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Waste & Materials  
Management

January 8, 2013

Wisconsin Department of Natural Resources  
ATTN: Larry Lynch  
101 South Webster Street  
PO Box 7921  
Madison, WI 53707-7921

Dear Mr. Lynch:

RE: December 20, 2013 Request for "Additional Clarification" Regarding Bulk Sampling Activity

Dear Mr. Lynch:

I am responding to your December 20, 2013 letter "requesting additional clarification regarding [GTAC's] bulk sampling activity and specifying certain procedural and informational requirements that will apply to the activity...." Your request for the categories of additional information set forth in your December 20 letter and the specification of "procedural and informational requirements" is not authorized by the statutory requirements governing the bulk sampling process.

Pursuant to Wis. Stat. § 295.45(1), GTAC filed its bulk sampling plan with the Department and set forth all the information required under Wis. Stat. § 295.45(2). After reviewing GTAC's bulk sampling plan, on December 10, 2013, the Department identified the permits and approvals that are required for GTAC to conduct the bulk sampling activity. The DNR permits identified by the Department are a stormwater permit and a filing for an exemption from the requirement to obtain an air pollution operation permit. While Wis. Stat. § 295.45(3) authorizes the Department to identify "any information that the department needs to issue the approvals or to issue a decision on waiver, exemption or exception," that provision only applies to the stormwater permit and the exemption from an air pollution operation permit. The statutory provisions governing bulk sampling in Wis. Stat. § 295.45 do not authorize the Department to "specify[] certain procedural and information requirements that will apply to the [bulk sampling] activity." Moreover, the additional information requested in your December 20 letter goes far beyond any additional information that would be needed to obtain a stormwater permit or an exemption from the air pollution operation permit. The bulk sampling plan itself is not subject to the Department's approval, nor is there any bulk sampling permit or other approval required. The bulk sampling plan is simply an informational filing by an applicant to enable the Department to specify required permits or approvals, which the Department did in its December 10, 2013 letter.

GTAC submitted its application package for coverage under the State's General Discharge Permit for Construction Site Stormwater Run Off (General Permit #WI-S067831-4) on December 2, 2013, and it is currently under review by the Department.

To the extent any of the information you have requested in your December 20 letter may be useful to the Department in considering GTAC's application, I am providing the following responses to the eleven categories of additional information you have requested. However, I am doing so only to move the process forward rather than as an acknowledgement that the Department has the authority to supervise or manage the bulk sampling activity beyond the review and approval of the stormwater application and the application for exemption from an air pollution operation permit.

### **Responses To Issues Raised In December 20, 2013 Letter**

*1. While the revised plan includes descriptions of the various elements of the activity, there is not a comprehensive discussion describing the sequencing of site disturbance. Please provide a description of the sequence of activities at the site including, but not limited to implementation of erosion control measures, preparation of the staging area, access road construction, specific sampling site preparation and excavation, sample site reclamation, access road reclamation and staging area reclamation.*

RESPONSE: The basic sequence is:

- To remove the timber using best available technology for erosion control during that activity.
- Establish erosion control.
- Road construction.
- Bulk sampling.
- Regrading.
- Revegetation.

Each of these activities is discussed at length in the Bulk Sampling Plan.

*2. It is not clear how the listed acreage for Access Road 6 was derived. Does it include only the disturbance related to the new position of the road? Is it based on an average width or actual width of the road corridor? Does it include areas of new disturbance along the existing road, such as those areas needed safety and drainage berms and other features?*

RESPONSE: The acreage for the Access Road was only provided to demonstrate the number of timber acres to be disturbed to meet the Managed Forest Land requirements. Refer to the detailed drawings for the actual width to be disturbed.

*3. The plan includes a statement that the ground speed of the highway trucks is expected to be less than 10 miles per hour. It is assumed this anticipated speed is applicable specifically to travel over on-site roads. Is this correct?*

RESPONSE: An on-site posted speed limit for trucks is provided for safety concerns. It is not an environmental issue.

*4. What is the anticipated depth of excavation at Bulk Sample Site #5?*

RESPONSE: See Figure 5-1, where cross sections have been provided. The approximate depth of the excavation for Bulk Sample Site 5 is 4 feet.

5. *At what point in the process will a decision be made regarding the need to implement Plan B, the sampling process involving blasting? If Plan B is determined to be necessary, Gogebic Taconite, LLC should notify the Department as soon as possible after reaching the decision. How would implementation of Plan B affect the overall schedule for completion of the bulk sampling? Would there be a period of inactivity at the site, while the drilling/blasting contractor is mobilized? The plan indicates "bedrock will be cleared of extraneous materials" - where would such materials be stored?*

RESPONSE: While the plan of operations is to collect samples from existing bulk sample sites, the alternative plan for blasting was provided in the event that a sufficient sample cannot be gathered and to prevent having to resubmit a new bulk sampling plan to the Department and be faced with review delays. The blasting alternative is provided as a backup plan. If blasting were to be performed, the required permits would be applied for from the applicable authorities. The timing to obtain permits is unknown, so a period of inactivity on the site could occur.

Bedrock would be cleared of extraneous materials. As found on page 11 of the plan, these materials would be contained within the boundaries of the bulk sampling disturbances.

6. *The revised plan indicates blasting may occur at Sites 1 and 2, yet it also includes details regarding the number of blasting drillholes potentially needed at Site 5. Is blasting anticipated at Site 5? If Plan B is implemented, we assume it will be conducted to obtain enough sample to supplement the volume of rock obtained through Plan A in order to reach the target of 800 tons per site. Given that assumption, wouldn't the number of drillholes needed at each site be far less than the number specified in the plan which appears to be based on obtaining the entire sample by Plan B methods? Please provide additional detail regarding the potential blasting process including the approximate anticipated quantity of explosive material per hole, approximate hole spacing and the extent to which delays are expected to be used in the blasts.*

RESPONSE: The Department is not a regulatory authority for blasting. Blasting is regulated by the Wisconsin Safety and Professional Services as prescribed under Wis. Admin. Code Chapter SPS 307. The number of drillholes provided in the plan is based on the maximum number of holes that would be used if blasting were needed. The blasting pattern and design was proposed by a licensed blaster. If blasting is required, any applications for required permits or approvals will contain all required information.

7. *The plan suggests the staging area is a provisional facility, to be developed only if needed? Given the anticipated time frame during which bulk sampling is expected to occur, it seems likely that the staging area will be needed and it would be prudent to develop the area as part of initial site preparation to ensure that it is properly constructed and available when needed. If the area is intended to be used for any purposes other than handling of bulk sampling material, those uses should be described. Such uses might include equipment storage, aggregate storage, vehicle parking, etc.*

RESPONSE: No permits or approvals have been identified as being required to construct the staging area. The staging area is proposed to be constructed only if there is a need for it. The disturbance to create the area and the cost to construct and then reclaim the area are reasons to not immediately construct the staging area. It is only required for rock storage and the plan shows the extra steps considered to store ore samples at the site. The site is an existing

disturbance located almost 1000 feet from the Tylers Fork River (as opposed to 200 feet as stated by some opposition groups). Parking of equipment or vehicles has already occurred at the site. Numerous persons have parked their vehicles on the site, including agency personnel, company personnel and opposition persons. Requiring additional work for this activity is not contained within the Bulk Sampling Plan.

*8. Do you anticipate leaving areas of bare rock as part of final site reclamation? If there is a need to import soils for purposes of establishing vegetative cover on the site, care should be taken to ensure the soil materials are from a local source and free of noxious weed species. Will the aggregate removed from the new road area be used on-site for purposes of final site grading or will it be hauled elsewhere?*

RESPONSE: The on-site conditions include exposed rock features both in bedrock and spoil material. All soils and undersized materials will be utilized to improve the areas upon completion of the bulk sampling. Soils importing is not anticipated.

*9. The plan describes a procedure for evaluation of the bulk sampling sites and bulk sample material for the presence of sulfide minerals. Such evaluation should be thoroughly documented and the results of the evaluation should be submitted to the Department upon completion of the bulk sampling process. Will any measures be taken, such as adding neutralizing material to the backfill materials, if sulfide minerals are identified in the exposed bedrock at the bulk sampling sites? Records of any sulfide-containing material disposed of at a solid waste facility should be provided to the Department following acceptance by the waste facility.*

RESPONSE: Excessive sulfide materials are not expected at this facility as they are not normally associated with iron oxide materials. Sulfur compounds in iron oxide are a minimal component of the chemistry of the deposit.

Acid Base Accounting has been performed on drill core saw cuttings from the 2013 drilling campaign. Acid Base Accounting has been used throughout the world to evaluate the acid producing potential of rocks. The laboratory used the modified Sobek 3.2 version that has been proven in applications throughout the mineral extraction industry.

Samples were analyzed from three coreholes and included samples from the following horizons: Tyler Slate, Norrie Member, Yale Member, Plymouth Member and the Palms Quartzite.

The preliminary results indicate that sulfur is a very minute component in the Gogebic Range rocks. The highest total sulfur concentration was 0.37%. The sulfur content is so small, that ninety percent of the results were below the total sulfur detection limit of 0.05%.

The paste pH of the rock ranged from a high of 8.9 standard units to a low of 8.1 standard units. A neutral pH range is 7.0 with lower pH values indicating more acidic conditions and higher pH values indicating basic conditions.

The preliminary results also indicate that the rocks have an overall buffering capability, or are capable of reducing the effects of elevated sulfur or low pH values.

A report of this testing is in draft form at this time. Once the consultant completes the summary of the results, we plan on providing this information to the agency as an indication of the rock characterization for the Gogebic Taconite project.

This exercise provides the first indications of the chemical makeup of the ore and surrounding rocks. The protocol that will be used during the data collection for the waste characterization will be more robust with more samples analyzed. However, these initial results indicate the buffering capacity of the rocks would not yield conditions that would create Acid Mine Drainage.

By reviewing the rocks and any exposed outcrop areas in the bulk sample sites, GTAC will document the extent of sulfide material in the deposits in any future required filings, such as the Environmental Impact Report. No other advance filings of the results of the bulk sampling are required. We do not expect any adverse affects from the bulk sampling in that these rocks have been exposed for more than 50 years with no known adverse affects.

*10. The plan describes a procedure for evaluation of the bulk sampling sites and bulk sample material for the presence of asbestiform minerals. Such evaluation should be thoroughly documented and the results of the evaluation should be submitted to the Department upon completion of the bulk sampling process. Full identification of asbestiform minerals using standard field methods may be difficult. It is likely to be more realistic and feasible to base the segregation of materials on the presence of amphibole minerals, as determined with standard field methods. The material could then be temporarily set aside pending further mineralogical evaluation using other more detailed methods to determine the true nature of the minerals.*

RESPONSE: Grunerite has been located in the Gogebic Range by a DNR geologist. That sample was taken to the Wisconsin Geologic Society and then to the University of Wisconsin at Madison. X-ray refraction was performed to identify the mineral as grunerite. Scanning electron microscopic review has shown that the material has a crystal habit.

However, the confirmation of asbestiform is made in a laboratory setting with an experienced person who has compared thousands of fiber analyses. To this office's knowledge, asbestiform confirmation has not been performed on the DNR sample. If a determination has been performed, please provide this office with the results of the determination.

The literature search in the Mesabi Range in Minnesota has indicated the existence of grunerite and in amphibole form. However, there has not been a confirmation of asbestiform materials in that large ore mining region.

GTAC will document its bulk sampling findings in any future required filings, such as an Environmental Impact Report. No other advance filings of the results of the bulk sampling are required.

11. *The wetland delineation report submitted as part of the revised plan indicates (p. 17) that "wetland boundaries will be staked prior to construction so that contractors are aware of wetland boundaries". If such delineation has not already been done, please notify the Department in advance of when such work will take place.*

RESPONSE: All areas proposed in this activity have been reviewed for wetland boundaries. The areas have been included within the report provided in the Bulk Sampling Plan. All boundaries were field located with survey equipment during the delineation.

In addition, these areas have been field visited by members of the Department of Natural Resources and the US Army Corps of Engineers.

Flagging will be performed using survey techniques to establish the boundaries. The flagging will provide a visual indicator for equipment operators to stay clear of the wetland areas.

We look forward to discussing the project in more detail with your staff. Any questions should be directed to our Hurley office at (715) 561-2601. Our mailing address is:

Gogebic Taconite, LLC  
402 Silver Street  
Hurley, WI 54534

Sincerely,



Timothy J Myers  
Engineer