UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 1 5 2016

REPLY TO THE ATTENTION OF:

WW-16J

Ms. Colleen O'Keefe
Land and Water Management Division
Michigan Department of Environmental Quality
P.O. Box 30028
Lansing, Michigan 48909

Re: Public Notice No. 2B5-QHB6-CZE8, Aquila Resources Inc.

Dear Ms. O'Keefe:

The United States Environmental Protection Agency appreciates the opportunity to provide comments on the subject Michigan Department of Environmental Quality's (MDEQ) May 17, 2016 public notice, in which Aquila Resources, Inc. proposes to develop a new polymetallic mineral mine known as the Back Forty Project. The proposed project is located in Sections 1, 11, and 12 of Township 35 North, Range 29 West; Sections 4-9 of Township 35 North, Range 28 West; and Section 32 of Township 36 North, Range 28, Lake Township, Menominee County, Michigan.

The U.S. Army Corps of Engineers (Corps) provided comments to the EPA on the proposed project and permit application. The comments that follow are provided pursuant to Section 404(j) of the Clean Water Act (CWA), the regulations in 40 C.F.R. § 233, and as further prescribed in the Memorandum of Agreement between the State of Michigan and EPA for implementation of the 404 permit program (MOA). These represent the combined federal comments of the EPA and the Corps. Our detailed comments on the MDEQ Wetlands and Inlands Lakes and Streams permit application are enclosed.

As described in the public notice and the application, the purpose of the proposed project is to develop a new polymetallic zinc, copper, and gold mine. The project includes an open pit mine, surface infrastructure facilities, a beneficiation plant, and overburden and tailings stockpiles. The Back Forty Project would require the filling of 0.2 acres of wetlands for the purpose of constructing a haul road, dredging of 1.9 acres of wetlands within the mine pit, and dewatering of 12.53 acres of wetlands. The project is located along the Menominee River.

In preliminary discussions with the MDEQ, your staff has indicated it shares many of EPA's concerns, and MDEQ has requested additional information from the applicant. Your staff also indicated that the project will likely require a second public notice based on the applicant's

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response. As of this date, the second public notice has not been issued. An amended application and new public notice may address EPA's concerns. To avoid complications from multiple applications and technical documents, EPA requests that the amended application include a single application with all up-to-date versions of the various attachments.

Pursuant to the CWA Section 404(b)(1) Guidelines (Guidelines), the applicant bears the burden of clearly demonstrating that the preferred alternative is the least environmentally damaging practicable alternative (LEDPA) that achieves the overall project purpose, minimizes impacts to the aquatic environment to the maximum extent practicable, and does not cause or contribute to significant degradation of waters of the U.S. The federal agencies have identified specific concerns with the project as proposed. Our concerns focus on the deficiencies in the impacts analysis, the significance of aquatic resource impacts, and the demonstration of adequate compensation for wetland and stream impacts. Therefore, this project does not comply with the Guidelines, and we object to the issuance of a permit for this project.

In order to address EPA's objections, the MDEQ shall require the following[1]:

- A finalized site plan;
- A comprehensive aquatic resource impacts assessment that identifies all regulated wetlands and streams on-site and off-site within the potential indirect impact area;
- An alternatives analysis that avoids and minimizes all direct, indirect, and cumulative aquatic resource impacts to the maximum practicable extent; and
- A complete wetland mitigation plan that provides sufficient in-kind compensation for wetland and stream impacts, and meets the requirements of the 2008 Federal Mitigation Rule.

This letter constitutes a Federal objection to the issuance of a permit for this project. Pursuant to CWA § 404(j) and the CWA 404 MOA Section 5(d)-(e), the MDEQ has 90 days from the date of this letter to work with the applicant to resolve the issues raised above or deny the permit. The MDEQ may request a public hearing on EPA's objection. If the State does not satisfactorily resolve this objection within 90 days after the date of this letter, or within 30 days after the completion of the hearing if one is held, authority to issue the CWA Section 404 permit transfers to the U.S. Army Corps of Engineers.

Thank you for the opportunity to provide comments on this application. We look forward to working with you to resolve the issues discussed in this letter. Please contact Melanie Burdick at (312) 886-2255 with any questions you may have.

Sincerely,

Tinka G. Hyde

Tinka G. Hyde
Director, Water Division

[1] Refer to the enclosure for more specific requirements and recommendations.

**Enclosure: Detailed EPA comments on the Michigan Wetlands and Inland Lakes and Streams Permit Application for the Back Forty Project**

**Application Completeness**

The project plan views indicate that the proposed facility layout is subject to change. A final site plan is needed to demonstrate the significance of the impacts and the least environmentally damaging practicable alternative. To fully evaluate all potential aquatic resource impacts, the applicant should include the maximum foreseeable impacts.

The project plan would result in Shore Road terminating within the project area. There will likely be a need to re-route Shore Road. Because this reroute would be required because of the proposed project, the impacts, alternatives, and mitigation analysis should include any aquatic resource impacts from the construction of a bypass road around the mine. If there is any other infrastructure (power lines, access roads, etc.) needed to facilitate the project, the associated aquatic resources impacts must also be included in the application.

**Stream and Wetland Impacts**

To evaluate the significance of the proposed adverse effect to aquatic resources and whether the applicant has avoided and minimized impacts to the greatest extent practicable, a comprehensive analysis of the aquatic resource impacts is necessary. The agencies have identified sufficient errors and information gaps in the impacts analysis to determine that applicant has not demonstrated compliance with the 404(b)(1) Guidelines.

*Regulatory Status*

In its July 29, 2016 letter to EPA the Corp identified several "un-regulated wetlands" within the impact area that may be hydrologically connected to the Menominee River. Groundwater and geochemistry reports submitted to MDEQ indicated that wetlands labelled as isolated may be hydrologically connected to the Menominee River, which would indicate that the wetlands are regulated. MDEQ must re-evaluate the regulatory status based on the recent ground water and geochemistry reports produced as part of the mine application.

As a result of a May 2016 site visit with the applicant, MDEQ, and EPA staff, MDEQ requested the applicant to re-evaluate the regulatory status of wetlands where there were delineation errors. For example, Wetland A3 appears to be mislabeled as isolated from Wetland A1 and Wetland 40/41 extend off site and are likely regulated as part of a larger wetland complex.

Portions of Wetland B2 contain stream characteristics, including a defined bed and bank and ordinary high water mark, which are not identified as stream in the impacts assessment. The application must be amended to fully identify stream impacts. If impacts to streams cannot be fully avoided, the applicant must provide stream mitigation.

*Dewatering impacts*

For the analysis of indirect effects to wetlands, the application does not include all off-site wetlands. For groundwater drawdown, the applicant identifies wetland impacts as groundwater influenced wetland within the 0.5 foot projected drawdown contour (Figure II-1), but the analysis does not include all off-site wetlands within the 0.5 foot contour. For example, off-site portions of Wetlands A1, B1, 2b, 40, 41, and a forested wetland south of wetland 5 are not identified in Figure II-1, and it does not appear that they were included in the indirect effects analysis (i.e. Appendix E, Indirect Impacts Assessment). In its review of aerial photos, the Corps identified what appears to be an unmapped linear water feature that may be within the indirect impact area in Section 6, Township 35 North, Range 28 West. Therefore, it appears that the applicant has not identified the full extent of dewatering impacts to these wetlands, and the applicant must identify all wetlands and streams that may be impacted.

Appendix E includes proposed thresholds to determine whether a wetland will be impacted by the loss of one third or two thirds of its drainage area depending on its status as surface or groundwater dependency (Appendix E). The application does not include sufficient rationale for the proposed watershed loss thresholds.

*Stormwater impacts*

The Corps identifies a concern that sediment release due to erosion and stormwater may adversely affect wetlands. The application lists stormwater control as an activity within their project timeline (Figure 2-1), and sedimentation basins are displayed on site maps, but a description of stormwater control is not included in the application. By including specific methods to minimize stormwater impacts and by identifying which wetlands may be impacted, potential impacts from stormwater and erosion could be reduced.

*Invasive Species*

To prevent the spread of invasive species throughout the project area, all equipment must be washed following Michigan's established guidelines[1] to remove exotic or invasive species before entering a watershed or after encountering invasive species. It is important to follow these guidelines since, once introduced into a watershed, invasive species can move and eventually affect wetland species diversity.

*Surface Water Quality*

In its letter to EPA, the Corps indicated that the available information is insufficient to support a conclusion that the water quality in the Menominee River would not be impacted. Specifically, constant drawdown and restricted release to the Menominee River may result in adverse impacts to water quality.

Also, EPA understands that baseline water quality sampling has taken place at the site, but the wetlands application does not identify specific surface water quality monitoring locations.

[1] http://www.michigan.gov/documents/deq/qol-wrd-policy-invasive-species-decontamination_476846_7.pdf

During the May 2016 visit to the proposed preservation site, the agencies and the applicant located wetland areas that have been degraded by logging, roads, and invasive species. These areas may be eligible for enhancement credit as mitigation. There were also opportunities for wetland creation and stream mitigation.

To comply with the Mitigation Rule, the applicant must provide a complete mitigation plan with all of the required components[3], including the proposed mitigation method (e.g., preservation, enhancement, etc.), credit allocation based on wetland type and mitigation method, baseline assessments, performance standards, monitoring, long-term protection and management, financial assurances, etc.

**Cultural Resources**

The Corps letter to EPA included the following regarding cultural resources:

> Results of Phase I and Phase II surveys show that consultation with the State Historic Preservation Office (SHPO) and further coordination with all potentially-affected Tribes is necessary. There are multiple sites within the project area labeled eligible, potentially eligible, and unevaluated for listing on the National Register of Historic Places. The applicant's assertion that the proposed project would likely not impact potentially eligible or eligible resources, requires the SHPO's input through the consultation process and in coordination with all potentially-affected Tribes, and interested parties. The Menominee Indian Tribe of Wisconsin's (MITW) ancestral use of the Menominee River area is well known, and the MITW may have information necessary to complete a review of cultural and archeological impacts. It does not appear that MITW or other affected Tribes' archeologists participated in field surveys. In its February 16, 2016 letter to the MDEQ, the MITW objected to the applicant's conclusion regarding impacts, and asserted that additional burial sites and Traditional Cultural Properties are likely present on the site. In the [environmental impact assessment] EIA, the applicant also states that the proposed oxide tailings and waste rock management facility site requires further survey and no disturbance will occur until a survey is completed and results are Cultural Properties are likely present on the site. In the EIA, the applicant also states that the proposed oxide tailings and waste rock management facility site requires further survey and no disturbance will occur until a survey is completed and results are acceptable. (2016, p.3)

EPA agrees with the Corps' assertion that complete information is warranted to evaluate impacts to cultural resources and encourages MDEQ to coordinate with the SHPO, affected tribes, and interested parties to avoid any adverse impacts to these cultural resources.

[3] 40 CFR § 230.94(c)(2) through (c)(14)

MDEQ should require a baseline water quality assessment and monitoring for wetlands and streams surrounding the mine features to identify and mitigate any potential surface water impacts. Macroinvertebrate surveys would also help identify any potential stream and wetland degradation during mining and reclamation.

*Mussel Impacts*

During the May 2016 site visit, EPA visited the location of the discharge pipe at the Menominee River, and the applicant's consultant indicated that mussels were found at that location and will be relocated because adverse impacts to mussels would occur as a result of the work. The applicant should provide an analysis of potential impacts to mussels. The Corps recommends that a relocation plan for mussels in the Menominee River include a thorough review of the species' life history, native range, and habitat requirements, as well as a survey of a proposed relocation site to ensure that there are no invasive mussels are present. The relocation site survey should also show that any necessary host species and other habitat requirements for the native mussels' survival are present.

**Monitoring Plan**

The Corps notes, and EPA agrees, that a detailed monitoring plan for wetlands and streams potentially affected by groundwater drawdowns is warranted, including specifics on adaptive measures. The current monitoring plan in Appendix Q, which includes piezometer locations and groundwater monitoring, does not reasonably present the merits and the efficacy of measures like discharge of treated wastewater, another cut-off wall, grout injection, or increased groundwater recharge or surface flow in a watershed. The applicant should propose more specific impact thresholds, adaptive management, and mitigation measures within the wetland monitoring plan. The monitoring plan must also include impacts to streams.

**Compensatory Mitigation**

Under the CWA Section 404(b)(1) Guidelines, the agencies may only consider compensatory mitigation after an applicant has demonstrated avoidance and minimization of adverse aquatic resource impacts. Although the applicant has not demonstrated avoidance and minimization, EPA provides the following preliminary comments regarding the proposed mitigation.

To compensate for aquatic resource impacts, the public notice describes 146.3 acres of wetland preservation next to the Menominee River located in Sections

The 2008 Federal Mitigation Rule[2] (The Mitigation Rule) provides a sequence of preference for different types of compensatory mitigation. Preservation is considered the lowest priority method behind wetland restoration, creation, and enhancement because it does not meet the goal of no net loss of wetland functions and acres. The Corps asserts that the applicant's reasons for preservation over a more preferred mitigation method are not justified, and the applicant has not fully evaluated wetland restoration, creation, or enhancement opportunities.

[2] 40 C.F.R. § 230.93