to remove the WWTP will be made in the first five years when the cap is new.

As shown by many aging landfill caps around the country, it is only a matter of time before the cap leaks. Precipitation will cause surface runoff erosion and numerous other natural forces will work to compromise the cap's integrity: the freeze / thaw cycle, burrowing animals, tree roots, wind erosion settling of the tailings all will work to break down the cap over the tailings leading to progressively increased seepage into the tailings and increased generation of contaminate laden leachate.

The process of degeneration of the TDF cap and a corresponding increase in seepage through the tailings may not take place until after the 20 year monitoring period. Once the process begins however, it cannot be stopped unless a new cap is placed over the tailings. And by this time, the WWTP will be long gone. The contaminated leachate will flow into Namebinag Creek and directly into nearby Lake Superior unabated. This is clearly a case of the MDEQ accepting responsibility for creation of a Perpetual Care situation which is forbidden by the Part 632 Rules.

Since no cap will last perpetually, the only way to avoid a perpetual care situation is not to create it in the first place. As stated in our previous comments on the MPA, the tailings need to go back underground as backfill. Understanding that not all tailings can go back underground due to expansion of the rock caused by milling (bulking), the goal should be to absolutely minimize the tailings left on the surface.

Orvana's permit application claims that "During reclamation, the site will be developed into a selfsustaining ecosystem which will require no perpetual care," (MPA, p. 151). This "no perpetual care" statement seems to be made simply to appear compliant with Part 632, is conclusionary and is not supported by any real evidence to demonstrate compliance.

In fact, the "no perpetual care" statement above seems to contradict data provided within Orvana's MPA in which the TDF is predicted to release between 24-62 million gallons of leachate into the environment per year (MPA, Appendix B). Much of this excess tailings water will seep near the northwest corner at Namebinag Creek, the lowest point of the TDF, because of the low permeability of tills underlying the project area. The MPA predicts that at least 15 constituents (including sulfate, arsenic, cadmium, copper, iron, lead, manganese, mercury, selenium and zinc) would violate Lake Superior surface water standards, EPA Maximum Contaminant Levels, EPA Secondary Maximum Containment Levels or MI Part 201 standards (MPA, Tables 203.3.5-4a and 4b). While these are theoretical untreated leachate contaminant concentrations from the TDF and the WWTP end-of – pipe values are predicted and required by the NPDES permit to be far lower, it is the untreated leachate contaminant concentrations that will discharge from the TDF once the WWTP is decommissioned. To perpetually meet all water quality standards, perpetual water treatment will be required.

Agreements to Protect

Several organizations have been formed to define and clean up current sources of contamination in the Great Lakes and specifically Lake Superior. Ironically, these organizations work to clean up the lakes while the MDEQ proposes to permit the Copperwood Project which, as planned and proposed to be permitted, would create a large new contaminate source area with the potential to leach contaminates perpetually into Lake Superior.

The MDEQ must take into account agreements that the State of Michigan has agreed to that would be compromised by the Copperwood Project. These agreements include: (1) the Lake Superior Binational Program's Zero Discharge Demonstration Program, particularly targeting mercury (which is recognized as a Contaminant of Potential Concern, see MPA, Appendix C, p. 6), (2) the Great Lakes Water Quality Agreement goal to "restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystems," and (3) the Great Lakes Restoration Initiative which seeks to (a) clean up existing Areas of Concern and avoid creating more, (b) ensure that near shore aquatic, wetland and upland habitats will sustain the health and function of natural communities, and (c) plan and implement development activities in ways that are sensitive to environmental considerations and compatible with fish and wildlife and their habitats, with particular emphasis on wetlands.