217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -– RENEWAL

PERMITTEE

AMCOL International/American Colloid Company
Attn: Van Coats, Plant Manager
1601 Walnut Street
Granite City, Illinois 62040

Application No.: 75060111 I.D. No.: 119040AAT
Applicant's Designation: Date Received: January 18, 2013
Subject: Sand and Bentonite Processing
Date Issued: August 2, 2013 Expiration Date: August 2, 2023
Location: 1601 Walnut Street, Granite City, Madison County

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, 3.5 mmBtu/hour natural gas-fired sand dryer and cooler; sand, bentonite, and pulgite storage tanks, screens, aspirators, bulk bag breaker feed hopper, bagging lines, jug lines, sand load out, particulate load out, cyclones and baghouses, and natural gas-fired space heaters 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., 100 tons/year for Particulate Matter less than 10 microns (PM_{10}), 10 tons/year for any single Hazardous Air Pollutant (HAP) and 25 tons/year for any combination of such HAPs). 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 permit(s) for this location.

2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122.

b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a

305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

c. Pursuant to 35 Ill. Adm. Code 212.301, 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 at a point beyond the property line of the source.

d. Pursuant to 35 Ill. Adm. Code 212.313, if particulate collection equipment is operated pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 212.312, emissions from such equipment shall not exceed 68 mg/dscm (0.03 gr/dscf).

e. Pursuant to 35 Ill. Adm. Code 212.316(b), no person shall cause or allow fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal to exceed an opacity of 10 percent.

f. Pursuant to 35 Ill. Adm. Code 212.316(c), no person shall cause or allow fugitive particulate matter emissions from any roadway or parking area to exceed an opacity of 10 percent.

g. Pursuant to 35 Ill. Adm. Code 212.316(f), unless an emission unit has been assigned a particulate matter, PM_{10}, or fugitive particulate matter emissions limitation elsewhere in 35 Ill. Adm. Code 212.316 or in 35 Ill. Adm. Code 212 Subparts R or S, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

h. Pursuant to 35 Ill. Adm. Code 212.321(a), except as further provided in 35 Ill. Adm. Code Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).

i. Pursuant to 35 Ill. Adm. Code 212.324(b), except as otherwise provided in 35 Ill. Adm. Code 212.324, no person shall cause or allow the emission into the atmosphere, of PM_{10} from any process emission unit to exceed 68.7 mg/scm (0.03 gr/scf) during any one hour period.

j. Pursuant to 35 Ill. Adm. Code 212.700(a), 35 Ill. Adm. Code 212 Subpart U (Additional Control Measures) shall apply to those sources in the areas designated in and subject to 35 Ill. Adm. Code 212.324(a)(1) or 212.423(a) and that have actual annual source-wide emissions of PM_{10} of at least fifteen (15) tons per year.

3. Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

4. This permit is issued based on the source not being subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Area Sources: Chromium Compounds, 40 CFR 63 Subpart NNNNNN because the source does not use chromite ore as the basic feedstock to manufacture chromium compounds, primarily sodium dichromate, chromic acid, and chromic oxide.

5a. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hour (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.

b. Pursuant to 35 Ill. Adm. Code 212.324(d), the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c) shall not apply to those emission units with no visible emissions other than fugitive particulate matter; however, if a stack test is performed, this subsection is not a defense finding of a violation of the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c).

6a. Pursuant to 35 Ill. Adm. Code 212.305, all conveyor loading operations to storage piles specified in 35 Ill. Adm. Code 212.304 shall utilize spray systems, telescopic chutes, stone ladders or other equivalent methods in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.

b. Pursuant to 35 Ill. Adm. Code 212.306, all normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.

c. Pursuant to 35 Ill. Adm. Code 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.

d. Pursuant to 35 Ill. Adm. Code 212.308, crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program.

e. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.

f. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall 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 35 Ill. Adm. Code 212 Subpart K, 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.

g. Pursuant to 35 Ill. Adm. Code 212.312, the operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 Ill. Adm. Code 212 Subpart K and shall be submitted to the Illinois EPA for its review.

h. Pursuant to 35 Ill. Adm. Code 212.324(f), for any process emission unit subject to 35 Ill. Adm. Code 212.324(a), the owner or operator shall maintain and repair all air pollution control equipment in a manner

that assures that the emission limits and standards in this 35 Ill. Adm. Code 212.324 shall be met at all times. 35 Ill. Adm. Code 212.324 shall not affect the applicability of 35 Ill. Adm. Code 201.149. Proper maintenance shall include the following minimum requirements:

i. Visual inspections of air pollution control equipment;

ii. Maintenance of an adequate inventory of spare parts; and

iii. Expeditious repairs, unless the emission unit is shutdown.

i. Pursuant to 35 Ill. Adm. Code 212.701(a), those sources subject to 35 Ill. Adm. Code 212 Subpart U shall prepare contingency measure plans reflecting the PM_{10} emission reductions set forth in 35 Ill. Adm. Code 212.703. These plans shall become federally enforceable permit conditions. Such plans shall be submitted to the Illinois EPA by November 15, 1994. Notwithstanding the foregoing, sources that become subject to the provisions of 35 Ill. Adm. Code 212 Subpart U after July 1, 1994, shall submit a contingency measure plan to the Illinois EPA for review and approval within ninety (90) days after the date such source or sources became subject to the provisions of 35 Ill. Adm. Code 212 Subpart U or by November 15, 1994, whichever is later. The Illinois EPA shall notify those sources requiring contingency measure plans, based on the Illinois EPA's current information; however, the Illinois EPA's failure to notify any source of its requirement to submit contingency measure plans shall not be a defense to a violation of 35 Ill. Adm. Code 212 Subpart U and shall not relieve the source of its obligation to timely submit a contingency measure plan.

j. Pursuant to 35 Ill. Adm. Code 212.703(a), all sources subject to 35 Ill. Adm. Code 212 Subpart U shall submit a contingency measure plan. The contingency measure plan shall contain two levels of control measures:

i. Level I measures are measures that will reduce total actual annual source-wide fugitive emissions of PM_{10} subject to control under 35 Ill. Adm. Code 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 by at least 15%.

ii. Level II measures are measures that will reduce total actual annual source-wide fugitive emissions of PM_{10} subject to control under 35 Ill. Adm. Code 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 by at least 25%.

k. Pursuant to 35 Ill. Adm. Code 212.703(b), a source may comply with 35 Ill. Adm. Code 212 Subpart U through an alternative compliance plan that provides for reductions in emissions equal to the level of reduction of fugitive emissions as required at 35 Ill. Adm. Code 212.703(a) and which has been approved by the Illinois EPA and USEPA as federally enforceable permit conditions. If a source elects to include controls on process emission units, fuel combustion emission units, or other fugitive emissions of PM_{10} not subject to 35 Ill. Adm. Code

212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 at the source in its alternative control plan, the plan must include a reasonable schedule for implementation of such controls, not to exceed two (2) years. This implementation schedule is subject to Illinois EPA review and approval.

l. Pursuant to 35 Ill. Adm. Code 212.704(b), if there is a violation of the ambient air quality standard for PM_{10} as determined in accordance with 40 CFR Part 50, Appendix K, the Illinois EPA shall notify the source or sources the Illinois EPA has identified as likely to be causing or contributing to one or more of the exceedences leading to such violation, and such source or sources shall implement Level I or Level II measures, as determined pursuant to 35 Ill. Adm. Code 212.704(e). The source or sources so identified shall implement such measures corresponding to fugitive emissions within ninety (90) days after receipt of a notification and shall implement such measures corresponding to any nonfugitive emissions according to the approved schedule set forth in such source's alternative control plan. Any source identified as causing or contributing to a violation of the ambient air quality standard for PM_{10} may appeal any finding of culpability by the Illinois EPA to the Illinois Pollution Control Board pursuant to 35 Ill. Adm. Code 106 Subpart J.

m. Pursuant to 35 Ill. Adm. Code 212.704(e), the Illinois EPA shall require that sources comply with the Level I or Level II measures of their contingency measure plans, pursuant 35 Ill. Adm. Code 212.704(b), as follows:

i. Level I measures shall be required when the design value of a violation of the 24-hour ambient air quality standard, as computed pursuant to 40 CFR 50, Appendix K, is less than or equal to 170 ug/m^3.

ii. Level II measures shall be required when the design value of a violation of the 24-hour ambient air quality standard, as computed pursuant to 40 CFR 50, Appendix K, exceeds 170 ug/m^3.

7a. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the cyclones and baghouses such that the cyclones and baghouses are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.

b. The sand dryers and space heaters shall only be operated with natural gas-fired as the fuel. The use of any other fuel in the sand dryer or space heaters requires that the Permittee first obtain a construction permit from the Illinois EPA.

8a. Operation and Emissions of particulate matter from sand unloading, drying, screening, cooling, transferring, bagging, and loading shall not exceed the following limits:

i. The amount of sand received shall not exceed 4,200 tons/month and 42,000 tons per year.

ii. Emissions of Particulate Matter (PM) shall not exceed the following limits:

Activity	Sand Throughput (T/Mo)	Sand Throughput (T/Yr)	Emission Factor (lb/Ton)	Control Factor (%)	PM Emissions (T/Mo)	PM Emissions (T/Yr)
Truck Unloading	4,200	42,000	0.24	80	0.1	1.01
Loading Elevator	4,200	42,000	0.24	80	0.1	1.01
Elevator to Conveyor Transfer	4,200	42,000	0.06	95	0.01	0.06
Conveyor To Dryer Transfer	4,200	42,000	0.06	95	0.01	0.06
Rotary Dryer	4,200	42,000	65.00	99	1.37	13.65
Dryer To Elevator Transfer	4,200	42,000	0.06	95	0.01	0.06
Cooler	4,200	42,000	65.00	99	1.37	13.65
Sand Screen	4,200	42,000	0.31	90	0.07	0.65
Bag Breaker-Feed Hopper	4,200	42,000	0.31	90	0.06	0.65
Bulk Bagging Oversize Sand	255	2,545	0.24	80	0.01	0.06
Truck Load Out Oversize Sand	255	2,545	0.24	0	0.01	0.06
Elevator & Transfer	3,691	36,909	0.06	90	0.01	0.11
Transfer To & From Tanks 1, 2, 3 & 4	3,691	36,909	0.06	99	0.01	0.01
Packer, Bagging Station(s)	133	1,329	0.30	80	0.01	0.04
Sand Load Out (Truck or Rail)	3,558	35,580	0.06	30	0.08	0.75
					Total	31.83

iii. Emissions of Particulate Matter less than 10 microns (PM_{10}) shall not exceed the following limits:

Activity	Sand Throughput (T/Mo)	Sand Throughput (T/Yr	Emission Factor (lb/Ton)	Control Factor (%)	PM_{10} Emissions (T/Mo)	PM_{10} Emissions (T/Yr)
Truck Unloading	4,200	42,000	0.002	0	0.01	0.04
Loading Elevator	4,200	42,000	0.06	80	0.025	0.25
Elevator to Conveyor Transfer	4,200	42,000	0.06	95	0.01	0.06
Conveyor To Dryer Transfer	4,200	42,000	0.06	95	0.01	0.06
Rotary Dryer	4,200	42,000	12.00	99	0.25	2.52
Dryer To Elevator Transfer	4,200	42,000	0.06	95	0.01	0.06
Cooler	4,200	42,000	0.31	99	0.01	0.07
Sand Screen	4,200	42,000	0.31	90	0.07	0.65
Bag Breaker-Feed Hopper	4,200	42,000	0.31	90	0.06	0.65
Bulk Bagging Oversize Sand	255	2,545	0.06	80	0.01	0.02
Truck Load Out Oversize Sand	255	2,545	0.06	0	0.01	0.08

Activity	Sand Throughput (T/Mo)	Sand Throughput (T/Yr)	Emission Factor (lb/Ton)	Control Factor (%)	PM_{10} Emissions (T/Mo)	PM_{10} Emissions (T/Yr)
Elevator & Transfer	3,691	36,909	0.06	90	0.01	0.11
Transfer To & From Tanks 1, 2, 3 & 4	3,691	36,909	0.06	99	0.01	0.01
Packer, Bagging Station(s)	133	1,329	0.06	80	0.01	0.01
Sand Load Out (Truck or Rail)	3,558	35,580	0.06	30	0.08	0.75
					Totals	5.34

These limits are based on the maximum sand throughput of 42,000 tons/year and standard emission factors for metallic mineral processing, low moisture Ore (Table 11-24-2, AP-42, Fifth Edition, Volume I, August 1982 and Section 13.2.4, AP-42, Fifth Edition, Volume I, November 2006). Control efficiency for baghouse controlled equipment is 99%.

iv. Emissions of chromium compound from sand unloading, drying, screening, cooling, transferring, bagging, and loading shall not exceed the following limits:

Emission Unit	Sand Throughput (T/Mo)	Sand Throughput (T/Yr)	Emission Factor (lb/Ton)	Control Factor (%)	Chromium Compound Emissions (T/Mo)	Chromium Compound Emissions (T/Yr)
Truck Unloading	4,200	42,000	0.0557	80	0.02	0.23
Loading Elevator	4,200	42,000	0.0557	80	0.02	0.23
Elevator to Conveyor Transfer	4,200	42,000	0.0557	95	0.01	0.06
Conveyor To Dryer Transfer	4,200	42,000	0.0557	95	0.01	0.06
Rotary Dryer	4,200	42,000	9.1369	99	0.19	1.92
Dryer To Elevator Transfer	4,200	42,000	0.0557	95	0.01	0.06
Cooler	4,200	42,000	1.0483	99	0.02	0.23
Sand Screen	4,200	42,000	1.1131	90	0.23	2.34
Bag Breaker-Feed Hopper	4,200	42,000	0.0557	90	0.01	0.12
Bulk Bagging Oversize Sand	255	2,545	0.0557	80	0.01	0.01
Truck Load Out Oversize Sand	255	2,545	0.0557	0	0.01	0.07
Elevator & Transfer	3,691	36,909	0.0557	90	0.01	0.10
Transfer To & From Tanks 1, 2, 3 & 4	3,691	36,909	0.0557	99	0.01	0.01
Packer, Bagging Station	133	1,329	0.0557	80	0.01	0.01
Sand Load Out (Truck or Rail)	3,558	35,580	0.0557	30	0.07	0.69
					Totals	6.14

These limits are based on the maximum sand throughput of 42,000 tons/year and standard emission factors for metallic mineral processing (Table 11-24-2, AP-42, Fifth Edition, Volume I, August 1982), low moisture Ore, and the percentage of Chromium compound in the sand (46.38% by weight).

b. Operation of and emissions from bentonite unloading, drying, screening, cooling, transferring, bagging, and loading shall not exceed the following limits:

i. The amount of bentonite received shall not exceed 8,280 tons/month and 82,800 tons per year.

ii. Emissions of Particulate Matter (PM) shall not exceed the following limits:

Activity	Throughput (T/Mo)	Throughput (T/Yr)	Control Efficiency (%)	Emission Factor (lb/Ton)	PM and PM_{10} Emissions (T/Mo)	PM and PM_{10} Emissions (T/Yr)
Rail Unloading	8,280	82,800	95	0.02	0.01	0.04
Transfer to Elevator	8,280	82,800	95	0.026	0.01	0.05
Transfer to Tank 1	1,656	16,560	95	0.026	0.01	0.01
Transfer to Tank 2	1,656	16,560	95	0.026	0.01	0.01
Transfer to Tank 3	1,656	16,560	95	0.026	0.01	0.01
Transfer to Tank 4	1,656	16,560	95	0.026	0.01	0.01
Transfer to Tank 5	1,656	16,560	95	0.026	0.01	0.01
Conveyor to System 1 Elevator from Tanks 1 and 2	3,312	33,120	95	0.026	0.01	0.02
Conveyor to System 2 Elevator from Tanks 3, 4, and 5	4,968	49,680	95	0.026	0.01	0.03
Hi-Roller Conveyor H2 from System 1 Elevator	3,312	33,120	95	0.026	0.01	0.02
Hi-Roller Conveyor H1 from System 2 Elevator	4,968	49,680	95	0.026	0.01	0.03
Screen 1	3,312	33,120	95	12.00	1.00	9.94
Screen 2	4,968	49,680	95	12.00	1.49	14.90
Aspirator 1 from Screen 2	2,484	24,840	98	12.00	0.30	2.98
Aspirator 2 from Screen 1	3,312	33,120	98	12.00	0.40	3.97
Aspirator 3 from Screen 2	2,484	24,840	98	12.00	0.30	2.98
Jug Line 1 from Aspirator 1	1,987	19,872	98	12.00	0.24	2.38
Jug Line 2 from Aspirator 2	3,312	33,120	98	12.00	0.40	3.97
Jug Line 3 from Aspirator 3	2,484	24,840	98	12.00	0.30	2.98
Bagging Line 4 from Aspirator 1	497	4,968	98	12.00	0.06	0.60
Particulate Collected Load Out Tank 6	49	487	95	12.00	0.02	0.15

Activity	Throughput (T/Mo)	Throughput (T/Yr)	Control Efficiency (%)	Emission Factor (lb/Ton)	PM and PM_{10} Emissions (T/Mo)	PM and PM_{10} Emissions (T/Yr)
Particulate Collected Load Out Tank 7	28	278	95	12.00	0.01	0.08
						45.17

These limits are based on the maximum sand throughput of 42,000 tons/year and standard emission factors for metallic mineral processing, low moisture Ore (Table 11-24-2, AP-42, Fifth Edition, Volume I, August 1982 and Section 13.2.4, AP-42, Fifth Edition, Volume I, November 2006). Control efficiency for baghouse controlled equipment is 99%.

c. Operation of and emissions from pulgite unloading, drying, screening, cooling, transferring, bagging, and loading shall not exceed the following limits:

i. The amount of pulgite received shall not exceed 360 tons/month and 3,600 tons per year.

ii. Emissions of Particulate Matter (PM) shall not exceed the following limits:

Activity	Throughput (T/Mo)	Throughput (T/Yr)	Control Efficiency (%)	Emission Factor (lb/Ton)	PM and PM_{10} Emissions (T/Mo)	PM and PM_{10} Emissions (Ton/Yr)
Rail Unloading	360	3,600	95	0.02	0.01	0.01
Transfer to Elevator	360	3,600	95	0.026	0.01	0.01
Elevator to Tank 4	360	3,600	95	0.026	0.01	0.01
Conveyor to System 2 Elevator from Tanks 3, 4, and 5	360	3,600	95	0.026	0.01	0.01
Hi-Roller Conveyor H1 from System 2 Elevator	360	3,600	95	0.026	0.01	0.01
Screen 2	360	3,600	95	12.00	0.11	1.08
Aspirator 1 from Screen 2	360	3,600	98	12.00	0.04	0.43
Jug Line 1 from Aspirator 1	360	3,600	98	12.00	0.04	0.43
Particulate Collected Load Out Tank 6	2.1	21	95	12.00	0.01	0.01
Particulate Collected Load Out Tank 7	1.2	12	95	12.00	0.01	0.01
						2.00

These limits are based on the maximum sand throughput of 42,000 tons/year and standard emission factors for metallic mineral processing, low moisture Ore (Table 11-24-2, AP-42, Fifth Edition, Volume I, August 1982 and Section 13.2.4, AP-42, Fifth

Edition, Volume I, November 2006). Control efficiency for baghouse controlled equipment is 99%.

d. Emissions and operation of natural gas-fired equipment shall not exceed the following limits.

Emission Unit		Fuel Usage (Therms/Mo)	Fuel Usage (Therms/Yr)	Factor (lb/Therm)	Emissions (T/Mo)	Emissions (T/Yr)
Sand Dryer	Carbon Monoxide (CO)	30,700	307,000	0.0084	0.13	1.29
	Nitrogen Oxides (NO_x)			0.010	0.15	1.54
	Particulate Matter (PM)			0.0008	0.01	0.12
	Sulfur Dioxide (SO_2)			0.000006	0.01	0.01
	Volatile Organic Material (VOM)			0.0006	0.01	0.09
Space Heaters	Carbon Monoxide (CO)	5,400	54,000	0.0084	0.02	0.23
	Nitrogen Oxides (NO_x)			0.010	0.03	0.27
	Particulate Matter (PM)			0.0008	0.01	0.02
	Sulfur Dioxide (SO_2)			0.000006	0.01	0.01
	Volatile Organic Material (VOM)			0.0006	0.01	0.02

These limits are based on the maximum fuel usage, and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

e. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not exceed 0.61 tons/month and 6.14 tons/year of any single HAP and 1.99 tons/month and 19.9 tons/year of any combination of such HAPs. 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.

f. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

9a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing.

Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

b. Testing required by Condition 10 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.

10. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person’s own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.

11. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA

guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

12a. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.

b. i. Pursuant to 35 Ill. Adm. Code 212.316(g)(1), the owner or operator of any fugitive particulate matter emission unit subject to 35 Ill. Adm. Code 212.316 shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 Ill. Adm. Code 212.316 and shall submit to the Illinois EPA an annual report containing a summary of such information.

ii. Pursuant to 35 Ill. Adm. Code 212.316(g)(2), the records required under 35 Ill. Adm. Code 212.316(g) shall include at least the following:

A. The name and address of the source;

B. The name and address of the owner and/or operator of the source;

C. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;

D. 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;

E. 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

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

iii. Pursuant to 35 Ill. Adm. Code 212.316(g)(3), the records required under 35 Ill. Adm. Code 212.316 shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Illinois EPA representatives during working hours.

iv. Pursuant to 35 Ill. Adm. Code 212.316(g)(4), the records required under 35 Ill. Adm. Code 212.316(g) shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Illinois EPA representatives during working hours.

c. i. Pursuant to 35 Ill. Adm. Code 212.324(g)(1), written records of inventory and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with 35 Ill. Adm. Code 212.324(f).

ii. Pursuant to 35 Ill. Adm. Code 212.324(g)(2), the owner or operator shall document any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made.

iii. Pursuant to 35 Ill. Adm. Code 212.324(g)(3), a written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated.

iv. Pursuant to 35 Ill. Adm. Code 212.324(g)(5), the records required under 35 Ill. Adm. Code 212.324 shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Illinois EPA representatives during working hours.

13a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:

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.

iii. Records addressing use of good operating practices for the cyclones and baghouses:

A. Records for periodic inspection of the cyclones and baghouses with date, individual performing the inspection, and nature of inspection; and

B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

iv. Total sand received (tons/month and tons/year).

v. Total bentonite received (tons/month and tons/year).

vi. Total pulgite received (tons/month and tons/year).

vii. Percentage of Chromium ore on the sand;

viii. Natural gas usage for the plant (therms/month and therms/year); and

ix. Monthly and annual emissions of CO, NO_x, PM, PM_{10}, SO_2, VOM, and HAPs (including chromium compounds) from the source with supporting calculations (tons/month and tons/year).

b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) 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 storage device) 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.

14a. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.

b. Pursuant to 35 Ill. Adm. Code 212.316(g)(5), 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 35 Ill. Adm. Code 212.316. 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.

c. i. Pursuant to 35 Ill. Adm. Code 212.324(g)(4), copies of all records required by 35 Ill. Adm. Code 212.324 shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA.

ii. Pursuant to 35 Ill. Adm. Code 212.324(g)(6), upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.

15a. If there is an exceedance of or a deviation from 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 or deviation. 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 deviation and efforts to reduce emissions and future occurrences.

b. Two (2) copies of required reports and notifications 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

It should be noted that this permit has been revised so as to include the operation of the equipment described in Construction Permit 13010022.

If you have any questions on this, please call German Barria at 217/785-1705.

Robert W. Bernoteit
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

RWB:GB:psj

cc: Illinois EPA, FOS Region 3
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/year for PM_{10}, 10 tons/year for any single HAP, and 25 tons/year for any combination of such HAPs) 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.

	E M I S S I O N S (Tons/Year)							
Activity	CO	NO_x	PM	PM_{10}	SO_2	VOM	Single HAP	Combined HAPs
Sand Processing			31.83	5.34			6.14*	
Bentonite Processing			45.79	45.79				
Pulgite Processing			2.00	2.00				
Natural Gas Usage - Sand Dryer	1.29	1.54	0.12	0.12	0.01	0.09		
Natural Gas Usage - Heaters	0.23	0.27	0.02	0.01	0.01	0.02	----	----
Total:	1.52	1.81	79.76	53.26	0.02	0.11	6.14	19.9

* Chromate Compounds

RWB:GB:psj