



December 19, 2013

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DEC 20 2013  
AIR MANAGEMENT

Steve Dunn  
Wisconsin Department of Natural Resources  
Bureau of Air Management, AM/7 – Actual Emissions Exemption  
P.O. Box 7921  
Madison, WI 53707-7921

**Re: Notice of Intent Under the Actual Emission Exemption per s. Ch. NR 406.04(1q) and s. NR Ch. 407.03(1m), Wis. Adm. Code**

Dear Steve Dunn:

Gogebic Taconite, LLC (Gogebic Taconite) respectfully requests review of this Notice of Intent Under the Actual Emission Exemption from the requirement to obtain a Construction and Operating Permit for bulk sampling activities as outlined in the Revised Bulk Sample Plan submitted to the Wisconsin Department of Natural Resources (WDNR) November 25, 2013. The original Bulk Sampling Plan was submitted July 28, 2013. This Claim of Exemption is based on actual emissions as specified in the Statute (s.) Natural Resources (NR) 406.04(1q) and s. NR 407.03(1m) of the Wisconsin Administrative Code (WAC).

#### **Project Description**

As described in the Revised Bulk Sample Plan (Plan), Gogebic Taconite will collect rock samples from three sample sites. Two of the three sites, Bulk Sample Sites 1 and 2, consist of exposed material that was the result of a sampling effort conducted in 1960. The third site, Bulk Sample Site 5, consists of a previously disturbed site that was used for a blast test in 1961. Gogebic Taconite proposes to collect 2,400 tons of total rock sample (800 tons per site).

Gogebic Taconite has identified two distinct collection methods outlined in the Plan. The first collection method consists of collecting samples from existing test pits that were disturbed by sampling efforts in 1960 and use of a mechanical hammer to produce sample by breaking the bedrock, specifically at Bulk Sample Site 5. If sufficient material is not available from the existing disturbances or with the use of the mechanical hammer Gogebic Taconite will employ a second collection method. The second collection method includes blasting materials to produce the sample material.

In the case of the first collection method, vegetation and top soil will be removed and will be stockpiled for use in reclamation and regrading efforts following the collection of adequate

sample rock. Gogebic Taconite will load sample rock into trucks either with an excavator or wheel loader directly into highway legal trucks if conditions allow. If conditions prohibit the use of highway legal trucks the rock will first be loaded into off-road trucks. If off-road trucks are used for sample rock collection an established staging area will be employed for unloading of the off-road trucks (excavator or wheel loader) and loading of material on to highway legal trucks.

To assure minimization of fugitive dust Gogebic Taconite will employ the following activities; covered transport of sample rock material, water application to loading and unloading activities, and unpaved roads. Highway legal trucks will be covered soon after loading and during both off-highway and highway transportation of material to the final destination. Water may be applied to sample material during loading or unloading activity to saturate smaller particles that may exist within the sample rock material to control for potential fugitive dust emissions. Additionally, water may be applied to unpaved roads, along with limiting vehicle speed to no more than 10 miles per hour (mph) on the unpaved roads to control for potential fugitive dust emissions.

Gogebic Taconite will also require the operation of light towers powered by diesel engines to illuminate the sampling sites; however, operation of the light towers will be limited to no more than twelve hours per day. This will reduce the resulting combustion emissions from diesel fuel consumption.

If sufficient material is not obtained during bulk sampling from the sites containing previously exposed materials, Gogebic Taconite will utilize the second method, which implements blasting to obtain the remaining required material. Blasting will consist of filling holes, drilled by a construction drill, with blasting agents. Blasting will be conducted by a blasting contractor and no explosive materials will be stored onsite. Safety measures will be taken to ensure public, employee, and contractor safety. Fugitive emissions as a result of potential blasting are minimal as demonstrated in Table 1 (see Attachment A for details).

**Table 1**  
**Blasting Potential Air Emission Inventory**  
**Bulk Sampling Plan**

<b>Pollutant</b>	<b>Potential to Emit (PTE), (tons/yr)</b>
PM	4.13E-04
PM <sub>10</sub>	2.15E-04
PM <sub>2.5</sub>	1.24E-05
SO <sub>2</sub>	1.41E-03
NO <sub>x</sub>	1.20E-02
CO	4.71E-02

## Emission Analysis

To determine the air quality impact of the Bulk Sampling Plan activity Gogebic Taconite completed emission calculations. The emission inventory includes all applicable activities associated with the bulk sample collection: potential blasting, drilling, truck loading and unloading, reclamation backfilling, fugitive road dust and the operation of light tower engines. The potential fugitive dust particulate matter (PM), particulate matter of less than 10 microns (PM<sub>10</sub>) and particulate matter of less than 2.5 microns (PM<sub>2.5</sub>) emissions will be a result of loading, unloading and fugitive road dust. The potential criteria pollutant emissions will be a result of the operation of the temporary light towers and potential blasting activities. These two activities will generate combustion emissions, specifically PM, PM<sub>10</sub>, PM<sub>2.5</sub>, carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC) and carbon dioxide (CO<sub>2</sub>).

The emission calculations are based on the U.S. Environmental Protection Agency's (U.S. EPA) AP-42, *Compilation of Air Pollutant Emission Factors*. A summary of emission calculations and emission factors are included in Attachment A, Table A-4. Key assumptions are as follows:

- At each sample site, 800 tons of ore sample will be collected.
- At two of the sites, the sample will be transferred via off-road trucks from the excavation site to a transfer pad, and then loaded into highway trucks.
- At the other site, the sample can be directly loaded into highway haul trucks.
- Blasting as a second collection method will only be completed if necessary. However, the emission inventory includes the potential blasting emissions in the total emission estimate. Blasting is estimated to require approximately 2,800 pounds of ammonium nitrate/fuel oil explosive.
- Onsite vehicle miles traveled for haul trucks are estimated as 92 miles.
- Onsite vehicle miles traveled for employee vehicles and water supply trucks are estimated as 366 miles.

Summarized in Table 2 is the air emission inventory, along with the comparison of emissions from the Bulk Sampling Plan activity with the thresholds specified under s. NR 406.04(1q), s. NR 407.03(1m), and s. NR 405.02(22)2. Significant Deterioration. Attachment A provides the detailed emission calculations summarized in Table 2. No comparisons to the Hazardous Air Pollutants (HAPs) thresholds listed in s. NR 445.07, Table A are required. A HAP comparison is not included since VOC emissions are significantly less than 3 tons per year and PM emissions are less than 5 tons per year, per s. NR 445.11(1).

**Table 2  
Air Emission Inventory Summary  
Bulk Sampling Plan**

<b>Pollutant</b>	<b>Uncontrolled Potential to Emit<sup>(a)</sup> (PTE) (ton/yr)</b>	<b>Actual Emissions for Blasting Option 7/2/13 (ton/yr)</b>	<b>Actual Emissions<sup>(b)</sup> (ton/yr)</b>	<b>s. NR 406.04(1q) s. NR 407.03(1m) Thresholds (tons per year) <sup>(c)</sup></b>	<b>s. NR 405.02(22)2., Significant Deterioration Thresholds (tons per year)</b>
PM	1.27	0.54	0.32	10	250
PM <sub>10</sub>	0.37	0.19	0.12	10	250
PM <sub>2.5</sub>	0.10	0.08	0.06	N/A	250
CO	0.11	0.11	0.08	10	250
SO <sub>2</sub>	0.02	0.01	0.01	10	250
VOC	0.02	0.01	0.01	10	250
NO <sub>x</sub>	0.29	0.16	0.15	10	250
Pb	0.00	0.00	0.00	0.06 / 0.5	250
CO <sub>2</sub> <sup>(d)</sup>	10.32	5.2	5.16	N/A	100,000 <sup>(e)</sup>

Notes:

- (a) Uncontrolled emissions are the maximum potential to emit calculated without any limitations or use of control mechanisms. Emission sources include non-watered haul routes and continuous operation of light towers (24 hours/day).
- (b) Actual emissions are based on controlled emission levels. Specifically, the use of a watering truck on haul routes (80% emission reduction) and light tower operation of no more than 12 hours per day (50% emission reduction).
- (c) The emission thresholds under NR 406.04(1q) are 1,666 pounds per month averaged over 12 consecutive months, which is 9.996 tons per year, essentially equivalent to the 10 tons per year limit under NR 407.03(1m). The only exception is lead, where the threshold under NR 406.04(1q) is 10 pounds per month, or 0.06 tons per year, compared to 0.5 tons per year under NR 407.03(1m).
- (d) Greenhouses gases or also commonly referred to as CO<sub>2</sub> equivalency (CO<sub>2</sub>e) are considered a single air pollutant, which is the aggregate of the six principle gases carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). The operation of the temporary light towers will result in CO<sub>2</sub> emissions from the oxidation of carbon in fuel, CH<sub>4</sub> emissions from the incomplete combustion of fuel, and N<sub>2</sub>O emissions, primarily from low-temperature combustion. The Bulk Sampling Plan activity will not emit HFCs or PFCs because those are man-made gases used mainly for cooling, cleaning, or propellant agents. The Bulk Sampling Plan will not emit SF<sub>6</sub> since it is also a man-made gas used as an insulating gas for high-voltage equipment and circuit breakers. The relative quantities of CH<sub>4</sub> and N<sub>2</sub>O are expected to be less than 0.5 percent of the total CO<sub>2</sub> emissions. As a result, Gogebic Taconite has only focused on the CO<sub>2</sub> emissions as a result of diesel fuel combustion and the potential blasting activity, these results are detailed in Attachment A.
- (e) The significant deterioration threshold is based on CO<sub>2</sub>e emissions.

**Regulatory Applicability**

The activities proposed in the Bulk Sampling Plan meet the requirements for Actual Emission Exemption from construction and operating permit approval. The WDNR in a response letter dated December 10, 2013 initially established the Bulk Sampling Plan’s qualification for exemption from construction and operating permit approval:

*“...the Department has determined that the proposed bulk sampling plan/activity appears to meet the criteria established in s. NR 407.03(1m)(a)1.a.-c.&2., Wis. Adm. Code, for exemption from the requirement to obtain an air pollution operation permit...Wis. Adm. Code., states that any stationary source which is exempt from the requirement to obtain an operation permit under s. NR 407.03(1m), Wis. Adm. Code, is also exempt from the requirement to obtain a construction permit for any construction at a stationary source.”*

The following is an analysis of the air quality regulatory applicability of all pertinent regulations that may apply to the Bulk Sampling Plan activity. This analysis demonstrates that the Bulk Sampling Plan activity is exempt from construction and operating air quality permit approval.

The construction permit exemptions are provided at s. NR 406.04(1q) and read as follows:

*“Sources Exempt Based on Controlled Actual Emissions. No construction permit is required for any emissions unit constructed, modified, replaced, relocated or reconstructed at a stationary source where all of the following criteria and requirements are met:*

- (a) *The owner or operator of the stationary source has a facility-wide operation permit under ch. NR 407 or has submitted a timely and complete application for a facility-wide operation permit.*

Requirements included in item (a) for submittal of a timely and complete application for a facility-wide operation permit is met with the filing of an exemption since bulk sampling activity emissions are below the threshold for operating permit as specified at s. NR 407.03(1m) and summarized in Table 2. The requirements of s. NR 407.03(1m) address the applicability for exemption from an operating permit. This is further discussed subsequent to the construction permit discussion that follows.

- (b) *Actual emissions from all of the constructed, modified, replaced, relocated, and reconstructed emissions units do not exceed any of the following levels:*
- (1) *1,666 pounds in any month averaged over consecutive 12-month period for each of the following air contaminants: particulate matter, nitrogen oxide, sulfur dioxide, PM10, carbon monoxide and volatile organic compounds.*
  - (2) *10 pounds in any month averaged over any consecutive 12-month period for lead.*

Based on the emission estimates provided in Attachment A and summarized in Table 2, the Bulk Sampling Plan activity qualifies for an exemption from construction permit approval based on actual emissions per s. NR 406.04(1q)(b). This is demonstrated by the actual emissions comparison to applicable thresholds, included in Attachment A and Table 2, along with the regulatory applicability review outlined in the following paragraphs.

- (c) *None of the emissions units constructed, modified, replaced, relocated, or reconstructed requires a new BACT or LAER determination under ch. NR 445 as a result of the new project.*

The activities included in the Bulk Sampling Plan do not trigger Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) for hazardous pollutants since the project is not subject to the provisions of WAC NR Chapter 445 Control of Hazardous Pollutants. Specifically VOC emissions are significantly less than 3 tons per year and PM emissions are less than 5 tons per year, per s. NR 445.11(1), thus the Bulk Sampling Plan activity is not subject to hazardous pollutants review.

- (d) *None of the emissions units constructed, modified, replaced, relocated, or reconstructed are subject to new permitting requirements under ch. NR 405 (New Source Review) or 408 (Non-Attainment New Source Review) as a result of the project.*

As demonstrated in Table 2 the project does not trigger the Significant Deterioration requirements of WAC Chapter 405. The Bulk Sampling Plan activity will occur in a county

deemed in attainment or unclassifiable for all criteria air pollutants, thus WAC Chapter 408 Non-Attainment New Source Review (NNSR) does not apply to this project.

- (e) *The owner or operator of the stationary source submits to the department a complete application for an operation permit revision, or an updated application for an operation permit, which include each new, modified, replaced, relocated, or reconstructed emissions unit, prior to commencing construction, modification, replacement, relocation, or reconstruction and does all of the following:*
- (1) *In the operation permit revision application, or updated operation permit application, proposes monitoring of any control equipment used to limit actual emissions from any emissions unit being constructed, modified, replaced, relocated or reconstructed in accordance with the monitoring requirements in s. NR 439.055.*
  - (2) *Commences monitoring of any control equipment as proposed in subd. 1., and maintains any records necessary to demonstrate compliance with any applicable emission limitation, upon startup of any newly constructed, modified, replaced, relocated or reconstructed emissions unit.*

The requirements outlined in item (e) do not apply to the activities included in the Bulk Sampling Plan, as stated earlier the activities qualify for exemption from operating permit requirements under s. NR 407.03(1m). This is further discussed subsequent to the construction permit discussion that follows.

- (f) *The owner or operator of the source submits to the department a claim of exemption from construction permitting requirements. The exemption claim shall identify the emissions units which are being constructed, modified, replaced, relocated or reconstructed. The department shall respond to the claim of exemption submittal within 20 business days after receipt of the claim.*

Gogebic Taconite meets the requirement of item (f) with submittal of this letter, the included attachments, and the required exemption filing fee.

- (g) *Any newly constructed emissions unit is not subject to an emission limitation under section 111 or 112 of the Act (42 USC 7411 or 7412). Any modified, replaced, relocated or reconstructed emissions unit does not trigger any new emission limitation or other requirement for the emissions unit under section 111 or 112 of the Act (42 USC 7411 or 7412), excluding section 112(d)(5) or (r) (42 USC 7412(d)(5) or (r))."*

A review of the applicability of section 111 (New Source Performance Standards, or NSPS) and section 112 (Maximum Achievable Control Technology, or MACT) of the Clean Air Act is conducted for the operation of the diesel engines used to power the light towers for use at the sampling site(s). It was determined that the engines are not subject to applicability under any NSPS or MACT standards, because the light towers are portable and are classified as a non-road engine as defined at 40 CFR 1068.30 item (1)(iii):

*"By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly trailer, or platform."*

Further, the light tower operation will coincide with the Bulk Sampling activities, so operation of the light towers is limited to the number of days it takes to complete Bulk Sampling. The definition of non-road engine specified at 40 CFR 1068.30 item (2)(iii) specifies that an internal combustion engine is no longer considered a non-road engine if it *"remains or will remain at a location for more than 12 consecutive months"*. The bulk sampling activities are not

anticipated to continue for more than 12 months; therefore the light towers do not meet this specification, further meeting the definition of non-road engines.

Operating Permit exemptions are provided in s. NR 407.03(1m) as follows:

*“FACILITIES EXEMPT BASED ON ACTUAL EMISSIONS.”*

*(a) Any facility that is required to submit an annual emission inventory report under s. NR 438.03 is exempt from the requirement to obtain an operation permit following notification under par. (c), where all of the following criteria and requirements are met:*

Gogebic Taconite is not required to submit an annual emission inventory report under s. NR 438.03. Items (a)(1)-(4) are referenced in paragraph (b) of s. NR 407.03(1m), which is applicable to the activities included in the Bulk Sampling Plan.

*(1) The actual emissions of each air contaminant from the facility do not exceed any of the following levels:*

- a. 10 tons in any calendar year for each of the following air contaminants: particulate matter, nitrogen oxide, sulfur dioxide, PM10, carbon monoxide and volatile organic compounds.*
- b. 0.5 tons in any calendar year for lead.*

Based on the emission estimates provided in Attachment A and summarized in Table 2, the Bulk Sampling Plan activity qualifies for an exemption from operating permit approval based on actual emissions per s. NR 406.04(1m)(a). This is demonstrated by the actual emissions comparison to applicable thresholds, included in Attachment A and Table 2, along with the regulatory applicability review outlined in the following paragraphs.

- c. Any stack-appropriate thresholds for emissions points in columns (c), (d), (e) and (f) of Table A, B or C of ch. NR 445. If the facility is a source of incidental emissions under s. NR 445.11, this subdivision only applies to emissions of air contaminants which are listed as substances of concern in Table E of ch. NR 445.*

The activities included in the Bulk Sampling Plan do not trigger Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) for hazardous pollutants since the project is not subject to the provisions of WAC NR Chapter 445 Control of Hazardous Pollutants. Specifically VOC emissions are significantly less than 3 tons per year and PM emissions are less than 5 tons per year, per s. NR 445.11(1), thus the Bulk Sampling Plan activity is not subject to hazardous pollutants review.

*(2) The facility is not subject to a standard under section 111 or 112 or the Act (42 USC 7411 or 7412) except for a source subject solely to regulations or requirements under section 112(d)(5) or (r) of the Act (42 USC 7412 (d)(5) or (r)).*

Refer to the discussion provided previously for item (g) of s. NR 406.04(1q) regarding applicability of Section 111 and Section 112 of the Clean Air Act.

*(3) The owner or operator conducts monitoring and maintains records sufficient to demonstrate compliance with the requirements of this paragraph, including the calculation of annual*

*facility-wide emissions. These records shall be maintained on site for at least 5 years, unless a longer period is required by statute or rule.*

Gogebic Taconite will monitor and maintain records to demonstrate compliance and annual facility-wide emissions are maintained below the thresholds to maintain qualification for exemption.

*(4) If a control device is used to limit actual emissions, the owner or operator uses a compliance monitoring method which is identified in s. NR 439.055.*

*(b) Any facility that is not required to submit an annual emission inventory report under s. NR 438.03 is exempt from the requirement to obtain an operation permit where all of the criteria and requirements in par. (a) 1. to 4. are met.*

As stated before, Gogebic Taconite is not required to submit an annual emission inventory and meets the requirements established at paragraph (a)(1)-(4) of s. NR 407.03(1m). Please see the response to the requirements of items (a)(1)-(4).

- (c) (1) The owner or operator of a facility required to submit an air emission inventory report under s. NR 438.03 shall notify the department of their intent to operate the facility under the exemption criteria in par. (a). A claim of exemption made under s. NR 406.04 (1q) from construction permit requirements shall satisfy this notification requirement.*
- (2) Any existing permit shall remain in effect until the permit is revoked or coverage under a general or registration permit is withdrawn. A notification under subd. 1. shall serve as a request for revocation of an individual permit or withdrawal from coverage under a general or registration permit.*
- (3) A notification under subd. 1. shall serve as a request for withdrawal of any pending permit application.*

Item (c) of this chapter is not applicable to the activities of the Bulk Sampling Plan, because Gogebic Taconite is not required to submit an air emission inventory report.

*Note: An owner or operator exempt under this subsection is responsible for complying with all other applicable requirements in Chs. NR 400 to 499.*

Gogebic Taconite understands that it is their responsibility to obtain any other permit applicable to the bulk sampling activities that are not covered by this exemption. Gogebic Taconite will also monitor emissions during sampling activity and maintain records to prove annual emissions are below the thresholds that determine eligibility for exemption.

Gogebic Taconite would like to commence bulk sampling beginning in January 2014.

#### **Attachments**

Attachment A – Air Emission Inventory Calculations

Attachment B – WDNR Notice of Intent Under the Actual Emission Exemption Form

Attachment C – Notice of Intent Under the Actual Emission Exemption Filing Fee

Gogebic Taconite looks forward to the WDNR's approval of this request for exemption. If additional information regarding this submission is needed, please contact our Hurley office at (715) 561-2601. Our mailing address is:

Gogebic Taconite, LLC  
402 Silver Street  
Hurley, WI 54534

Sincerely,

A handwritten signature in black ink that reads "Timothy J. Myers". The signature is written in a cursive style with a long, sweeping underline.

Timothy J. Myers  
Engineer

## **Attachment A**

### Air Emission Inventory Calculations

**Table A-1 Air Emission Inventory Summary  
Bulk Sampling Plan  
Gogebic Taconite, LLC**

<b>Pollutant</b>	<b>Uncontrolled Potential to Emit (PTE) <sup>(a)</sup> (ton/yr)</b>	<b>Actual Emissions <sup>(b)</sup> (ton/yr)</b>	<b>s. NR 406.04(1q) s. NR 407.03(1m) Thresholds (tons per year) <sup>(c)</sup></b>	<b>s. NR 405.02(22)2. Significance Thresholds (tons per year)</b>
PM	1.27	0.32	10	250
PM <sub>10</sub>	0.37	0.12	10	250
PM <sub>2.5</sub>	0.10	0.06	N/A	250
CO	0.11	0.08	10	250
SO <sub>2</sub>	0.02	0.01	10	250
VOC	0.02	0.01	10	250
NO <sub>x</sub>	0.29	0.15	10	250
Pb	0.00	0.00	0.06 / 0.5	250
CO <sub>2</sub> <sup>(d)</sup>	10.32	5.16	N/A	100,000 <sup>(e)</sup>

**Notes:**

(a) Uncontrolled emissions are the maximum potential to emit calculated without any limitations or use of control mechanisms. Emission sources include non-watered haul routes and continuous operation of light towers (24 hours/day).

(b) Actual emissions are based on controlled emission levels. Specifically, the use of a watering truck on haul routes (80% emission reduction) and light tower operation of no more than 12 hours per day (50% emission reduction).

(c) The emission thresholds under NR 406.04(1q) are 1,666 pounds per month averaged over 12 consecutive months, which is 9.996 tons per year, essentially equivalent to the 10 tons per year limit under NR 407.03(1m). The only exception is lead, where the threshold under NR 406.04(1q) is 10 pounds per month, or 0.06 tons per year, compared to 0.5 tons per year under NR 407.03(1m).

(d) Greenhouses gases or also commonly referred to as CO<sub>2</sub> equivalency (CO<sub>2</sub>e) are considered a single air pollutant, which is the aggregate of the six principle gases carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). The operation of the temporary light towers will result in CO<sub>2</sub> emissions from the oxidation of carbon in fuel, CH<sub>4</sub> emissions from the incomplete combustion of fuel, and N<sub>2</sub>O emissions, primarily from low-temperature combustion. The Bulk Sampling Plan activity will not emit HFCs or PFCs because those are man-made gases used mainly for cooling, cleaning, or propellant agents. The Bulk Sampling Plan will not emit SF<sub>6</sub> since it is also a man-made gas used as an insulating gas for high-voltage equipment and circuit breakers. The relative quantities of CH<sub>4</sub> and N<sub>2</sub>O are expected to be less than 0.5 percent of the total CO<sub>2</sub> emissions. As a result, Gogebic Taconite has only focused on the CO<sub>2</sub> emissions as a result of diesel fuel combustion and the potential blasting activity, these results are detailed in Attachment A.

(e) The significant deterioration threshold is based on CO<sub>2</sub>e emissions.

**Table A-2 Inputs for Air Emission Inventory**  
**Bulk Sampling Plan**  
**Gogebic Taconite, LLC**

**Criteria EI Inputs**

indicates input value

**Throughputs**

Material / Process	Daily Capacities	Scheduled Up Time	Operating Hours	Annual Capacities	Maximum Hourly Rate	Notes
	ton/day	day/year	hours/day	ton/yr	ton/hr	
Ore Sample	109	22	24	2,400	4.55	Total for all three sites (800 tons per site)
Ore Transloading				1,600		Occurs at two of three sites
Backfill and Soil Fill	0	NA	NA	6,100	0	Total for all three sites, assuming 1 ton per cubic yard

**Blasting**

Detonators:	625	Provided by GTAC
Explosive per hole (lb):	4.5	Provided by GTAC
Total explosive (lb):	2,813	
Total extraction area:	12964 ft <sup>2</sup>	Provided by GTAC
Blasts per year:	625	
Area per blast:	21 ft <sup>2</sup>	

**Truck Traffic Emissions**

Vehicle & Site	Truck Capacity (tons)	No. of Trucks (trucks/yr)	Miles Traveled per Truck (miles/truck)	Mileage (VMT/yr)	Comments
Haul trucks - Site 1	26	18	1.14	21	Off-road trucks, distance to public road provided by GTAC
Haul trucks - Site 4	20	24	2.82	68	Highway trucks, distance to public road provided by GTAC
Haul trucks - Site 5	26	18	0.20	4	Off-road trucks, distance to public road provided by GTAC
Employee trucks - All sites	NA	220	1.39	305	5 employee vehicles/shift, 12 hr/shift, 2 shifts/day
Water/supply trucks - All sites	NA	44	1.39	61	1 truck/day

366

**Non-Road Diesel Engines**

EU Description	hp	gal/day	gal/hr	hr/yr	hp-hr/yr	Notes
Portable Light Tower	34	48	2	528	17952	Conservatively assumed 24 hr/day with Caterpillar's largest light tower: <a href="http://www.cat.com/cda/layout?m=660875&amp;x=7">Mini light ML20, 4x1250 watt http://www.cat.com/cda/layout?m=660875&amp;x=7</a>

**Table A-3 Detail of Air Emission Inventory  
Bulk Sampling Plan  
Gogebic Taconite, LLC**

Ref. No.	Stack No.	EU	Unit Name	Pollutant	Maximum Annual Rate	Units	Emission Factor, (lb/unit)	Emission Factor Units	Uncontrolled Potential to Emit (PTE), (ton/yr)	Control Factor, (%)	Controlled Potential to Emit (PTE), (ton/yr)
5			Blasting	PM	625	blasts/year	0.0013	lb/blast	4.13E-04	0	4.13E-04
				PM10	625	blasts/year	0.0007	lb/blast	2.15E-04	0	2.15E-04
				PM2.5	625	blasts/year	0.00004	lb/blast	1.24E-05	0	1.24E-05
				SO2	1.4	ton/yr	2	lb/ton ANFO	1.41E-03	0	1.41E-03
				NOx	1.4	ton/yr	17	lb/ton ANFO	1.20E-02	0	1.20E-02
				CO	1.4	ton/yr	67	lb/ton ANFO	4.71E-02	0	4.71E-02
4			Ore Drilling	PM	2,400	ton ore/yr	0.00008	lb/ton	9.60E-05	0	9.60E-05
				PM10	2,400	ton ore/yr	0.00008	lb/ton	9.60E-05	0	9.60E-05
				PM2.5	2,400	ton ore/yr	0.00008	lb/ton	9.60E-05	0	9.60E-05
3			Truck loading - excavation site	PM	2,400	ton ore/yr	0.0037	lb/ton ore	4.42E-03	0	4.42E-03
				PM10	2,400	ton ore/yr	0.0017	lb/ton ore	2.09E-03	0	2.09E-03
				PM2.5	2,400	ton ore/yr	0.0003	lb/ton ore	3.16E-04	0	3.16E-04
3			Truck unloading - transfer pad	PM	1,600	ton ore/yr	0.0037	lb/ton ore	2.95E-03	0	2.95E-03
				PM10	1,600	ton ore/yr	0.0017	lb/ton ore	1.39E-03	0	1.39E-03
				PM2.5	1,600	ton ore/yr	0.0003	lb/ton ore	2.11E-04	0	2.11E-04
3			Truck loading - transfer pad	PM	1,600	ton ore/yr	0.0037	lb/ton ore	2.95E-03	0	2.95E-03
				PM10	1,600	ton ore/yr	0.0017	lb/ton ore	1.39E-03	0	1.39E-03
				PM2.5	1,600	ton ore/yr	0.0003	lb/ton ore	2.11E-04	0	2.11E-04
6			Backfill	PM	6,100	ton/yr	1.20E-02	lb/ton	3.66E-02	0	3.66E-02
				PM10	6,100	ton/yr	1.20E-02	lb/ton	3.66E-02	0	3.66E-02
				PM2.5	6,100	ton/yr	1.20E-02	lb/ton	3.66E-02	0	3.66E-02
2			Haul Trucks - Site 1	PM	21	VMT/yr	9.4350	lb/VMT	9.93E-02	80	1.99E-02
				PM10	21	VMT/yr	2.3523	lb/VMT	2.48E-02	80	4.95E-03
				PM2.5	21	VMT/yr	0.2352	lb/VMT	2.48E-03	80	4.95E-04
1			Haul Trucks - Site 4	PM	68	VMT/yr	8.4728	lb/VMT	2.87E-01	80	5.73E-02
				PM10	68	VMT/yr	2.1124	lb/VMT	7.15E-02	80	1.43E-02
				PM2.5	68	VMT/yr	0.2112	lb/VMT	7.15E-03	80	1.43E-03
2			Haul Trucks - Site 5	PM	4	VMT/yr	9.4350	lb/VMT	1.74E-02	80	3.48E-03
				PM10	4	VMT/yr	2.3523	lb/VMT	4.34E-03	80	8.69E-04
				PM2.5	4	VMT/yr	0.2352	lb/VMT	4.34E-04	80	8.69E-05
8			Water Trucks - All Sites	PM	61	VMT/yr	8.3017	lb/VMT	2.53E-01	80	5.07E-02
				PM10	61	VMT/yr	2.1974	lb/VMT	6.70E-02	80	1.34E-02
				PM2.5	61	VMT/yr	0.2197	lb/VMT	6.70E-03	80	1.34E-03
9			Employee Vehicles - All Sites	PM	305	VMT/yr	3.3527	lb/VMT	5.11E-01	80	1.02E-01
				PM10	305	VMT/yr	0.8874	lb/VMT	1.35E-01	80	2.71E-02
				PM2.5	305	VMT/yr	0.0887	lb/VMT	1.35E-02	80	2.71E-03
7			Light Tower	PM	17,952	hp-hr/yr	0.0022	lb/hp-hr	1.97E-02	50	9.87E-03
				PM10	17,952	hp-hr/yr	0.0022	lb/hp-hr	1.97E-02	50	9.87E-03
				PM2.5	17,952	hp-hr/yr	0.0022	lb/hp-hr	1.97E-02	50	9.87E-03
				SO2	17,952	hp-hr/yr	0.0021	lb/hp-hr	1.84E-02	50	9.20E-03
				NOx	17,952	hp-hr/yr	0.0310	lb/hp-hr	2.78E-01	50	1.39E-01
				CO	17,952	hp-hr/yr	0.0067	lb/hp-hr	6.00E-02	50	3.00E-02
				VOC	17,952	hp-hr/yr	0.0025	lb/hp-hr	2.22E-02	50	1.11E-02
				CO2	17,952	hp-hr/yr	1.1500	lb/hp-hr	1.03E+01	50	5.16E+00
				PM	2,400	ton ore/yr	0.0250	lb/ton ore	3.00E-02	0	3.00E-02
				PM10	2,400	ton ore/yr	0.0087	lb/ton ore	1.04E-02	0	1.04E-02
				PM2.5	2,400	ton ore/yr	0.0087	lb/ton ore	1.04E-02	0	1.04E-02
<b>TOTAL PM EMISSIONS</b>				PM				1.27		0.32	
<b>TOTAL PM10 EMISSIONS</b>				PM10				0.37		0.12	
<b>TOTAL PM2.5 EMISSIONS</b>				PM2.5				0.10		0.06	
<b>TOTAL CO EMISSIONS</b>				CO				0.11		0.08	
<b>TOTAL SO2 EMISSIONS</b>				SO2				0.02		0.01	
<b>TOTAL VOC EMISSIONS</b>				VOC				0.02		0.01	
<b>TOTAL NOx EMISSIONS</b>				NOx				0.29		0.15	
<b>TOTAL CO2 EMISSIONS</b>				CO2				10.32		5.16	



**Attachment B**

WDNR Notice of Intent Under the Actual Emission Exemption Form

State of Wisconsin  
Department of Natural Resources  
P.O. Box 7921,  
Madison WI 53707-7921  
dnr.wi.gov

**Notice of Intent**  
**Under the Actual Emission Exemption**  
**ss. NR 406.04(1q) or NR 407.03(1m), Wis. Adm. Code.**  
Optional form (revised 9/07)

**Notice:** By submitting this form you are notifying the department of your intent to (1) construct or modify an emission unit under s. 406.04(1q), Wis. Adm. Code, or (2) operate a facility under s. NR 407.03(1m), Wis. Adm. Code.

It is not the department's intention to use any personally identifiable information from this form for any other purpose. Wisconsin's Open Records law requires the department to provide this information to others upon request [ss. 19.31 - 19.69, Wis. Stats.]. Read instructions before completing this form.

1. Facility Name:

*Gogebic Taconite, LLC*  
*402 Silver Street Hurley, WI 54534*

2. Facility location Street Address:

*Proposed sampling site is located in the Town of Anderson, Iron County, WI and the town of Morse in Ashland County*

3. Responsible official Name: *William T. Williams*

Title: *President*

Phone: *(715) 561-2601*

4. Permit contact person Name: *Timothy J. Myers*

Title: *Engineer*

Phone: *(715) 561-2601*

E-mail: *tmyers@gogebictaconite.com.*

5. Facility identification number (FID): *Not Applicable*

6. SIGNATURE OF FACILITY REPRESENTATIVE

NOTICE OF INTENT check appropriate box

I HEREBY NOTIFY THE DEPARTMENT OF THE INTENT TO CONSTRUCT UNDER THE ACTUAL EMISSIONS EXEMPTION UNDER S. NR 406.04(1q), WIS.ADM. CODE.

I have attached a complete application for or an application for revision of my air pollution control operation permit.

I HEREBY NOTIFY THE DEPARTMENT OF THE INTENT TO OPERATE THIS FACILITY UNDER THE ACTUAL EMISSIONS EXEMPTION AS REQUIRED UNDER S. NR 407.03(1m), WIS. ADM. CODE.

By submitting this notification I understand that I am also requesting the following:

Revocation of all air pollution control construction and operation permits and orders issued to this facility.

Withdrawal of coverage of my facility from under a general or registration permit.

Withdrawal of any pending air pollution control permit applications submitted by the facility.

Printed or Typed Name: *William T. Williams*

Title: *President*

Signature: 

Date Signed: *12.19.13*

## **Attachment C**

Notice of Intent Under the Actual Emission Exemption Filing Fee