MINING AGREEMENT – 40 Acres

NW ¼ of the SW ¼ of Section 24, Township 25 North, Range 6 West
Town of Bridge Creek, Eau Claire County, Wisconsin

WHEREAS, Hi-Crush Proppants, LLC ("Hi-Crush"), a Delaware Limited Liability Company, desires to engage in nonmetallic mining on the property ("Property") located in the Town of Bridge Creek, Eau Claire County, Wisconsin, ("Town") and described in the attached Exhibit A.

WHEREAS, Hi-Crush has previously entered into a Mining Agreement with Town, dated February 7, 2012, which Mining Agreement remains in force and effect, and shall not be modified or rescinded in any fashion by this new Agreement.

WHEREAS, Hi-Crush desires to add to its mining reserve lands an additional forty (40) acres (more or less) of land, as described on Exhibit A ("Property").

WHEREAS, the Property subject to this Agreement is currently owned by Mr. and Mrs. Kotschi, but will be purchased by Hi-Crush.

WHEREAS, Hi-Crush desires certain exceptions from and modifications of the requirements of Chapter 10 of the Town's "Nonmetallic Mine Operator's Licenses" Ordinance ("the Ordinance" or "the Mining Ordinance"); and

WHEREAS, the Town is willing to grant such exceptions and modifications under the conditions set forth below.

AGREEMENT

NOW THEREFORE, Hi-Crush and the Town agree as follows:

1. License

1.1. The Town acknowledges receipt of the fees and application materials sufficient to fulfill the application and licensing requirements of sections 10.04, 10.05 and 10.06 of the Mining Ordinance and Chapter 11 of the Town's Code of Ordinances ("Blasting Ordinance"). The Town's Engineer, Mr. Scott McCurdy and the Town's Attorney, Mr. Richard Schaumberg, have advised the Town Board that the application is complete.

1.2. By signing this Mining Agreement ("Agreement"), the Town grants a license to mine and a blasting permit for the term of this Agreement. This Agreement is intended to be construed as a Mining Agreement for purposes of Section 10.13 of the Ordinance. The Town Board specifically finds that this Agreement meets the criteria in Section 10.07(6) of the Ordinance and that the public health, safety, and welfare is adequately protected and not adversely affected by this Agreement.

2. Term

2.1. This Agreement shall be effective upon signing by all parties.

2.2. This Agreement shall terminate upon the official finding of the Eau Claire County, Department of Planning and Development, that reclamation of the Property is complete and in compliance with the Reclamation Plan for this Property. Therefore, the License Term provisions of Section 10.04(2) of the Mining Ordinance shall not apply to Hi-Crush, its successors or assigns.

2.3. Provided that Hi-Crush is not in material default under the terms and conditions of this agreement and provided Hi-Crush shall pay the Annual Renewal Fee on or before January 31 of the year for which renewal is sought (which Fee would only be triggered subsequent to the termination of the License), the License Renewal provisions of Section 10.08(2) of the Mining Ordinance shall not apply to Hi-Crush, its successors or assigns.

2.4. The obligations of Hi-Crush and the Town's rights under this Agreement shall survive termination of the Agreement.

3. Operation

3.1. The provisions of this Section 3 shall supersede the Minimum Standards of Operation in Section 10.07 of the Mining Ordinance. All operational conditions and variances provided in this Agreement shall apply only to the subject Property. This Agreement shall not waive any rights, conditions, or obligations set forth in the February 7, 2012 Mining Agreement.

3.2. The restrictions on Hours of Operation in Section 10.07(2)(e) of the Mining Ordinance are waived for purposes of this Agreement, subject only to the following limitation: Hi-Crush shall not conduct extraction activities, including excavation and truck operation, between the hours of 10:00PM and 6:00AM Monday through Saturday, and shall not conduct any extraction activities on Sundays.

3.3. Hi-Crush shall complete all mining / extraction activity on the Property within three (3) years of the execution of this Agreement. After said date, only reclamation related activities shall be permitted.

3.4. Hi-Crush shall not transport sand from the Property on public thoroughfares.

3.5. Hi-Crush shall not construct fixed processing plant(s) on the Property. Sand will be extracted, crushed, and moved internally via haul trucks for processing at a location off-Property.

3.6. Blasting is permitted on the Property to extract raw material. Hi-Crush shall comply with State of Wisconsin regulations and the Blasting Ordinance. Hi-Crush, in cooperation with its blasting contractor, shall use best efforts to develop and implement blasting techniques to minimize blasting impacts while following applicable regulations. Blasting shall occur only in the Proposed Blasting Area, whereby no blasting shall occur at elevations less than 1,050', as depicted on Exhibit B. Hi-Crush will use best efforts to limit blasting over all other areas on the subject Property by focusing on cap rock blasting, and if feasible from both a mining and economic perspective, use non-blasting techniques in lieu of blasting.

3.7. Hi-Crush will receive a variance from the one (1) mile buffer specified in section 10.07(1) of the Ordinance with respect to the Amish School near the northeast corner of the Property. As a basis for this variance, Hi-Crush is required to perform as follows:

3.7.1. Maintain open communications with the Amish Community and the Town Board and use reasonable good faith efforts to accommodate operational requests from the Amish and Town Board to accommodate school and church operations.

3.7.2 With respect to blasting on the Property, Hi-Crush, in addition to its regular required pre-blast notifications, shall have an employee stationed in front of the Amish School (when school is in session) within fifteen (15) minutes prior to the blasting event to give actual notice of the forthcoming blast event, including sounding a horn within the final minute before the blast. The same notice shall be made available to any other neighbor whose residence is within 1,000 feet of the Property boundary, upon their request for same.

3.7.3 Prior to blasting events, Hi-Crush representatives shall be stationed on County RR to alert motor vehicle traffic and horse and buggy traffic of the pending blast. If an emergency is presented by such traffic, Hi-Crush shall delay the blast for five (5) minutes to allow the traffic to clear the area.

3.7.4 All communications required under this paragraph as it pertains to the Town shall be by email.

3.8. Hi-Crush will receive a variance from the setback specified in section 10.07(1)(g) of the Ordinance with respect to residences in the vicinity of the Property. The new setback for mining operations shall be established at seventy-five (75) feet from the Property boundary, corresponding to the Eau Claire County Amended Reclamation Plan dated April 12, 2016.

3.9 Hi-Crush shall use best management practices to keep noise from nonmetallic mining activity at or below sixty (60) decibels (dba) at the property boundary. These practices include the use of Mining, Safety and Health Administration (MSHA) approved "white noise," back up alarms, and properly maintained mufflers on mining equipment. Earthen

berms shall be built in accordance with the approved reclamation plan which shall provide a substantial reduction of sound at the property boundary. Should the aforementioned measures fail to keep noise levels at or below 60 decibels, Hi-Crush shall plant shrubs or other vegetation, excluding trees, along the top of the berm to further reduce noise levels. In conjunction with Section 10 of this Agreement, Hi-Crush shall also meet with Town officials and work towards reducing any other noise levels which are determined to be above the 60 dba level. Exceptions to this section are blasting activities permitted by the Blasting Ordinance, and work projects done on the screening berms, drainage ditches or Town and County road ditches.

3.10. Hi-Crush shall use back-up signals creating the least offensive noise audible to persons residing near the Property consistent with legal requirements.

3.11. Hi-Crush shall comply with the WDNR Air Permit and the Fugitive Dust Control Plan applicable to the Property. The Fugitive Dust Control Plan shall be implemented in lieu of the provisions specified in section 10.07(2)(j)(v) of the Mining Ordinance. Said Permit and Plan are attached hereto as Exhibits C and D. Further, Hi-Crush will receive a variance from the air monitoring specified in section 10.07(2)(j) of the Mining Ordinance with respect to setting up and operating an ambient air monitor to monitor the ambient level of airborne particulate matter of all particles equal to or exceeding 2.5 microns in size ($PM_{2.5}$) and Total Suspended Particulates (TSP). As a basis for this variance, Hi-Crush is required to implement the WDNR Air Permit's Fugitive Dust Control Plan. Justification for supporting this variance is attached hereto as Exhibit E.

3.12. The berms constructed by Hi-Crush on and adjacent to the Property shall be maintained in their present configuration in a good and erosion free condition. During 2017, analysis will be conducted to determine if other vegetation, excluding trees, should be planted on the berms to improve dust migration. Berms only serve purpose during the life of the mine so the vegetation will not be a permanent fixture.

3.13. Mining activities as they relate to surface and ground water shall occur in accordance with the Reclamation Plan for the Property and any amendments to that Reclamation Plan filed with and approved by Eau Claire County Land Conservation Department ("Reclamation Plan"), which is incorporated herein by reference.

3.14. All lights shall have full cut-off shrouds so that no light is directed upward or at structures not on the Property. Portable lighting shall be used only as necessary to illuminate work areas. The operator shall limit night lighting on site, to that which is minimally necessary for security and wherever possible, shall be shielded from illuminating offsite areas. Every effort consistent with legal requirements for aerial safety shall be made to minimize illumination of the night sky.

3.15. Hi-Crush shall at all times have an agent, whose name, fax number, email address and telephone numbers are made known to the Town Clerk, available to respond to complaints and problems.

3.16. Hi-Crush shall follow best management practices for invasive species.

4. Storm Water Management

4.1. Hi-Crush shall comply with the Storm Water Management and Erosion Control plan included in the Reclamation Plan which is incorporated by reference.

4.2. Hi-Crush shall repair any damage to, and remove sediment from town road ditches and other drainage ways adjacent the Property to the extent such damage or sediment is the result of Hi-Crush activity.

4.3. Hi-Crush shall maintain the detention and retention ponds per the Reclamation Plan which is incorporated herein by reference.

5. Groundwater.

Hi-Crush will comply with the same terms as in the original Mining Agreement to the extent applicable to this Agreement.

6. Blasting

6.1. Blasting as defined in Chapter 11 of the Town's Blasting Ordinance shall occur between the hours of 10:00 a.m. and 3:00 p.m.; Except that blasting may occur after 3:00 p.m. if required for safety reasons beyond the reasonable control of Hi-Crush and its contractors.

6.2. Blasting velocities shall not exceed those specified in NFPA 495 and Wisconsin Administrative Code § SPS 307, formerly COMM 7.

6.3 The Town Board approves Hi-Crush and/or its blasting contractor taking protective action to block traffic on County Hwy RR for approximately fifteen (15) minutes leading up to and immediately after a blasting event for purposes of blasting on the Property, in order to protect the safety of the public on the roadway.

6.4. The restrictions in this Section 6 are in addition to, and not in lieu of, other provisions of this Agreement, including but not limited to sections 3.6, 3.7, 3.8 and 9.

7. Property Value Assurance

Hi-Crush will comply with the same terms as in the original Mining Agreement to the extent applicable to this Agreement. Attached as Exhibit F is the Property Value Guaranty relevant to this Agreement. This guaranty shall be applicable to the property owners and properties listed on the attached Exhibit G which is the list of owners and addresses of the properties affected by the licensing of the property subject to this Agreement.

8. Restoration

Hi-Crush shall complete sequential restoration of the Property as set forth in the Reclamation Plan which is incorporated herein by reference.

9. Laws to be Observed

9.1. Hi-Crush shall at all times comply with all federal, state, county, and local laws, regulations and ordinances applicable to Hi-Crush's operations on the Property which are in effect or which may become effective in the future.

9.2. This Agreement modifies or meets certain requirements of the Mining Ordinance, including but not limited to license application requirements pursuant to Section 10.06, and minimum standards of operation pursuant to Section 10.07. Any sections not specifically modified by this Agreement remain in effect.

9.3. Hi-Crush shall provide the Town with copies of all such permits or licenses and all related application materials and reports submitted by or on behalf of Hi-Crush and all documents and other materials provided to Hi-Crush by such federal, state or local authorities. The providing of these reports shall satisfy Section 10.08(1).

10. Reimbursement and Enforcement

10.1. This section is intended to satisfy the requirements of a Mining Agreement and thereby satisfy the requirements in Section 10.09 of the Mining Ordinance.

10.2. Reimbursement. Hi-Crush shall reimburse the Town for all consulting, inspection, engineering and legal fees incurred in connection with the drafting of this Agreement. Such reimbursement shall be made within 30 days of billing and any amounts not paid shall accrue interest at the rate of one percent per month.

10.3. Inspection and Right of Entry. Hi-Crush shall, upon request by the Town, provide the Town's officers, agents, employees and contractors with access to the Property for purposes of determining or enforcing compliance with this Agreement or as otherwise provided by law or this Agreement. In the event of Hi-Crush's failure or refusal to permit access to the Property, the Town may obtain an inspection warrant, injunction or other relief from a court to enforce its right to access.

10.4. Notice of Default. In the event that Hi-Crush fails to perform any of its obligations under this Agreement, the Town shall provide a notice of default and the parties shall hold an initial meeting within ten (10) days following notice of such default for purposes of attempting to resolve the default on an amicable basis unless the Town determines that threats to health, safety or property require a shorter notice period. If the parties cannot so resolve the matter the Town may elect to enforce the remedies provided for herein.

10.5 Disputes Concerning Agreement. Any dispute concerning any provision of this Agreement, other than a default under Section 10.4, shall be resolved as follows: The party which asserts a dispute shall first give notice thereof to the other party and specify the nature of the dispute and shall meet with such other party, within 30 days of the event giving rise to the dispute. Such notice shall set forth all reasons supporting the basis of the dispute. Within 30 days following the date of the notice, a meeting between the Parties shall be held to attempt in good faith to negotiate a resolution of the dispute or controversy.

10.6 Remedies

10.6.1. Corrective Orders. The Town may issue a notice of violation and order that specifies the action to be taken to remedy a default and the time period for curing the default.

10.6.2. Remediation and Reimbursement. In the event Hi-Crush fails to perform any of its obligations under this Agreement, including, but not limited to, maintenance of storm water management facilities and restoration of the Property, the Town may, but shall not be required to, perform such obligations at Hi-Crush's expense. Before performing Hi-Crush's obligations, the Town shall give Hi-Crush at least 30 days' written notice unless the Town determines that threats to health, safety or property require a shorter notice period. Hi-Crush shall reimburse the Town for all expenses incurred for materials, contractors, engineers, attorneys and other consultants in connection with performing Hi-Crush's obligations within 30 days of billing therefore.

10.6.3. Legal Action. The Town retains the right to commence legal action to enforce the terms of this Agreement and seek remedies which include: termination of the Agreement for a default, specific performance of the obligations under this Agreement, penalties and/or damages in an amount determined by the court, and/or injunctive relief.

10.7. Preservation of Remedies. The remedies provided herein shall not be exclusive of other remedies. A failure by the Town to take action on any past violation(s) shall not constitute a waiver of the Town's right to take action on any subsequent violation(s).

11. Obligations to Run with the Land

11.1. Hi-Crush and the persons signing for Hi-Crush warrant that Hi-Crush has full right and authority to enter into this Agreement.

11.2. The obligations of Hi-Crush under this Agreement shall run with the land and be binding on Hi-Crush and their heirs, grantees, representatives, successors and assigns.

11.3. The Town may record a copy of this Agreement with the Register of Deeds. The cost of recording shall be paid by Hi-Crush.

12. Miscellaneous Provisions

12.1. All parties participated in negotiating the terms of this Agreement. No party shall benefit from not having drafted this Agreement. If any term, section or other portion of this Agreement is reviewed by an administrative agency, court, mediator, arbitrator or other judicial or quasi-judicial entity, such entity shall treat this Agreement as having been jointly drafted by the parties.

12.2. No waiver of any provision of this Agreement shall be deemed or constitute a waiver of any other provision, nor will it be deemed or constitute a continuing waiver unless expressly provided for by a written amendment to this Agreement signed by both the Town and Hi-Crush, nor shall the waiver of any default under this Agreement be deemed a waiver of any subsequent default or defaults of the same type. The Town's failure to exercise any right under this Agreement shall not constitute approval of any breach or wrongful act by Hi-Crush.

12.3. Any notice required or permitted by this Agreement shall be deemed effective when personally delivered in writing, or three (3) days after notice is deposited with the U.S. Postal Service, postage prepaid, and addressed as follows:

If to Hi-Crush:

Hi-Crush Proppants LLC
Three Riverway, Suite 1550
Houston, TX 77056
Email: mskolos@hicrush.com

If to the Town:

Town of Bridge Creek
Attn: Town Clerk
S9515 Hwy 27
Augusta, WI 54722
Email: kathyolson51@gmail.com

Any party may change the address to which notices must be sent by giving notices as provided herein.

12.4. This Agreement shall be governed by and construed in accordance with the laws of the State of Wisconsin. All disputes arising under this Agreement shall be venued in a Wisconsin court of competent jurisdiction.

12.5. No changes, amendments, alterations or modifications to this Agreement shall be effective unless in writing and signed by both Parties and, if required, upon approval by competent governing authorities of each Party.

12.6. This Agreement is entered into with Hi-Crush for the Property for the purposes of nonmetallic mining. Hi-Crush may assign or transfer its rights and obligations under this Agreement to any entity with the prior written consent of the Town which shall not unreasonably be withheld, providing the property will continue to be used for mining activities, the assignee assumes in writing the obligations of Hi-Crush pursuant to this Agreement and provides a copy of such Agreement to the Town prior to the transfer, and the assignee demonstrates that it has the financial wherewithal to fulfill the obligations of this Agreement. In the event Hi-Crush transfers its rights and obligations for a purpose other than nonmetallic mining, the Agreement shall be terminated.

Dated this _____, 2017

HI-CRUSH PROPPANTS LLC
A Wisconsin Limited Liability Company

By: _____

Name/Title: _____

State of Wisconsin)
) ss
County of Eau Claire)

Personally came before me this _____ day of _____, 2017 the above-named _____ and _____ to me known to be the _____ of Hi-Crush Proppants LLC and the person who executed the foregoing instrument and acknowledged the same.

_____

Print Name: _____ (SEAL)
Notary Public, State of Wisconsin
My Commission expires: _____

Dated this _____, 2017

TOWN OF BRIDGE CREEK
Eau Claire County, Wisconsin

By: _____

Name/Title: _____

State of Wisconsin)
) ss
County of Eau Claire)

Personally came before me this _____ day of _____, 2017 the above-named _____ and _____ to me known to be the _____ of the Town of Bridge Creek, and the person who executed the foregoing instrument and acknowledged the same.

_____

Print Name: _____ (SEAL)
Notary Public, State of Wisconsin
My Commission expires: _____

EXHIBIT LIST

Exhibit A: Property Description / Map

Exhibit B: Map RE Blasting

Exhibit C: WDNR Air Permit

Exhibit D: Fugitive Dust Control Plan

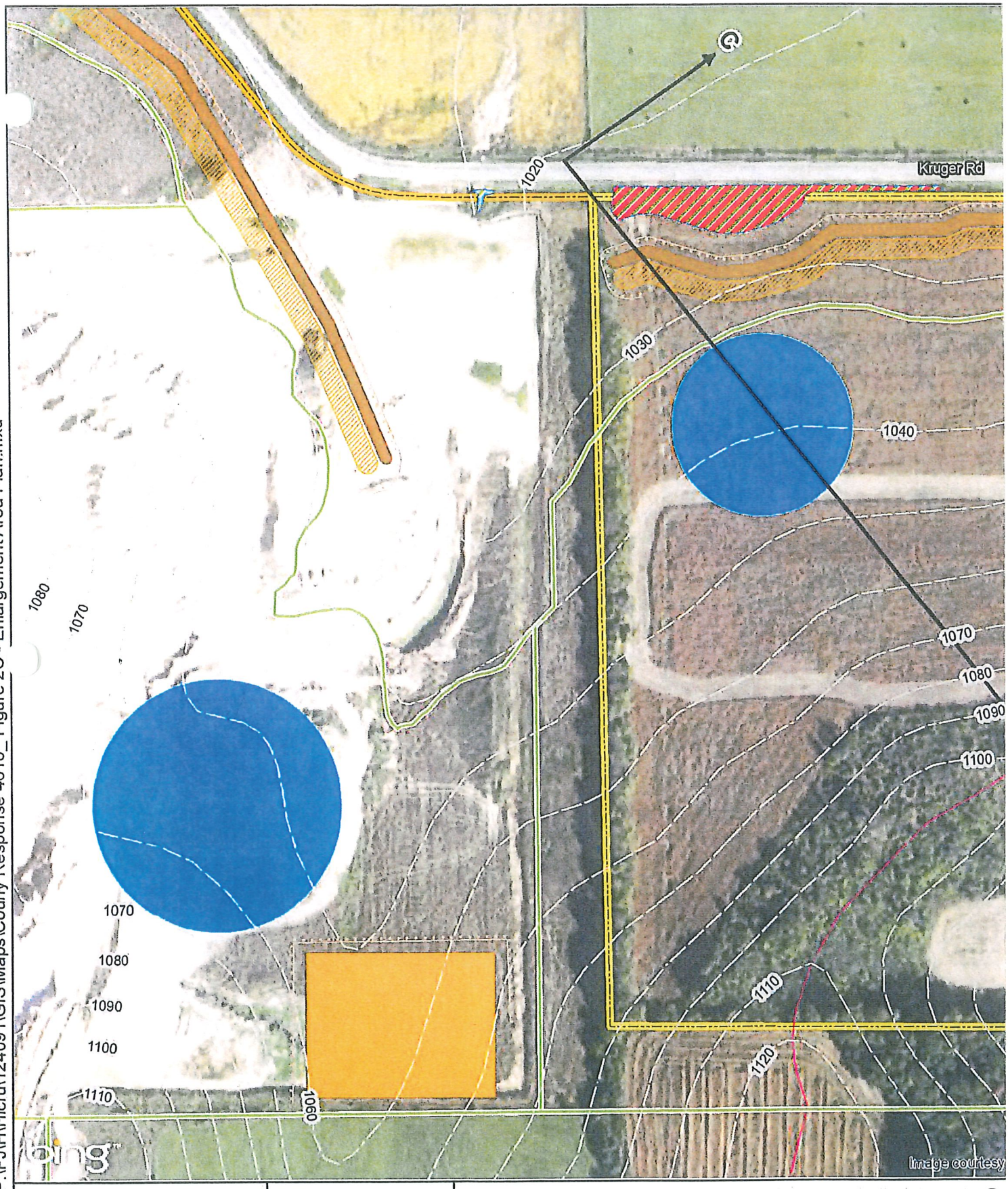
Exhibit E: Memo RE Section 3.11

Exhibit F: Property Value Guaranty

Exhibit G: List of Property Owners and Addresses

Exhibit A

Property Description / Map



Document Path: P:\FJH\Hicru\124091\GIS\Maps\County Response 4616_ Figure 2C - Enlargement Area Plan.mxd

SEH

10 North Bridge Street
Chippewa Falls, WI 54729
PHONE: (715) 720-6200
FAX: (715) 720-6300
WATTS: 800-472-5881
www.sehinc.com

PROJECT:
HICRU 124091

DATE:
04/07/16

PERMIT MO
HI-CRUSH AUGUST
Eau Claire Cou

Legend

- Line of Cross Section
- Existing Contours
- Mine Phases
- Drainage Areas
- Existing Permitted Mine Site Wetlands
- Silt Fence
- Topsoil Berms
- B Horizon Soil Berms
- Overburden Stockpiles
- Conceptual Infiltration Ponds
- Enlargement Area Wetlands
- Mine Enlargement Area Property Boundary
- Existing Permitted Mine Site Boundary

Note:
For Cross Section See New Figure 4A

N
W E
S

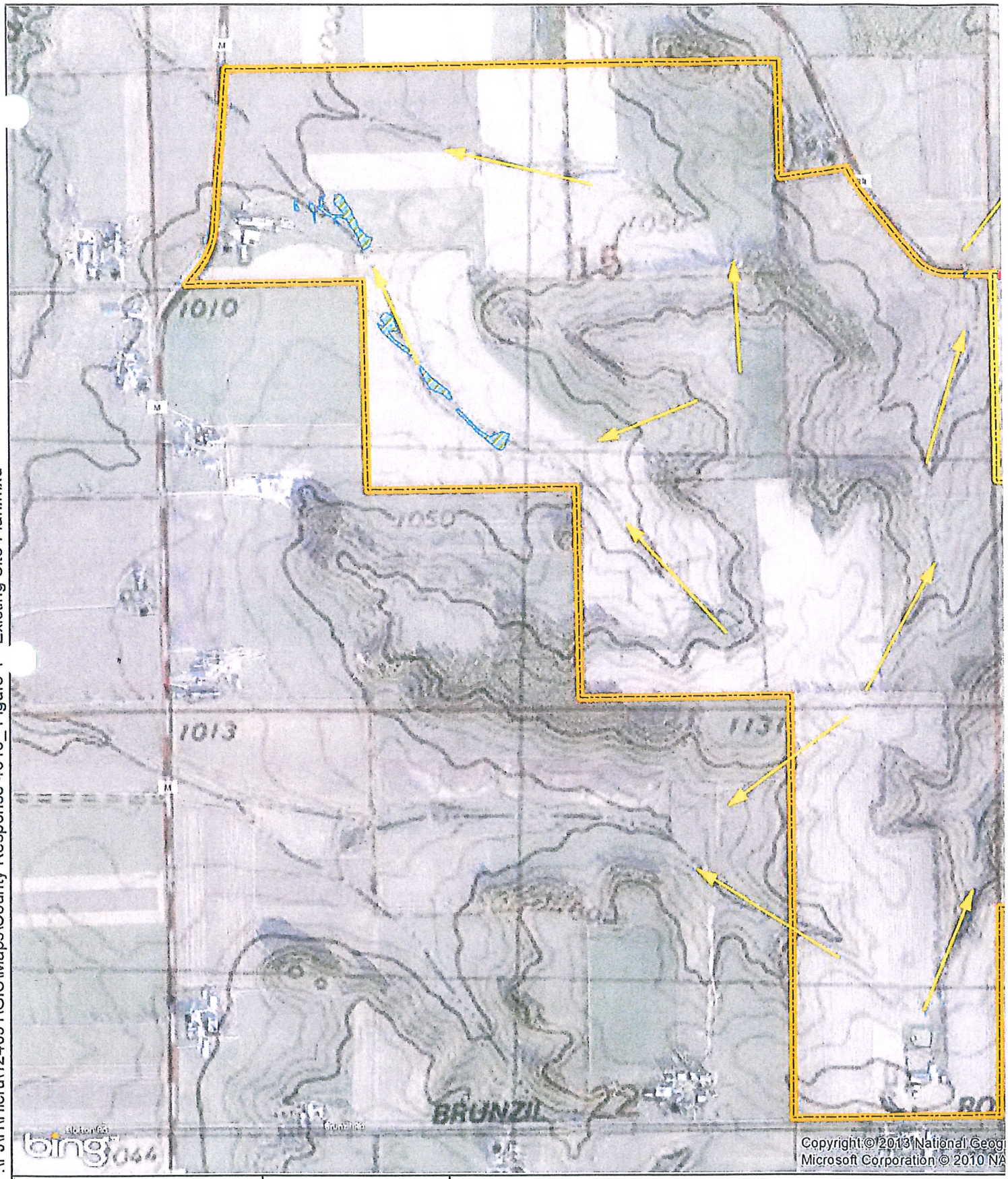
0 100 200 400 Feet

Source: Eau Claire County, and WIDNR.
Projection: Eau Claire County Coordinates (WiSCRS, Feet
Map by: RJH/REH

DIFICATION
'A LLC - MINE SITE
nty, Wisconsin

ENLARGEMENT AREA OPERATIONS SITE PLAN

Final Figure 2C



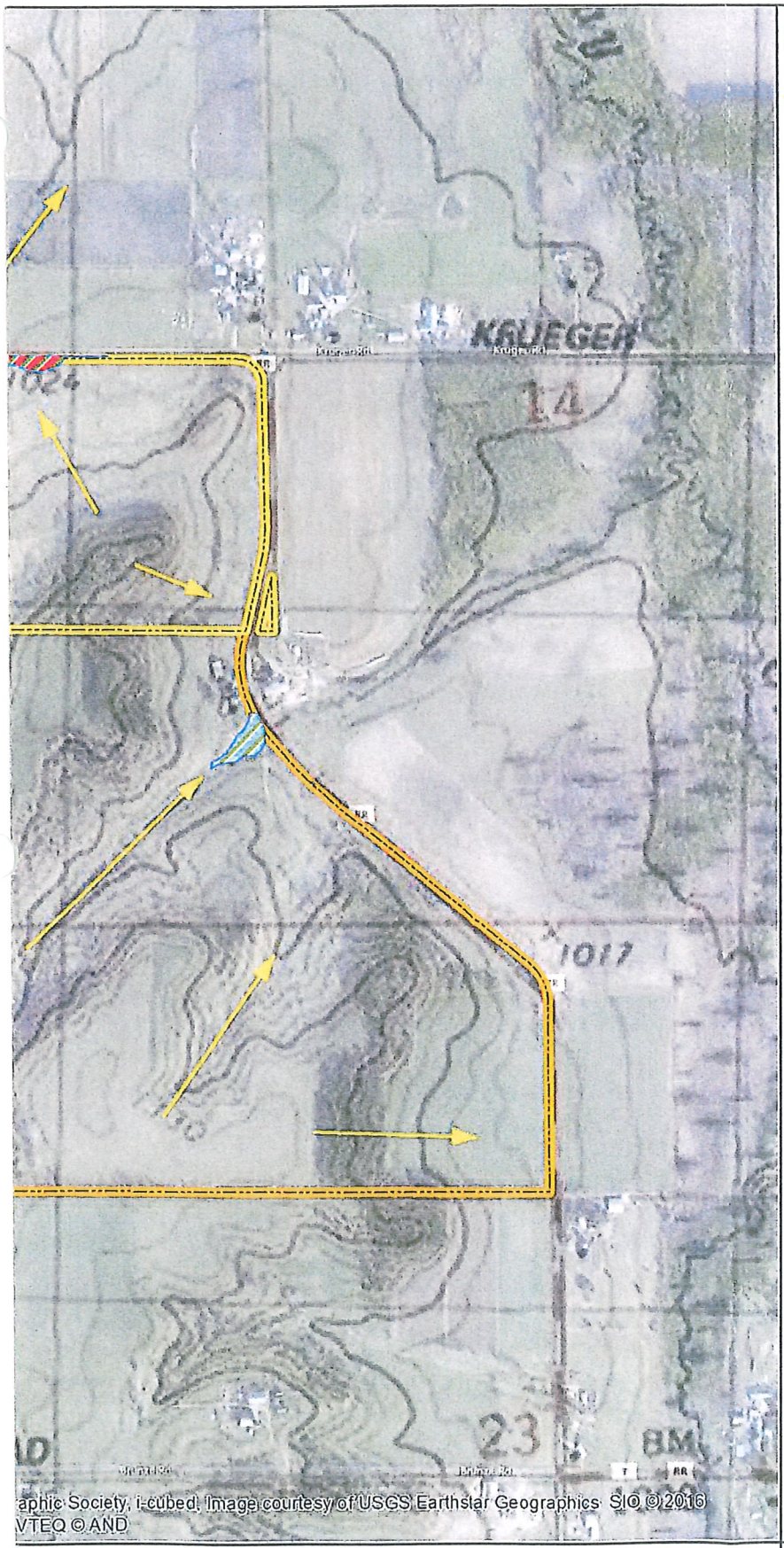
Document Path: P:\FJ\H\Hicru\124091\GIS\Maps\County Response 4616_ Figure 1 - Existing Site Plan.mxd

SEH
10 North Bridge Street
Chippewa Falls, WI 54729
PHONE: (715) 720-6200
FAX: (715) 720-6300
WATTS: 800-472-5881
www.sehinc.com

PROJECT:
HICRU 124091

DATE:
04/06/16

PERMIT MOI
HI-CRUSH AUGUST
Eau Claire Cou



Legend

- Stormwater Flow Arrows
- Enlargement Area Wetlands
- Mine Enlargement Area Property Boundary
- Existing Permitted Mine Site Wetlands
- Existing Permitted Mine Site Boundary

T-25N
R-6W
S-14,15,22 & 23
Town of Bridge Creek

N
W E
S

0 400 800 1,600
Feet

Source: Eau Claire County, and WIDNR.
Projection: Eau Claire County Coordinates (WiSCRS, Feet)
Map by: RJH/REH

DIFICATION
'A LLC - MINE SITE
nty, Wisconsin

EXISTING SITE PLAN

Final Figure 1

Mine Phase 4A Property Description

The Parcel ID number for Mine Phase 4A is listed below. Updated **Figure 1** shows the overall Mine Site property boundaries and the enlargement area property.

Parcel Number	Land Use	Property Description
002-1205-02-000	Agriculture-General	NW-SW; Section 14 *Property includes small parcel on east side of CTH RR (entire parcel is 40.0 acres).

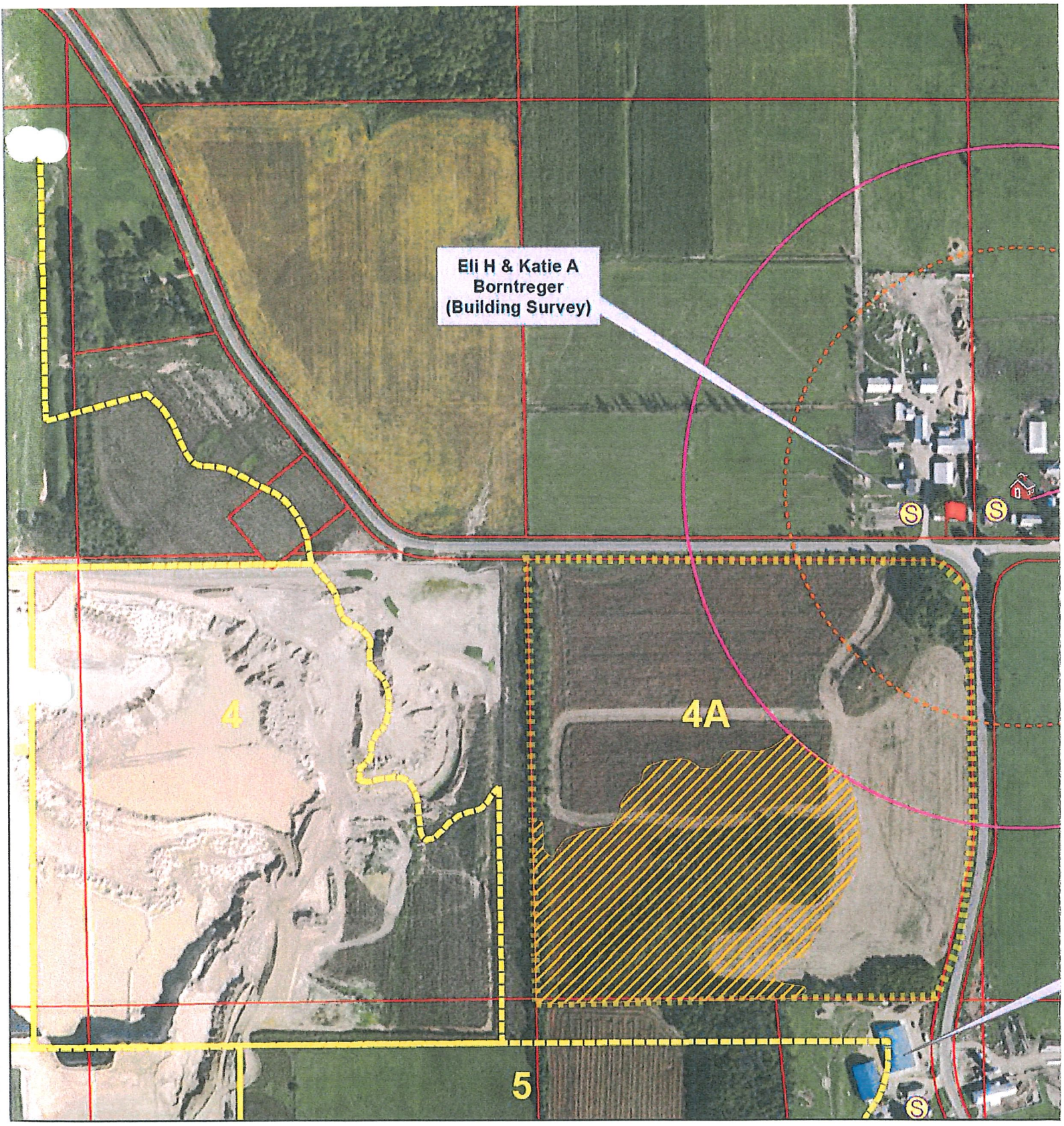
The legal description for the enlargement area property is as follows: *Being all of the northwest 1/4 of the southwest 1/4 of section 14, town 25 north, range 6 west, Town of Bridge Creek, Eau Claire County, Wisconsin, more particularly described as follows:*

Commencing at the west 1/4 corner of said section 14, also being the point of beginning; thence S89°52'02"E 1318.88 feet to the northeast corner of the said northwest 1/4; thence S00°45'57"E 1320.71 feet to the southeast corner of the said northwest 1/4; thence N89°42'46"W 1317.15 feet to the southwest corner of the said northwest 1/4; thence N00°50'37"W 1317.19 feet to the point of beginning.

Said parcel contains 1,738,119 square feet (39.90 acres) more or less.

Exhibit B

Map RE Blasting



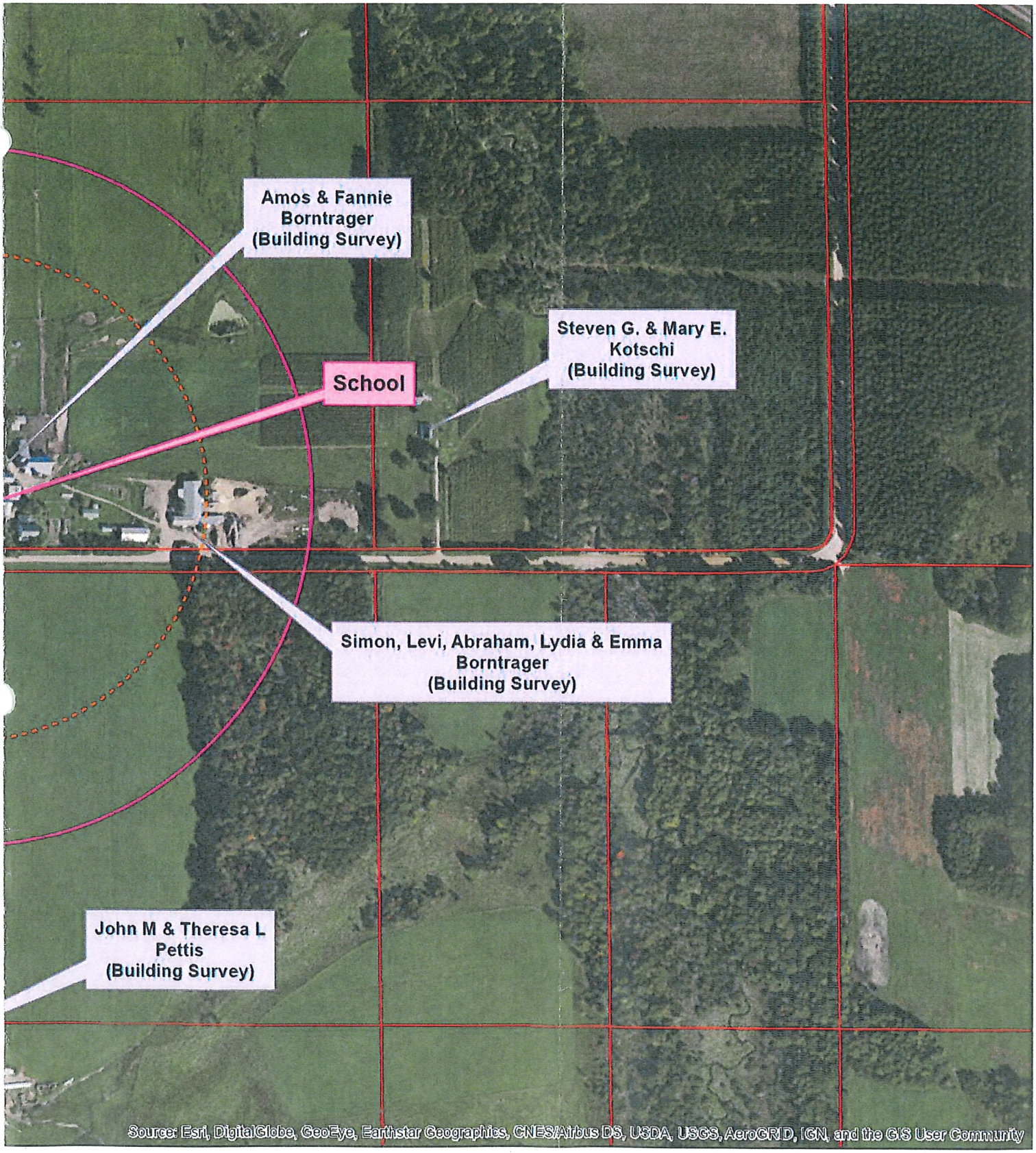
N

Hi-Crush Augusta, LLC
Blasting Information Map 2017

Town of Bridge Creek
Eau Claire County, WI

1 inch =

0 0.05 0.1



: 375 feet

Miles
0.2

Legend

Hi-Crush Proposed Blasting Buffer (1000')

State Calculated Blasting Buffer (700')

Proposed Blasting Area
"at Elevation of 1,050' or Higher"

Fla

Seismograp

1 Phase Bound

Exhibit C

WDNR Air Permit

AIR POLLUTION CONTROL CONSTRUCTION PERMIT

EI FACILITY NO: 618102870 CONSTRUCTION PERMIT NO.: 16-POY-011-R1

TYPE: Construction Permit for Processes: P01A, P01B, P01C, P02, P03A, P03B, P03C, P03D, F04A, F04B, F09, F10, F12, F13A, F13B, F13C, F13D

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Hi-Crush Augusta LLC

Street Address: S 11011 County Road M,
Augusta, Eau Claire County, Wisconsin

Responsible Official, & Title: Jay Alston, Chief Operation Officer

is authorized to modify an industrial sand mine and a processing plant described in the plans and specifications dated January 25, 2016 through September 28, 2016 in conformity with the conditions herein. The authority to construct, modify, replace and/or reconstruct any process covered in this Construction Permit expires **May 30, 2018** from the date of issuance. This approved period to construct, modify, replace and/or reconstruct may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. [s. 285.60(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code]

The conditions in this permit that originated in a construction permit are permanent and may only be revised through a revision of the construction permit condition, revision of a construction permit, or through the issuance of a new construction permit. [s. 285.66(1), Wis. Stats.]

Conditions of the permit marked with an asterisk (*) have been created outside of the Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in all Parts hereof.

Dated at Eau Claire, Wisconsin March 21, 2017

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/ Susan Lindem
Susan Lindem, Air Management Supervisor
West Central Region

Part I

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.45 pound per hour.[1] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.A.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.A.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system,

[1] The PM limit of 0.45 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.45 pound per hour.[2] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 60 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of	(1) As required in I.A.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.A.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[2] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}.

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]		
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (3), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.A.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(1) and b.(3). [s. NR

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			439.04(1)(d), Wis. Adm. Code, 16-POY-011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(2) to demonstrate compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.A.1.c.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.28 pound per hour.[3] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code, s. 285.65(7), Wis. Stats. and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.B.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.B.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

[3] The PM limit of 0.28 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		POY-011]	(5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.28 pound per hour.[4] [ss. NR 415.05(1)(o), 415.05(2) and 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 60 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.B.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.B.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[4] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (4), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.B.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(2) and b.(4). [s. NR 439.04(1)(d), Wis. Adm. Code, 16-POY-011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(3) to demonstrate

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.B.1.c.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.45 pound per hour.[5] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated according to manufacturer's recommendation. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.C.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.C.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system, containing the date of the action, initials of

[5] The PM limit of 0.45 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.45 pound per hour.[6] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 95 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases.	(1) As required in I.C.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.C.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[6] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	[s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]		
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (4), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.C.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(2) and b.(4). [s. NR 439.04(1)(d), Wis. Adm. Code, 16-POY-

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(3) to demonstrate compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.A.1.c.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions from each of the two stacks may not exceed 1.54 pound per hour.[7] [s. 285.65(3), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) Emissions may not exceed $E = 17.31*(P)^{0.16}$, where P is the process weight rate in tons per hour. [s. NR 415.05(2), Wis. Adm. Code, and 16-POY-011] (2) Emissions may not exceed 0.032 grams per dry standard cubic meter (0.014 grains per dry standard cubic foot) [s. 285.65(13), Wis. Stats., 40 CFR §60.672, s. NR 440.688(3)(a)1., Wis. Adm. Code, and 16-POY-011]	(1) Each control device shall be in line and shall be operated at all times when the associated processes being controlled are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, 16-POY-011 and 16-POY-011] (2) The two filter control devices shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (3) Instrumentation to monitor the pressure drop across the two filter control devices shall be operated according to manufacturer's recommendation. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (4) The pressure drop monitoring devices shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011] (5) The pressure drop across the two filter control devices shall be maintained between 1 and 10 inches water column, or an	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.D.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever PM emission testing is required to demonstrate compliance with I.D.1.a.(2), the permittee shall use U.S. EPA Method 5. [s. NR 439.06(1), Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the two filters once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the two baghouse systems, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

[7] The PM limit of 1.54 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011]	(5) The filter control device pressure drop monitoring devices shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions from each of the two stacks may not exceed 1.54 pounds per hour.[8] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack heights shall be at least 80 feet above ground level. (b) The stack outlet diameters may not be greater than 4.0 feet. (c) The stacks may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.D.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.D.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[8] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Visible Emissions	(1) 7% opacity. [s. NR 440.688(3)(a)2., Wis. Adm. Code, and 16-POY-011]	(1) The permittee shall conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the filter device is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the filter device to normal operation. [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (2) As required under I.D.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee shall record each Method 22 (40 CFR part 60, Appendix A–7) test, including the date and any corrective actions taken, in the logbook required under 40 CFR §60.676(b). [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (3) As required under I.D.1.c.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D – Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.0026 pound per hour[9]. [s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (3) $E = 17.36\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code]	(1) The filter control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the filter control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The filter control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (4) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall record the pressure drop across the each filter control device once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the filter control device system, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (4) The filter control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]

[9] The PM limit of 0.0026 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D – Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. PM_{10} Emissions	(1) Emissions may not exceed 0.0026 pound per hour[10]. [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height of S03A, S03B, S03C and S03D shall be at least 120 feet above ground level. (b) Stack outlet diameter of S03A, S03B and S03C may not be greater than 1.1 feet, each; stack outlet diameter of S03D may not be greater than 1.55 feet. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.E.1.b.(1) through (4). [s. 285.65(3), Stats., and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.D.1.c.(2) through (4). [s. 285.65(3), Stats., and 16-POY-011]
3. Visible Emissions	(1) 7% opacity. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(a), and 16-POY-011]	(1) The permittee shall conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the filter device is operating. The test is successful if no visible emissions are observed. If any visible emissions are	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee must record each Method 22 (40 CFR part 60, Appendix A–7) test, including

[10] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D – Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the filter device to normal operation. [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (2) As required under I.E.1.b.	the date and any corrective actions taken, in the logbook required under 40 CFR §60.676(b). [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (3) As required under I.E.1.c.

F. Non-Stack Vented Emission Sources F13A, B, C and D - Rail Loadout Stations (Requirements are for EACH rail loadout station.)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. [s. NR 415.04, Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1). (2) The permittee shall operate a cartridge filter collector to reduce the particulate matter emissions from each rail loadout station whenever the rail loadout station is in operation. [s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Each cartridge filter collector shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (4) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) The permittee shall meet the requirements in I.Z.1.c. (2) The permittee shall record the pressure drop across the each filter collector once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on each cartridge filter collector, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (4) The cartridge filter collector pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. Visible Emissions	(1) 7% opacity from building openings [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011]	(1) To demonstrate compliance with I.F.2.a., the permittee shall conduct a compliance emission test once every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

G. Non-Stack Vented Emission Sources: Blasting (F09)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR 415.075(2), Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1).	(1) The permittee shall record and maintain the following records as referenced in I.Z.1.v.(1)(g) and (10)(h): (a) Daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were taken due to site or meteorological conditions, records shall indicate what the site or meteorological conditions were at that time. (2) The permittee shall keep and maintain the fugitive dust control plan, required by I.Z.1.a.(1), on site at all times; and shall make the plan available to the department upon request. [ss. NR 415.075(6) and NR 439.04, Wis. Adm. Code]
2. Visible Emissions	(1) 20% opacity for blasting. [s. NR 431.05, Wis. Adm. Code]	(1) As required under I.G.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.G.1.c.

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. [s. NR 415.04, Wis. Adm. Code, 16-POY-011 and 16-POY-011] (2) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include one or more of the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where	(1) In addition to the precautions specified in I.H.1.a.(2), II.C.2.b.. and I.Z.1.b.(2), the permittee shall meet the following requirements: (a) The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve to be consistent with operations and the FDCP. (b) Stockpiles shall be observed daily and watered whenever fugitive dust is observed to control emissions. After application, a follow-up observation shall be performed to ensure the effectiveness of the control measures. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day. (c) Encrusting agents approved by the Department or covering shall be used on piles intended for long term storage or inactivity. (d) Moisture content of material conveyed in the wet plant shall be maintained at levels above 2%. (e) Whenever fugitive dust is observed, water or another suppressant shall be applied to the source of fugitive dust to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is	(1) The permittee shall record and maintain daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were taken due to site or meteorlogical conditions, records shall indicate what the site or meteorlogical conditions were at that time. [ss. NR 415.04, NR 415.076 and NR 439.04(1)(d), Wis. Adm. Code and 16-POY-011]

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076(2), Wis. Adm. Code, and 16-POY-011]	operating. The certified visible emission reader shall make a visible emission observation at the facility at least once per day. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011] (3) Plant equipment and enclosures shall be inspected on a regular basis (daily, weekly, monthly, or per manufacturers recommendation) for physical integrity. Any equipment or seal leaks shall be repaired as soon as practicable and not later than 48 hours after being identified. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and 16-POY-011] (4) Water application systems, including the watering truck and spray nozzles shall be visually inspected when first employed in any day, prior to the start of plant operation if the plant operation had been stopped, for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. Retractable loading spouts used to control fugitive dust emissions shall be inspected for blockages and proper mechanical operation on a weekly basis. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011]	
2. Visible	(1) 12% opacity for the crushers. [s. 285.65(13), Wis. Stats., 40 CFR	(1) To demonstrate compliance with I.F.2.a., the permittee shall conduct a compliance emission test once	(1) Reference Test Method for Visible Emissions: Whenever visible emission

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Emissions	§60.672(b), 16-POY-011] (2) Except as provided under (3); 7% opacity for the other equipment in this section. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011] (3) Wet material processing operation(s) of saturated materials up to the first crusher, grinding mill or storage bin in the production line are not subject to the visible emission limitation; see definitions under 40 CFR §60.671. [s. 285.65(13), Wis. Stats., 40 CFR §60.670(a)(2), and 16-POY-011]	every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.H.1.c.

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to: (a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations. (b) Application of asphalt, water, suitable chemicals or plastic covering on dirt roads, material stockpiles and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor or water pollution problem. (c) Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled. (d) Covering or securing of materials likely to become airborne while being moved on public roads, railroads or navigable waters. (e) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution. (f) The paving or maintenance of	(1) In addition to the precautions specified in I.I.1.a.(1), II.C.2.b.. and I.Z.1.b.(1), the permittee shall implement precautions to the extent necessary so that any applicable requirement is met and may include one or more of the precautions listed: (a) The dust on the site roadways/plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds, provided the application does not create a hydrocarbon, odor or water pollution problem. (b) For unpaved haul roads, water or another suppressant shall be applied to the active unpaved roads daily to prevent fugitive dust emissions, unless the permittee documents that site and meteorological conditions prevent particulate matter from becoming airborne. Whenever fugitive dust is observed, water or another suppressant shall be applied to the active haul roads to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. (c) Any material spillage on roads shall be cleaned up immediately. (d) Vehicles shall be loaded to prevent their contents from dropping, leaking blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come	(1) The permittee shall keep and maintain the following for Fugitive Emission Source F02: (a) results of daily visible emissions observations and follow-up observations required under 1.b. (b) daily records of all precautions taken to prevent fugitive dust, and (c) where no precautions were taken, dates when water or another dust suppressant was not added to unpaved roads, or other unpaved areas used by haul trucks inside the facility's property boundaries and records of the site and meteorological conditions for each of those days. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	roadway areas so as not to create air pollution. [s NR 415.04, Wis. Adm. Code, and 16-POY-011] (2)(a) The permittee may not cause, allow or permit the use of any parking lot, road or other area by haul trucks or any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include one or more of the following: 1. Application of asphalt, water or suitable chemicals on unpaved roads or other areas used by haul trucks which can create airborne dust, provided the application does not create a hydrocarbon, odor or water pollution problem. 2. Posting and maintenance of a 10 MPH speed limit on paved or unpaved roads or other areas used by haul trucks inside the facility's property line. 3. Covering, treatment or securing of materials likely to become airborne from haul trucks during transport, prior to any transportation off site from the quarry or mine. 4. Use of wet drilling or other means of control approved by the department. 5. The use of blast hole stemming materials that have been approved by	in contact within six (6) inches of the top of any side board, side panel or tail gate. Otherwise, the haul trucks shall be covered, treated or secured to prevent the escape of materials likely to become airborne during transport, prior to any transportation off site. (e) Excess dust and/or spillage of material off-site shall be cleaned up and returned to the facility or properly disposed of. [ss. NR 415.04 and 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is operating. The certified visible emission reader shall make a visible emission observation at the facility at least once per day. [s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Water application systems, including the watering truck and spray nozzles shall be visually inspected every day that the systems are used and prior to being first employed in any day for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. [ss. NR 415.04, 415.075(2)(a)6., and 407.09(4)(a)3.b., Wis. Adm. Code, s. 285.65(3), Wis. Stats., and 16-POY-011]	

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	either the department or the department of industry, labor and human relations. 6. Any precautions proposed by the owner or operator and accepted by the department in a permit or fugitive dust control plan. 7. Use of no precautions where control measures are unnecessary due to site or meteorological conditions. (b) In addition to meeting the requirements of par. (a), the owner or operator shall control fugitive emissions from a road or other area used by haul trucks and from drilling so that visible emissions do not exceed 20% opacity at the source. (c) The owner or operator shall submit to the department the fugitive dust control plan described in sub. (6). [s. NR 415.075(2), Wis. Adm. Code] (3) The permittee has proposed to control fugitive dust emissions from vehicle traffic on the unpaved roads in the facility by 75% and has agreed to implement the following measures[11]: (a) Document the yearly throughput of sand mined and processed. (b) Document daily fugitive dust suppression activities and		

[11] In order to minimize impacts on employees, the public, and the environment, the permittee proposed to limit emissions of total PM from the facility. The permittee has proposed to control fugitive dust emissions from the haul roads by 75% and proposed to meet these requirements. The measures included in this condition are based on "Nonmetallic Mining Guidance For The Development Of The 1998 Air Emissions Inventory" Publication # PUBL-AM-268-98, January 1999.

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	meteorological conditions. (c) Have an on-site fugitive dust observer located at the facility during hours of operation. (d) Post, implement and maintain the speed limit of 10 miles per hour for the paved and unpaved haul roads at the site. [s. NR 415.04, Wis. Adm. Code, s. 285.65(7), and 16-POY-011]		
2. Visible Emissions	(1) 20% Opacity [ss. NR 415.075(2)(b) and 431.05, Wis. Adm. Code, and 16-POY-011]	(1) As required under I.J.1.b.	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Such precautions shall include, but not be limited to: (a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations. (b) Application of asphalt, water, suitable chemicals or plastic covering on dirt roads, material stockpiles and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor or water pollution problem. (c) Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled. (d) Covering or securing of materials likely to become airborne while being moved on public roads, railroads or navigable waters. (e) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution. (f) The paving or maintenance of roadway areas so as not to create air	(1) In addition to the precautions specified in I.J.1.a.(1), II.C.2.b.. and I.Z.1.b.(2), the permittee shall meet the following requirements: (a) The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve. (b) Stockpiles shall be observed daily and watered whenever fugitive dust is observed to control emissions. After application, a follow-up observation shall be performed to ensure the effectiveness of the control measures. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day. (c) Encrusting agents approved by the Department or covering shall be used on piles intended for long term storage or inactivity. (d) Moisture content of material conveyed in the dry plant shall be maintained at levels above 2%. (e) Whenever fugitive dust is observed, water or another suppressant shall be applied to the source of fugitive dust to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is operating. The certified visible emission reader shall make a visible emission observation at the facility at	(1) The permittee shall record and maintain daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were takeen due to site or meteorological conditions, records shall indicate what the site or meteorological conditions were at that time. [ss. NR 415.04, NR 415.076 and NR 439.04(1)(d), Wis. Adm. Code and 16-POY-011]

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	pollution. [s. NR 415.04, Wis. Adm. Code, 16-POY-011] (2) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076, Wis. Adm. Code, 16-POY-011]	least once per day and shall make Method 22 fugitive dust observations at least once per day on the waste sand conveyor (F10) and its associated transfer points as well as the storage pile at the end of the overland conveyor. [ss. NR 407.09(4)(a)3.b., 415.04 and 415.076, Wis. Adm. Code s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Plant equipment and enclosures shall be inspected on a regular basis (daily, weekly, monthly, or per manufacturers recommendation) for physical integrity. Any equipment or seal leaks shall be repaired as soon as practicable and not later than 48 hours after being identified. [ss. NR 407.09(4)(a)3.b., 415.04 and 415.076(2)(d), Wis. Adm. Code s. 285.65(3), Wis. Stats., and 16-POY-011] (4) Water application systems, including the watering truck and spray nozzles shall be visually inspected when first employed in any day, prior to the start of plant operation if the plant operation had been stopped, for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. Retractable loading spouts used to control fugitive dust emissions shall be inspected for blockages and proper mechanical operation on a weekly basis. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011]	

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Visible Emissions	(1) 7% opacity. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011]	(1) To demonstrate compliance with I.J.2.a.(1), when the overland waste sand conveyor throughput exceeds 40 tons per hour and using wet suppression for emission control, the permittee shall conduct a compliance emission test within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days from startup, using USEPA Method 9, while operating at 100% capacity. If operation at 100% capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) To demonstrate compliance with I.J.2.a., the permittee shall conduct a compliance emission test once every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.J.1.c.

K. Non-Stack Vented Emission Sources F12 - Overburden Removal

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. [s. NR 415.04, Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1).	(1) The permittee shall meet the requirements in I.Z.1.c.
2. Visible Emissions	(1) 20% Opacity [s. NR 431.05, Wis. Adm. Code, and 16-POY-011]	(1) As required under I.K.1.b.	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Emissions	(1) The permittee shall submit to the department the fugitive dust control plan described in NR 415.075(6), Wis. Adm. Code, within 30 days of issuance of this permit. The permittee shall implement the fugitive dust control plan, required by NR 415.075(6), Wis. Adm. Code, to prevent, detect and correct malfunctions, equipment failures or other circumstances which may cause any applicable emission limitation to be violated or which may cause air pollution. The department may request any owner or operator to amend the plan if deemed necessary for malfunction prevention or the reduction of excess emissions. [s. NR 415.075(2)(c), (6)(b) and (c), Wis. Adm. Code] (2) No person may cause, allow or permit the use of any parking lot, road or other area by haul trucks or any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR 415.075(2), Wis. Adm. Code] (3) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR	(1) Precautions necessary for I.Z.1.a.(2) shall include one or more of the following: (a) Application of asphalt, water or suitable chemicals on unpaved roads or other areas used by haul trucks which can create airborne dust, provided the application does not create a hydrocarbon, odor or water pollution problem. (b) Posting and maintenance of a 10 MPH speed limit on paved or unpaved roads or other areas used by haul trucks inside the facility's property line. (c) Covering, treatment or securing of materials likely to become airborne from haul trucks during transport, prior to any transportation off site from the quarry or mine. (d) Use of wet drilling or other means of control approved by the department. (e) The use of blast hole stemming materials that have been approved by either the department or the Wisconsin Department of Safety and Professional Services. (f) Any precautions proposed by the permittee and accepted by the department in a permit or fugitive dust control plan. (g) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.075(2), Wis. Adm. Code, and 16-POY-011] (2) Precautions necessary for I.Z.1.a.(3) shall include	(1) The permittee shall record and maintain records of the following: (a) Identification of the individual responsible for implementing the fugitive dust control plan. (b) Listing of materials, equipment and spare parts that will be maintained in inventory. (c) Daily meteorology data at the site shall be obtained and recorded. (d) Daily records of all precautions taken to prevent fugitive dust. (e) All visible emission observations conducted, and the person who performed the observations. A record shall be maintained indicating the certification status of the person who performed the observations. (f) Equipment repairs, including the date and specific equipment. (g) Records of actual operation on a monthly basis. (h) Records of actual production on a monthly basis [ss. NR 415.075(5) and (6), and NR 439.04(1)(d), Wis. Adm. Code]

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	415.076(2), Wis. Adm. Code]	one or more of the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076(2), Wis. Adm. Code, and 16-POY-011] (3) Whenever the measure(s) utilized within this subsection are found to be insufficient in preventing fugitive dust and particulate matter from becoming airborne, the permittee shall: (a) notify the department within 2 business days of any such event, and (b) submit to the department within 7 business days proposed revisions to the fugitive dust plan which indicate additional and/or modified preventative measures to adequately minimize such emissions. [s. NR 415.075(6)(a)5. and (b), Wis. Adm. Code, and 16-POY-011]	
2. Ambient Air Monitoring	(1) Except as provided under (2), the permittee shall set up, operate and report the results obtained with a particulate matter ambient air monitoring	(1) Monitoring System Requirements: Except as provided under I.Z.2.a.(2), the following monitoring system requirements shall apply:	(1) As required under I.Z.2.b.(1)(b).

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	system. The monitoring system shall comply with all of the following requirements: (a) A plan that describes the ambient air monitoring program shall be submitted to the department within 30 days of the date of issuance of this permit. (b) The department shall review the plan to determine whether it will provide accurate and reliable monitoring at the operation site. Department approval, conditional approval or disapproval of any ambient air monitoring plan shall be completed within 60 days of receipt of the plan. (c) As required under I.Z.2.b.(1). [s. NR 415.075(4), Wis. Adm. Code, and 16-POY-011] (2) The permittee may apply for, and the department may grant, a variance from the monitoring requirements of this subsection if the applicant demonstrates that the general public will not be exposed to significant levels of particulate matter from the source, and that the source's emissions units and processes are controlled to a level which meets all applicable requirements. The department may review any variance granted under this paragraph on a biennial basis. Following its review, the department may modify, extend, or rescind the variance. [s. NR 415.075(4)(b), Wis. Adm. Code, and 16-POY-011]	(a) Monitoring shall be conducted for a 24-hour period on the 6 day schedule established by the U.S. environmental protection agency, or more frequently if required by the department. The department may specify the schedule in the approved plan. (b) Monitoring results shall be submitted to the department on a monthly basis. Results for each month shall be postmarked or received by the department no later than the last day of the following month. (c) The permittee shall start monitoring by 120 days from the date of issuance of the operation permit under ch. NR 407, or as specified in the ambient air monitoring plan required under this construction permit, under ch. NR 406. [s. NR 415.075(4), Wis. Adm. Code, and 16-POY-011]	

ZZ. Conditions Applicable to the Construction Permit 16-POY-011
1. Construction Permit 16-POY-011 supersedes Construction Permits 12-POY-018, 13-POY-015, 13-POY-163, 14-POY-104 and 15-KB-027 previously issued to this facility.

AIR POLLUTION CONTROL CONSTRUCTION PERMIT
AIR POLLUTION CONTROL OPERATION PERMIT

EI FACILITY NO: 618102870

CONSTRUCTION PERMIT NO.: 16-POY-011
OPERATION PERMIT NO.: 618102870-F03

TYPE: Construction Permit for Processes: P01A, P01B, P01C, P02, P03A, P03B, P03C, P03D, F04A, F04B, F09, F10, F12, F13A, F13B, F13C, F13D

Operation Permit Action Type: Non-Part 70 Federal Enforceable State Operation Permit

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Hi-Crush Augusta LLC

Street Address: S 11011 County Road M,
Augusta, Eau Claire County, Wisconsin

Responsible Official, & Title: Jay Alston, Chief Operation Officer

is authorized to modify and operate an industrial sand mine and a processing plant described in the plans and specifications dated January 25, 2016 through September 28, 2016 in conformity with the conditions herein. The authority to construct, modify, replace and/or reconstruct any process covered in this Construction Permit expires **eighteen (18) months** from the date of issuance. This approved period to construct, modify, replace and/or reconstruct may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. [s. 285.60(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code]

This operation permit does not expire and remains effective unless revised, suspended or revoked. The Department may revise the permit for cause under s. NR 407.14(1m)(f), Wis. Adm. Code, to establish an expiring term. [Section NR 407.09(1)(b)3., Wis. Adm. Code].

The conditions in this permit that originated in a construction permit are permanent and may only be revised through a revision of the construction permit condition, revision of a construction permit, or through the issuance of a new construction permit. [s. 285.66(1), Wis. Stats.]

Conditions of the permit marked with an asterisk (*) have been created outside of the Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in all Parts hereof.

Dated at Eau Claire, Wisconsin November 30, 2016

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/ Susan Lindem
Susan Lindem, Air Management Supervisor
West Central Region

PREAMBLE TO OPERATION PERMIT

An Asterisk (*) throughout this document denotes legal authority, limitations and conditions which are not federally enforceable [Section NR 407.09(3)(b), Wis. Adm. Code.].

Historical Summary of Permits/Orders Issued to the Facility.

Permit/Order/Exemption Number	Issued/Approved	Sources covered and desc.[1]	Permit Adopted/Renewed/ Revised/Incorporated
12-POY-018	03/28/2012	Total Facility: An industrial sand mine and processing plant	Adopted by 618102870-F01, Superseded by 16-POY-011
13-POY-015	04/23/2013	A new conveyor dust collector and a blasting process at the mine, and modify the dry plant processes in the dryer building	Adopted by 618102870-F01, Superseded by 16-POY-011
13-POY-163	04/16/2014	A sand silo, a railcar loading process, a conveyor linking the two new processes and a waste sand hopper with two transfer points	Adopted by 618102870-F01, Superseded by 16-POY-011
14-POY-104	11/25/2014	A new sand dryer and the modification of the facility to accommodate the increased production capacity	Adopted by 618102870-F01, Superseded by 16-POY-011
15-KB-027	07/27/2015	Construction of Process F05A and Modification of Processes F05B, P01A/C01A/S01A, P01C/C01C/S01C, F02, F03, F07, F04A, F04B, F13 A-D, F12, P02/C02A AND C02B/S02A AND S02B	Adopted by 618102870-F01, Superseded by 16-POY-011
618102870-F01	07/27/2015	Total Facility: an industrial sand mine and processing plant	To be reviseed by 618102870-F03
16-POY-011	November 30, 2016	To modify P01A, P01B, P01C, P02, P03A, P03B, P03C, P03D, F04A, F04B, F09, F10, F12, F13A, F13B, F13C, F13D	To be adopted by 618102870-F03
618102870-F03	November 30, 2016	Total Facility: an industrial sand mine and processing plant	

1 - Total Facility refers to all existing units at the facility at the time of issuance of the permit listed.

Stack and Process Index.

A. Process P01A, Stack S01A – #1 Sand fluid bed dryer with 150 ton per hour (tph) drying capacity and a burner capacity of 36 million BTU per hour (MMBTU/hr) with natural gas and/or propane as fuel. It is controlled with a baghouse.

B. Process P01B, Stack S01B – #2 Sand fluid bed dryer with 100 tph drying capacity and a burner capacity of 25 MMBTU/hr with natural gas and/or propane as fuel. It is controlled with a baghouse.

C. Process P01C, Stack S01C – #3 Sand fluid bed dryer with 150 tph drying capacity and a burner capacity of 36 MMBTU/hr with natural gas and/or propane as fuel. It is controlled with a baghouse.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying.

E. Processes P03A-D, Stack S03A-D – Four storage silos for finished sand are each equipped with passive bin vent filters.

F. Fugitive Source F13A-D – Four rail loadout stations are used to load rail cars.

G. Fugitive Source F01 – Wet Plant Receiving Hopper/Feeder

H. Fugitive Source F02 – Wet Plant Conveyors/Stackers (up to 19 transfers)

I. Fugitive Source F03 – Stockpiles

J. Fugitive Source F04A – Mine and Wet Plant Traffic on Unpaved Haul Roads

K. Fugitive Source F04B – Dry Plant Traffic on Unpaved Haul Roads

L. Fugitive Source F05A – Primary Crusher, F05B – Secondary Crusher; Wet Plant

M. Fugitive Source F06 – Wet Plant Screen

N. Fugitive Source F07 – 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C)

O. Fugitive Source F08 – Multiple natural gas space heaters and air make-up units, total combustion capacity of up to 5 MMBTU/hr.

P. Fugitive Source F09 – Blasting at the mine

Q. Fugitive Source F10 – Part of the Conveyor for reject sand to be used for mine reclamation, with water spray control that is not controlled by cartridge collector C05.

R. Fugitive Source F11 – Waste Sand Hopper with 2 Transfer Points

S. Fugitive Source F12 – Overburden Removal

Insignificant Emissions Units.

- Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.)
- HVAC System Maintenance
- Pollution Control Equipment Maintenance
- Fire Control Equipment
- Janitorial Activities
- Office Activities
- Convenience Water Heating
- Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood)
- Fuel Oil Storage Tanks (< 10,000 gal.)
- Purging of Natural Gas Lines - **only at initial startup**
- Sanitary Sewer and Plumbing Venting

Permit Shield. Unless precluded by the Administrator of the US EPA, compliance with all emission limitations in this operation permit is considered to be compliance with all emission limitations established under ss. 285.01 to 285.87, Wis. Stats., and emission limitations under the federal clean air act, that are applicable to the source if the permit includes the applicable limitation or if the Department determines that the emission limitations do not apply. The following emission limitations were reviewed in the analysis and preliminary determination and were determined not to apply to this stationary source: None

Part I - The headings for the areas in the permit are defined below. The legal authority for these limitations or methods follows them in [brackets].

Pollutant - This area will note which pollutant is being regulated by the permit.

Limitations - This area will list all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any voluntary restrictions on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

Compliance Demonstration - The compliance demonstration methods outlined in this area may be used to demonstrate compliance with the associated emission limit or work practice standard listed under the corresponding **Limitations** column. The compliance demonstration area contains limits on parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations. The requirement to test as well as initial and periodic test schedules, if testing is required, will be stated here. Notwithstanding the compliance determination methods which the owner or operator of a sources is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Reference Test Methods, Recordkeeping, and Monitoring Requirements - Specific US EPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required. A reference test method will be listed even if no testing is immediately required. Also included in this area are any recordkeeping requirements and their frequency and reporting requirements. Accuracy of monitoring equipment shall meet, at a minimum, the requirements of s. NR 439.055(3) and (4), Wis. Adm. Code, as specified in Part II of this permit.

Condition Type - This area will specify other conditions that are applicable to the entire facility that may not be tied to one specific pollutant.

Conditions - Specific conditions usually applicable to the entire facility or compliance requirements.

PART II - This section contains the general limitations that the permittee must abide by. These requirements are standard for most sources of air pollutants so they are included in this section with every permit.

Part I

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.45 pound per hour.[1] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.A.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.A.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system,

[1] The PM limit of 0.45 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.45 pound per hour.[2] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 60 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of	(1) As required in I.A.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.A.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[2] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}.

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]		
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (3), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.A.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(1) and b.(3). [s. NR

A. Process P01A, Stack S01A – #1 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			439.04(1)(d), Wis. Adm. Code, 16-POY-011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(2) to demonstrate compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.A.1.c.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.28 pound per hour.[3] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code, s. 285.65(7), Wis. Stats. and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.B.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.B.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

[3] The PM limit of 0.28 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		POY-011]	(5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.28 pound per hour.[4] [ss. NR 415.05(1)(o), 415.05(2) and 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 60 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.B.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.B.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[4] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (4), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.B.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(2) and b.(4). [s. NR 439.04(1)(d), Wis. Adm. Code, 16-POY-011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(3) to demonstrate

B. Process P01B, Stack S01B – #2 Sand Fluid Bed Dryer; 100 Tons/hr, 25 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.B.1.c.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions may not exceed 0.45 pound per hour.[5] [s. 285.65(7), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) $E = 17.31\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code] (2) Emissions may not exceed 0.025 grain per dry standard cubic foot [s NR 440.73(3)(a), Wis. Adm. Code and 16-POY-011]	(1) The baghouse control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the baghouse control device shall be operated according to manufacturer's recommendation. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The pressure drop across the baghouse control device shall be maintained between 0.7 and 10 inches water column, or an alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (4) The baghouse control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (5) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.C.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever particulate matter emission testing is required to demonstrate compliance with I.C.1.a.(2), the permittee shall use U.S. EPA Method 5. The sampling time for each test run shall be at least 2 hours and 1.70 dscm. [s. NR 440.73(7)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the baghouse once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the baghouse system, containing the date of the action, initials of

[5] The PM limit of 0.45 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (5) The baghouse control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions may not exceed 0.45 pound per hour.[6] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height shall be at least 95 feet above ground level. (b) The stack outlet diameter may not be greater than 3.3 feet. (c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases.	(1) As required in I.C.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.C.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[6] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}.

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	[s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]		
3. Visible Emissions	(1) 10% opacity. [s. NR 440.73(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Except as provided under (4), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system (COMS) to measure and record the opacity of emissions from each stack. [s. NR 440.73(5)(a), Wis. Adm. Code, 16-POY-011] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 440.11(5)(b) and NR 440.13(3), Wis. Adm. Code, 16-POY-011] (3) In lieu of a COMS, the permittee may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of Appendix A of 40 CFR part 60. [s. NR 440.73(5)(b), Wis. Adm. Code, 16-POY-011] (4) As required under I.C.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. In lieu of compliance tesing, the permittee may install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I. [s. NR 439.06(9)(a), Wis. Adm. Code] (2) The permittee shall reduce all COMS data to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. [s. NR 440.13(8), Wis. Adm. Code, 16-POY-011] (3) The permittee shall maintain records of the opacity observations required under Conditions b.(2) and b.(4). [s. NR 439.04(1)(d), Wis. Adm. Code, 16-POY-

C. Process P01C, Stack S01C – #3 Sand Fluid Bed Dryer; 150 Tons/hr, 36 million BTU per hour heat input, using Natural Gas and/or Propane as fuel

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			011] (4) The permittee shall submit written reports semiannually of all exceedances of control device operating parameters required to be monitored if using b.(3) to demonstrate compliance. For the purpose of these reports, exceedances are defined as any 6-minute period during which the average opacity is greater than 10%. [s. NR 440.73(6)(c), Wis. Adm. Code, 16-POY-011] (5) As required under I.A.1.c.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1)(a) Emissions from each of the two stacks may not exceed 1.54 pound per hour.[7] [s. 285.65(3), Wis. Stats., and 16-POY-011] (b) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (c) Emissions may not exceed $E = 17.31*(P)^{0.16}$, where P is the process weight rate in tons per hour. [s. NR 415.05(2), Wis. Adm. Code, and 16-POY-011] (2) Emissions may not exceed 0.032 grams per dry standard cubic meter (0.014 grains per dry standard cubic foot) [s. 285.65(13), Wis. Stats., 40 CFR §60.672, s. NR 440.688(3)(a)1., Wis. Adm. Code, and 16-POY-011]	(1) Each control device shall be in line and shall be operated at all times when the associated processes being controlled are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, 16-POY-011 and 16-POY-011] (2) The two filter control devices shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (3) Instrumentation to monitor the pressure drop across the two filter control devices shall be operated according to manufacturer's recommendation. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (4) The pressure drop monitoring devices shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011] (5) The pressure drop across the two filter control devices shall be maintained between 1 and 10 inches water column, or an	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance with I.D.1.a.(1), the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) Whenever PM emission testing is required to demonstrate compliance with I.D.1.a.(2), the permittee shall use U.S. EPA Method 5. [s. NR 439.06(1), Wis. Adm. Code, and 16-POY-011] (3) The permittee shall record the pressure drop across the two filters once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (4) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the two baghouse systems, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

[7] The PM limit of 1.54 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

D. Process P02, Stacks S02A and S02B — Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		alternative range approved in writing by the Department. [s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011]	(5) The filter control device pressure drop monitoring devices shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. PM_{10} Emissions	(1) Emissions from each of the two stacks may not exceed 1.54 pounds per hour.[8] [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack heights shall be at least 80 feet above ground level. (b) The stack outlet diameters may not be greater than 4.0 feet. (c) The stacks may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.D.1.b.(1) through (5). [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.D.1.c.(3) through (5). [s. 285.65(3), Stats., and 16-POY-011]

[8] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

D. Process P02, Stacks S02A and S02B – Dryer Building Exhausts for Sand Screening and Conveying

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Visible Emissions	(1) 7% opacity. [s. NR 440.688(3)(a)2., Wis. Adm. Code, and 16-POY-011]	(1) The permittee shall conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the filter device is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the filter device to normal operation. [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (2) As required under I.D.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee shall record each Method 22 (40 CFR part 60, Appendix A–7) test, including the date and any corrective actions taken, in the logbook required under 40 CFR §60.676(b). [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (3) As required under I.D.1.c.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D – Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.0026 pound per hour[9]. [s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Emissions may not exceed 0.20 pounds particulate matter per 1000 pounds gas. [s. NR 415.05(1)(m), Wis. Adm. Code] (3) $E = 17.36\ P^{0.16}$ pounds per hour, where P is the process weight rate at design capacity in tons per hour. [s. NR 415.05(2), Wis. Adm. Code]	(1) The filter control device shall be in line and shall be operated at all times when the processes are in operation. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) Instrumentation to monitor the pressure drop across the filter control device shall be operated properly. [s. NR 439.055(1)(a), Wis. Adm. Code, and 16-POY-011] (3) The filter control device shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (4) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required to demonstrate compliance, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17, and Method 202 for condensible particulates. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall record the pressure drop across the each filter control device once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on the filter control device system, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (4) The filter control device pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]

[9] The PM limit of 0.0026 pounds per hour is more restrictive than the limitation in s. NR 415.05, Wis. Adm. Code.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D — Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. PM_{10} Emissions	(1) Emissions may not exceed 0.0026 pound per hour[10]. [s. NR 404.08(2), Wis. Adm. Code, s. 285.65(7), Wis. Stats., and 16-POY-011] (2) Stack Parameters: These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) Stack height of S03A, S03B, S03C and S03D shall be at least 120 feet above ground level. (b) Stack outlet diameter of S03A, S03B and S03C may not be greater than 1.1 feet, each; stack outlet diameter of S03D may not be greater than 1.55 feet. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, and 16-POY-011]	(1) As required in I.E.1.b.(1) through (4). [s. 285.65(3), Stats., and 16-POY-011]	(1) Reference Test Method for PM_{10} Emissions: Whenever PM_{10} emission testing is required, the permittee shall use U.S. EPA Method 201 or Method 201A, and Method 202 for condensible particulates. An alternate compliance demonstration method approved by the Department in writing may be used. [s. NR 439.06(1), Wis. Adm. Code] (2) As required in I.D.1.c.(2) through (4). [s. 285.65(3), Stats., and 16-POY-011]
3. Visible Emissions	(1) 7% opacity. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(a), and 16-POY-011]	(1) The permittee shall conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the filter device is operating. The test is successful if no visible emissions are observed. If any visible emissions are	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee must record each Method 22 (40 CFR part 60, Appendix A–7) test, including

[10] The permittee proposed this emission limit to comply with ambient air standard for PM_{10}. In addition, this proposed limit when combined with other PM_{10} limitations and operational requirements for the facility will make the facility synthetic minor for PM_{10} for Part 70.

E. Process P03A, P03B, P03C, P03D, Stacks S03A, S03B, S03C and S03D — Sand Storage Silos (Limitations and Conditions for Each Silo)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the filter device to normal operation. [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (2) As required under I.E.1.b.	the date and any corrective actions taken, in the logbook required under 40 CFR §60.676(b). [s. 285.65(13), Wis. Stats., 40 CFR §60.674(c), and 16-POY-011] (3) As required under I.E.1.c.

F. Non-Stack Vented Emission Sources F13A, B, C and D - Rail Loadout Stations (Requirements are for EACH rail loadout station.)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. [s. NR 415.04, Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1). (2) The permittee shall operate a cartridge filter collector to reduce the particulate matter emissions from each rail loadout station whenever the rail loadout station is in operation. [s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Each cartridge filter collector shall be inspected, maintained, and operated in accordance with the manufacturer's recommendations. [s. 285.65(3), Stats., and 16-POY-011] (4) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater. [s. NR 439.055(3)(b), Wis. Adm. Code, and 16-POY-011]	(1) The permittee shall meet the requirements in I.Z.1.c. (2) The permittee shall record the pressure drop across the each filter collector once for every 8 hours of operation or once per day, whichever yields the greater number of measurements. [s. NR 439.055(2)(b)1., Wis. Adm. Code, and 16-POY-011] (3) The permittee shall keep records of all inspections, checks and any maintenance or repairs performed on each cartridge filter collector, containing the date of the action, initials of inspector, and the results. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011] (4) The cartridge filter collector pressure drop monitoring device shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated at least once per year. [s. NR 439.11(1)(b) and s. NR 439.055(4), Wis. Adm. Code, and 16-POY-011]
2. Visible Emissions	(1) 7% opacity from building openings [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011]	(1) To demonstrate compliance with I.F.2.a., the permittee shall conduct a compliance emission test once every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

G. Non-Stack Vented Emission Sources: Blasting (F09)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR 415.075(2), Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1).	(1) The permittee shall record and maintain the following records as referenced in I.Z.1.v.(1)(g) and (10)(h): (a) Daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were taken due to site or meteorological conditions, records shall indicate what the site or meteorlogical conditions were at that time. (2) The permittee shall keep and maintain the fugitive dust control plan, required by I.Z.1.a.(1), on site at all times; and shall make the plan available to the department upon request. [ss. NR 415.075(6) and NR 439.04, Wis. Adm. Code]
2. Visible Emissions	(1) 20% opacity for blasting. [s. NR 431.05, Wis. Adm. Code]	(1) As required under I.G.1.b.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.G.1.c.

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. [s. NR 415.04, Wis. Adm. Code, 16-POY-011 and 16-POY-011] (2) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include one or more of the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where	(1) In addition to the precautions specified in I.H.1.a.(2), II.C.2.b.. and I.Z.1.b.(2), the permittee shall meet the following requirements: (a) The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve to be consistent with operations and the FDCP. (b) Stockpiles shall be observed daily and watered whenever fugitive dust is observed to control emissions. After application, a follow-up observation shall be performed to ensure the effectiveness of the control measures. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day. (c) Encrusting agents approved by the Department or covering shall be used on piles intended for long term storage or inactivity. (d) Moisture content of material conveyed in the wet plant shall be maintained at levels above 2%. (e) Whenever fugitive dust is observed, water or another suppressant shall be applied to the source of fugitive dust to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is	(1) The permittee shall record and maintain daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were taken due to site or meteorological conditions, records shall indicate what the site or meteorological conditions were at that time. [ss. NR 415.04, NR 415.076 and NR 439.04(1)(d), Wis. Adm. Code and 16-POY-011]

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076(2), Wis. Adm. Code, and 16-POY-011]	operating. The certified visible emission reader shall make a visible emission observation at the facility at least once per day. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011] (3) Plant equipment and enclosures shall be inspected on a regular basis (daily, weekly, monthly, or per manufacturers recommendation) for physical integrity. Any equipment or seal leaks shall be repaired as soon as practicable and not later than 48 hours after being identified. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and 16-POY-011] (4) Water application systems, including the watering truck and spray nozzles shall be visually inspected when first employed in any day, prior to the start of plant operation if the plant operation had been stopped, for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. Retractable loading spouts used to control fugitive dust emissions shall be inspected for blockages and proper mechanical operation on a weekly basis. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011]	
2. Visible	(1) 12% opacity for the crushers. [s. 285.65(13), Wis. Stats., 40 CFR	(1) To demonstrate compliance with I.F.2.a., the permittee shall conduct a compliance emission test once	(1) Reference Test Method for Visible Emissions: Whenever visible emission

H. Non-Stack Vented Emission Sources: F01, F02, F03, F05A, F05B, F06 - Wet Plant Processes - Truck receiving hopper, feeder (F01), Conveyors/Stackers (F02A: 2 Wet Plant Stackers, F02B: 10 Wet Plant Conveyor/Drops, and F02C: 9 Wet Plant to Dry Plant Overland Conveyor/Drops) and Stockpiles (F03: Storage Pile Wind Erosion, from Piles at both Wet and Dry Plants), Primary Crusher (F05A), Secondary Crusher (F05B), Screen (F06)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Emissions	§60.672(b), 16-POY-011] (2) Except as provided under (3); 7% opacity for the other equipment in this section. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011] (3) Wet material processing operation(s) of saturated materials up to the first crusher, grinding mill or storage bin in the production line are not subject to the visible emission limitation; see definitions under 40 CFR §60.671. [s. 285.65(13), Wis. Stats., 40 CFR §60.670(a)(2), and 16-POY-011]	every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.H.1.c.

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to: (a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations. (b) Application of asphalt, water, suitable chemicals or plastic covering on dirt roads, material stockpiles and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor or water pollution problem. (c) Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled. (d) Covering or securing of materials likely to become airborne while being moved on public roads, railroads or navigable waters. (e) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution. (f) The paving or maintenance of	(1) In addition to the precautions specified in I.I.1.a.(1), II.C.2.b.. and I.Z.1.b.(1), the permittee shall implement precautions to the extent necessary so that any applicable requirement is met and may include one or more of the precautions listed: (a) The dust on the site roadways/plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds, provided the application does not create a hydrocarbon, odor or water pollution problem. (b) For unpaved haul roads, water or another suppressant shall be applied to the active unpaved roads daily to prevent fugitive dust emissions, unless the permittee documents that site and meteorological conditions prevent particulate matter from becoming airborne. Whenever fugitive dust is observed, water or another suppressant shall be applied to the active haul roads to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. (c) Any material spillage on roads shall be cleaned up immediately. (d) Vehicles shall be loaded to prevent their contents from dropping, leaking blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come	(1) The permittee shall keep and maintain the following for Fugitive Emission Source F02: (a) results of daily visible emissions observations and follow-up observations required under 1.b. (b) daily records of all precautions taken to prevent fugitive dust, and (c) where no precautions were taken, dates when water or another dust suppressant was not added to unpaved roads, or other unpaved areas used by haul trucks inside the facility's property boundaries and records of the site and meteorological conditions for each of those days. [s. NR 439.04(1)(d), Wis. Adm. Code, and 16-POY-011]

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	roadway areas so as not to create air pollution. [s NR 415.04, Wis. Adm. Code, and 16-POY-011] (2)(a) The permittee may not cause, allow or permit the use of any parking lot, road or other area by haul trucks or any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include one or more of the following: 1. Application of asphalt, water or suitable chemicals on unpaved roads or other areas used by haul trucks which can create airborne dust, provided the application does not create a hydrocarbon, odor or water pollution problem. 2. Posting and maintenance of a 10 MPH speed limit on paved or unpaved roads or other areas used by haul trucks inside the facility's property line. 3. Covering, treatment or securing of materials likely to become airborne from haul trucks during transport, prior to any transportation off site from the quarry or mine. 4. Use of wet drilling or other means of control approved by the department. 5. The use of blast hole stemming materials that have been approved by	in contact within six (6) inches of the top of any side board, side panel or tail gate. Otherwise, the haul trucks shall be covered, treated or secured to prevent the escape of materials likely to become airborne during transport, prior to any transportation off site. (e) Excess dust and/or spillage of material off-site shall be cleaned up and returned to the facility or properly disposed of. [ss. NR 415.04 and 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is operating. The certified visible emission reader shall make a visible emission observation at the facility at least once per day. [s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Water application systems, including the watering truck and spray nozzles shall be visually inspected every day that the systems are used and prior to being first employed in any day for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. [ss. NR 415.04, 415.075(2)(a)6., and 407.09(4)(a)3.b., Wis. Adm. Code, s. 285.65(3), Wis. Stats., and 16-POY-011]	

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	either the department or the department of industry, labor and human relations. 6. Any precautions proposed by the owner or operator and accepted by the department in a permit or fugitive dust control plan. 7. Use of no precautions where control measures are unnecessary due to site or meteorological conditions. (b) In addition to meeting the requirements of par. (a), the owner or operator shall control fugitive emissions from a road or other area used by haul trucks and from drilling so that visible emissions do not exceed 20% opacity at the source. (c) The owner or operator shall submit to the department the fugitive dust control plan described in sub. (6). [s. NR 415.075(2), Wis. Adm. Code] (3) The permittee has proposed to control fugitive dust emissions from vehicle traffic on the unpaved roads in the facility by 75% and has agreed to implement the following measures[11]: (a) Document the yearly throughput of sand mined and processed. (b) Document daily fugitive dust suppression activities and		

[11] In order to minimize impacts on employees, the public, and the environment, the permittee proposed to limit emissions of total PM from the facility. The permittee has proposed to control fugitive dust emissions from the haul roads by 75% and proposed to meet these requirements. The measures included in this condition are based on "Nonmetallic Mining Guidance For The Development Of The 1998 Air Emissions Inventory" Publication # PUBL-AM-268-98, January 1999.

I. Non-Stack Vented Emission Sources - F04A (Mine and Wet Plant) and F04B (Dry Plant) Traffic on Unpaved Haul Roads

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	meteorological conditions. (c) Have an on-site fugitive dust observer located at the facility during hours of operation. (d) Post, implement and maintain the speed limit of 10 miles per hour for the paved and unpaved haul roads at the site. [s. NR 415.04, Wis. Adm. Code, s. 285.65(7), and 16-POY-011]		
2. Visible Emissions	(1) 20% Opacity [ss. NR 415.075(2)(b) and 431.05, Wis. Adm. Code, and 16-POY-011]	(1) As required under I.J.1.b.	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Such precautions shall include, but not be limited to: (a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations. (b) Application of asphalt, water, suitable chemicals or plastic covering on dirt roads, material stockpiles and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor or water pollution problem. (c) Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled. (d) Covering or securing of materials likely to become airborne while being moved on public roads, railroads or navigable waters. (e) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution. (f) The paving or maintenance of roadway areas so as not to create air	(1) In addition to the precautions specified in I.J.1.a.(1), II.C.2.b.. and I.Z.1.b.(2), the permittee shall meet the following requirements: (a) The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve. (b) Stockpiles shall be observed daily and watered whenever fugitive dust is observed to control emissions. After application, a follow-up observation shall be performed to ensure the effectiveness of the control measures. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day. (c) Encrusting agents approved by the Department or covering shall be used on piles intended for long term storage or inactivity. (d) Moisture content of material conveyed in the dry plant shall be maintained at levels above 2%. (e) Whenever fugitive dust is observed, water or another suppressant shall be applied to the source of fugitive dust to control emissions. After control measures are taken, a follow-up observation shall be performed to ensure the effectiveness of the control measures. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code, and 16-POY-011] (2) A certified visible emissions reader shall be available on site during daylight hours when the plant is operating. The certified visible emission reader shall make a visible emission observation at the facility at	(1) The permittee shall record and maintain daily records of all precautions taken to prevent particulate matter from becoming airborne. Where no precautions were takeen due to site or meteorological conditions, records shall indicate what the site or meteorological conditions were at that time. [ss. NR 415.04, NR 415.076 and NR 439.04(1)(d), Wis. Adm. Code and 16-POY-011]

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	pollution. [s. NR 415.04, Wis. Adm. Code, 16-POY-011] (2) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076, Wis. Adm. Code, 16-POY-011]	least once per day and shall make Method 22 fugitive dust observations at least once per day on the waste sand conveyor (F10) and its associated transfer points as well as the storage pile at the end of the overland conveyor. [ss. NR 407.09(4)(a)3.b., 415.04 and 415.076, Wis. Adm. Code s. 285.65(3), Wis. Stats., and 16-POY-011] (3) Plant equipment and enclosures shall be inspected on a regular basis (daily, weekly, monthly, or per manufacturers recommendation) for physical integrity. Any equipment or seal leaks shall be repaired as soon as practicable and not later than 48 hours after being identified. [ss. NR 407.09(4)(a)3.b., 415.04 and 415.076(2)(d), Wis. Adm. Code s. 285.65(3), Wis. Stats., and 16-POY-011] (4) Water application systems, including the watering truck and spray nozzles shall be visually inspected when first employed in any day, prior to the start of plant operation if the plant operation had been stopped, for blockages and flow restrictions so that sufficient water is being applied. Water application systems shall be routinely maintained quarterly. Retractable loading spouts used to control fugitive dust emissions shall be inspected for blockages and proper mechanical operation on a weekly basis. [ss. NR 407.09(4)(a)3.b., NR 415.04, NR 415.076(2)(d), Wis. Adm. Code, and s. 285.65(3) and 16-POY-011]	

J. Non-Stack Vented Emission Sources F07 - 2 Dry Plant Stackers (F07A),4 Dry Plant Conveyor/Drops (F07B), and 3 Dry Plant Hoppers (F07C); F10 - Overland Waste Sand Conveyor Controlled with Wet Suppression, F11 - Waste Sand Hopper with 2 Transfer Points

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Visible Emissions	(1) 7% opacity. [s. 285.65(13), Wis. Stats., 40 CFR §60.672(b), and 16-POY-011]	(1) To demonstrate compliance with I.J.2.a.(1), when the overland waste sand conveyor throughput exceeds 40 tons per hour and using wet suppression for emission control, the permittee shall conduct a compliance emission test within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days from startup, using USEPA Method 9, while operating at 100% capacity. If operation at 100% capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. [s. NR 406.10 and s. NR 407.09(4)(a)1., Wis. Adm. Code, and 16-POY-011] (2) To demonstrate compliance with I.J.2.a., the permittee shall conduct a compliance emission test once every 5 years using USEPA Method 9. [s. 285.65(13), Wis. Stats., 40 CFR §60.675, and 16-POY-011]	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) As required under I.J.1.c.

K. Non-Stack Vented Emission Sources F12 - Overburden Removal

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Dust Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. [s. NR 415.04, Wis. Adm. Code]	(1) The permittee shall meet the requirements in II.C.2.b. and I.Z.1.b.(1).	(1) The permittee shall meet the requirements in I.Z.1.c.
2. Visible Emissions	(1) 20% Opacity [s. NR 431.05, Wis. Adm. Code, and 16-POY-011]	(1) As required under I.K.1.b.	(1) Whenever compliance emission testing is required, US EPA Method 9 in 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Fugitive Emissions	(1) The permittee shall submit to the department the fugitive dust control plan described in NR 415.075(6), Wis. Adm. Code, within 30 days of issuance of this permit. The permittee shall implement the fugitive dust control plan, required by NR 415.075(6), Wis. Adm. Code, to prevent, detect and correct malfunctions, equipment failures or other circumstances which may cause any applicable emission limitation to be violated or which may cause air pollution. The department may request any owner or operator to amend the plan if deemed necessary for malfunction prevention or the reduction of excess emissions. [s. NR 415.075(2)(c), (6)(b) and (c), Wis. Adm. Code] (2) No person may cause, allow or permit the use of any parking lot, road or other area by haul trucks or any drilling or blasting without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR 415.075(2), Wis. Adm. Code] (3) No person may cause, allow or permit any crusher, screen, bucket elevator, belt conveyor, storage bin or any transfer point on belt conveyors to be used without taking precautions to prevent particulate matter from becoming airborne. These precautions shall be taken to the extent necessary so that any applicable requirements are met. [s. NR	(1) Precautions necessary for I.Z.1.a.(2) shall include one or more of the following: (a) Application of asphalt, water or suitable chemicals on unpaved roads or other areas used by haul trucks which can create airborne dust, provided the application does not create a hydrocarbon, odor or water pollution problem. (b) Posting and maintenance of a 10 MPH speed limit on paved or unpaved roads or other areas used by haul trucks inside the facility's property line. (c) Covering, treatment or securing of materials likely to become airborne from haul trucks during transport, prior to any transportation off site from the quarry or mine. (d) Use of wet drilling or other means of control approved by the department. (e) The use of blast hole stemming materials that have been approved by either the department or the Wisconsin Department of Safety and Professional Services. (f) Any precautions proposed by the permittee and accepted by the department in a permit or fugitive dust control plan. (g) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.075(2), Wis. Adm. Code, and 16-POY-011] (2) Precautions necessary for I.Z.1.a.(3) shall include	(1) The permittee shall record and maintain records of the following: (a) Identification of the individual responsible for implementing the fugitive dust control plan. (b) Listing of materials, equipment and spare parts that will be maintained in inventory. (c) Daily meteorology data at the site shall be obtained and recorded. (d) Daily records of all precautions taken to prevent fugitive dust. (e) All visible emission observations conducted, and the person who performed the observations. A record shall be maintained indicating the certification status of the person who performed the observations. (f) Equipment repairs, including the date and specific equipment. (g) Records of actual operation on a monthly basis. (h) Records of actual production on a monthly basis [ss. NR 415.075(5) and (6), and NR 439.04(1)(d), Wis. Adm. Code]

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	415.076(2), Wis. Adm. Code]	one or more of the following: (a) Use, where possible, of water, or chemicals approved by the department, for control of dust. (b) Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled. (c) The use of spray bars or other wet dust suppression methods. (d) Any precautions proposed by the owner or operator and accepted by the department. (e) Use of no precautions where control measures are unnecessary due to site or meteorological conditions. [s. NR 415.076(2), Wis. Adm. Code, and 16-POY-011] (3) Whenever the measure(s) utilized within this subsection are found to be insufficient in preventing fugitive dust and particulate matter from becoming airborne, the permittee shall: (a) notify the department within 2 business days of any such event, and (b) submit to the department within 7 business days proposed revisions to the fugitive dust plan which indicate additional and/or modified preventative measures to adequately minimize such emissions. [s. NR 415.075(6)(a)5. and (b), Wis. Adm. Code, and 16-POY-011]	
2. Ambient Air Monitoring	(1) Except as provided under (2), the permittee shall set up, operate and report the results obtained with a particulate matter ambient air monitoring	(1) Monitoring System Requirements: Except as provided under I.Z.2.a.(2), the following monitoring system requirements shall apply:	(1) As required under I.Z.2.b.(1)(b).

Z. Fugitive Dust Control Requirements Applicable to the Industrial Sand Mining Operations and Processing Plant

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	system. The monitoring system shall comply with all of the following requirements: (a) A plan that describes the ambient air monitoring program shall be submitted to the department within 30 days of the date of issuance of this permit. (b) The department shall review the plan to determine whether it will provide accurate and reliable monitoring at the operation site. Department approval, conditional approval or disapproval of any ambient air monitoring plan shall be completed within 60 days of receipt of the plan. (c) As required under I.Z.2.b.(1). [s. NR 415.075(4), Wis. Adm. Code, and 16-POY-011] (2) The permittee may apply for, and the department may grant, a variance from the monitoring requirements of this subsection if the applicant demonstrates that the general public will not be exposed to significant levels of particulate matter from the source, and that the source's emissions units and processes are controlled to a level which meets all applicable requirements. The department may review any variance granted under this paragraph on a biennial basis. Following its review, the department may modify, extend, or rescind the variance. [s. NR 415.075(4)(b), Wis. Adm. Code, and 16-POY-011]	(a) Monitoring shall be conducted for a 24-hour period on the 6 day schedule established by the U.S. environmental protection agency, or more frequently if required by the department. The department may specify the schedule in the approved plan. (b) Monitoring results shall be submitted to the department on a monthly basis. Results for each month shall be postmarked or received by the department no later than the last day of the following month. (c) The permittee shall start monitoring by 120 days from the date of issuance of the operation permit under ch. NR 407, or as specified in the ambient air monitoring plan required under this construction permit, under ch. NR 406. [s. NR 415.075(4), Wis. Adm. Code, and 16-POY-011]	

ZZ. Conditions Applicable to the Construction Permit 16-POY-011
1. Construction Permit 16-POY-011 supersedes Construction Permits 12-POY-018, 16-POY-011, 13-POY-163, 16-POY-011 and 16-POY-011 previously issued to this facility.

ZZZ. General Conditions Applicable to the Operation Permit.	
1. Malfunction Prevention and Abatement Plan	
a. Limitations/Conditions	**b.** Compliance Demonstration
(1) A malfunction prevention and abatement plan shall be prepared and followed for the plant. **[s. NR 439.11, Wis. Adm. Code]** (2) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices (i.e. operated and maintained according to manufacturer's specifications and directions) to minimize the possibility for the exceedance of any emission limitations. **[s. NR 439.11(4), Wis. Adm. Code]**	(1) The malfunction prevention and abatement plan shall be developed to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emissions limitation to be violated or which may cause air pollution. **[s. NR 439.11(1), Wis. Adm. Code]** (2) This malfunction prevention and abatement plan shall include installation, maintenance and routine calibration procedures for the process monitoring and control equipment instrumentation. This plan shall require an instrumentation calibration at the frequency specified by the manufacturer, yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. Inspection and calibration shall also be conducted whenever instrumentation anomalies are noted. **[ss. NR 407.09(1)(c)1.c., NR 439.055(4) and NR 439.11, Wis. Adm. Code]** (3) The malfunction prevention and abatement plan shall require a copy of the operation and maintenance manual for the control equipment to be maintained on site. The plan shall contain all of the elements in s. NR 439.11(1)(a) - (h), Wis. Adm. Code. **[s. NR 439.11, Wis. Adm. Code]**

ZZZ. General Conditions Applicable to the Operation Permit.	
2. Stack Testing Requirements	
a. Limitations/Condition	**b.** Compliance Demonstration
(1) If the compliance emission test(s) cannot be conducted within the time frames specified in this permit, the permit holder may request and the Department	(1) Two copies of the report on any compliance emission tests shall be submitted to the Department for evaluation within 60 days following the

ZZZ. General Conditions Applicable to the Operation Permit.	
2. Stack Testing Requirements	
a. Limitations/Condition	**b.** Compliance Demonstration
may approve, in writing, an extension of time to conduct the test(s). **[ss. NR 439.07 and 439.075(4), Wis. Adm. Code]** (2) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. **[s. NR 439.07(1), Wis. Adm. Code]** (3) The Department shall be informed at least 20 working days prior to any stack testing, so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department for approval. When approved in writing, an equivalent test method may be substituted for the reference test method. The notification and test plan shall be submitted to the Wisconsin Department of Natural Resources, West Central Region Headquarters, 1300 W. Clairemont Avenue, Eau Claire, WI 54701 or an alternative address provided by the facility's assigned compliance inspector. **[s. NR 439.07(2), Wis. Adm. Code]**	completion of tests. The emission test report shall be submitted to the Department of Natural Resources West Central Region Headquarters, 1300 W. Clairemont Avenue, Eau Claire, WI 54701 or an alternative address provided by the facility's assigned compliance inspector. Alternatively, the Department accepts and encourages electronic submittals of test plans, uploaded through the permittee's Web Access Management System (WAMS) ID. For more details refer to the "Stack Testing Electronic Submittal Guidebook" on the DNR website. **[s. NR 439.07(9), Wis. Adm. Code]**

ZZZ. General Conditions Applicable to the Operation Permit.	
3. Compliance Reports/Records	
a. Limitations/Conditions	**b.** Compliance Demonstration
(1) The permittee shall submit periodic monitoring reports. **[s. NR 407.09(1)(c)3., Wis. Adm. Code]** (2) The permittee shall submit periodic certification of compliance. **[s. NR 407.09(4)(a)3., Wis. Adm. Code]** (3) The records required under this permit shall be retained for at least five (5) years and shall be made available to department personnel upon request during normal business hours. **[ss. NR 439.04 and NR 439.05, Wis. Adm. Code]**	(1) The permittee shall submit a monitoring report which contains the results of monitoring or a summary of monitoring results required by this permit to the West Central Region Headquarters, 1300 W. Clairemont Avenue, Eau Claire, WI 54701 or an alternative address provided by the facility's assigned compliance inspector. (a) The time periods to be addressed by the report are the period from January 1 to December 31. (b) The report shall be submitted to the Department by March 1. (c) All deviations from and violations of applicable requirements shall be

ZZZ. General Conditions Applicable to the Operation Permit.	
3. Compliance Reports/Records	
a. Limitations/Conditions	**b.** Compliance Demonstration
	clearly identified in the report. (d) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. (e) The content of the submittal is described in item D. of Part II of the operation permit and section NR 439.03(1)(b) Wisconsin Administrative Code. **[ss. NR 407.09(1)(c)3. and NR 439.03(1)(b), Wis. Adm. Code]** (2) The permittee shall submit an annual certification of compliance with the requirements of this permit to the Wisconsin Department of Natural Resources West Central Region Headquarters, 1300 W. Clairemont Avenue, Eau Claire, WI 54701 or an alternative address provided by the facility's assigned compliance inspector. (a) The time period to be addressed by the report is January 1 to December 31 of the preceding year. (b) The report shall be submitted to the Wisconsin Department of Natural by March 1 after the reporting period (c) The information included in the report shall comply with the requirements of Part II, Section N of this permit. (d) Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report. **[ss. NR 407.09(4)(a)3. and NR 439.03(1)(c), Wis. Adm. Code]**

Exhibit D

Fugitive Dust Control Plan

Fugitive Dust Control Plan

Hi-Crush Augusta LLC

Augusta, Eau Claire County, Wisconsin

WDNR FID 618102870

January 16, 2017

This Fugitive Dust Control Plan was prepared for and written by:

Hi-Crush Augusta LLC
S11011 County Road M
Augusta, WI 54722
715-286-2079

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1.0 Introduction

Hi-Crush Augusta LLC ("Hi-Crush") has been granted permission by the Wisconsin Department of Natural Resources ("WDNR") to construct a mine and sand processing plant near Augusta in Eau Claire County, Wisconsin. The mine and processing plant at Augusta are regulated as one facility under the air pollution control permit(s) (i.e. construction and/or operation).

This Fugitive Dust Control Plan (the "Plan") has been prepared in accordance with the Wisconsin Administrative Code, Chapters NR 415.04 Control of Fugitive Dust, and NR 415.075(6) Fugitive Dust Control at Industrial Sand Mines, and NR 415.076(2) Fugitive Dust Control at Sand and Gravel Plants. NR 415.075(6) specifically requires Hi-Crush Augusta to prepare and implement procedures (Plan) to prevent particulate matter from becoming airborne.

The Plan addresses Hi-Crush's mining and processing activities of raw material into marketable proppant or fracturing (frac) sand, a product used for production in the oil and gas industry. The primary objectives of this Plan are to identify the specific measures to be taken to prevent fugitive dust and to formulate a strategy for controlling, to the greatest extent practicable, fugitive or airborne dust emissions at Hi-Crush Augusta's mine and plants.

1.1 Site Information

1.1.1 Facility Site Location

The Augusta mine (including the Wet Plant) is located at S11055 County Road M, and the Dry Plant is located at S11011 County Road M, both of which are southeast of Augusta, Wisconsin. The Dry Plant is located at 44° 40' 1.99" N and 91° 06' 2.29" W and the Wet Plant is located at 44° 38' 59.25" N and 91° 05' 43.06" W. Figure 1 shows the property location, including the locations of the Dry Plant and Wet Plant in relation to the City of Augusta. Figure 1 also indicates the location of the sand storage piles at both the Dry Plant and Wet Plant.

1.1.2 Site Contact Information [List of Staff Responsible for Implementation of Plan]

Mr. Jeffery Johnson, or his designee, will be responsible for developing, implementing, and maintaining the Plan. Mr. Johnson is familiar with the management and operations at the mine and plant.

Mr. Jeffery Johnson
Director of Environmental Compliance
Hi-Crush Proppants LLC
Phone: 715-286-2079 x304
Email: jjohnson@hicrush.com

The onsite contact persons for the Augusta facilities are as follows:

Primary Contact
Rob Cox
Plant Manager
Hi-Crush Augusta LLC
Phone: 715-286-2079
rcox@hicrush.com

Secondary Contacts
Dick Reesman
Environmental Compliance Supervisor
Hi-Crush Augusta LLC
715-286-2079
rreesman@hicrush.com

Jake Budish
Environmental Specialist
Hi-Crush Augusta LLC
715-577-0427
jbudish@hicrush.com

In the event that changes occur at the facility that may result in additional fugitive dust emissions and/or the Plan is determined by management or the WDNR not to be adequately addressing or resolving fugitive dust issues, the Plan will be revised and a summary of changes will be drafted by Mr. Johnson and/or his designee and distributed to affected employees.

An on-site fugitive dust observer shall be present whenever the facility is in operation. All staff members will be required to notify the operations (plant) manager of excessive fugitive emissions when observed. This will include a description of the source of the excessive emission. The operations (plant) manager will be responsible for directing dust control measures. The Plan includes the names and contact information for the operations (plant) manager, as well as secondary contacts for when the operations (plant) manager is not available or not on site.

1.2 Process Description

The industrial sand mine will include activities such as overburden removal, excavating, hauling, and material handling. The unconsolidated sand deposit is blasted and an excavator or front end loader loads the sand onto trucks for transport across the mine site to the Wet Plant.

The sand is processed by a crusher and wet screening, and then mixed with water at the Wet Plant, processed, and then transferred to the Dry Plant via a covered conveyor system. A front end loader transports the stockpiled sand to the Dry Plant receiving hoppers. Within the Dry

Plant building, the sand is dried and sorted. Dust generated from these activities is controlled with three Dryer Baghouses (P01 A-C) and two Dryer Building Dust Collector (P02 A&B). Reject material is transferred from the Dry Plant via a covered conveyor to the Wet Plant. Finished product is conveyed to one of four silos where it is stored until ready for shipment. The silos are equipped with bin vent filters (P03 A-D). All silos are positioned directly above the rail loadout tracks and transfer sand vertically to the rail cars, with the exception of the 100-mesh silo, which is located east of the railroad loadout tracks. The processed sand from this silo is conveyed to the rail loadout via a covered conveyer which also contains a belly ban to collect any processed sand that may fall from the underside of the conveyor belt.

Finished sand is transferred to railcars using a "Dust Free" system (F13A-D). This system captures air displaced during the transfer process and passes the air through a telescoping spout fitted with a cartridge filter system (rail loadout) and exhausts back into the loadout structures.

2.0 Fugitive Dust Emission Controls

Fugitive emission sources that may contribute to or generate fugitive dust emissions at Hi-Crush Augusta's facility are presented in the following text along with precautions used to limit fugitive dust emissions.

2.1 Dust Control Precautions- Defined Regulatory Practices

The practices identified in this section are those from regulations with specific identified precautions.

2.1.1 NR 415.04(1)

The precautions included below are already included in PART II of the air pollution control permit. They are included herein for completeness of the Plan.

a. Use, where possible, of water or chemicals approved by the WDNR for control of dust in the demolition of existing buildings or structures, or construction operations.

b. Application of asphalt, water, suitable chemicals or plastic covering on dirt roads, material stockpiles and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.

c. Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled.

d. Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.

e. Conduct agricultural practices such as tilling of land or application of fertilizers in such a manner so as not to create air pollution.

f. The paving or maintenance of roadway areas so as not to create air pollution.

2.1.2 NR 415.075(2)(a) and (b)

The precautions are identified in code, and may already be included in PART I of the air pollution control permit; they shall be included herein for completeness. These precautions are specific to industrial sand mines; the use of any parking lot, road or other area by haul trucks, or any drilling or blasting. The precautions shall be taken to the extent necessary so that any applicable requirements are met. Each of the precautions included in code have been incorporated into the applicable source BMPs provided under Section 2.2.

a. Application of asphalt, water or suitable chemicals on unpaved roads or other areas used by haul trucks which can create airborne dust, provided the application does not create a hydrocarbon, odor, or water pollution problem.

b. Posting and maintenance of a 10 MPH speed limit on paved or unpaved roads or other areas used by haul trucks inside the facility's property line.

c. Covering, treatment or securing of materials likely to become airborne from haul trucks during transport, prior to any transportation off site from the quarry or mine.

d. Use of wet drilling or other means of control approved by the WDNR.

e. The use of blast hole stemming materials that have been approved by the WDNR or the Department of Industry, Labor, and Human Relations.

f. Any precautions proposed by the owner or operator and accepted by the WDNR in a permit or fugitive dust control plan.

g. Use of no precautions where control measures are unnecessary due to site or meteorological conditions.

h. Control fugitive emissions from a road or other area used by haul trucks and from drilling so that visible emissions do not exceed 20% opacity at the source.

2.1.3 NR 415.076(2)

The precautions are identified in code, and may already be included in PART 1 of the air pollution control permit; they shall be included herein for completeness. These precautions are specific to sand and gravel plants; each crusher, screening operation, bucket elevator, belt conveyor or storage bin. The precautions shall be taken to the extent necessary so that any applicable requirements are met and shall include one or more of the following. Each of the precautions included in code have been incorporated into the applicable source BMP's provided under Section 2.2 where necessary.

a. Use, where possible, of water or chemicals approved by the WDNR for control of dust.

b. Installation and use of hoods, enclosures, buildings, fans and air cleaning devices to enclose and vent the areas where materials are handled.

c. The use of spray bars or other wet dust suppression methods.

d. Any precautions proposed by the owner or operator and accepted by the WDNR.

e. Use of no precautions where control measures are unnecessary due to site or meteorological conditions.

2.2 Dust Control Precautions- Site Specific Measures Fugitive Sources: Material Handling, Mining, Truck Receiving, Conveyor/Stacker Transfers, Screen, Crusher, Storage Piles, Unpaved Haul Roads, Rail Loadouts.

2.2.1 Description

The Practices (precautions) identified in this section are those elected by the permittee to satisfy the requirements of NR 415.04(1), and NR 415.075(2)(a)6., Wis. Adm. Code.

2.2.2 Best Management Practices (BMP's)

Each source of potential fugitive dust and associated precautions are identified in the subsections below. Precautions shall be taken to the extent necessary so that any applicable requirements are met and may include one or more of the precautions listed. There will be no use of any precautions listed where control measures are unnecessary due to site or meteorological conditions; such site or meteorological conditions will be documented daily.

2.2.2.1 Unpaved/Paved Haul Roads – Haul and Mine Truck Traffic (F04A, F04B, F10)

a. In non-freezing conditions, the dust on active unpaved/paved haul roads shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. [Form AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]

b. In freezing conditions, the dust on active unpaved/paved haul roads shall be controlled by applications of water amended with non-toxic antifreeze additives approved by the WDNR when the temperature is below 32 degrees Fahrenheit. [Form AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]

c. All paved haul roads shall be swept as needed. [AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]

d. Berms and/or other windbreak methods such as fences and tree lines shall be used surrounding all or parts of the mine where practical.

e. Speed limits within the quarry and haul roads shall be kept to 10 miles per hour or less. Speed limits shall be posted on haul roads.

f. Visible emissions from a road or other area used by haul trucks shall not exceed 20% opacity at the source. Visible emissions shall be documented at least once per day on paved and unpaved haul roads in the mine by a trained observer. [AG-FDCP-002– Daily Wet Plant Fugitive Dust Observations and Precautions]

2.2.2.2 Site Roadways/Plant Yard (non-haul/mine truck trafficways) (F04A, F04B, F10)

a. In non-freezing conditions, the dust on the site roadways/plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. [Form AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]

b. In freezing conditions, the dust on site roadways/plant yard shall be controlled by applications of water amended with non-toxic antifreeze additives approved by the WDNR when the temperature is below 32 degrees Fahrenheit. [Form AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]

c. All paved roadways/plant yards shall be swept as needed. [Form AG-FDCP-100 – Daily Water Truck and Sweeping Dust Control Log]]

d. Any material spillage on roads shall be cleaned up immediately. [Form AG-SRRF-001 – Spill Report and Response Form]

e. Berms and/or other windbreak methods such as fences and tree lines shall be used surrounding all or parts of the facility where practical.

2.2.2.3 Plant (F01, F02A, F02B, F04C, F05A, F05B, F06, F07A, F07B, F07C, F10, F11)

a. The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve.

b. Dry Plant Waste Conveyor (F10) – the conveyor used to transfer reject material from the Dry Plant back to the Wet Plant for reclamation shall be covered.

c. Dry Plant Waste Conveyor (F10):
   - During non-freezing conditions, material shall be maintained wet via wet suppression at exit of dry plant.
   - During freezing conditions, other approved chemicals or water with additives shall be utilized for wet suppression, and/or drop points will be controlled by a mechanical collector, and/or drop points will be enclosed within a structure.

   [Form: AG-FDCP-001 – Daily Dry Plant Fugitive Dust Observation and Precautions Form: AG-AIRC-020 – Daily Method 22-Waste Conveyor Drops]

d. Plant equipment and enclosures shall be inspected on a regular basis (daily, weekly, monthly, or per manufacturers recommendation) for physical integrity. Any equipment or seal leaks shall be repaired as soon as practicable, and not later than 48 hours after being identified. [Form AG-MPAP-001 – Maintenance Record or IFS database]

2.2.2.4 Storage Piles (F03)

a. Stockpiling of all nonmetallic minerals shall be performed with minimal drop distance.

b. Stockpiles shall be watered whenever there is a potential for fugitive dust generation. [Forms: AG-FDCP-001 – Daily Dry Plant Fugitive Dust Observation and Precautions, and AG-FDCP-002 – Daily Wet Plant Fugitive Dust Observation and Precautions]

c. Encrusting agents approved by the WDNR or covering may be used on piles intended for long term storage or inactivity.

2.2.2.5 Truck Operations (F04A, F04B, F12)

a. Vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six inches of the top of any side board, side panel or tail gate. Otherwise, the materials in the haul trucks shall be covered, treated or secured to prevent the escape of materials likely to become airborne during transport, prior to any transportation off site.

b. Spillage of material off-site shall be cleaned up and returned to the facility or properly disposed of. [Form AG-SRRF-001 – Spill Report and Response Form]

2.2.2.6 Rail Loadout (F13)

a. Transfer of sand to railcars shall be done using a "Dust Free" system. This system captures air displaced during the transfer process and passes the air through a telescoping spout fitted with a cartridge filter system and shall exhaust back into the loadout structure.

b. Loadout spouts shall be inspected weekly to ensure spouts are positioned for optimal dust collection while loading (100% capture), free of blockages and functioning properly, and dust collection system is operational. [Form AG-FDCP-103A – Weekly Rail Loadout Spout Inspection]

c. Fugitive dust deposition within the structures shall be cleaned up monthly, and properly disposed of (e.g. mine reclamation). [Form AG-FDCP-103B – Monthly Rail Loadout Cleaning]

2.2.2.7 Drilling & Blasting Activities (F09)

a. All drilling activities will be performed using wet drilling methods or other means to prevent or reduce fugitive emissions. Fugitive emissions from drilling will not exceed 20% opacity at the source.

b. All blasting shall use blast hole stemming materials that have been approved by the WDNR or the Department of Safety and Professional Services.

2.2.2.8 Observations and Inspections

A certified visible emission reader shall make visible emission observations at the facility at least once per day (except as specified in any other section). The results of all observations shall be recorded and maintained at the facility for at least 5 years. [Forms: AG-FDCP-001 – Daily Dry Plant Fugitive Dust Observation and Precautions, AG-FDCP-002 – Daily Wet Plant Fugitive Dust Observation and Precautions]

3.0 List of Equipment, Materials and Spare Parts

The following is a list of equipment onsite or readily obtainable for control and cleanup to reduce fugitive dust.

a. Watering truck
b. Frontend loaders, Skidsteers, Haul Trucks, Rail Dingo (cleaning up spillage)
c. Brooms, Shovels, Wheelbarrows
d. Hydraulic Sweeper
e. Building Sealants
f. Water Application Systems for Conveyor(s)

4.0 Recordkeeping

Records of meteorology data, daily inspections, visible emission observations, equipment repairs, and dust suppressant activities shall be kept daily and maintained on file for at least 5 years, and be made available to the WDNR upon request. The daily fugitive dust control reporting forms and other regular checks shall be dated and signed by the person performing the checks.

Copies of the following records will be maintained at the plant.

- The forms included in Appendix A will be kept by the Environmental Compliance Representative and will include the following:
  - AG-DOR-001 – Daily Operations Report
  - AG-FDCP-001 – Daily Dry Plant Fugitive Dust Observation and Precautions
  - AG-FDCP-002 – Daily Wet Plant Fugitive Dust Observation and Precautions
  - AG-AIRC- 020 – Daily Method 22 – Waste Conveyor Drops
  - AG-FDCP-100 – Daily Water Truck & Sweeping Dust Control Log
  - AG-FDCP-103A – Weekly Rail Loadout Spout Inspection
  - AG-FDCP-103B – Monthly Rail Loadout Cleaning
  - AG-FDCP-900 – Excessive Dust Report and Response Form
  - AG-MPAP-001 –Maintenance Record
  - AG-SRRF-001 – Spill Report and Response Form
- Watering Truck Records: Hi-Crush will maintain watering records. The records will include the number of gallons applied by the water truck, and location(s) applied, when in operation.
- Employee Training Records with the date of training, employee name(s), instructor name(s), and topics covered.
- Other records, such as: yearly throughput of sand mined and processed; and daily fugitive dust suppression activities and meteorological conditions (daily meteorological conditions are recorded on several daily forms).

All records pertaining to the Fugitive Dust Control Plan will be dated and signed by the person performing the checks or maintenance procedures. All records will be available to the WDNR upon request.

5.0 Training

An integral part of the implementation of the Fugitive Dust Control Plan is appropriate training for the personnel involved. Training will be provided for all levels of personnel that have responsibilities related to activities that can generate fugitive dust. The training will cover a subset of the following subjects, as needed, for individual levels of responsibility:

- Employee Responsibilities for Fugitive Dust Control
- Record Keeping and Reporting Requirements
- What Constitutes a Corrective Action
- Maintenance Requirements
- Fugitive Dust Observation/Visible Emissions Training and Certification
- Weather Observations and Data Retrieval
- Location of Information

Hi-Crush will provide training in the areas listed above to new employees as their job function demands. Documentation of all employee training will be maintained by the facility and will include the following:

- Employee name
- Topic of training
- Date of training
- Employee signature indicating understanding of the training.

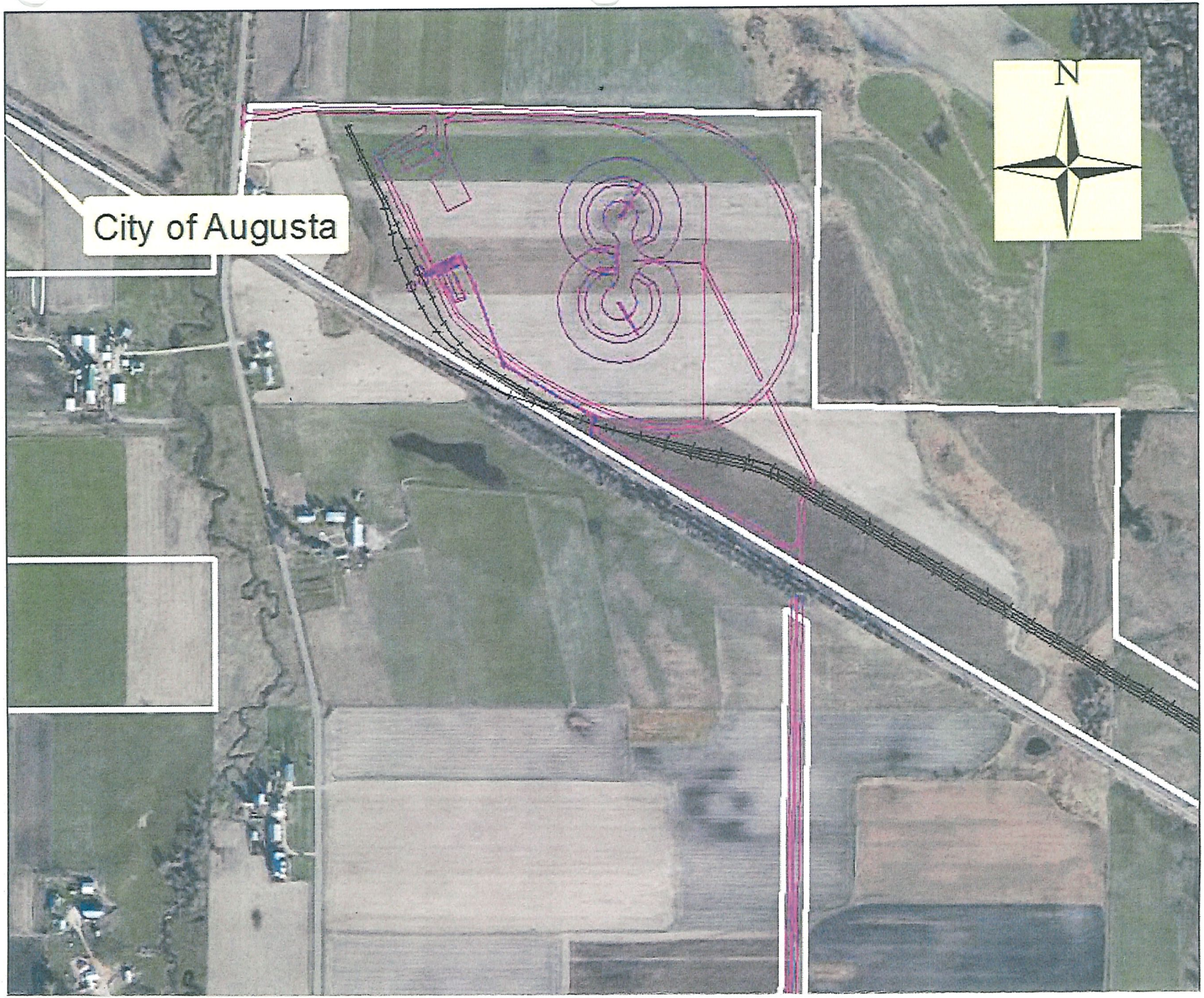
6.0 Plan Review and Revision

The Fugitive Dust Control Plan must be kept at the facility and be reviewed and updated annually or more frequently if a change at the plant creates a need to change the Plan.

The provisions and procedures of this plan are subject to adjustment if following an inspection and written notification, the WDNR finds fugitive dust management practices do not meet requirements and/or permitted emission limits are not being met.

Figures

Figure 1 – Site Location Map, including Wet/Dry Plant Locations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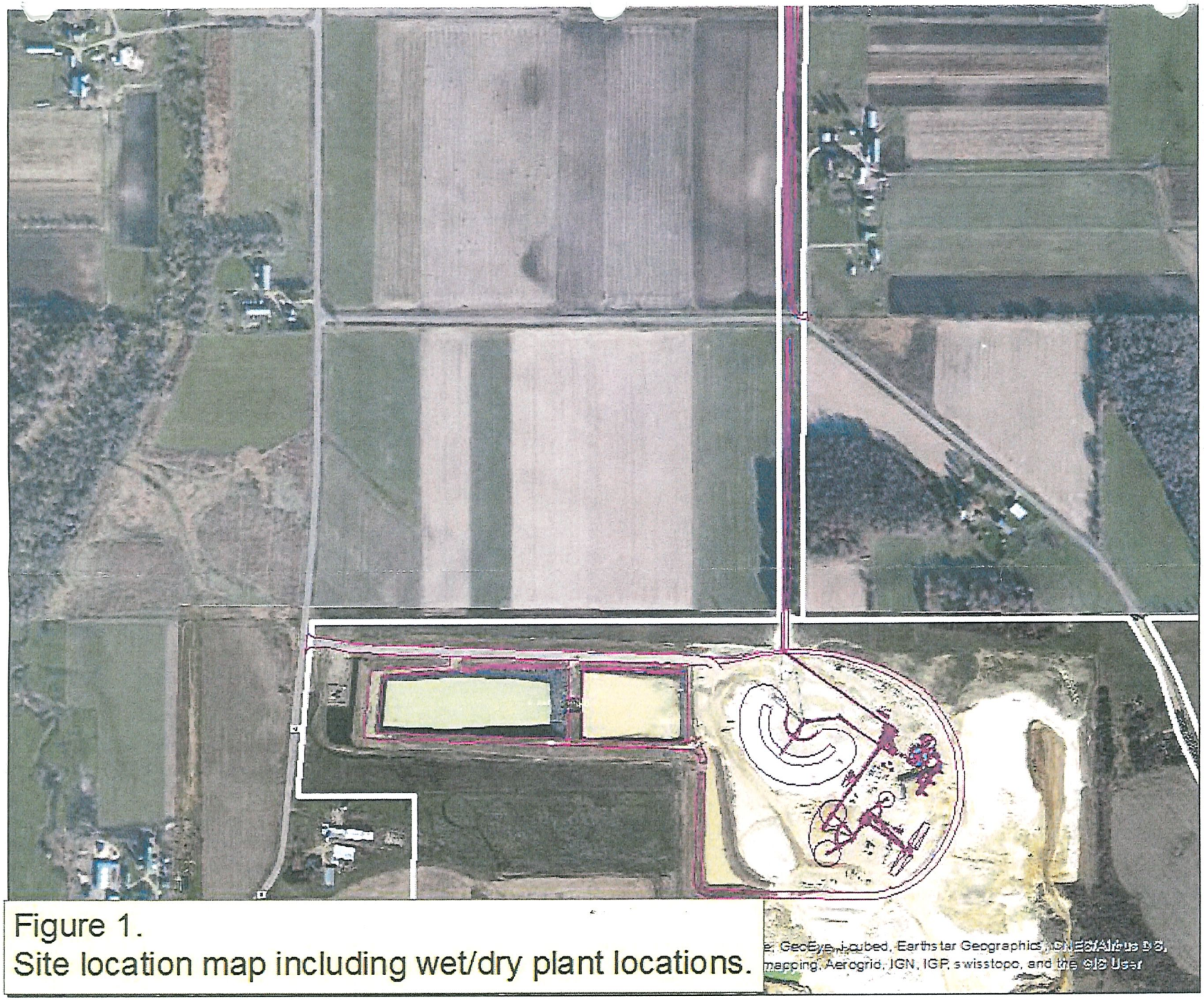

Figure 1.
Site location map including wet/dry plant locations.

Appendix A

Blank Forms

HI CR...H

Hi-Crush Augusta LLC 518102870}

Year: _ ______

DAILY WATER TRUCK & SWEEPING DUST CONTROL LOG

Month: ________________

At minimum, water must be applied to roadways on a daily basis. [Truck Capacity: 3500 Gallons]

Date	Operator's Initials	Paved Roads Swept (Yes/No)	Dry Plant		Wet Plant		Water Truck:	
			Location(s)	# of Loads or Gallons Applied	Location(s)	# of Loads or Gallons Applied	System Inspected for Blockages or Restrictions?	Total Miles Driven
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
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							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	
							Yes ☐ No ☐	

Note: If water was not was not applied due to site/meteorological conditions, write "SITE" or "MET" in '# of Loads or Gallons Applied' cell [reference to forms *XX*-FDCP-001 & -002]

HI CRUSH

Hi-Crush Augusta LLC {FID: 618102870}
Weekly Rail Loadout Inspection

Date: _____

40/70 Loadout Spout [500B] (F13A)

Drop Spout

Inspect the following equipment for damage:

Equipment:	Describe Condition:	Describe any repairs or adjustments:
Outer canvas sleeve		
Exterior lift cables		
Inner metal cone		
Inner cone lift cables		

Dust Collector

Task	Result
Verify compressed air supply is between 90-100 psi	

30/50 Loadout Spout [500A] (F13B)

Drop Spout

Inspect the following equipment for damage:

Equipment:	Describe Condition:	Describe any repairs or adjustments:
Outer canvas sleeve		
Exterior lift cables		
Inner metal cone		
Inner cone lift cables		

Dust Collector

Task	Result
Verify compressed air supply is between 90-100 psi	

20/40 Loadout Spout [510A] (F13C)

Drop Spout

Inspect the following equipment for damage:

Equipment:	Describe Condition:	Describe any repairs or adjustments:
Outer canvas sleeve		
Exterior lift cables		
Inner metal cone		
Inner cone lift cables		

Dust Collector

Task	Result
Verify compressed air supply is between 90-100 psi	

100 MESH Loadout Spout [510D] (F13D)

Drop Spout

Inspect the following equipment for damage:

Equipment:	Describe Condition:	Describe any repairs or adjustments:
Outer canvas sleeve		
Exterior lift cables		
Inner metal cone		
Inner cone lift cables		

Dust Collector

Task	Result
Verify compressed air supply is between 90-100 psi	

Note: Report All Mechanical Issues to Maintenance Immediately

Comments:

Dry Plant Supervisor:	Environmental Specialist:

Hi-Crush Augusta LLC {FID: 618102870}
Monthly Rail Loadout Cleaning

Date: _____

Employee Name: _____

40/70 Loadout Building (F13A)

I certify that I have conducted dust collection & cleaning of buiding interior: Yes _____

Method of collected material disposal, specify: _____

Comments:

30/50 Loadout Building (F13B)

I certify that I have conducted dust collection & cleaning of buiding interior: Yes _____

Method of collected material disposal, specify: _____

Comments:

20/40 Loadout Building (F13C)

I certify that I have conducted dust collection & cleaning of buiding interior: Yes _____

Method of collected material disposal, specify: _____

Comments:

100 MESH Loadout Building (F13D)

I certify that I have conducted dust collection & cleaning of buiding interior: Yes _____

Method of collected material disposal, specify: _____

Comments:

Note: Report All Mechanical Issues to Maintenance Immediately

Dry Plant Supervisor:	Environmental Specialist:

Hi-Crush Augusta LLC {FID: 618102870}

Daily Dry Plant Fugitive Dust Observations & Precautions

Date:	Time: AM | PM
Observer Name (print):	
Weather Conditions:	
Precipitation (last 24 hours):	Temperature (˚F):

Fugitive Dust Control Observations and Actions

Are Visible Emissions Present from any of these Sources? Initials in Yes or No for each area.

ID	Source	Yes *	No	Comments:
F04B	Unpaved Haul Roads			
F04B	Paved Roads			
F03	Raw Material Stockpiles			
F03	Waste Material Stockpiles			
F02C	Wet Conveyors and Drops			
F07B	Jump Conveyors and Drops			
F07A	Telestackers			
F07C	Dryer Feed Hoppers			
F11	Waste Material Hopper			
F10	Waste Conveyors and Drops			

***If Yes, notify your Environmental Compliance contact**

Overland Conveyor (Dry Plant to Wet Plant) Water Application System for Dust Suppression

Are Water Application Systems Operational (water flowing to all nozzles) at these Locations? Initials in Yes or No.

Time	Location	Yes	No *	Comments, and/or Initials:
10:00 AM	BC-840 After Collector			
	Conveyor Bypass Chute			
4:00 PM	BC-840 After Collector			
	Conveyor Bypass Chute			
10:00 PM	BC-840 After Collector			
	Conveyor Bypass Chute			
4:00 AM	BC-840 After Collector			
	Conveyor Bypass Chute			

***If No, notify your Environmental Compliance contact**

Dust Suppression Activities / Comments

Describe everything you have done today to supress or eliminate dust in the dry plant:

Observer Signature: _____

Dry Plant Supervisor Signature: _____

Environmental Compliance Signature: _____

Hi-Crush Augusta LLC {FID: 618102870}

Daily Wet Plant Fugitive Dust Observations & Precautions

Date:	Time: AM | PM
Observer Name (print):	
Weather Conditions:	
Precipitation (last 24 hours):	Temperature (°F):

Fugitive Dust Control Observations and Actions

Are Visible Emissions Present from any of these Sources? Initials in Yes or No for each area.

ID	Source	Yes *	No	Comments:
F04A	Haul Roads			
F01	Truck Receiving Hopper/Feeder			
F05A/B	Crushers			
F06	Screen			
F02B	Conveyors			
F02A	Stackers			
F02C	Outbound Conveyor to Dry Plant			
F03	Stockpiles			

***If Yes, notify your Environmental Compliance contact**

Water Application System for Dust Suppression

Is the BC-800 and BC-850 wet suppression systems operational and/or ready to use? Initials in Yes or No.

System / Status	Yes	No	Inspected by:
BC-800 is ready to use:			
BC-800 is operational:			
BC-850 is ready to use:			
BC-850 is operational:			

Comments:

Dust Suppression Activities / Comments

Describe everything you have done today to supress or eliminate dust in the wet plant:

Observer Signature: _____

Wet Plant Supervisor Signature: _____

Environmental Compliance Signature: _____

Hi-Crush Augusta LLC {FID: 618102870}
Excessive Dust Report and Response Form

Date:	Time: AM | PM
Observer Name (print):	
Location(s) of Fugitive Dust:	

Causal Factors

Corrective Actions Taken to Contain and Remediate the Dust

Measures Taken to Prevent a Recurrence

Signature of Observer:

Signature of Environmental Specialist:

Daily Operations Report

Date:_____

Supervisor AM: Supervisor PM: Operating Hours: Input Moisture:

Input tons BC 90A:	
WB160A:	
WB161A:	
WB162A:	
Input tons BC 90B:	
WB160B:	
WB161B:	
Input tons BC 90C:	
WB160C:	
WB161C:	
WB162C:	

Runtime A
Runtime B
Runtime C

	Input Tons	Silo Levels
20/40		
30/50		
40/70		
50/140		

Natural Gas Usage (Therm) _____

Dry Plant

* All belt conveyors:	Yes	No
1. Tracking properly		
2. Tail pulleys free of buildup		
3. All guards in place		
4. All covers in place		

* Dryer Area	Yes	No
1. Excessive vibration on dryer		
2. Excessive vibration on fans		
3. Smell gas		

* Bucket Elevators	Yes	No
1. Tracking properly		
2. Tail pulleys/shaft clean		
3. All guards in place		
4. Noise from buckets rubbing		
5. Take-ups adjusted properly		

*Compressor	Yes	No
1. Check display for alarms		
2. Check oil level		
3. Air dryer filters in green		
4. Check for air/oil leaks		

*Silos	Yes	No
Silo bin vent filters functional		

Note: Record all Maintenance Activities on the Maintenance Record [AG-MPAP-001]

*Screeners	Yes	No
1. Tracking properly		
2. Brushes not dusting		
3. All guards in place		
4. Wear rings seated properly		
5. Door handles secured		
6. Chutework checked for leaks		

*Loadout	Yes	No
1. Spouts functional		
2. Dust collectors functional		
3. All guards in place		
4. Fall protection check		

*Burner	Yes	No
1. Flame clean (blue)		
2. Sight glasses clean		
3. Hot air escaping from flanges		
4. Ductwork Inspected		

*Building Dust Collector	Yes	No
1. Diaphragms stuck/leaking		
2. Air escaping from flanges		
3. Filter pulse operational		

*Dryer Baghouses	Yes	No
1. Visible emissions		
2. Diaphragms stuck/leaking		
3. Hot air escaping from flanges		

Operations Signature

Plant Manager Signature

Hi-Crush Augusta LLC

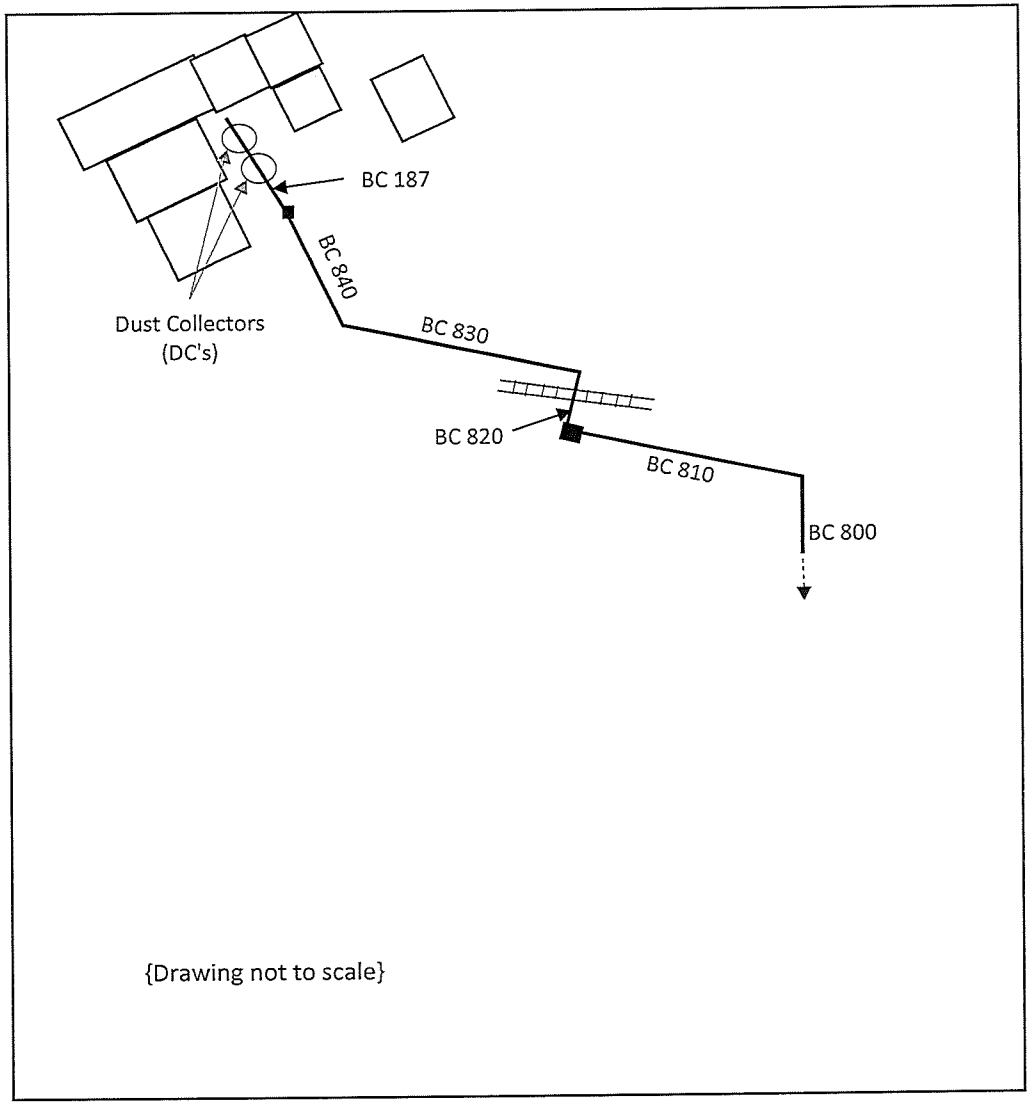
Daily Method 22 Fugitive Emissions Observations -- Waste Sand Return Conveyor - North

Date:	
Observer Name:	
Weather Conditions:	
Wind Speed & Direction:	
For Each Transfer Point Indicate:	
Observer Position:	obs
Sun Position Relative to Observer:	¤
Wind Direction:	→

Each point must be observed for 6 minutes.

Location	Start Time	End Time	Emissions Time
DC's to BC 187			
BC 187 to BC 840			
BC 840 to BC 830			
BC 830 to BC 820			
BC 820 to BC 810			
BC 810 to BC 800			

Comments & Corrective Action



Hi-Crush Augu LC

Daily Method 22 Fugitive Emissions ervations -- Waste Sand Return Conveyor - South

Date:	
Observer Name:	
Weather Conditions:	
Wind Speed & Direction:	

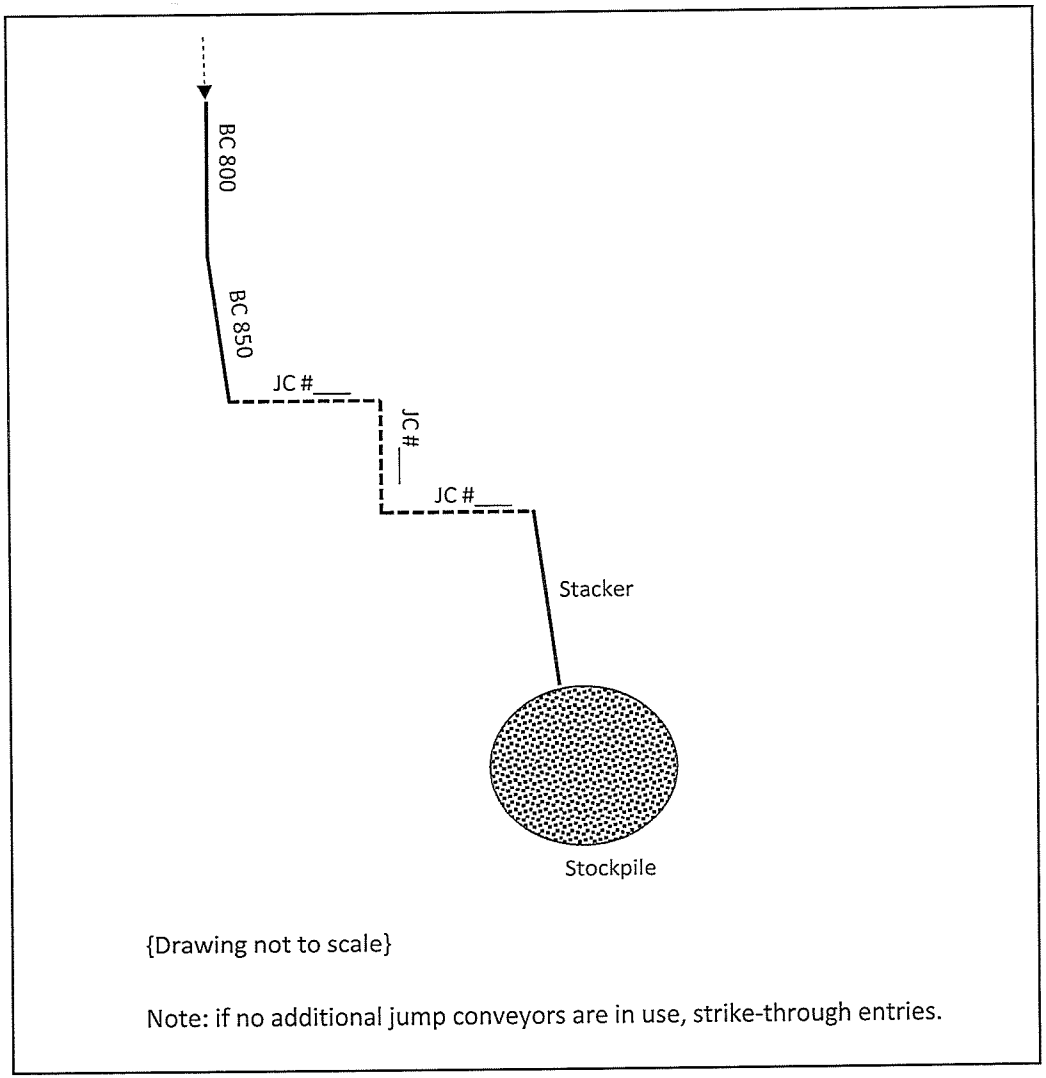
For Each Transfer Point Indicate:

Observer Position:	obs
Sun Position Relative to Observer:	¤
Wind Direction:	→

Each point must be observed for 6 minutes.

Location	Start Time	End Time	Emissions Time
BC 800 to BC 850			
BC 850 to JC #____			
JC #____ to JC #____			
JC #____ to Stacker			
Stacker to stockpile			

Comments & Corrective Action



{Drawing not to scale}

Note: if no additional jump conveyors are in use, strike-through entries.

Observer Signature:
Env. Comp. Signature:

Form AG-AIRC-020

Rev# 2017-01A

DRY PLANT AIR POLLUTION CONTROL EQUIPMENT -- MAINTENANCE RECORD

{NOTE: All maintenance is now tracked in IFS; form is available for field note purposes only.}

Date: _____ Time: _____

Check the Appropriate Process/Component:

Dryer Baghouse

☐ Dryer A (P01A) ☐ Dryer B (P01B)
☐ Dryer C (P01C)

Building Exhaust Dust Collector

☐ Buildings A/B (P02A)
☐ Building C (P02B)

Silo Bin Vent Filter System

☐ 500A (P03B) ☐ 500B (P03A)
☐ 510A (P03C) ☐ 510D (P03D)

Rail Loadout Filter System

☐ 500A (F13B) ☐ 500B (F13A)
☐ 510A (F13C) ☐ 510D (F13D)

Magnehelic/Photohelic Gauge (Location)

☐ _____
_____

Other:

☐ _____
_____

Check the Appropriate Action Box:

☐ Maintenance ☐ Filter Replacement ☐ Bag Replacement
☐ Inspection/Calibration ☐ Other

Scope of Work (Parts Affected, Replaced, or Repaired): _____

_____

_____

_____

Additional Comments: _____

_____

_____

_____

Employee Name: _____

Dry Plant Supervisor Review: _____

Hi-Crush Augusta LLC {FID: 618102870}
Spill Report and Response Form

Date:	**Time:** **AM | PM**
Discovered By / Observer Name (print):	
Location of Spill:	
Material Type and Volume	
Causal Factors	
Corrective Actions Taken to Contain and Remediate the Spill	
Measures Taken to Prevent a Recurrence	
Agencies/Persons Contacted	
Observer Signature: _____	
Environmental Compliance Coordinator: _____	

Exhibit E

Memo RE Section 3.11

HI-CRUSH AUGUSTA LLC

Exhibit E

Variance from Ordinance 17-003, Chapter 10, Nonmetallic Mine Operator's Licenses, Section 10.07, Standard 10.07(2)(j) – Air Monitors

Hi-Crush will receive a variance from the air monitoring specified in section 10.07(2)(j) with respect to setting up and operating an ambient air monitor to monitor the ambient level of airborne particulate matter of all particles equal to or exceeding 2.5 microns in size ($PM_{2.5}$) and Total Suspended Particulates (TSP). The basis for receiving this variance is justified by the following principles for monitoring and known scientific data regarding off-site air quality impacts.

1. Performing ambient air monitoring to compare impacts with the National Ambient Air Quality Standards (NAAQS) requires a minimum of three years of monitoring data to satisfy the proper methodology. Mining activities on this property are projected to occur for no more than twelve months. Conducting ambient air monitoring for this project would only provide one year worth of data; the other two years would capture what would be "background" levels in the area. Mathematically (statistically), regardless of the results from the one year of monitoring during mining activities, the additional two years of monitoring background would almost certainly result in a compliant (attainment) of the NAAQS. Therefore, setting up and operating an ambient air monitoring station would not provide any relevant data in terms of providing an impact analysis off-site; the averaging period across the entire sampling period (3 years) would demonstrate attainment and protection of public health for a pollutant and standard that is not an acute based standard.

2. Hi-Crush Augusta operated an ambient air monitor for monitoring particulate matter of size 10 microns and less (PM_{10}) for a period of three years; commencing November 2012, and ending April 2016. The monitor was situated just west of the dry plant facility, where it would receive potential particulate matter pollution from the entire dry plant operations, and would include truck traffic similar to what would occur in the mining of the subject property. There was not a single recorded exceedance of the PM_{10} standard. There were at least two dates when the wind pattern blew across the dry plant property in the direction towards the monitor, and the dry plant was in full operation. The resulting measured concentration of PM_{10} during those two dates were 30.624 $\mu g/m^3$ and 18.253 $\mu g/m^3$; well below the PM_{10} ambient air standard (150 $\mu g/m^3$). Whereas operations on the subject property would only include extraction and hauling activities that would potentially generate particulate pollution. It is inconceivable that those activities would ever generate more than the entire dry plant, and therefore is highly unlikely impacts would be measured at values greater than 30 $\mu g/m^3$.

3. Scientific literature concludes that health effects from air quality impacts are unlikely, "AIR QUALITY. Health effects from the impact of industrial sand mining on community-level air quality related to PM_{10} are unlikely. In addition, it is unlikely that community members will be exposed to respirable crystalline silica from industrial sand mining as currently regulated; therefore, health effects from exposure are unlikely." {Institute for Wisconsin's Health, Inc. (2016). *Health Impact Assessment of Industrial Sand Mining in Western Wisconsin.* Madison, WI: Boerner, A., Young, N., & Young, D.}

4. Scientific literature concluded that mining activities would not generate PM_4 particulate pollution that would contribute to off-site impacts relative to respirable crystalline silica. According to one scientific study which includes property line ambient monitoring of PM_4 at

multiple industrial sand mining sites, "The geometric mean (GM) respirable crystalline silica concentrations at the fence lines of the frac sand-producing facilities were less than 10% of the 3.0 $\mu g/m^3$ California OEHHA chronic exposure level and were consistent with background concentrations throughout the upper Midwest of the U.S." {Air Control Techniques, P.C., *Assessment of Community Exposure to Ambient Respirable Crystalline Silica near Frac Sand Processing Facilities.* John Richards and Todd Brozell.} Therefore, setting up an operating an ambient air monitor for purposes of monitoring $PM_{2.5}$ particle pollution is unlikely to deliver relevant data for purposes of comparing to the NAAQS; science has already concluded that the mining activities would not be a significant contributor to offsite $PM_{2.5}$ impacts, as $PM_{2.5}$ is a subset of (included within) PM_4.

5. A WDNR policy statement conclude that mining activities would not generate $PM_{2.5}$ particulate pollution or have $PM_{2.5}$ emissions at a level which could result in an NAAQS exceedance. In accordance with WDNR's guidance, "Examination of the current scientific literature concerning particle pollution leads to the conclusion that low temperature industrial sources do not directly emit $PM_{2.5}$ in quantities that have the potential to cause or contribute to a violation of the NAAQS. The $PM_{2.5}$ TSD makes a finding using a weight of evidence approach that direct emissions of $PM_{2.5}$ do not cause or exacerbate a violation of the ambient air quality standards or increment." {State of Wisconsin Correspondence/Memorandum, Kristin Hart, Chief, Air Permits and Stationary Source Modeling Section, *Guidance for Including PM2.5 in Air Pollution Control Permit Applications*, February 22, 2016} Further findings are provided in the WDNR publication, AM-527 2015, *Air Quality Review of Industrial PM2.5 Emissions from Stationary Sources in Wisconsin*, February 2016. Therefore, setting up an operating an ambient air monitor for purposes of monitoring $PM_{2.5}$ particle pollution is unlikely to deliver relevant data for purposes of comparing to the NAAQS; science has already concluded that the mining activities would not be a significant contributor to offsite $PM_{2.5}$ impacts.

Exhibit F

Property Value Guaranty

EXHIBIT F

PROPERTY VALUE GUARANTY

Upon the execution of the attached Agreement ("Effective Date") and until December 31, 2042 ("Termination Date"), Hi-Crush Proppants LLC (hereinafter referred to as Hi-Crush), will provide property value Guaranty ("Guaranty") to the owners of residences, identified on the attached Exhibit F, subject to the following terms and conditions.

A. Determination of Fair Market Value.

1) An owner desiring to sell their residence shall notify Hi-Crush of that at any time during the effective period of this Mining Agreement.

2) The owner and Hi-Crush shall then agree on an appraiser who is licensed as a real estate appraiser in Wisconsin.

3) In the event Hi-Crush and the owner cannot agree on an appraiser, the owner shall select a bank or credit union in Eau Claire County, with whom the owner does not do business, to provide the name of an appraiser it regularly employs to do appraisals.

4) The appraiser selected pursuant to 2) or 3) above shall provide Hi-Crush and the owner with an appraisal of the fair market value of the residence, assuming Hi-Crush's sand mine did not exist ("Fair Market Value").

5) Hi-Crush shall pay for the appraisal.

B. Sale of Property.

1) The owner shall then enter into a listing contract with a Wisconsin licensed real estate broker. The listing contract shall exclude Hi-Crush as a potential buyer so that if Hi-Crush purchases the property, no commission shall be due.

2) Before accepting any offer of less than the Fair Market Value, the owner shall give two (2) business days' notice by fax, email or personal delivery with a copy of the offer to Hi-Crush's agent as designated in Section 3.15. If notice is by fax or e-mail, it shall also require confirmed receipt by Hi-Crush that the notice has been received within two (2) business days. If Hi-Crush objects to the offer in writing within five (5) business days, the owner shall not accept such offer and Hi-Crush will proceed to purchase the residence for Fair Market Value.

3) In the event Hi-Crush does not object as provided in Section B.(2) above and the owner sells the residence for less than the Fair Market Value, Hi-Crush shall pay the owner the difference between the selling price and the Fair Market Value less the realtor's commission that would have been payable on that difference. Hi-Crush shall make the payment within 30 days of the recording of the conveyance of the residence.

4) If the residence is not sold within 180 days of the date of the listing contract, Hi-Crush shall immediately purchase the residence for the Fair Market Value less the realtor's commission that would have been paid if sold under the listing contract.

C. Applicability.

1) The Guaranty shall apply only once for any residence identified in Exhibit F and shall only be available to the property owners as of the Effective Date.

2) Property which is for sale on the Effective Date shall not be eligible for the Guaranty.

3) Properties do not qualify for the Guaranty in the event the property owner wishes to sell or otherwise convey the property to a third-party by a transaction which is not considered an arm's-length transaction (such as a sale or gift to a relative).

Exhibit G

Property Owners and Addresses

EXHIBIT G

LIST OF PROPERTY OWNERS AND ADDRESSES

Amos F. and Fannie M. Borntrager
E22300 Kruger Road

John & Theresa Pettis
S12810 County Road RR

Eli H. & Katie A. Borntreger
E22222 County Road RR

Simon, Levi, Abraham, Lydia & Emma Borntrager
E22316 Kruger Road

Steven G. & Mary E. Kotschi
E22524 Kruger Road

TOWN OF BRIDGE CREEK
Eau Claire County, Wisconsin

By: _____

Name/Title: Town Chairman

State of Wisconsin)
) ss
County of Eau Claire)

Personally came before me this 1st day of August, 2017 the above-named Jeffrey Gerike and _____ to me known to be the Chairperson of the Town of Bridge Creek, and the person who executed the foregoing instrument and acknowledged the same.

_____

Print Name: Richard A. Schaumberg (SEAL)
Notary Public, State of Wisconsin
My Commission ~~expires:~~ permanent.

EXHIBIT LIST

Exhibit A: Property Description / Map

Exhibit B: Map RE Blasting

Exhibit C: WDNR Air Permit

Exhibit D: Fugitive Dust Control Plan

Exhibit E: Memo RE Section 3.11

Exhibit F: Property Value Guaranty

Exhibit G: List of Property Owners and Addresses