
CORRESPONDENCE/MEMORANDUM

DATE: January 9, 2012

FILE REF: Aquila Resources

TO: Patrick Quigley, Project Geologist
Aquila Resources Inc.
908 Second Street
Menominee, MI 49858FROM: Philip Fauble – WA/5 *Philip Fauble*

SUBJECT: Exploration Borehole Site Inspection Report for the Bend Deposit, Chequamegon-Nicolet National Forest, Taylor County, Wisconsin

On January 5, 2012, staff from the Wisconsin Department of Natural Resources (DNR), the US Forest Service (USFS), the Bureau of Land Management (BLM) and Aquila Resources, Inc. (Aquila) inspected 9 potential metallic mining exploratory borehole sites to be located along Forest Service Road 112 in the Chequamegon-Nicolet National Forest, Taylor County. The locations and description of the proposed exploration activities are detailed in the Notice of Intent to Drill submitted to the Department on December 19th, 2011 in accordance with ch. NR 130.10(1) Wis. Adm. Code. The purpose of the inspection is to ensure the drill sites will be in compliance with the minimum standards in ch. NR 130.06(2) Wis. Adm. Code, to determine if additional permits might be needed, and to provide appropriate recommendations.

Attendees:WDNRPhilip Fauble – Mining Coordinator, Madison
Ed Lynch – Section Chief
Tom Portle – Mining Reclamation Specialist
Jon Kleist – NOR, Water ProgramAquila ResourcesPatrick Quigley, Project Geologist
Tom Quigley – CEO
Ted DeMatties, ConsultantUSFSGreg Knight – Minerals & Geology Program Manager
Aleshia McNultyBLMJeff Nolder
Teresa Voltis

Drilling Plan

During the site inspection, several aspects of the drilling plan were modified or clarified by Aquila and the DNR. These include the following:

- **Boreholes** - While the initial NOI to drill included 9 potential borehole locations, the drilling locations had to be modified due to constraints on access to mineral rights on property east of FR 122. Patrick had prepared a revised drill plan map for use during the site inspection.
- **Stormwater Permit** - Based on a review of the NOI and our site inspection, a Stormwater Management Permit is not needed for this phase of the exploration plan. There are 9 drill sites that will be no bigger than 50 sq. feet and sumps approximately 10 sq. feet and 10 feet deep. That level of ground disturbance should not exceed the minimum requirement of 1 acre as long as other ground moving for access to the sites (blading and leveling) is kept to a minimum.
- **Drilling Mud** - We approve your use of the bariod drilling lubricant known as "EZ-Mud" as long as it used at no more than the recommended mixture rate of 0.5 to 1.5 lbs/100 gallons of water. If you intend to use concentrations of this product in excess of 1.5 lbs/100 gallons, please let us know prior to its use.
- **Reclamation** - As for reclaiming and revegetating the drill sites and access roads, we recommend waiting to apply seed mixtures until after the ground has sufficiently thawed in the spring. At that time, we would be glad to re-visit the sites and assess the need for additional site reclamation. If the ground stays well frozen and you can minimize site disturbance, you may not need extensive reseeding of the drill sites.
- **Drilling Water** – Aquila intends to obtain drilling water from the North Fork of the Yellow River, just off a bridge north of the drill sites on FR 112. Since Aquila will require no more than 2000 gallons per day, an exemption request under Chapter 30 for removing surface water from a navigable waterway is not needed.
We have some concerns about access to the river due to steep river banks. If Aquila needs to conduct any grading of the river banks to obtain water, please contact the DNR as it is likely a permit will be needed. Ideally, water could be obtained by dropping a hose down from the bridge without any impact to the river bank.
We also have some concerns about the availability of water, especially under frozen conditions, due to the small size of the riverbed. If you are unable to obtain sufficient water due to a dewatering of the river, Aquila will need to obtain another source of water.
Surface water must also be chlorinated to prevent bacterial contamination of the boreholes. I can provide some good MDEQ guidance on proper disinfection techniques for drilling water if you need it.
- **Reclamation Bond** - Your estimate of \$56,050.00 is consistent with previous reclamation estimates and is acceptable. Please amend the existing reclamation bond to reflect these new costs and submit the documentation to me.
- **Drilling Mud and Cuttings** - Aquila will construct sumps next to every borehole (with the exception of borehole **B-D**; see below) and drilling fluid will be allowed to infiltrate into the ground. Cuttings will also be left in the sump excavation and buried in place. If the borehole encounters significant intervals of sulfide-bearing rock, lime, cement or other acid-neutralizing agents must be mixed in with the cuttings prior to backfilling and reclamation to provide a buffering capacity in the event of sulfide oxidation and subsequent acid generation.

-
- **Endangered Resources** – A review of the Natural Heritage Inventory (NHI) portal revealed only the potential for the presence of wolves in the project area. Wolves should not be permanently inconvenienced or displaced by the temporary drilling and abandonment of boreholes.

Specific Borehole Site Comments

All 9 potential borehole locations were inspected and our comments were shared with Aquila staff in the field. The more significant observations and recommendations are as follows:

- **Drill Site B-G:** There is a small, circular wetland just south of the marker stake. Aquila must avoid this area when excavating their sump.
- **Drill Site B-H:** Again, there is a wetland just south of the marker stake (characterized by ferns at the edge of the wildlife opening). Aquila must avoid excavating their sump in this wetland area; we suggest moving the drill site a bit so it is completely in the wooded areas.
- **Drill Site B-D:** This site is located in a very wet area characterized by a dense stand of hemlock. Aquila must not excavate or dispose of drill cuttings or water within this sensitive area. The drill water and cuttings must be containerized and disposed of in an upland sump where the excess drill water can adequately infiltrate. We also urge Aquila to slightly relocate the drill location southeast, out of the hemlock grove and closer to the access road, to minimize impacts.

Unless additional permits need to be obtained, Aquila is free to commence drilling at the Bend Deposit site. DNR staff will conduct periodic inspections of the drilling operations over the winter. Please note that s. NR 130.10(2) and (3) Wis. Adm. Code requires you to notify to the DNR (contact me at 608-267-3538) prior to the commencement of any drilling and give the DNR at least 24 hours notice prior to filling the borehole.

