Chippewa Ottawa Resource Authority
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January 29, 2018

Michigan Department of Environmental Quality
Upper Peninsula District Office WRD
1507 W. Washington Street
Marquette, MI 49855

Re: Aquila Resources Wetland Application 2NN-5PE0-MT3W.

Dear MDEQ:

On behalf of the Chippewa Ottawa Resource Authority (CORA), I am writing to comment on the permit application filed by Aquila Resources, Inc. to destroy wetlands to create an open pit mine on the Menominee River in Michigan. CORA is unequivocally opposed to this proposal and is especially disappointed that the State of Michigan would consider permitting the mining of sulfide minerals so close to the Menominee River, the ancestral lands of the Menominee Nation of Wisconsin and a shared resource where considerable public money has already been spent to try to remediate past industrial disasters.

CORA represents five tribes in Michigan with regard to the tribes' commercial and subsistence fisheries in the 1836 treaty-ceded waters of Lakes Huron, Michigan and Superior. The tribes which are party to the 1836 treaty are the Bay Mills Indian Community, Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band of Ottawa Indians, Little Traverse Bay Bands of Odawa Indians and Sault Ste. Marie Tribe of Chippewa Indians.

CORA unanimously approved a resolution opposing the so-called "Back 40" mine proposal on January 28, 2016. A copy of that resolution is included as an attachment to this letter. CORA is especially concerned about what we see as a trend by MDEQ to approve any and all mining permits despite the obvious environmental risks whether the ore exists below one of the last coaster brook trout streams on Lake Superior or in the flood plain of an area of concern where millions of dollars of public money have already been spent to remediate past industrial disasters.

Regarding the application for a permit to fill in wetlands along the river, CORA believes that the information supplied by Aquila is inadequate and has the following specific comments and concerns:

- The development of the mine and mill works will require the destruction of 28 acres of wetlands and over 900 linear feet of streams (Vol II, Section 6). The proponent is proposing to store highly reactive, acid producing rock in some of these wetlands. In light of the fact that the Menominee River includes a Great Lakes Area of Concern where millions of taxpayers' dollars have been spent to clean up past industrial activities and to restore wetlands and fish and wildlife habitat, CORA demands that the proponent be required to avoid storing any waste in wetland areas.
- The design for waste rock and tailings storage facilities presented in the wetland permit application differ significantly from the designs presented in the mining permits and there are no or inadequate explanations as to how these changes will affect hydrology, impacts to biota, migration of contaminants like heavy metals through groundwater and impacts to adjacent wetlands not mentioned in the permit application. The changes of facilities and locations in the wetland permit are significant changes to the plan of the mine and include the relocation of hazardous material (acid producing rock) closer to the Menominee River and therefore pose an increased and unnecessary risk to the river ecosystem. **These changes should trigger reconsideration and amendment under Part 632 of Act 451 of 1994**.
- There have been inadequate explanation and consideration of alternatives to storing waste rock in wetland areas as opposed to upland facilities. There is also no indication that the waste rock will be stored on liners with leak detection as described in the original mining permit. Approximately 75% of the waste rock to be stored in wetland areas was determined to potentially acid generating (PAG) according to the proponents report. The proponent also claims that some of the newly proposed storage areas will be temporary until the waste is permanently placed in the mine pit when open pit mining is concluded however, in light of the proponent's stated plans to proceed to underground mining, the "temporary" storage areas will become much longer term and therefore will pose additional threats from leaching of contaminants into groundwater, wetlands and the Menominee River. Placing acid producing waste rock on top of a wetland and adjacent to the river, knowing that it may be there for many years past the life of the of the open pit, increases the risk to wetlands and aquatic resources in the river. The proponent should be required to reconsider Alternative F (separate waste rock facility).
- There are indications that groundwater modeling is inadequate or flawed which means that the proponent is grossly underestimating the impacts to the wetlands. According to a report by independent hydrologist Dr. Tom Myers:

> "Indirect impacts to wetlands are underestimated in three ways. First, the groundwater model used to simulate groundwater flow through the area uses constant head boundaries around the model perimeter in ways that allow extra water to flow through the system. This resulted in about 30% more water flowing through the system during steady state calibration than should have flowed. This results in calibrated conductivity values that are much too high, which limits the drawdown near the wetlands.
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> Second, groundwater levels beneath the wetlands were artificially prevented from being drawn down by the dewatering because the model simulated the wetlands as River boundaries which

> provides too much water to the model domain. In other words, the model creates water that may or may not be there, and simulates a hydraulic connection in such a way as to limit the extent of drawdown. This allows the model to show almost no drawdown beneath wetlands that will probably end up dry, at least seasonally, when they otherwise are wet.
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> Third, the direct modeling of wetlands, whether in the valley or in the uplands, assumes that water in the wetlands can seep into the ground through the bottom of the wetland as easily as it can percolate into a river bed or onto unsaturated ground. This modeling ignores the fact that the bottom of wetlands would be full of fine sediments that would impede the flow through the bottom of the wetland. This flow impedance would occur regardless of the groundwater level beneath the wetland. Currently, the modeling allows water to flow unimpeded to the groundwater, which prevents the drawdown cone from spreading."

In conclusion, we reiterate CORA's belief that the Aquila's wetland permit application is shoddy and should be rejected. The protection of the Menominee River ecosystem and therefore the resources of Green Bay and Lake Michigan depend on the protection of wetlands and the groundwater that flows into them therefore we are demanding that MDEQ reject this permit application.

If you have any questions or require further information, please do not hesitate to contact me or Executive Director Jane A. TenEyck at (906) 632-0043 or via email mripley1@chippewaottawa.org and jteneyck@chippewaottawa.org .

Respectfully,

Michael P. Ripley, CPG
Environmental Coordinator
Chippewa Ottawa Resource Authority

Cc: CORA Board of Directors
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RESOLUTION 01-28-16 B:
OPPOSITION TO PROPOSED OPEN PIT SULFIDE MINE ON THE MENOMINEE RIVER

WHEREAS, the Great Lakes Resources Committee of the Chippewa Ottawa Resource Authority exists for the purpose of managing the fishery resource in the waters of the Great Lakes under the Treaty of 1836, 7 Stat. 491, through regulation of treaty fishing activity by members of the Bay Mills Indian Community, the Grand Traverse Band of Ottawa and Chippewa Indians, the Little River Band of Ottawa Indians, the Little Traverse Bay Bands of Odawa Indians and the Sault Ste. Marie Tribe of Chippewa Indians; and

WHEREAS, the right to fish under the 1836 Treaty is dependent upon the ability of the Great Lakes ecosystem to support viable and stable fish stocks; and

WHEREAS, Aquila Resources Limited, a Canadian mining company, has applied for a permit with the Michigan Department of Environmental Quality (MDEQ) to create an open pit mine known as the "Back 40 Project" within 150 feet of the Menominee River; and

WHEREAS, the ores for this potential mine are identified by Aquila as volcanogenic massive sulfide deposits containing high levels of sulfide and arsenic bearing minerals, the mining of which, can produce acid mine drainage and arsenic contamination which is lethal to fish and other aquatic organisms; and

WHEREAS, the Menominee River flows into Green Bay and northern Lake Michigan which is an important fishery for the CORA tribes and part of the 1836 treaty-ceded waters of Michigan; and

WHEREAS, the Menominee River is a listed Area of Concern (AOC) under the Great Lakes Water Quality Agreement due to past industrial abuses including paper mill effluents, arsenic contamination, paint sludge, coal tar, and PCB contamination resulting in millions of dollars of taxpayer money to address; and

WHEREAS, the projected life of the mine is less than 8 years, however, the resulting pollution could potentially last for hundreds or thousands of years.

NOW, THEREFORE, BE IT RESOLVED, that the Great Lakes Resources Committee hereby states its unqualified opposition to any new or proposed open pit sulfide mine in the Menominee River watershed.

CERTIFICATION

I, the undersigned, as Chairman of the Great Lakes Resources Committee of the Chippewa Ottawa Resource Authority, certify that the foregoing resolution was adopted at a duly called, noticed and convened meeting on the 28th day of January, 2016, with a quorum present and with a vote of 10 in favor, 0 opposed, 0 abstaining and 0 absent.

Levi D. Carrick, Sr., Chairman
Great Lakes Resources Committee of the
Chippewa Ottawa Resource Authority