

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - REVISED

PERMITTEE

American Colloid Company  
Attn: John Strong  
P.O. Box 160  
Belle Fourche, South Dakota 57717

<u>Application No.:</u> 75060111	<u>I.D. No.:</u> 119040AAT
<u>Applicant's Designation:</u>	<u>Date Received:</u> November 18, 2003
<u>Subject:</u> Sand, Bentonite, and Pulgite Processing	
<u>Date Issued:</u> April 22, 2004	<u>Expiration Date:</u> June 26, 2007
<u>Location:</u> 1601 Walnut Street, Granite City	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of sand, bentonite, and pulgite processing with receiving, enclosed internal transfer, sand dryer and cooler, sand, bentonite, and pulgite storage tanks, screens, aspirators, bagging lines, jug lines, sand load out, particulate load out, cyclones and baghouses pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., PM<sub>10</sub> to less than 100 tons per year). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity that is visible by an observer looking generally toward the zenith (that is, looking at the sky directly overhead) from a point beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
  - b. No person shall cause or allow the emission of fugitive particulate matter emissions from any source to exceed an opacity of 20%, pursuant to 35 Ill. Adm. Code 212.316(f).
  - c. The Permittee shall maintain a fugitive dust operating program, include the following:
    - i. The name and address of the source;
    - ii. The name and address of the owner or operator responsible for execution of the operating program;
    - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;

- iv. Location of unloading and transporting operations with pollution control equipment;
  - v. A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
  - vi. Estimated frequency of application of dust suppressants by location of materials; and
  - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- d. The fugitive dust operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with Subpart and shall be submitted to the Illinois EPA for its review.
- e. The PM<sub>10</sub> emissions from particulate collection equipment for material transfer shall not exceed 0.03 gr/dscf, pursuant to 35 Ill. Adm. Code 212.313.
- f. No person shall cause or allow fugitive particulate matter emissions from any roadway or parking area to exceed an opacity of 10 percent, pursuant to 35 Ill. Adm. Code 212.316(c).
- g. The Permittee shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations, and shall submit to the Illinois EPA an annual report containing a summary of such information. The records shall include at least the following:
- i. The name and address of the source;
  - ii. The name and address of the owner and/or operator of the source;
  - iii. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;
  - iv. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical.
  - v. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent and, if diluted, percent of concentration, used each day; and

- vi. A log recording incidents when control measures were not used and a statement of explanation.

Copies of all records required above shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records.

- h. A quarterly report shall be submitted to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of this Section. This report shall be submitted to the Illinois EPA thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31.
- i. The rotary dryer and cooler PM<sub>10</sub> emissions shall not exceed 0.03 gr/scf during any one hour period, pursuant to 35 Ill. Adm. Code 212.324(b).
- j. The Permittee shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in 35 Ill. Adm. Code 212.324 shall be met at all times. Proper maintenance shall include the following minimum requirements:
  - i. Visual inspection of air pollution control equipment;
  - ii. Maintenance of an adequate inventory of spare parts; and
  - iii. Expeditious repairs, unless the source is shutdown.
- k. The Permittee shall fulfill recordkeeping of maintenance and repair requirements, pursuant to 35 Ill. Adm. Code 212.324(g).
- l. The facility shall be inspected for presence of visible emissions from internal transfer while internal transfer is occurring, at least once each week (Monday through Sunday) when internal transfer is performed.
- 3a. The amount of material handled by the facility shall not exceed the following limits. Compliance with these annual limits shall be determined on a monthly basis from a running total of monthly data, that is, the total of the amount of material for the month and the preceding eleven months.
  - i. The amount of sand received shall not exceed 24,000 tons per year.
  - ii. The amount of bentonite received shall not exceed 82,800 tons per year.
  - iii. The amount of pulgite received shall not exceed 3,600 tons per year.
- b. Natural gas shall be the only fuel fired at the plant.

- 4a. The Permittee shall maintain records of the following items for the facility:
  - i. The operating pressure drop across each baghouse, excluding bin vent filters, during normal plant operating conditions, at least once a day. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's specifications.
  - ii. The performance of the dust control systems shall be inspected for proper operation during normal plant operating conditions, at least once each week, with date, time and observations. This inspection shall confirm the proper operation of all enclosure's, dust collection systems, cyclones, and baghouses.
- b. The Permittee shall maintain monthly records of the following items for the facility:
  - i. Total sand, bentonite, and pulgite received, tons/month and ton/year (running total); and
  - ii. Natural gas usage for the plant (therms/month and therms/year).
- c. The Permittee shall maintain records for any deviation or exceedance from the requirements of this permit, as determined by the above records or by other means, with date, time, duration, description, corrective action, and measure to prevent future reoccurrence.
5. The Permittee shall maintain records of any repairs or maintenance to the facility as related to emissions of particulate matter including repairs to the dust control system, repairs to dryer enclosure or sheeting, and repair to enclosure on internal transfer, with date and description of activity.
6. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
7. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
8. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include

the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

9. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234

10. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Materials received of sand, bentonite, and pulgite (ton/year).

Please note that this permit is revised to increase sand throughput without a significant increase in particulate matter-10 emissions to the atmosphere.

If you have any questions on this, please call John Blazis at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:JPB:jar

cc: Illinois EPA, FOS Region 3  
Illinois EPA, Compliance Section  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from this processing plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, i.e., 100 tons per year of PM<sub>10</sub> at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

Particulate Matter Emissions Sand Processing

<u>Activity</u>	<u>Annual Throughput (Tons/Year)</u>	<u>Control Efficiency (%)</u>	<u>Factor (Lb/Ton)</u>	<u>Emissions (Ton/Yr)</u>
Truck Unloading	24,000	80	0.24	0.58
Loading Elevator	24,000	80	0.24	0.58
Elevator to Conveyor Transfer	24,000	95	0.026	0.02
Conveyor to Dryer Transfer	24,000	95	0.026	0.02
Rotary Dryer	24,000	98	65	15.60
Dryer to Elevator Transfer	21,600	95	0.026	0.01
Cooler	21,600	98	65	7.02
Sand Screen	21,600	90	0.3	0.32
Bulk Bagging Oversize Sand	1,455	80	0.24	0.03
Truck Load Out Oversize Sand	1,455	0	0.24	0.17
Elevator and Transfer	18,691	90	0.026	0.02
Transfer to Tank 1	6,231	90	0.026	0.01
Transfer to Tank 2	6,231	90	0.026	0.01
Transfer to Tank 3	6,231	90	0.026	0.01
Transfer from Tank 1	6,231	90	0.026	0.01
Transfer from Tank 2	6,231	90	0.026	0.01
Transfer from Tank 3	6,231	90	0.026	0.01
Packer, Bagging Station(s)	864	80	0.3	0.03
Sand Load Out (Truck or Rail)	17,827	30	0.029	0.18
			PM	<u>24.63 T/Yr</u>

Particulate Matter Emissions Pulgite Processing

<u>Activity</u>	<u>Annual Throughput (Tons/Year)</u>	<u>Control Efficiency (%)</u>	<u>Factor (Lb/Ton)</u>	<u>Emissions (Ton/Yr)</u>
Rail Unloading	3,600	95	0.02	0.00
Transfer to Elevator	3,600	95	0.026	0.00
Elevator to Tank 4	3,600	95	0.026	0.00
Conveyor to System 2 Elevator from Tanks 3, 4, and 5	3,600	95	0.026	0.00
Hi-Roller Conveyor H1 from System 2 Elevator	3,600	95	0.026	0.00
Screen 2	3,600	95	12	1.08
Aspirator 1 from Screen 2	3,600	98	12	0.43
Jug Line 1 from Aspirator 1	3,600	98	12	0.43
Particulate Collected Load Out Tank 6	21	95	12	0.01
Particulate Collected Load Out Tank 7	12	95	12	0.00
			PM	<u>1.95</u>

Particulate Matter Emissions Bentonite Processing

<u>Activity</u>	<u>Annual Throughput (Tons/Year)</u>	<u>Control Efficiency (%)</u>	<u>Factor (Lb/Ton)</u>	<u>Emissions (Ton/Yr)</u>
Rail Unloading	82,800	95	0.02	0.04
Transfer to Elevator	82,800	95	0.026	0.05
Transfer to Tank 1	16,560	95	0.026	0.01
Transfer to Tank 2	16,560	95	0.026	0.01
Transfer to Tank 3	16,560	95	0.026	0.01
Transfer to Tank 4	16,560	95	0.026	0.01
Transfer to Tank 5	16,560	95	0.026	0.01
Conveyor to System 1 Elevator from Tanks 1 and 2	33,120	95	0.026	0.02
Conveyor to System 2 Elevator from Tanks 3, 4, and 5	49,680	95	0.026	0.03
Hi-Roller Conveyor H2 from System 1 Elevator	33,120	95	0.026	0.02
Hi-Roller Conveyor H1 from System 2 Elevator	49,680	95	0.026	0.03
Screen 1	33,120	95	12	9.94
Screen 2	49,680	95	12	14.90
Aspirator 1 from Screen 2	24,840	98	12	2.98
Aspirator 2 from Screen 1	33,120	98	12	3.97
Aspirator 3 from Screen 2	24,840	98	12	2.98
Jug Line 1 from Aspirator 1	19,872	98	12	2.38
Jug Line 2 from Aspirator 2	33,120	98	12	3.97
Jug Line 3 from Aspirator 3	24,840	98	12	2.98
Bagging Line 4 from Aspirator 1	4,968	98	12	0.60
Particulate Collected Load Out Tank 6	487	95	12	0.15
Particulate Collected Load Out Tank 7	278	95	12	0.08
				<u>45.17</u>

Total Particulate Matter Emissions

71.75 Tons Per Year

The above particulate matter emission tables define the potential emissions of emission factors in lb/ton are standard emission factors.

COMBUSTION EMISSIONS  
Natural Gas Annual Fuel Usage

<u>Activity</u>		<u>Therms</u>	<u>Factor (Lb/Therm)</u>	<u>Emissions</u>	
				<u>(Lb/Year)</u>	<u>(Ton/Year)</u>
Sand Drying	Nitrogen Oxides	307,000	0.01	3,070.0	1.54
	Carbon Monoxide	307,000	0.0084	2,579	1.29
	Volatile Organic Material	307,000	0.0008	245.6	0.12
Space Heaters	Nitrogen Oxides	54,000	0.01	540.0	0.27
	Carbon Monoxide	54,000	0.0084	453.6	0.23
	Volatile Organic Material	54,000	0.0008	43.2	0.02

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