MISSISSIPPI SAND, LLC

CONSTRUCTION PERMIT APPLICATION FOR:
AN INDUSTRIAL SAND PLANT
SOUTH OTTAWA TOWNSHIP, LASALLE COUNTY, ILLINOIS

May 14, 2012 and May 16, 2012

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GENERAL APPLICATION INFORMATION

Owner:	Mississippi Sand, LLC 12209 Big Bend Rd. Saint Louis, Missouri 63122-6837
Operator:	Mississippi Sand, LLC 12209 Big Bend Rd. Saint Louis, Missouri 63122-6837
Responsible Official:	Mr. Tony Giordano President – Mississippi Sand, LLC
Application Contact Person:	Mr. Gordon Stevens Senior Project Manager Patrick Engineering, Inc. 4970 Varsity Dr. Lisle, IL 60532 630-795-7322

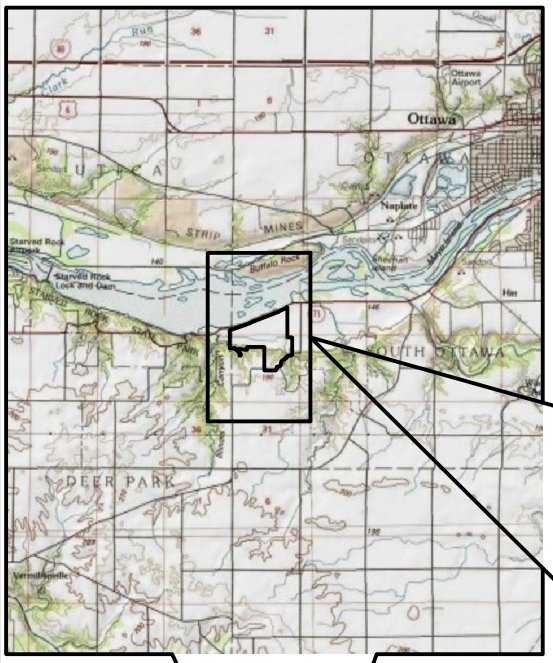
INTRODUCTION

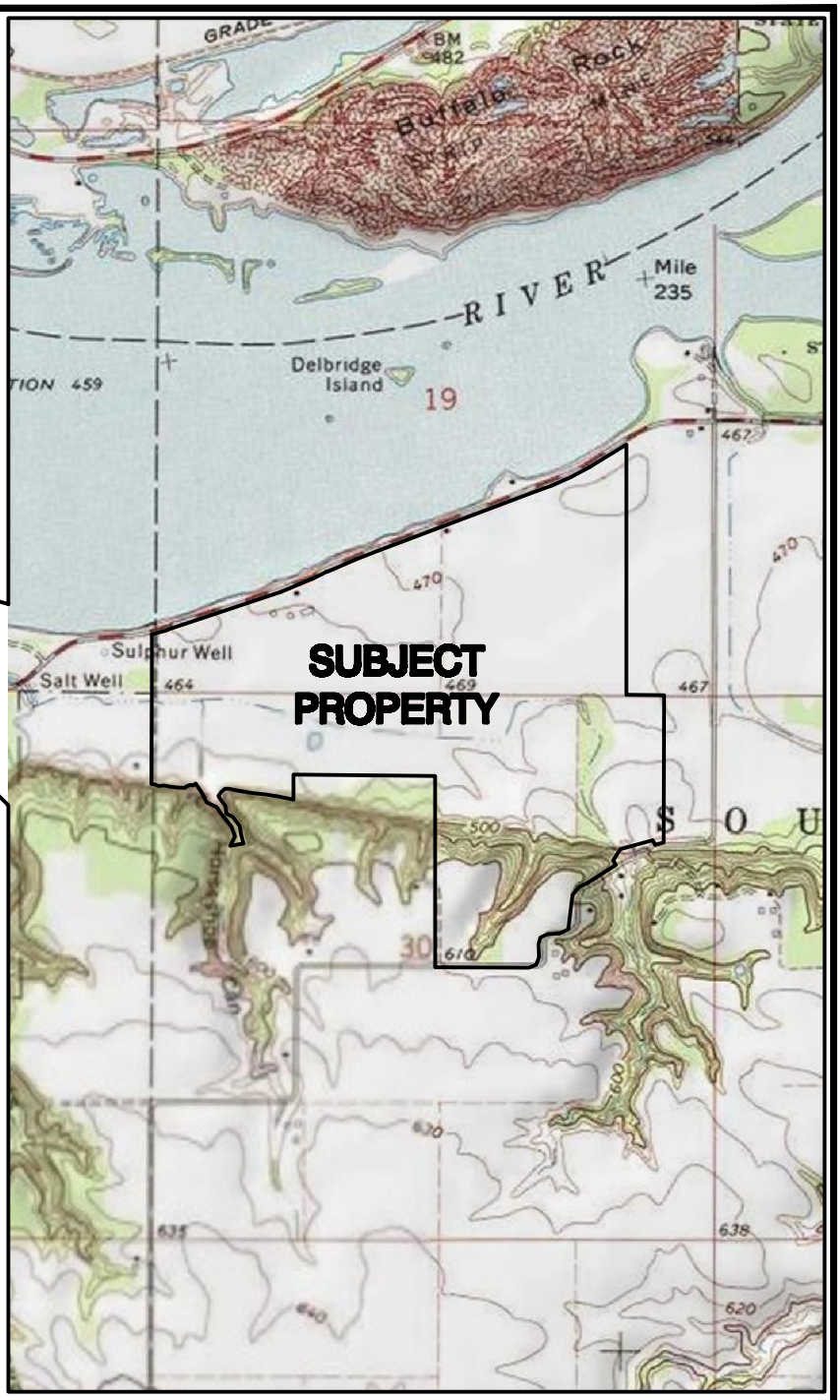
Mississippi Sand, LLC is submitting this construction permit application for an industrial sand plant (frac plant) to be located near Ottawa, Illinois. The primary material mined and processed at the plant will be used as a proppant in the hydraulic fracturing process of oil and gas wells. The sand in this region has the size and surface specifications necessary as a proppant.

SOURCE DESCRIPTION

The site occupies approximately 315 acres in South Ottawa Township, LaSalle County, Illinois. The facility this application (Phase I) is proposing to construct and operate will occupy approximately 80 acres of the site. The site is located south of the Illinois River and south of Route 71 west of Ottawa, immediately prior to entering Starved Rock State Park. The mine will be for the extraction of silica sand. All mining activities will be done between the bluffs and the river, and will most likely be concentrated on the eastern half of the parcel but may sprawl westward between 20 and 40 years time.

The following maps provide the site location map and layout plan.





NOTES:

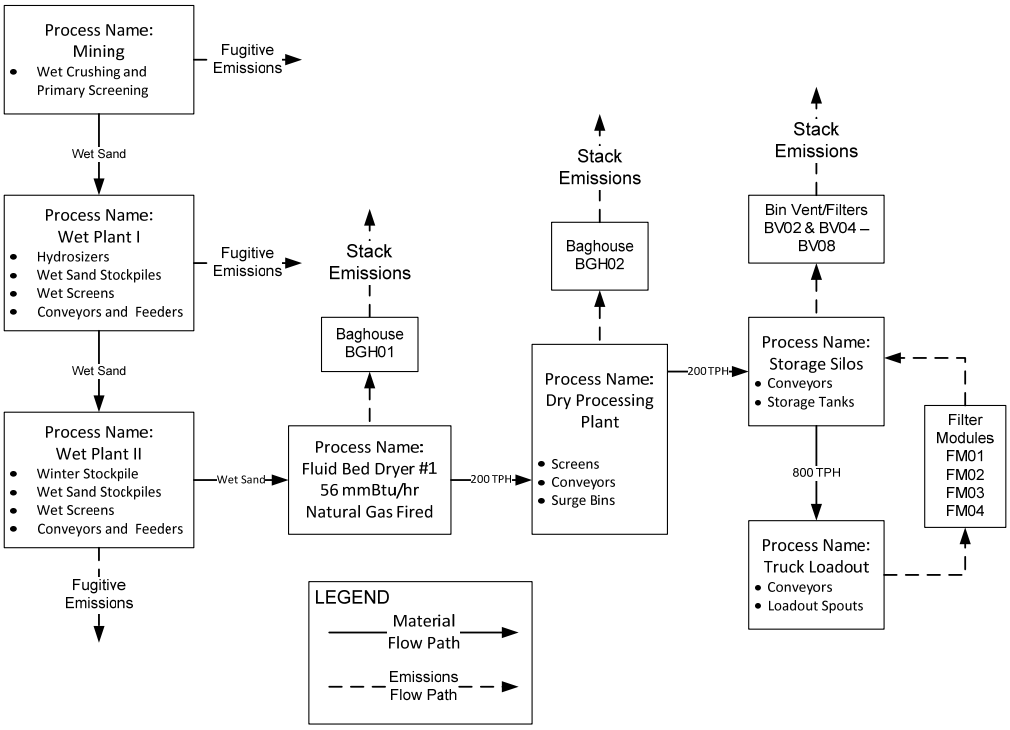
1. AGRICULTURE (A–1) ZONING SPECIAL USE REQUEST FOR MINING, LOADING, HAULING OF SAND, GRAVEL OR OTHER AGGREGATE.
2. SOUTH OTTAWA TOWNSHIP, LASALLE COUNTY, ILLINOIS

allprojects\Lisle\Mississippi Sand LLC\21153.043 Greenfield Mine Development\Dwgs\Working\21153.043–FIG_4–1.dwg

Date: 09/13/11	**MISSISSPPI SAND LLC GREENFIELD MINE DEVELOPMENT**	**PATRICK ENGINEERING INC.**
Proj No.: 21153.043	**SITE LOCATION MAP**	4970 Varsity Drive, Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: GS		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

PROJECT DESCRIPTION

The following block diagram shows the major processes of the proposed plant:



Mining and Wet Plant

Raw material is mined on-site and transported to temporary raw feed piles. The pit material is then transported in slurry form to the wet process plant where it is washed to remove unwanted material, hydrosized, classified, and then conveyed to stockpiles. Depending on the material's classification, it is then conveyed in saturated form to one of many stockpiles for decanting purposes. Note that the moisture content of the stockpiled material is typically greater than 12 percent; therefore, fugitive emissions from the wet plants shown in the following diagram are minimal.

Fluid Bed Dryer

The washed stockpiled material is transferred from the decanting stockpiles via below surface feeders to the dryer feed stockpiles. A front-end loader is used to transfer the material to the dryers' feed bins. The dry plant will consist of a 200 ton per hour fluid bed dryer fitted with a 56 mmBtu/hr natural gas/propane fired burner. Particulate emissions from the dryer are controlled by a fabric filter baghouse.

Dry Processing Plant

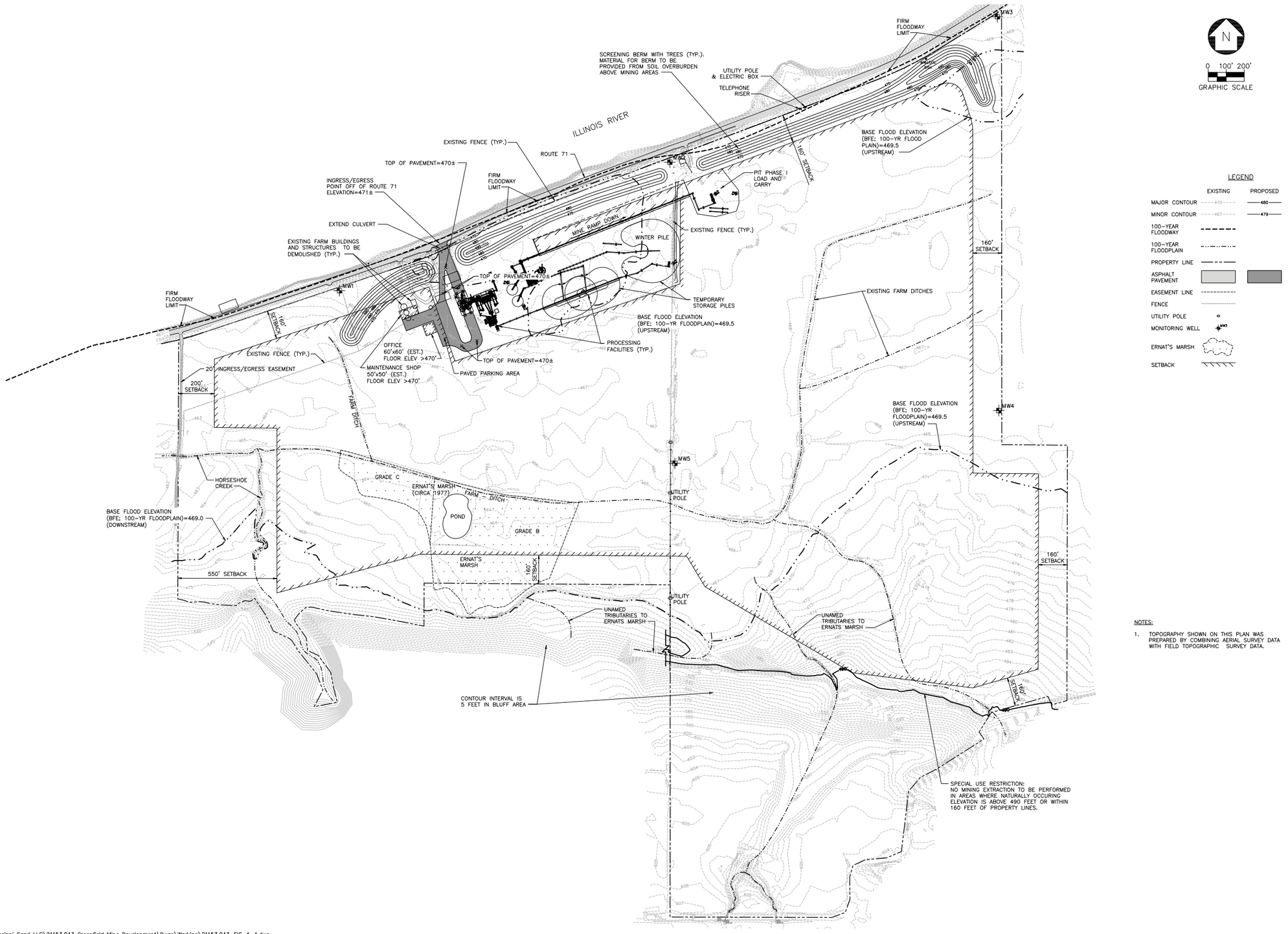
After the material is dried to a moisture content of less than 1 percent, the sand is conveyed to sizing screens where it is classified and conveyed to storage silos. Particulate emissions from the sand processing building are controlled by a fabric filter baghouse. Emissions from dry sand processing equipment not located in the processing building are either enclosed or controlled by bin vent filters.

Storage Silos

The classified sand is conveyed from the screening process to a series of 1500 ton storage silos prior to conveying the final product to the truck loading station. The emissions from loading into and out of the storage silos are controlled by individual bin vent/filters mounted on top of each silo.

Truck Loadout

Stored material from the storage silos is transferred and conveyed to the truck loading station. The truck loadout station has four loadout spouts, which are controlled by individual filter modules that exhaust back into the storage silos. As such, emissions from each material transfer point and loadout spout are further controlled by the storage silos bin vent/filters before exhausting to the atmosphere.



NOTES:

1. TOPOGRAPHY SHOWN ON THIS PLAN WAS PREPARED BY COMBINING AERIAL SURVEY DATA WITH FIELD TOPOGRAPHIC SURVEY DATA.

allprojects\Lisle\Mississippi Sand LLC\21153.043 Greenfield Mine Development\Dwgs\Working\21153.043-FIG_4-4.dwg

REV.	DATE	DESCRIPTION

ISSUES & REVISIONS

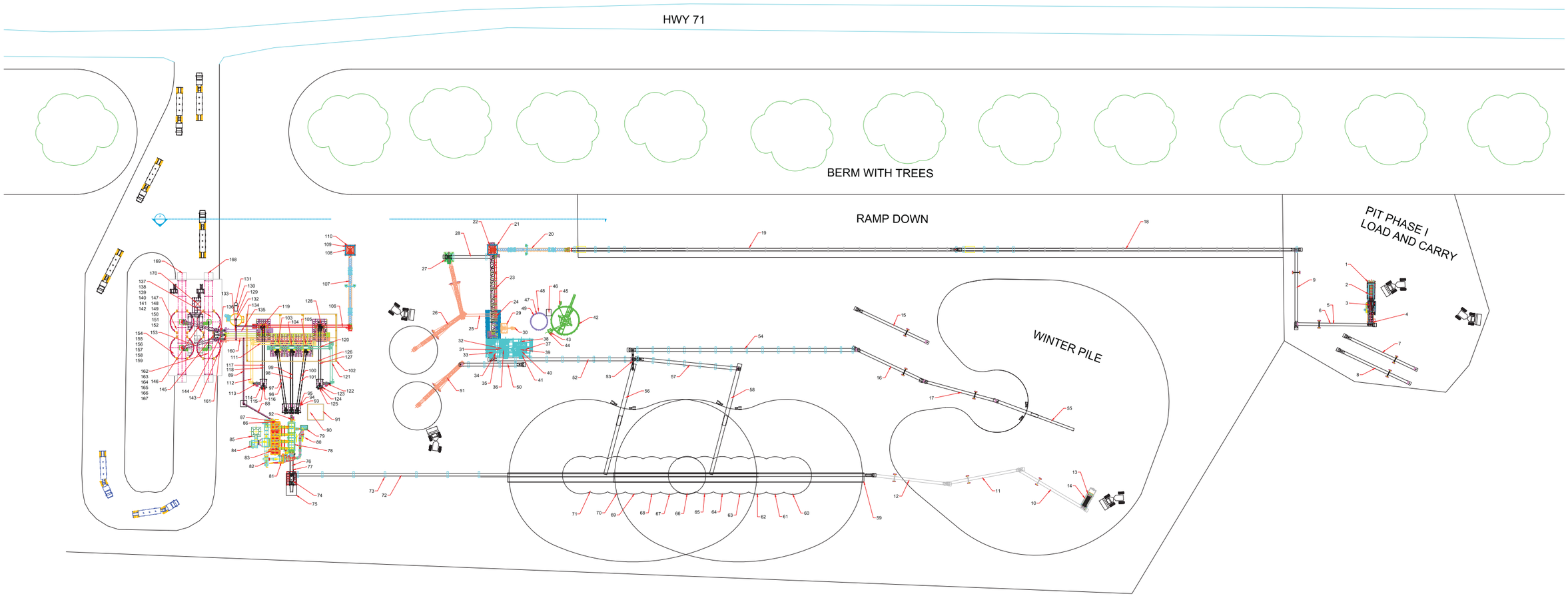
PATRICK ENGINEERING INC.
4970 Varsity Drive
Lisle, Illinois 60532-4161
TEL. (630) 795-2300
FAX (630) 724-1851
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-002469

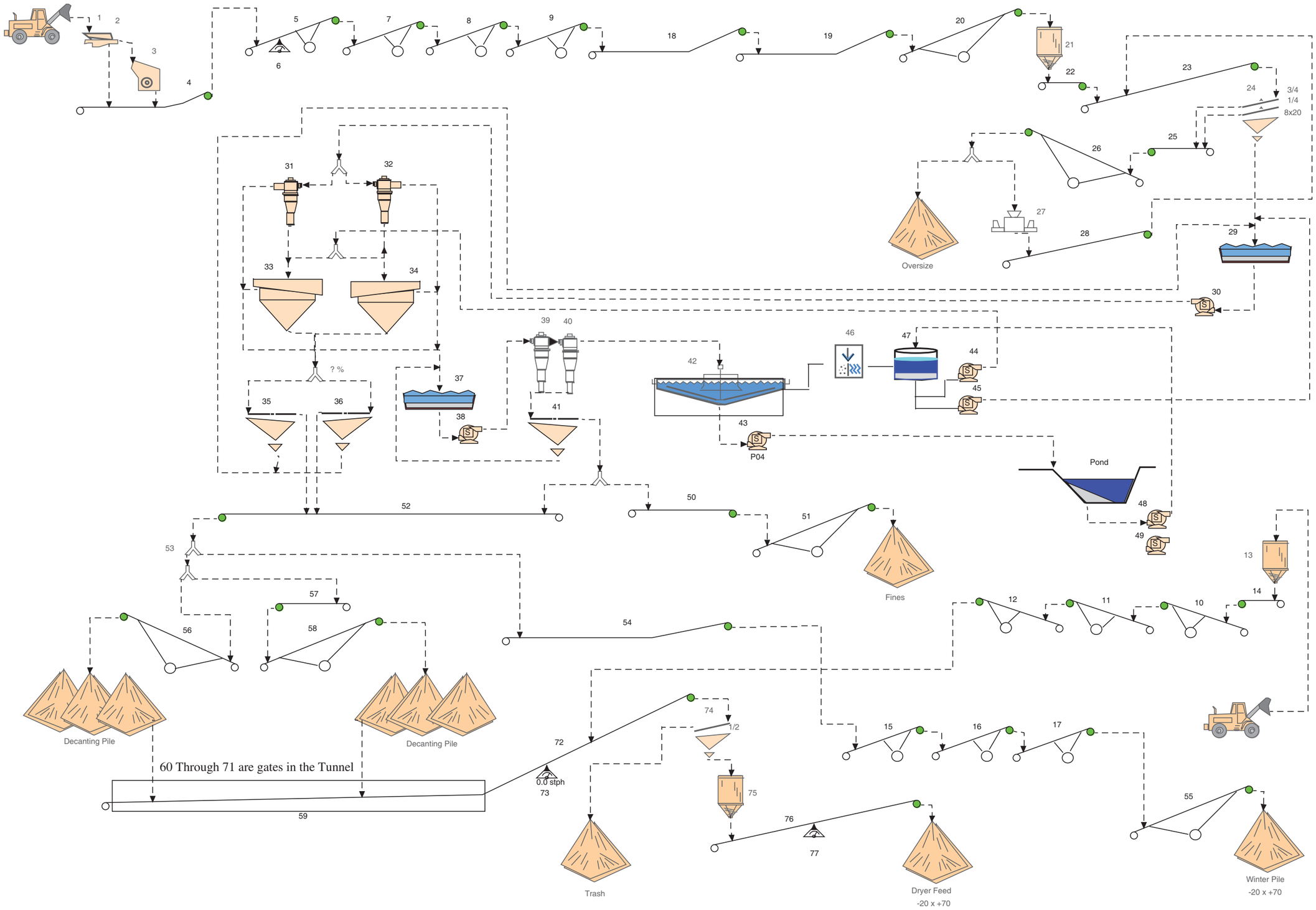
MISSISSIPPI SAND, LLC.
MANUFACTURE AND DISTRIBUTION OF FRAC SAND

Project:
MISSISSIPPI SAND LLC
GREENFIELD MINE DEVELOPMENT

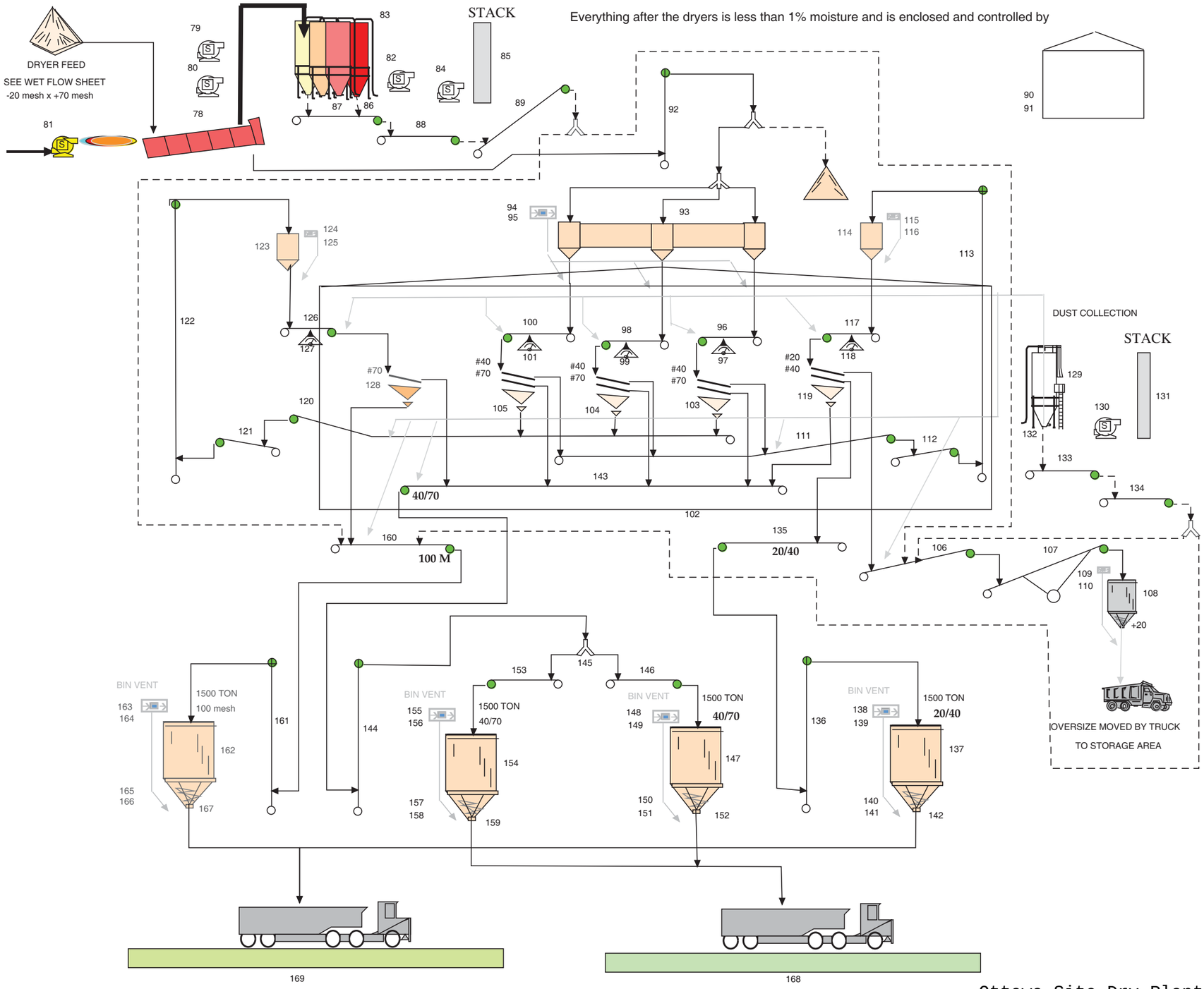
Sheet Title:
PLANNED SITE LAYOUT PLAN

Project No.:	21153.043	Date:	07/19/11
Designed By:	DAK	Sheet No.	FIG 4-4
Drawn By:	EJB		
Checked By:			
Approved By:		Sheet 1 of 1	


HWY 71
BERM WITH TREES
RAMP DOWN
PIT PHASE I
LOAD AND CARRY
WINTER PILE



Ottawa Site Wet Plant Process Flow Diagram



Ottawa Site Dry Plant Process Flow Diagram

DESCRIPTION OF PROPOSED UNITS

Equipment Group	Item	Name	Process Name	Hours of Operation	Design Capacity	Operating Capacity	Capacity Rate
Fugitive	171	MNG	Mining and Hauling (unpaved roads)	8760	3.914	3.914	VMT/hr
	172	OR	Overburden Removal	500	NA	NA	hour
	174	SP	Storage Piles	8760	NA	NA	hour
	173	PR	Traffic on Paved Roads	8760	2.31	2.31	VMT/hr
Wet Plant I	22	F03	Belt Feeder	8760	600	500	tons/hr
	17	C11	Conveyors	8760	1000	800	tons/hr
	50	C19	Conveyors	8760	500	300	tons/hr
	52	C21	Conveyors	8760	800	600	tons/hr
	54	C22	Conveyors	8760	800	600	tons/hr
	28	C18	Conveyors	8760	500	300	tons/hr
	25	C16	Conveyors	8760	500	300	tons/hr
	23	C15	Conveyors	8760	600	500	tons/hr
	57	C25	Conveyors	8760	800	600	tons/hr
	20	C14	Conveyors	8760	1000	800	tons/hr
	18	C12	Conveyors	8760	1000	800	tons/hr
	16	C10	Conveyors	8760	1000	800	tons/hr
	15	C09	Conveyors	8760	1000	800	tons/hr
	9	C05	Conveyors	8760	1000	800	tons/hr
	8	C04	Conveyors	8760	1000	800	tons/hr
	7	C03	Conveyors	8760	1000	800	tons/hr
	5	C02	Conveyors	8760	1000	800	tons/hr
	4	C01	Conveyors	8760	1000	800	tons/hr
	19	C13	Conveyors	8760	1000	800	tons/hr
	27	CR02	Crusher	8760	500	300	tons/hr
	3	CR01	Crusher	8760	1000	800	tons/hr
	39	CY03	Cyclone	8760	500	300	tons/hr
	31	CY01	Cyclone	8760	500	300	tons/hr
	40	CY04	Cyclone	8760	500	300	tons/hr
	32	CY02	Cyclone	8760	500	300	tons/hr
	35	DWS01	DW Screen	8760	500	300	tons/hr
	41	DWS03	DW Screen	8760	500	300	tons/hr
	36	DWS02	DW Screen	8760	500	300	tons/hr
	21	FH03	Feed Hopper	8760	600	500	tons/hr
	1	FH01	Feed Hopper	8760	1000	800	tons/hr
	2	F01	Feeders	8760	1000	800	tons/hr
	34	HY02	Hydrosizer	8760	500	300	tons/hr

DESCRIPTION OF PROPOSED UNITS

Equipment Group	Item	Name	Process Name	Hours of Operation	Design Capacity	Operating Capacity	Capacity Rate
	33	HY01	Hydrosizer	8760	500	300	tons/hr
	61	G02	Other Transfer Point	8760	400	200	tons/hr
	69	G10	Other Transfer Point	8760	400	200	tons/hr
	67	G08	Other Transfer Point	8760	400	200	tons/hr
	66	G07	Other Transfer Point	8760	400	200	tons/hr
	65	G06	Other Transfer Point	8760	400	200	tons/hr
	64	G05	Other Transfer Point	8760	400	200	tons/hr
	62	G03	Other Transfer Point	8760	400	200	tons/hr
	60	G01	Other Transfer Point	8760	400	200	tons/hr
	70	G11	Other Transfer Point	8760	400	200	tons/hr
	71	G12	Other Transfer Point	8760	400	200	tons/hr
	63	G04	Other Transfer Point	8760	400	200	tons/hr
	68	G09	Other Transfer Point	8760	400	200	tons/hr
	24	SCR01	Screens	8760	600	500	tons/hr
	56	C24	Stackers	8760	800	600	tons/hr
	26	C17	Stackers	8760	500	300	tons/hr
	51	C20	Stackers	8760	500	300	tons/hr
	55	C23	Stackers	8760	800	600	tons/hr
	58	C26	Stackers	8760	800	600	tons/hr
Wet Plant II	14	F02	Belt Feeder	8760	1000	800	tons/hr
	72	C27	Conveyors	8760	600	400	tons/hr
	12	C08	Conveyors	8760	1000	800	tons/hr
	76	F04	Conveyors	8760	600	400	tons/hr
	11	C07	Conveyors	8760	1000	800	tons/hr
	10	C06	Conveyors	8760	1000	800	tons/hr
	75	FH04	Feed Hopper	8760	600	400	tons/hr
	13	FH02	Feed Hopper	8760	1000	800	tons/hr
	74	SCR02	Screens	8760	600	400	tons/hr
N.G. Combustion	81	BR01	Natural Gas Combustion	8760	0.055	0.055	million scf/hr.
Sand Drying	81	BR01	Natural Gas Combustion	8760	0.055	0.055	million scf/hr.
Dry Sand Processes	78	DRY01	Sand Drying	8760	400	200	tons/hr
	83	BGH01	Sand Drying Baghouse	8760	2.868	200	million dscf/hr
	126	F09	Belt Feeder	8760	300	150	tons/hr
	117	F08	Belt Feeder	8760	300	150	tons/hr
	98	F06	Belt Feeder	8760	133	66	tons/hr

DESCRIPTION OF PROPOSED UNITS

Equipment Group	Item	Name	Process Name	Hours of Operation	Design Capacity	Operating Capacity	Capacity Rate
	100	F07	Belt Feeder	8760	133	66	tons/hr
	96	F05	Belt Feeder	8760	133	66	tons/hr
	136	BE04	Bucket Elevator	8760	300	200	tons/hr
	113	BE02	Bucket Elevator	8760	300	150	tons/hr
	92	BE01	Bucket Elevator	8760	400	200	tons/hr
	144	BE05	Bucket Elevator	8760	300	200	tons/hr
	122	BE03	Bucket Elevator	8760	300	150	tons/hr
	161	BE06	Bucket Elevator	8760	300	200	tons/hr
	135	C34	Conveyors	8760	300	200	tons/hr
	143	C35	Conveyors	8760	300	200	tons/hr
	153	C37	Conveyors	8760	300	200	tons/hr
	160	C38	Conveyors	8760	300	200	tons/hr
	146	C36	Conveyors	8760	300	200	tons/hr
	111	C30	Conveyors	8760	200	100	tons/hr
	120	C32	Conveyors	8760	200	100	tons/hr
	112	C31	Conveyors	8760	300	150	tons/hr
	121	C33	Conveyors	8760	300	150	tons/hr
	106	C28	Conveyors	8760	200	100	tons/hr
	128	SCR07	Dry Screens	8760	300	150	tons/hr
	119	SCR06	Dry Screens	8760	300	150	tons/hr
	103	SCR03	Dry Screens	8760	133	66	tons/hr
	104	SCR04	Dry Screens	8760	133	66	tons/hr
	105	SCR05	Dry Screens	8760	133	66	tons/hr
	123	FH07	Feed Hopper	8760	300	150	tons/hr
	93	FH05	Feed Hopper	8760	400	200	tons/hr
	114	FH06	Feed Hopper	8760	300	150	tons/hr
Storage Silos	129	BGH02	Sand Processing	8760	2.04	200	million dscf/hr
	107	C29	Stackers	8760	200	100	tons/hr
	137	STK01	STK01	8760	300	200	tons/hr
	154	STK03	STK02-3	8760	300	200	tons/hr
	147	STK02	STK02-3	8760	300	200	tons/hr
Truck Loadout	162	STK04	STK04	8760	300	200	tons/hr
	108	WTK01	WTK01	8760	200	100	tons/hr
	158	BLS03	Truck Loadout	8760	300	200	tons/hr

OTTAWA PLANT STACK PARAMETERS

Stack Name	Exhaust Point	Diameter (ft)	Discharge Height (ft)	Actual Flowrate (acfm)	Maximum Flowrate (acfm)	Temp (F)	Distance to Property Line (ft)
Fugitive	This stack ID represents fugitive emissions from mining, storage piles and paved haul roads.	NA	NA	NA	NA	NA	300
Wet Plant I	This stack ID represents fugitive sources from wet sand processing.	NA	NA	NA	NA	NA	300
Wet Plant II	This stack ID represents fugitive sources from wet sand processing.	NA	NA	NA	NA	NA	300
Dryer #1	This stack ID has an actual exhaust point on Dwg. No. 050111-01: 85.	4	60	30000	34350	250	460
Dry Sand Plant	This stack ID has an actual exhaust points on Dwg. No. 050111-01:131.	3	20	30000	34000	175	300
Storage Silos	This stack ID has an actual exhaust points on Dwg. No. 050111-01: 137, 147, 154, 162 and 108.	0.75	94	900	1200	0	350
Truck Loadout	This stack ID represents items on Dwg. No. 050111-01: 141, 151,158, 166,140,150,157 and 165, which are vented back into the storage silos and exhausted through points 137, 147, 154 and 162.	NA	NA	NA	NA	NA	350

FACILITY AND PROJECT CLASSIFICATION

The following is a discussion of the proposed project and applicability to state and federal air regulations.

TITLE V CLEAN AIR ACT PROGRAM APPLICABILITY

The potential emission estimates provided on pages 18, 18A and 18B show that the facility's proposed emissions are below the 100 ton per year Title V operation permit threshold for criteria pollutants. Therefore, the proposed facility is a minor source under Part 70 and Section 112 of the Act.

In addition, the source is classified as minor for ozone (volatile organic material) and minor for nitrogen oxides under 35 Ill. Adm. Code Part 203.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) [40 CFR 52.21 APPLICABILITY]

Mississippi Sand, LLC - Ottawa plant would be classified as a minor source for sulfur dioxide, particulate matter less than 10 microns, carbon monoxide, nitrogen oxides and lead for prevention of significant deterioration under 40 CFR 52.21.

MAJOR STATIONARY SOURCES CONSTRUCTION AND MODIFICATION [35 ILL. ADM. CODE PART 203]

The Mississippi Sand, LLC - Ottawa plant will not be located in a non-attainment area.

NEW SOURCE PERFORMANCE STANDARDS (NSPS) 40 CFR PART 60 APPLICABILITY

The proposed facility has processes is in-line with a source category for which there is an existing NSPS, Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants.

The proposed facility includes a dryer that is subject to 40 CFR Part 60, Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) APPLICABILITY

The proposed project is not subject to any proposed National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

The proposed project will not be subject to any existing NESHAP regulations.

In addition, the proposed project will not be subject to s. 112(g) of the Clean Air Act. The section 112(g) rules only apply to case-by-case MACT standards that are developed for new construction or reconstruction of sources that (by themselves) constitute a new major source of federal hazardous air pollutants.

SPECIFIC RULE APPLICABILITY

NSPS Applicable Requirements: Wet Plant

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
57	C25	Belt Conveyor	40 CFR Part 60 Subpart OOO: 7% Opacity	Opacity: 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 after initial startup using USEPA Methods 9. A repeat performance test according to §60.11of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays.
28	C18	Belt Conveyor		
5	C02	Belt Conveyor		
4	C01	Belt Conveyor		
26	C17	Belt Conveyor		
25	C16	Belt Conveyor		
50	C19	Belt Conveyor		
51	C20	Belt Conveyor		
52	C21	Belt Conveyor		
54	C22	Belt Conveyor		
56	C24	Belt Conveyor		
58	C26	Belt Conveyor		
17	C11	Belt Conveyor		
7	C03	Belt Conveyor		
8	C04	Belt Conveyor		
9	C05	Belt Conveyor		
15	C09	Belt Conveyor		
55	C23	Belt Conveyor		
16	C10	Belt Conveyor		
23	C15	Belt Conveyor		
18	C12	Belt Conveyor		
19	C13	Belt Conveyor		
20	C14	Belt Conveyor		
22	F03	Belt Feeder		
32	CY02	Dewatering Cyclone		
39	CY03	Dewatering Cyclone		
31	CY01	Dewatering Cyclone		
40	CY04	Dewatering Cyclone		
36	DWS02	Dewatering Screen		
35	DWS01	Dewatering Screen		
41	DWS03	Dewatering Screen		
24	SCR01	Double Deck Screen		
21	FH03	Feed Hopper		
1	FH01	Feed Hopper		
70	G11	Gate Feeder		
69	G10	Gate Feeder		
68	G09	Gate Feeder		
67	G08	Gate Feeder		
66	G07	Gate Feeder		
65	G06	Gate Feeder		
64	G05	Gate Feeder		
71	G12	Gate Feeder		
62	G03	Gate Feeder		
61	G02	Gate Feeder		
60	G01	Gate Feeder		
63	G04	Gate Feeder		
2	F01	Grizzly Feeder		

NSPS Applicable Requirements: Wet Plant

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
34	HY02	Hydrosizer		
33	HY01	Hydrosizer		
3	CR01	Impact Crusher		
76	F04	Belt Conveyor		
72	C27	Belt Conveyor		
12	C08	Belt Conveyor		
11	C07	Belt Conveyor		
10	C06	Belt Conveyor		
14	F02	Belt Feeder		
75	FH04	Feed Hopper		
13	FH02	Feed Hopper		
74	SCR02	Single Deck Screen		
27	CR02	VSI Crusher	40 CFR Part 60 Subpart OOO: 12% Opacity	Opacity: 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 after initial startup using USEPA Methods 9. A repeat performance test according to §60.11of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays.

NSPS Applicable Requirements: Sand Processing Plant Controlled by Baghouse BH02

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
120	C32	Belt Conveyor	40 CFR Part 60 Subpart OOO: No Visible Emissions NSPS limit of less than ore equal to 0.032 g/dscm (0.014 gr/dscf) for PM emissions	Visible Emissions: Conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 test is successful if no visible emissions are observed. If any visible emissions are observed, the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation.
160	C38	Belt Conveyor		
143	C35	Belt Conveyor		
106	C28	Belt Conveyor		
111	C30	Belt Conveyor		
96	F05	Belt Feeder		
98	F06	Belt Feeder		
100	F07	Belt Feeder		
117	F08	Belt Feeder		
126	F09	Belt Feeder		
103	SCR03	Dry Screen		
104	SCR04	Dry Screen		
128	SCR07	Dry Screen		
105	SCR05	Dry Screen		

NSPS Applicable Requirements: Sand Processing Plant Controlled by Baghouse BH02

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
119	SCR06	Dry Screen		PM Emissions: 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 after initial operation using USEPA Methods 5. The sampling volume for each test run shall be at least 1.70 dscm.

NSPS Applicable Requirements: Dry Processing without Baghouse Control

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
112	C31	Belt Conveyor	40 CFR Part 60 Subpart OOO: 7% Opacity	Opacity: 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 after initial startup using USEPA Methods 9. A repeat performance test according to §60.11of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays.
153	C37	Belt Conveyor		
146	C36	Belt Conveyor		
135	C34	Belt Conveyor		
121	C33	Belt Conveyor		
113	BE02	Bucket Elevator		
136	BE04	Bucket Elevator		
92	BE01	Bucket Elevator		
161	BE06	Bucket Elevator		
144	BE05	Bucket Elevator		
122	BE03	Bucket Elevator		
107	C29	Belt Conveyor		
114	FH06	Feed Hopper		
123	FH07	Feed Hopper		
93	FH05	Feed Hopper		

NSPS Applicable Requirements: Sand Dryer Controlled by Baghouse BH01

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
78	DRY01	56 mmBtu/hr (HHV) Dryer	40 CFR Part 60 Subpart UUU: Opacity: 10% Particulate Matter: Emissions from affected dryer shall not contain particulate matter (PM) in excess of 0.057 gram per dry standard cubic meter (g/dscm) [0.025 grain per dry standard cubic foot (gr/dscf)]	Opacity: Method 9 and the procedures in § 60.11 shall be used to determine opacity from stack emissions. PM Emissions: Within 60 days after each affected NSPS dryer achieves its maximum operating rate, but not later than 180 days after initial startup, performance tests

NSPS Applicable Requirements: Sand Dryer Controlled by Baghouse BH01

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
				shall be conducted to determine compliance with the particulate matter standards in 40 CFR 60.732 as follows: A. Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm (60 dscf). B. Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity from stack emissions.

NSPS Applicable Requirements: Storage Silos and Loadout Spouts

PFD Item	EID	Emission Unit Description	Applicable Requirements	Compliance Demonstration
162	STK04	Storage Tank	40 CFR Part 60 Subpart OOO: 7% Opacity	Opacity: 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. 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).

STATE SPECIFIC RULE APPLICABILITY

35 IAC 212.123 Visible Emissions limitations for All Other Emission Units

Section 212.123 does not specify emission limitations during construction and installation. If implied in the regulation; then, as required under Subpart UUU (for dryers controlled by a fabric filter dust collector), a certified visible emissions reader will be on-site at all times and will perform scheduled observations. The visible emissions reader will also be available to ensure fugitive PM from any emission unit meets the visible emissions criteria under 35 IAC 212.123.

In addition, the emissions during startup do not exceed the emission limits during normal operation, which are the FESOP specific limitations and those required under Subpart 000 and Subpart UUU. These are more restrictive limits than the allowable emission rates specified in 35 IAC 212.123; as such, compliance with the FESOP and NSPS limitations during startup will maintain compliance with this regulation.

35 IAC 212.301 Fugitive Particulate Matter

Section 212.301 does not specify emission limitations during construction and installation. If this is implied in the regulation; then, as required under Subpart UUU (for dryers controlled by a fabric filter dust collector), a certified visible emissions reader will be on-site at a" times and will perform scheduled observations. This visible emissions reader will be available to also ensure that fugitive PM from any process meets the visible emissions criteria under 35 IAC 212.301.

35 IAC 212.321 Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972

Section 212.321 does not specify emission limits for construction and installation. The emissions during startup of the units do not exceed the emission limits during normal operation, which are the FESOP specific limitations and those required under Subpart 000 and Subpart UUU. These are more restrictive limits than the allowable emission rates specified in 35 IAC 212.321(b); as such, compliance with the FESOP and NSPS limitations during startup will maintain compliance with this regulation.

OTTAWA PLANT PROPOSED PERMIT LIMITATIONS BY POLLUTANT

Pollutant	Equipment Group Name		TPM	TPY
Carbon Dioxide	N.G. Combustion		2409.0000	28908.00
		Facility-wide Total	**2409.0000**	**28908.00**
Carbon Monoxide	N.G. Combustion		4.9144	58.97
		Facility-wide Total	**4.9144**	**58.97**
Nitrogen Oxides	N.G. Combustion		3.4810	41.77
		Facility-wide Total	**3.4810**	**41.77**
PM	Dry Sand Processes		4.8889	58.67
	N.G. Combustion		0.0002	0.00
	Sand Drying		1.4954	17.94
	Storage Silos		5.0589	60.71
	Truck Loadout		0.0818	0.98
	Wet Plant I		4.6202	55.44
	Wet Plant II		0.8293	9.95
		Facility-wide Total	**16.9746**	**203.69**
PM-10	Dry Sand Processes		1.7230	20.68
	N.G. Combustion		0.0002	0.00
	Sand Drying		1.4954	17.94
	Storage Silos		0.8176	9.81
	Truck Loadout		0.0385	0.46
	Wet Plant I		1.7670	21.20
	Wet Plant II		0.2762	3.31
		Facility-wide Total	**6.1178**	**73.41**
PM2.5	Dry Sand Processes		1.2994	15.59
	N.G. Combustion		0.0153	0.18
	Sand Drying		1.4954	17.94
	Storage Silos		0.3066	3.68
	Truck Loadout		0.0120	0.14
	Wet Plant I		0.2251	2.70
	Wet Plant II		0.0432	0.52
		Facility-wide Total	**3.3970**	**40.76**
Sulfur Dioxide	N.G. Combustion		0.0120	0.14
		Facility-wide Total	**0.0120**	**0.14**
Volatile Organic Compounds	N.G. Combustion		0.1104	1.32
		Facility-wide Total	**0.1104**	**1.32**

OTTAWA PLANT

PROPOSED PERMIT LIMITATIONS, THROUGHPUTS AND EMISSIONS RATES BY PROCESS

	Proposed Limitations and/or Maximum Short Term Throughputs	Proposed Limitations and/or Maximum Annual Throughputs	Proposed Permit Limits	
			PPM	TPY
Dry Sand Processes:				
Particulate Matter (PM)	0.01 grains per dry standard cubic feet gr/dscf and 97090.0 tons/month	0.01 grains per dry standard cubic feet gr/dscf and 3504000 tons/year	4.89	58.67
PM-10	0.01 grains per dry standard cubic feet gr/dscf and 97090.0 tons/month	0.01 grains per dry standard cubic feet gr/dscf and 3504000 tons/year	1.72	20.68
PM-2.5	0.01 grains per dry standard cubic feet gr/dscf and 97090.0 tons/month	0.01 grains per dry standard cubic feet gr/dscf and 3504000 tons/year	1.30	15.59
Dryer #1 - N.G. Combustion:				
Carbon Dioxide	40.2 million scf N.G./month	481.8 million scf N.G./year	2409.00	28908.00
Carbon Monoxide	40.2 million scf N.G./month	481.8 million scf N.G./year	4.91	58.97
Nitrogen Oxides	40.2 million scf N.G./month	481.8 million scf N.G./year	3.48	41.77
Particulate Matter (PM)	40.2 million scf N.G./month	481.8 million scf N.G./year	0.00	0.00
PM-10	40.2 million scf N.G./month	481.8 million scf N.G./year	0.00	0.00
PM-2.5	40.2 million scf N.G./month	481.8 million scf N.G./year	0.02	0.18
Sulfur Dioxide	40.2 million scf N.G./month	481.8 million scf N.G./year	0.01	0.14
Volatile Organic Compounds	40.2 million scf N.G./month	481.8 million scf N.G./year	0.11	1.32
Dryer #1 - Sand Drying:				
Particulate Matter (PM)	0.01 grains per dry standard cubic feet gr/dscf and 2093.6 million dscf/month	0.01 grains per dry standard cubic feet gr/dscf and 25123.68 million dscf/year	1.50	17.94
PM-10	0.01 grains per dry standard cubic feet gr/dscf and 2093.6 million dscf/month	0.01 grains per dry standard cubic feet gr/dscf and 25123.68 million dscf/year	1.50	17.94
PM-2.5	0.01 grains per dry standard cubic feet gr/dscf and 2093.6 million dscf/month	0.01 grains per dry standard cubic feet gr/dscf and 25123.68 million dscf/year	1.50	17.94
Storage Silos:				
Particulate Matter (PM)	219000.0 tons/month	2628000 tons/year	5.06	60.71
PM-10	219000.0 tons/month	2628000 tons/year	0.82	9.81
PM-2.5	219000.0 tons/month	2628000 tons/year	0.31	3.68
Truck Loadout:				

OTTAWA PLANT

PROPOSED PERMIT LIMITATIONS, THROUGHPUTS AND EMISSIONS RATES BY PROCESS

	Proposed Limitations and/or Maximum Short Term Throughputs	Proposed Limitations and/or Maximum Annual Throughputs	Proposed Permit Limits	
			PPM	TPY
Particulate Matter (PM)	219000.0 tons/month	2628000 tons/year	0.08	0.98
PM-10	219000.0 tons/month	2628000 tons/year	0.04	0.46
PM-2.5	219000.0 tons/month	2628000 tons/year	0.01	0.14
Wet Plant I:				
Particulate Matter (PM)	730000.0 tons/month	8760000 tons/year	4.62	55.44
PM-10	730000.0 tons/month	8760000 tons/year	1.77	21.20
PM-2.5	730000.0 tons/month	8760000 tons/year	0.23	2.70
Wet Plant II:				
Particulate Matter (PM)	730000.0 tons/month	8760000 tons/year	0.83	9.95
PM-10	730000.0 tons/month	8760000 tons/year	0.28	3.31
PM-2.5	730000.0 tons/month	8760000 tons/year	0.04	0.52

OTTAWA PLANT POTENTIAL HAP EMISSIONS SUMMARY

Hazardous Air Pollutant Emissions by Highest to Smallest PTE	PPY	TPY
Ammonia	1541.7600	0.77
Ethane	1493.5800	0.75
N-Pentane	1252.6800	0.63
Methane	1108.1400	0.55
n-Butane	1011.7800	0.51
N-Hexane	867.2400	0.43
Propane	770.8800	0.39
Formaldehyde	36.1350	0.02
Toluene	1.6381	0.00
Zinc	1.3972	0.00
Benzene	1.0118	0.00
Nickel	1.0118	0.00
Dichlorobenzene, mixed isomers	0.5782	0.00
Molybdenum	0.5300	0.00
Copper	0.4095	0.00
Naphthalene	0.2939	0.00
Barium	0.2120	0.00
Manganese	0.1831	0.00
Mercury	0.1253	0.00
Vanadium	0.1108	0.00
Chromium	0.0675	0.00
Cadmium	0.0530	0.00
Lead	0.0241	0.00
Selenium	0.0116	0.00
2-Methyl Naphthalene	0.0116	0.00
Arsenic	0.0096	0.00
Phenanthrene	0.0082	0.00
Dimethylbenz(a)anthracene	0.0077	0.00
Cobalt	0.0040	0.00
Pyrene	0.0024	0.00
Fluoranthene	0.0014	0.00
Fluorene	0.0013	0.00
Anthracene	0.0012	0.00
Chrysene	0.0009	0.00
Acenaphthene	0.0009	0.00
3-Methylcholanthrene	0.0009	0.00
Benzo (b) fluoranthene	0.0009	0.00
Benzo (k) fluoranthene	0.0009	0.00
Benzo (a) anthracene	0.0009	0.00
Indeno(1,2,3-cd)pyrene	0.0009	0.00
Benzo (g,h,i) perylene	0.0006	0.00
Benzo (a) pyrene	0.0006	0.00
Dibenzo(a,h) anthracene	0.0006	0.00
Beryllium	0.0006	0.00
Total	**8089.9086**	**4.04**

Figure 1- Conveyor, SCC: 30502006 (controlled)

Basis for Conveyors: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)

11.19.2.2 Emissions and Controls Crushed Stone Processing states: "*Typically, wet material contains >1.5 percent water*"

The process fits the definition of conveyor transfer point as identified in Table 11.19.2-2 "Conveyor Transfer Point (controlled) (SCC 3-05-020-06). AP-42 states: "*Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent.*"

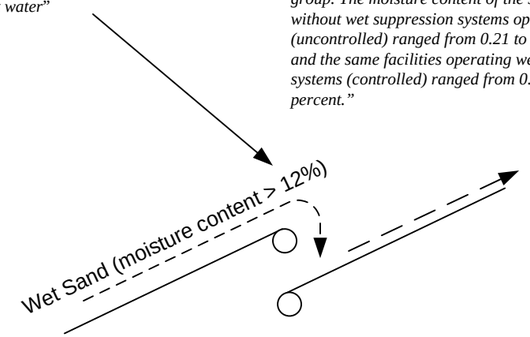


Figure 2 - Gate Feeder, SCC: 30502006 (controlled)

Basis for Gate Feeder: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)

The operation is essentially a wet sand transfer point so the same controlled emission factor for SCC 30502006 (controlled) would apply.

- As shown, the fugitive dust from the transfer operation is 100% captured.
- The tunnel acts as a gravity control chamber so an additional control efficiency of 90% was applied to the emission factor.

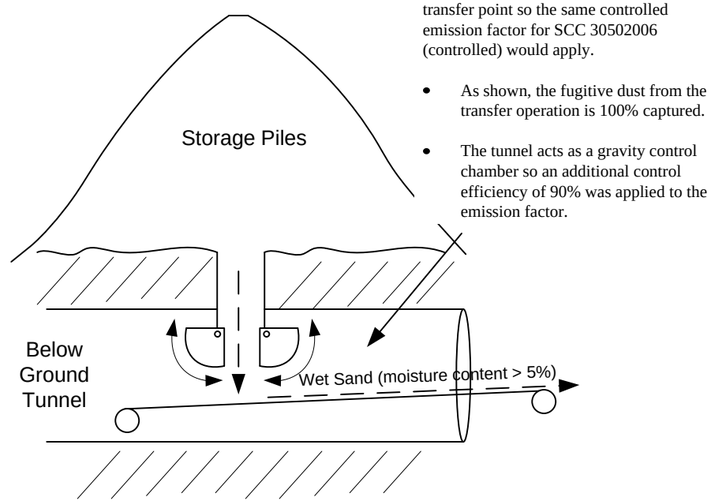
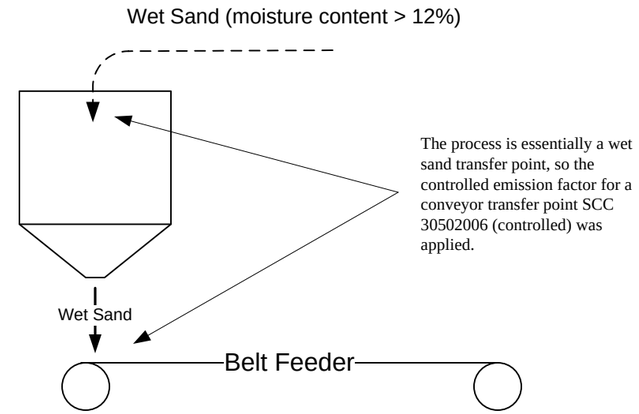


Figure 3 - Feed Hopper and Belt Feeder, SCC: 30502006 (controlled)

Basis for Feed Hoppers and Belt Feeders: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)



The process is essentially a wet sand transfer point, so the controlled emission factor for a conveyor transfer point SCC 30502006 (controlled) was applied.

Figure 4 – Belt Conveyor, SCC: RADIALSTACKER

Basis for Batch Drop Equation Reference: AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

$$E = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} (\text{lb / ton})$$

Where:
k = 0.11/0.35/0.74 (particle size multiplier (dimensionless), PM2.5/PM-10/PM respectively)
U = 10.7 mph, Average Annual Wind Speed - AP-42, Table 7.1-9, Peoria
M = 12%, material moisture content (%). This is accounted for in the equation so no further control for wet processing is applied to the emission calculations

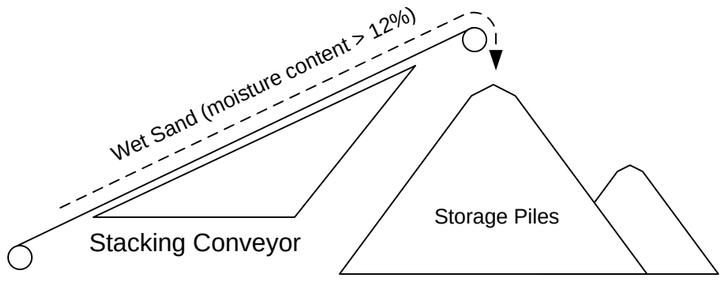
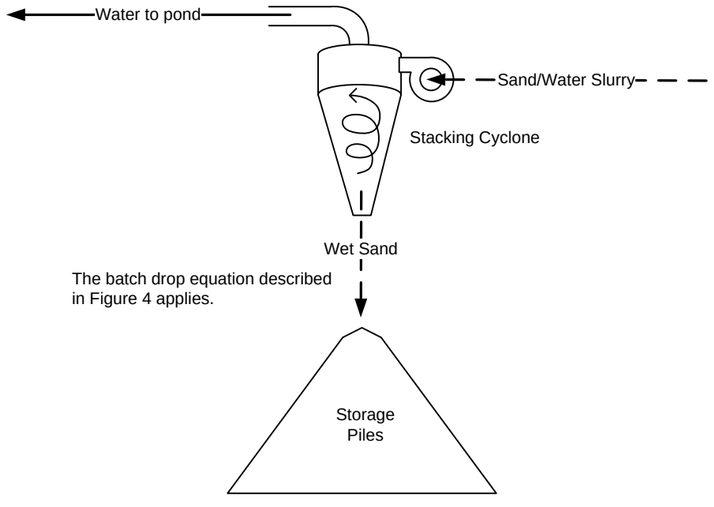


Figure 5 – Dewatering Cyclone SCC: CYCLONE

Basis for Batch Drop Equation Reference: AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)



The batch drop equation described in Figure 4 applies.

Figure 6 – Hydrosizer, SCC: 30502006 (controlled)

Basis for Hydrosizer: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)

The process is a separation activity and the water layer acts as an enclosure; as such, the material transfer in and out of the unit was conservatively assumed as similar to a conveyor transfer point SCC 30502006 (controlled).

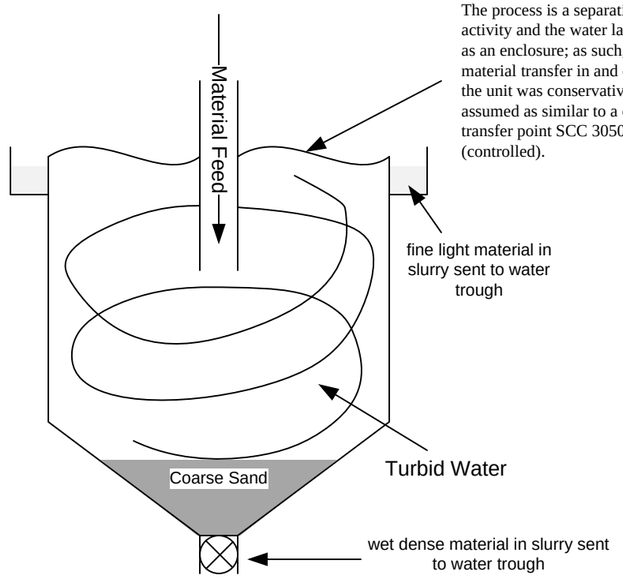


Figure 7- Dewatering Screen, SCC: 30502002 (controlled)

Basis for Screen: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, Screening (controlled) SCC 3-05-020-02

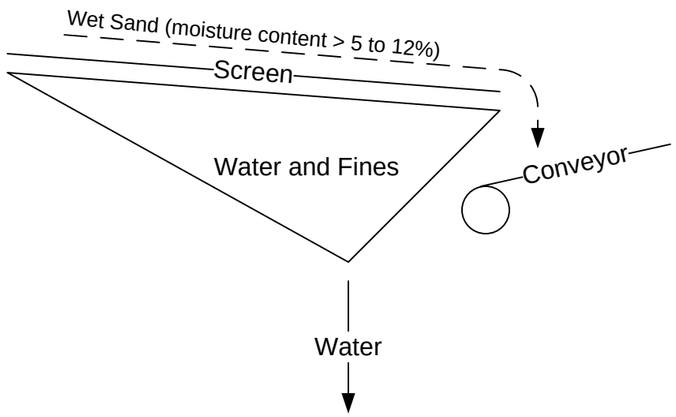
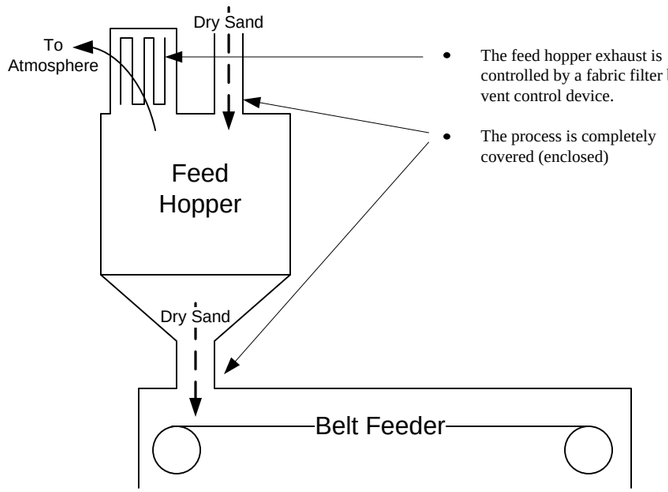


Figure 8 - Feed Hopper, SCC: 30503813

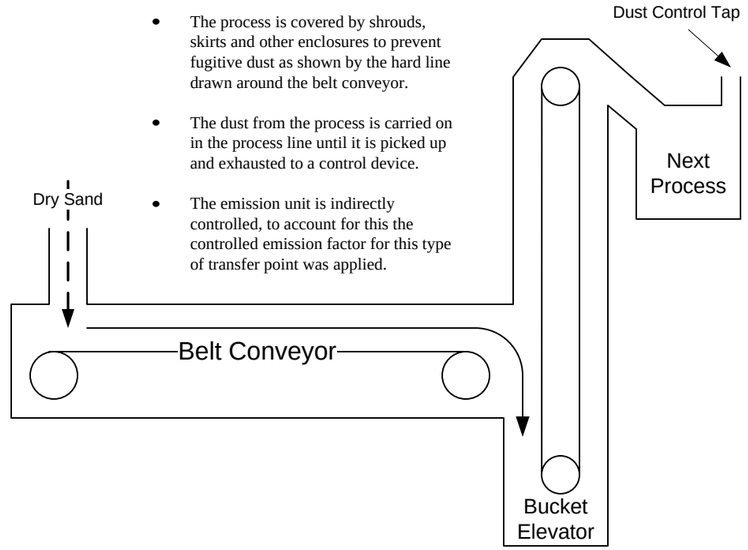
Basis for Feed Hoppers: AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control



- The feed hopper exhaust is controlled by a fabric filter bin vent control device.
- The process is completely covered (enclosed)

Figure 9 - Belt Feeder, Bucket Elevator, SCC: 30502006 (controlled)

Basis for Conveyors: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)



- The process is covered by shrouds, skirts and other enclosures to prevent fugitive dust as shown by the hard line drawn around the belt conveyor.
- The dust from the process is carried on in the process line until it is picked up and exhausted to a control device.
- The emission unit is indirectly controlled, to account for this the controlled emission factor for this type of transfer point was applied.

Figure 10 – Emission Units Controlled by Baghouse, SCC: NONE

Basis for Conveyors: AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006 (controlled)

- The process is covered by shrouds, skirts and/or other enclosures to prevent fugitive dust as shown by the hard line drawn around the emission unit. The example illustration is for a screen; however, all the emission units controlled by the dust collector are configured in a similar manner.
- The dust from the process either has a dust collection tap or is carried on in the process line until it is picked up and exhausted to the control device.

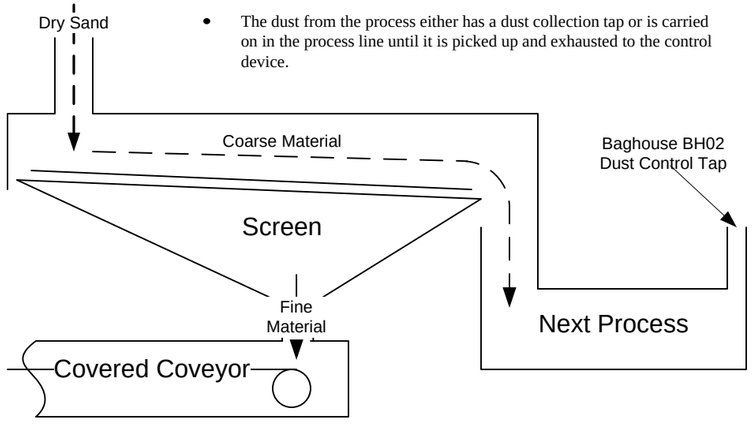
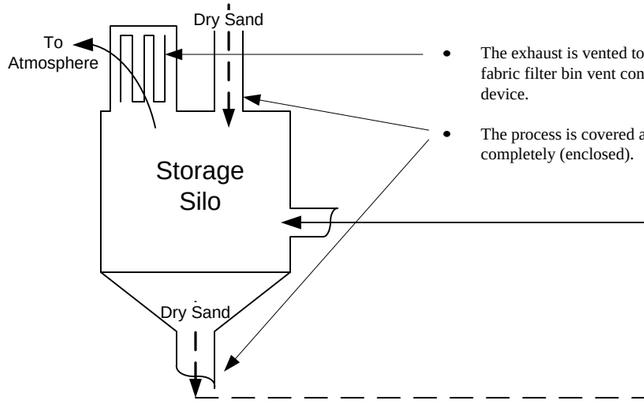


Figure 11 – Dry Screen, SCC: 30502006 (controlled)

Basis for Feed Hoppers: AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control



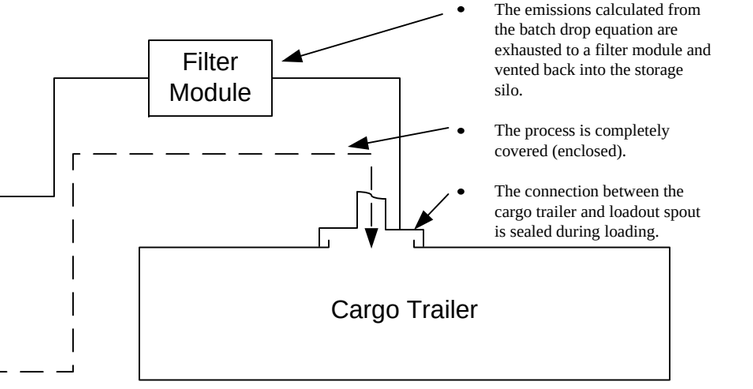
- The exhaust is vented to a fabric filter bin vent control device.
- The process is covered and completely (enclosed).

Figure 12 – Loading Spout, SCC: LOADOUT

Basis for Batch Drop Equation Reference: AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

$$E = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} (\text{lb / ton})$$

Where:
k = 0.11/0.35/0.74 (particle size multiplier (dimensionless), PM2.5/PM-10/PM respectively)
U = 10.7 mph, Average Annual Wind Speed - AP-42, Table 7.1-9, Peoria
M = 1%, material moisture content (%)



- The emissions calculated from the batch drop equation are exhausted to a filter module and vented back into the storage silo.
- The process is completely covered (enclosed).
- The connection between the cargo trailer and loadout spout is sealed during loading.

EMISSION{ CALCULATIONS

I. Fugitive Emissions

Mining

A Emission Factor Calculation for Emissions from Overburden Removal

PM10 Equation Factor Reference: AP-42, Table 11.9-1 Emission Factor Equations for Uncontrolled Open Dust Sources at Western Surface Coal Mines

$$\frac{1.(6.9)^{1.5}}{(7.9)^{1.4}} * 0.75 = 0.75 \text{ lb PM10 / hr}$$

PM Equation Factor Reference: AP-42, Table 11.9-1 Emission Factor Equations for Uncontrolled Open Dust Sources at Western Surface Coal Mines

$$\frac{5.7(6.9)^{1.2}}{(7.9)^{1.3}} = 3.94 \text{ lb PM / hr}$$

Where:

Surface Moisture Content = 7.9 percent
Silt Content - Overburden = 6.9 percent

B. Emission Factor Calculation for Emissions from Ore Mining on Unpaved Roads

Ore-mining transport distance calculation
Plant mining capacity: = 2,000,000 ton wet sand/yr
Haul capacity: 12 tons/load
Hauling distance to feeder: 0.25 miles (conveyors are used to transfer the raw feed to the wet processing area)
Hauling vehicle miles travelled: 2,000,000 ton/yr / 12 ton/load = 200,000 loads x 0.1 mile (roundtrip)/load = 20,000 VMT/yr

Equation Reference: AP-42, Section 13.2.2 Unpaved Roads, Equation 1a

$$k * (\frac{s}{12})^{a} * (\frac{W}{3})^{b} * (365 - P / 365) * (T)$$

Where:

k (lb/VMT) = 0.15/1.5/4.9 (Table 13.2.2-2. Constants for Equations 1a, PM2.5/PM10/PM respectively)
a = 0.9/0.9/0.7 (Table 13.2.2-2. Constants for Equations 1a, PM2.5/PM10/PM respectively)

b = 0.45 (Table 13.2.2-2. Constants for Equations 1a, PM2.5/PM10/PM)
S = 8.3 (Table 13.2.2-1. Typical Silt Content Values Of Surface Material on Industrial Unpaved Roads)
W = 50 (mean vehicle weight (tons))
P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period: P = 120 wet days for the region of Illinois that the proposed source will operate
T = Site specific techniques to reduce fugitive dust (assumes 90 percent reduction efficiency)

$$0.15*\left(\frac{8.3}{12}\right)^{0.9}*\left(\frac{50}{3}\right)^{0.45}*[(365-120)/365]*0.1=0.0256\,\text{lb PM2.5 / VMT}$$

$$1.5*\left(\frac{8.3}{12}\right)^{0.9}*\left(\frac{50}{3}\right)^{0.45}*[(365-120)/365]*0.1=0.256\ \text{lb PM10 / VMT}$$

$$4.9*\left(\frac{8.3}{12}\right)^{0.7}*\left(\frac{50}{3}\right)^{0.45}[(365-120)/365]*0.1=0.837\,\text{lb PM / VMT}$$

Storage Piles

A. Emission Factor for Storage Piles Calculation: AP-42 - Section 13.2.5 Industrial Wind Erosion, Table 13.2.5-5

Truck Haul Roads

A. Basis for semi-trailer hauling distance
Proposed maximum permitted transfer capacity: 1,600,000 ton/yr
Haul truck capacity: 20 ton/load
Distance travelled: 1200 feet (round trip)2
Hauling vehicle miles travelled: 1,600,000 ton/yr/20 tons/load x 1200 feet/trip/5280 feet/mile = 18,181 VMT

B. Emission Factor Calculation for Emissions from Paved Roads

Equation Reference: AP-42 - Section 13.2.1 Fugitive Emissions from Paved Roads
$E = k*(\text{sL})^{0.91}*(W)^{1.02}*(1-\text{P}/4\text{N})$

Where:
k = 0.00054 (particle size multiplier for PM2.5)

k = 0.0022 (particle size multiplier for PM10)
k = 0.011 (particle size multiplier for PM)
sL = 8.2 (road surface silt loading (grams per square meter) (g/m2), AP-42, Table 13.2.1-3 for the quarry industry)
W = 40 (average weight (tons) of the vehicles traveling the road)
P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period: P = 120 wet days for the region of Illinois that the proposed source will operate
N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly)

$$0.00054 * (8.2)^{0.91} * (28)^{1.02} * [1 - 120 / (4 * 365)] = 0.10 \text{ lb PM2.5 / VMT}$$

$$0.0022 * (8.2)^{0.91} * (28)^{1.02} * [1 - 120 / (4 * 365)] = 0.41 \text{ lb PM10 / VMT}$$

$$0.011 * (8.2)^{0.91} * (28)^{1.02} * [1 - 120 / (4 * 365)] = 2.05 \text{ lb PM / VMT}$$

EMISSIONS CALCULATIONS

I. Fugitive: Total PM Emissions (TPY): 37.39

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
171	MNG		2857.2 VMT/month	34286.64 VMT/year	0.837 lb/VMT	NA	NA	>12 percent moisture	1.1957	14.35	Mining
172	OR		41.7 hour/month	500 hour/year	3.94 lb/hour	NA	NA		0.0821	0.99	Overburden
173	PR		1686.3 VMT/month	20235.6 VMT/year	2.05 lb/VMT	NA	NA		1.7285	20.74	Truck traffic
174	SP		730.0 hour/month	8760 hour/year	0.3 lb/hr/50 piles	NA	NA		0.1095	1.31	Stockpile
B. Proposed Permit Limits for PM from Fugitive:			730.0 hour/month	8760 hour/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**3.1158**	**37.39**	

C. Emission Factor Source by Reference ID:

Mining	AP-42, Section 13.2.2 Unpaved Roads, Equation 1a
Overburden	AP-42, Table 11.9-1 Emission Factor Equations for Uncontrolled Open Dust Sources at Western Surface Coal Mines
Stockpile	AP-42 - Section 13.2.5 Industrial Wind Erosion, Table 13.2.5-5
Truck traffic	AP-42 - Section 13.2.1 Fugitive Emissions from Paved Roads

D. Example Calculation for Item 174:

$$\frac{1\text{ hour}}{\text{hour}} \times \frac{8760\text{ Hours}}{\text{year}} \times \frac{0.3\text{ lb}}{\text{hr/50 piles}} \times \frac{\text{ton}}{2000\text{ lb}} * ((1 - 0\,\%\text{ capture}/100) + (1 - 0\,\%\text{ control}/100)) = \frac{1.31\text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

I. Fugitive: Total PM-10 Emissions (TPY): 9.38

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
171	MNG		2857.2 VMT/month	34286.64 VMT/year	0.256 lb/VMT	NA	NA	>12 percent moisture	0.3657	4.39	Mining
172	OR		41.7 hour/month	500 hour/year	0.75 lb/hour	NA	NA		0.0156	0.19	Overburden
173	PR		1686.3 VMT/month	20235.6 VMT/year	0.41 lb/VMT	NA	NA		0.3457	4.15	Truck traffic
174	SP		730.0 hour/month	8760 hour/year	0.15 lb/hr/50 piles	NA	NA		0.0548	0.66	Stockpile
B. Proposed Permit Limits for PM-10 from Fugitive:			730.0 hour/month	8760 hour/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.7818**	**9.38**	

C. Emission Factor Source by Reference ID:

Mining	AP-42, Section 13.2.2 Unpaved Roads, Equation 1a
Overburden	AP-42, Table 11.9-1 Emission Factor Equations for Uncontrolled Open Dust Sources at Western Surface Coal Mines
Stockpile	AP-42 - Section 13.2.5 Industrial Wind Erosion, Table 13.2.5-5
Truck traffic	AP-42 - Section 13.2.1 Fugitive Emissions from Paved Roads

D. Example Calculation for Item 174:

$$\frac{1\text{ hour}}{\text{hour}} \times \frac{8760\text{ Hours}}{\text{year}} \times \frac{0.15\text{ lb}}{\text{hr/50 piles}} \times \frac{\text{ton}}{2000\text{ lb}} * ((1 - 0\,\%\text{ capture}/100) + (1 - 0\,\%\text{ control}/100)) = \frac{0.66\text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

I. Fugitive: Total PM2.5 Emissions (TPY): 1.75

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
171	MNG		2857.2 VMT/month	34286.64 VMT/year	0.0256 lb/VMT	NA	NA	>12 percent moisture	0.0366	0.44	Mining
172	OR		41.7 hour/month	500 hour/year	0.75 lb/hour	NA	NA		0.0156	0.19	Overburden
173	PR		1686.3 VMT/month	20235.6 VMT/year	0.1 lb/VMT	NA	NA		0.0843	1.01	Truck traffic
174	SP		730.0 hour/month	8760 hour/year	0.025 lb/hr/50 piles	NA	NA		0.0091	0.11	Stockpile
B. Proposed Permit Limits for PM2.5 from Fugitive:			730.0 hour/month	8760 hour/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.1456**	**1.75**	

C. Emission Factor Source by Reference ID:

Mining	AP-42, Section 13.2.2 Unpaved Roads, Equation 1a
Overburden	AP-42, Table 11.9-1 Emission Factor Equations for Uncontrolled Open Dust Sources at Western Surface Coal Mines
Stockpile	AP-42 - Section 13.2.5 Industrial Wind Erosion, Table 13.2.5-5
Truck traffic	AP-42 - Section 13.2.1 Fugitive Emissions from Paved Roads

D. Example Calculation for Item 174:

$$\frac{1\ \text{hour}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{0.025\ \text{lb}}{\text{hr/50 piles}} \times \frac{\text{ton}}{2000\ \text{lb}} \times (((1 - 0\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.11\ \text{ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

II. Wet Plant I

A. Emission Factor Calculation for Emissions from Batch Dropping of Raw Material

Equation Reference: AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

$$E = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} (\text{lb / ton})$$

Where:
k = 0.11/0.35/0.74 (particle size multiplier (dimensionless), PM2.5/PM-10/PM respectively)
U = 10.7 mph, Average Annual Wind Speed - AP-42, Table 7.1-9, Peoria
M = 12%, material moisture content (%)

$$0.11 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{12}{2}\right)^{1.4}} (\text{lb PM2.5 / ton}) = \frac{0.00008 \text{ lb PM2.5}}{\text{ton}}$$

$$0.35 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{12}{2}\right)^{1.4}} (\text{lb PM10 / ton}) = \frac{0.00025 \text{ lb PM10}}{\text{ton}}$$

$$0.74 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{12}{2}\right)^{1.4}} (\text{lb PM / ton}) = \frac{0.00052 \text{ lb PM}}{\text{ton}}$$

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM Emissions (TPY): 55.44

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0256	0.31	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0256	0.31	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0256	0.31	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0511	0.61	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0949	1.14	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0949	1.14	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4818	5.78	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM Emissions (TPY): 55.44

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0511	0.61	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0256	0.31	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0256	0.31	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.0012 lb/ton	AP-42	AP-42	>12% moisture	0.4380	5.26	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.0012 lb/ton	AP-42	AP-42	>12% moisture	0.2190	2.63	30502003 (controlled)
B. Proposed Permit Limits for PM from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.6202**	**55.44**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{\frac{500 \text{ tons}}{\text{hour}} \quad \frac{8760 \text{ Hours}}{\text{year}} \quad \frac{0.0012 \text{ lb}}{\text{ton}} \quad \frac{\text{ton}}{2000 \text{ lb}}}{} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{2.63 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM-10 Emissions (TPY): 21.2

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0084	0.10	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0084	0.10	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0084	0.10	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0168	0.20	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0456	0.55	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0456	0.55	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1621	1.94	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM-10 Emissions (TPY): 21.2

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0168	0.20	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0084	0.10	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0084	0.10	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.00054 lb/ton	AP-42	AP-42	>12% moisture	0.1971	2.37	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.00054 lb/ton	AP-42	AP-42	>12% moisture	0.0986	1.18	30502003 (controlled)
B. Proposed Permit Limits for PM-10 from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.7670**	**21.20**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{500 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.00054 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{1.18 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM2.5 Emissions (TPY): 2.7

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0024	0.03	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0024	0.03	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0024	0.03	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0047	0.06	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0015	0.02	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0015	0.02	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0110	0.13	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)

EMISSIONS CALCULATIONS

II. Wet Plant I: Total PM2.5 Emissions (TPY): 2.7

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0047	0.06	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0024	0.03	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0024	0.03	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.0001 lb/ton	AP-42	AP-42	>12% moisture	0.0365	0.44	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.0001 lb/ton	AP-42	AP-42	>12% moisture	0.0183	0.22	30502003 (controlled)
B. Proposed Permit Limits for PM2.5 from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.2251**	**2.70**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{500\ \text{tons}}{\text{hour}} \left| \frac{8760\ \text{Hours}}{\text{year}} \right| \frac{0.0001\ \text{lb}}{\text{ton}} \left| \frac{\text{ton}}{2000\ \text{lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.22\ \text{ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

III. Wet Plant II: Total PM Emissions (TPY): 9.95

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.0022 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.4818	5.78	30502002 (controlled)
B. Proposed Permit Limits for PM from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.8293**	**9.95**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left. \frac{0.0022 \text{ lb}}{\text{ton}} \right| \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{5.78 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

III. Wet Plant II: Total PM-10 Emissions (TPY): 3.31

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.00074 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.1621	1.94	30502002 (controlled)
B. Proposed Permit Limits for PM-10 from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.2762**	**3.31**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left| \frac{0.00074 \text{ lb}}{\text{ton}} \right. \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{1.94 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

III. Wet Plant II: Total PM2.5 Emissions (TPY): 0.52

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.00005 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.0110	0.13	30502002 (controlled)
B. Proposed Permit Limits for PM2.5 from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0432**	**0.52**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left| \frac{0.00005 \text{ lb}}{\text{ton}} \right. \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.13 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. Sand Drying: Total PM Emissions (TPY): 17.94

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.4954	17.94	BH01
B. Proposed Permit Limits for PM from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868\ \text{million dscf}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{1428.5\ \text{lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000\ \text{lb}} \times ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{17.94\ \text{ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. Sand Drying: Total PM-10 Emissions (TPY): 17.94

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.4954	17.94	BH01
B. Proposed Permit Limits for PM-10 from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{17.94 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. Sand Drying: Total PM2.5 Emissions (TPY): 17.94

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.4954	17.94	BH01
B. Proposed Permit Limits for PM2.5 from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{17.94 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total Carbon Dioxide Emissions (TPY): 28908

A. Carbon Dioxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	120000 lb/million scf N.G.	NA	NA	Uncontrolled	2409.0000	28908.00	DRY01 Combustion
B. Proposed Permit Limits for Carbon Dioxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**2409.0000**	**28908.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{120000 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{* ((1 - 100 \% capture/100) + (1 - 0 \% control/100))}) = \frac{28908 \text{ ton CO2}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total Carbon Monoxide Emissions (TPY): 58.97

A. Carbon Monoxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	244.8 lb/million scf N.G.	NA	NA	Uncontrolled	4.9144	58.97	DRY01 Combustion
B. Proposed Permit Limits for Carbon Monoxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.9144**	**58.97**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion Manufacturer's guarantee

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{244.8 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{* ((1 - 100 \% capture/100) + (1 - 0 \% control/100))}) = \frac{58.97 \text{ ton CO}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total Nitrogen Oxides Emissions (TPY): 41.77

A. Nitrogen Oxides Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	173.4 lb/million scf N.G.	NA	NA	Uncontrolled	3.4810	41.77	DRY01 Combustion
B. Proposed Permit Limits for Nitrogen Oxides from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**3.4810**	**41.77**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion Manufacturer's guarantee

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{173.4 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{(1 - 100 \% capture/100) + (1 - 0 \% control/100)}) = \frac{41.77 \text{ ton NOx}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total PM Emissions (TPY): 0

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0002	0.00	DRY01 Combustion
B. Proposed Permit Limits for PM from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0002**	**0.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total PM-10 Emissions (TPY): 0

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0002	0.00	DRY01 Combustion
B. Proposed Permit Limits for PM-10 from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0002**	**0.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left. \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \right| \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total PM2.5 Emissions (TPY): 0.18

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0153	0.18	DRY01 Combustion
B. Proposed Permit Limits for PM2.5 from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0153**	**0.18**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (1 - 100\ \%\ \text{capture}/100) + (1 - 90\ \%\ \text{control}/100)) = \frac{0.18 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total Sulfur Dioxide Emissions (TPY): 0.14

A. Sulfur Dioxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	0.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0120	0.14	DRY01 Combustion
B. Proposed Permit Limits for Sulfur Dioxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0120**	**0.14**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{0.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.14 \text{ ton SO2}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

IV. N.G. Combustion: Total Volatile Organic Compounds Emissions (TPY): 1.32

A. Volatile Organic Compounds Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	5.5 lb/million scf N.G.	NA	NA	Uncontrolled	0.1104	1.32	DRY01 Combustion
B. Proposed Permit Limits for Volatile Organic Compounds from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.1104**	**1.32**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{5.5 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{((1 - 100 \% capture/100) + (1 - 0 \% control/100))}) = \frac{1.32 \text{ ton VOM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM Emissions (TPY): 58.67

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0153	0.18	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.00052 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0380	0.46	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0204	0.25	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.4454	17.34	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.0841	13.01	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.0841	13.01	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.0637	12.76	BH02

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM Emissions (TPY): 58.67

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.8889**	**58.67**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM-10 Emissions (TPY): 20.68

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0050	0.06	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.00025 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0183	0.22	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0067	0.08	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.2336	2.80	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.1752	2.10	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.1752	2.10	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.0637	12.76	BH02

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM-10 Emissions (TPY): 20.68

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM-10 from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.7230**	**20.68**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM2.5 Emissions (TPY): 15.59

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0014	0.02	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.000008 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0006	0.01	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0019	0.02	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0876	1.05	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0657	0.79	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0657	0.79	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	Fabric filter baghouse dust collector (Proposed 0.01 gr/dscf of exhaust)	1.0637	12.76	BH02

EMISSIONS CALCULATIONS

V. Dry Sand Processes: Total PM2.5 Emissions (TPY): 15.59

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM2.5 from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.2994**	**15.59**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

VI. Storage Silos: Total PM Emissions (TPY): 60.71

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.7227	8.67	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
B. Proposed Permit Limits for PM from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**5.0589**	**60.71**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.0099 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{13.01 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

VI. Storage Silos: Total PM-10 Emissions (TPY): 9.81

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1168	1.40	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
B. Proposed Permit Limits for PM-10 from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.8176**	**9.81**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300\ \text{tons}}{\text{hour}} \left| \frac{8760\ \text{Hours}}{\text{year}} \right| \frac{0.0016\ \text{lb}}{\text{ton}} \left| \frac{\text{ton}}{2000\ \text{lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{2.1\ \text{ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

VI. Storage Silos: Total PM2.5 Emissions (TPY): 3.68

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0438	0.53	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
B. Proposed Permit Limits for PM2.5 from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.3066**	**3.68**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.0006 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.79 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

VI. Truck Loadout

A. Emission Factor Calculation for Emissions from Batch Dropping of Finished Material

Equation Reference: AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

$$E = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} (\text{lb} / \text{ton})$$

Where:
k = 0.11/0.35/0.74 (particle size multiplier (dimensionless), PM2.5/PM-10/PM respectively)
U = 10.7 mph, Average Annual Wind Speed - AP-42, Table 7.1-9, Peoria
M = 1%, material moisture content (%)

$$0.11 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{1}{2}\right)^{1.4}} (\text{lb PM2.5} / \text{ton}) = \frac{0.0025 \text{ lb PM2.5}}{\text{ton}}$$

$$0.35 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{1}{2}\right)^{1.4}} (\text{lb PM10} / \text{ton}) = \frac{0.00795 \text{ lb PM10}}{\text{ton}}$$

$$0.74 * (0.0032) * \frac{\left(\frac{10.7}{5}\right)^{1.3}}{\left(\frac{1}{2}\right)^{1.4}} (\text{lb PM} / \text{ton}) = \frac{0.017 \text{ lb PM}}{\text{ton}}$$

EMISSIONS CALCULATIONS

VII. Truck Loadout: Total PM Emissions (TPY): 0.98

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
B. Proposed Permit Limits for PM from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0818**	**0.98**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300 \text{ tons}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{0.017 \text{ lb}}{\text{ton}} \times \frac{\text{ton}}{2000 \text{ lb}} \times ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.25 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

VII. Truck Loadout: Total PM-10 Emissions (TPY): 0.46

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
B. Proposed Permit Limits for PM-10 from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0385**	**0.46**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300 \text{ tons}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{0.008 \text{ lb}}{\text{ton}} \times \frac{\text{ton}}{2000 \text{ lb}} \times ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.12 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

EMISSIONS CALCULATIONS

VII. Truck Loadout: Total PM2.5 Emissions (TPY): 0.14

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
B. Proposed Permit Limits for PM2.5 from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0120**	**0.14**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300\ \text{tons}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{0.0025\ \text{lb}}{\text{ton}} \times \frac{\text{ton}}{2000\ \text{lb}} \times ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.04\ \text{ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION
P.O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION

FOR AGENCY USE ONLY	
ID NUMBER:	
PERMIT #:	
COMPLETE ☐ INCOMPLETE ☐	DATE COMPLETE:
CHECK #:	ACCOUNT NAME:

THIS FORM IS TO BE USED BY ALL SOURCES TO SUPPLY FEE INFORMATION THAT MUST ACCOMPANY ALL CONSTRUCTION PERMIT APPLICATIONS. ***THIS APPLICATION MUST INCLUDE PAYMENT IN FULL TO BE DEEMED COMPLETE***. MAKE CHECK OR MONEY ORDER PAYABLE TO THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY. SEND TO THE ADDRESS ABOVE. DO NOT SEND CASH. REFER TO INSTRUCTIONS (197-INST) FOR ASSISTANCE.

SOURCE INFORMATION

1) SOURCE NAME: Ottawa Frac Sand Processing Plant	
2) PROJECT NAME: Mississippi Sand Project	3) SOURCE ID NO. (IF APPLICABLE): 099831AAF
4) CONTACT NAME: Mr. Gordie Stevens	5) CONTACT PHONE NUMBER: (630) 795-7322

FEE DETERMINATION

6) FILL IN THE FOLLOWING THREE BOXES AS DETERMINED IN SECTIONS 1 THROUGH 4 BELOW:

$ 5000	+	$ 20,000	=	$ 25,000
SECTION 1 SUBTOTAL		SECTION 2, 3 OR 4 SUBTOTAL		GRAND TOTAL

SECTION 1: STATUS OF SOURCE / PURPOSE OF SUBMITTAL

7) YOUR APPLICATION WILL FALL UNDER ONLY ONE OF THE FOLLOWING SIX CATEGORIES DESCRIBED BELOW. CHECK THE BOX THAT APPLIES, ENTER THE CORRESPONDING FEE IN THE BOX TO THE RIGHT AND COPY THIS FEE INTO THE SECTION 1 SUBTOTAL BOX ABOVE. PROCEED TO APPLICABLE SECTIONS.

FOR PURPOSES OF THIS FORM:

- ***MAJOR SOURCE*** IS A SOURCE THAT IS REQUIRED TO OBTAIN A CAAPP PERMIT.
- ***SYNTHETIC MINOR* SOURCE** IS A SOURCE THAT HAS TAKEN LIMITS ON POTENTIAL TO EMIT IN A PERMIT TO AVOID CAAPP PERMIT REQUIREMENTS (E.G., FESOP).
- ***NON-MAJOR* SOURCE** IS A SOURCE THAT IS NOT A MAJOR OR SYNTHETIC MINOR SOURCE.

☐ EXISTING SOURCE WITHOUT STATUS CHANGE OR WITH STATUS CHANGE FROM SYNTHETIC MINOR TO MAJOR SOURCE OR VICE VERSA. ENTER $0 AND PROCEED TO SECTION 2.	
☐ EXISTING NON-MAJOR SOURCE THAT WILL BECOME SYNTHETIC MINOR OR MAJOR SOURCE. ENTER $5,000 AND PROCEED TO SECTION 4.	
☐ EXISTING MAJOR OR SYNTHETIC MINOR SOURCE THAT WILL BECOME NON-MAJOR SOURCE. ENTER $4,000 AND PROCEED TO SECTION 3.	$ 5000 SECTION 1 SUBTOTAL
☒ NEW MAJOR OR SYNTHETIC MINOR SOURCE. ENTER $5,000 AND PROCEED TO SECTION 4.	
☐ NEW NON-MAJOR SOURCE. ENTER $500 AND PROCEED TO SECTION 3.	
☐ AGENCY ERROR. IF THIS IS A TIMELY REQUEST TO CORRECT AN ISSUED PERMIT THAT INVOLVES ONLY AN AGENCY ERROR AND IF THE REQUEST IS RECEIVED WITHIN THE DEADLINE FOR A PERMIT APPEAL TO THE POLLUTION CONTROL BOARD, THEN ENTER $0. SKIP SECTIONS 2, 3 AND 4. PROCEED DIRECTLY TO SECTION 5.	

SECTION 2: SPECIAL CASE FILING FEE

8) FILING FEE. IF THE APPLICATION ONLY ADDRESSES ONE OR MORE OF THE FOLLOWING, CHECK THE APPROPRIATE BOXES, ENTER $500 IN THE SECOND BOX UNDER FEE DETERMINATION ABOVE, SKIP SECTIONS 3 AND 4 AND PROCEED DIRECTLY TO SECTION 5. OTHERWISE, PROCEED TO SECTION 3 OR 4, AS APPROPRIATE.

- ☐ ADDITION OR REPLACEMENT OF CONTROL DEVICES ON PERMITTED UNITS
- ☐ PILOT PROJECTS/TRIAL BURNS BY A PERMITTED UNIT
- ☐ APPLICATIONS ONLY INVOLVING INSIGNIFICANT ACTIVITIES UNDER 35 IAC 201.210 (MAJOR SOURCES ONLY)
- ☐ LAND REMEDIATION PROJECTS
- ☐ REVISIONS RELATED TO METHODOLOGY OR TIMING FOR EMISSION TESTING
- ☐ MINOR ADMINISTRATIVE-TYPE CHANGE TO A PERMIT

THIS AGENCY IS AUTHORIZED TO REQUIRE AND YOU MUST DISCLOSE THIS INFORMATION UNDER 415 ILCS 5/39. FAILURE TO DO SO COULD RESULT IN THE APPLICATION BEING DENIED AND PENALTIES UNDER 415 ILCS 5 ET SEQ. IT IS NOT NECESSARY TO USE THIS FORM IN PROVIDING THIS INFORMATION. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE _____

SECTION 3: FEES FOR CURRENT OR PROJECTED NON-MAJOR SOURCES

9) IF THIS APPLICATION CONSISTS OF A SINGLE NEW EMISSION UNIT OR NO MORE THAN TWO MODIFIED EMISSION UNITS, ENTER $500.	9)
10) IF THIS APPLICATION CONSISTS OF MORE THAN ONE NEW EMISSION UNIT OR MORE THAN TWO MODIFIED UNITS, ENTER $1,000.	10)
11) IF THIS APPLICATION CONSISTS OF A NEW SOURCE OR EMISSION UNIT SUBJECT TO SECTION 39.2 OF THE ACT (I.E., LOCAL SITING REVIEW); A COMMERCIAL INCINERATOR OR A MUNICIPAL WASTE, HAZARDOUS WASTE, OR WASTE TIRE INCINERATOR; A COMMERCIAL POWER GENERATOR; OR AN EMISSION UNIT DESIGNATED AS A COMPLEX SOURCE BY AGENCY RULEMAKING, ENTER $15,000.	11)
12) IF A PUBLIC HEARING IS HELD (SEE INSTRUCTIONS), ENTER $10,000.	12)
13) SECTION 3 SUBTOTAL (ADD LINES 9 THROUGH 12) TO BE ENTERED ON PAGE 1.	13)

SECTION 4: FEES FOR CURRENT OR PROJECTED MAJOR OR SYNTHETIC MINOR SOURCES

Application Contains Modified Emission Units Only	14) FOR THE FIRST MODIFIED EMISSION UNIT, ENTER $2,000.	14)	
	15) NUMBER OF ADDITIONAL MODIFIED EMISSION UNITS = _____ X $1,000.	15)	
	16) LINE 14 PLUS LINE 15, OR $5,000, WHICHEVER IS LESS.		16)
Application Contains New And/Or Modified Emission Units	17) FOR THE FIRST NEW EMISSION UNIT, ENTER $4,000.	17) 4000	
	18) NUMBER OF ADDITIONAL NEW AND/OR MODIFIED EMISSION UNITS = _____ X $1,000.	18)	
	19) LINE 17 PLUS LINE 18, OR $10,000, WHICHEVER IS LESS.		19) 10000
Application Contains Netting Exercise	20) NUMBER OF INDIVIDUAL POLLUTANTS THAT RELY ON A NETTING EXERCISE OR CONTEMPORANEOUS EMISSIONS DECREASE TO AVOID APPLICATION OF PSD OR NONATTAINMENT NSR = _____ X $3,000.		20)
Additional Supplemental Fees	21) IF THE NEW SOURCE OR EMISSION UNIT IS SUBJECT TO SECTION 39.2 OF THE ACT (I.E., SITING); A COMMERCIAL INCINERATOR OR OTHER MUNICIPAL WASTE, HAZARDOUS WASTE, OR WASTE TIRE INCINERATOR; A COMMERCIAL POWER GENERATOR; OR ONE OR MORE OTHER EMISSION UNITS DESIGNATED AS A COMPLEX SOURCE BY AGENCY RULEMAKING, ENTER $25,000.		21)
	22) IF THE SOURCE IS A NEW MAJOR SOURCE SUBJECT TO PSD, ENTER $12,000.		22)
	23) IF THE PROJECT IS A MAJOR MODIFICATION SUBJECT TO PSD, ENTER $6,000.		23)
	24) IF THIS IS A NEW MAJOR SOURCE SUBJECT TO NONATTAINMENT (NAA) NSR, ENTER $20,000.		24)
	25) IF THIS IS A MAJOR MODIFICATION SUBJECT TO NAA NSR, ENTER $12,000.		25)
	26) IF APPLICATION INVOLVES A DETERMINATION OF CLEAN UNIT STATUS AND THEREFORE IS NOT SUBJECT TO BACT OR LAER, ENTER $5,000 PER UNIT FOR WHICH A DETERMINATION IS REQUESTED OR OTHERWISE REQUIRED. _____ X $5,000.		26)
	27) IF APPLICATION INVOLVES A DETERMINATION OF MACT FOR A POLLUTANT AND THE PROJECT IS NOT SUBJECT TO BACT OR LAER FOR THE RELATED POLLUTANT UNDER PSD OR NSR (E.G., VOM FOR ORGANIC HAP), ENTER $5,000 PER UNIT FOR WHICH A DETERMINATION IS REQUESTED OR OTHERWISE REQUIRED. _____ X $5,000.		27)
	28) IF A PUBLIC HEARING IS HELD (SEE INSTRUCTIONS), ENTER $10,000.		28) 10000
29) SECTION 4 SUBTOTAL (ADD LINES 16 AND LINES 19 THROUGH 28) TO BE ENTERED ON PAGE 1.			29) 20000

SECTION 5: CERTIFICATION

NOTE: APPLICATIONS WITHOUT A SIGNED CERTIFICATION WILL BE DEEMED INCOMPLETE.

30) I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE INFORMATION CONTAINED IN THIS FEE APPLICATION FORM IS TRUE, ACCURATE AND COMPLETE.

BY: _____ (SIGNATURE)

President – Mississippi Sand, LLC (TITLE OF SIGNATORY)

Mr. Tony Giordano (TYPED OR PRINTED NAME OF SIGNATORY)

3 / 14 / 12 (DATE)

APPLICATION PAGE _____

Printed on Recycled Paper
197-FEE

Illinois Environmental Protection Agency
Division Of Air Pollution Control -- Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

Construction Permit Application For a FESOP Source (FORM APC628)	For Illinois EPA use only
	BOA ID No.:
	Application No.:
	Date Received:

This form is to be used to supply information to obtain a construction permit for a proposed project involving a Federally Enforceable State Operating Permit (FESOP) or Synthetic Minor source, including construction of a new FESOP source. Other necessary information must accompany this form as discussed in the "General Instructions For Permit Applications," Form APC-201.

Proposed Project

1. Working Name of Proposed Project:
   Frac Sand Processing Plant
2. Is the project occurring at a source that already has a permit from the Bureau of Air (BOA)?
   ☒ No ☐ Yes If Yes, provide BOA ID Number: __ __ __ __ __ __ __ __ __ __
3. Does this application request a revision to an existing construction permit issued by the BOA?
   ☒ No ☐ Yes If Yes, provide Permit Number: __ __ __ __ __ __ __ __ __ __
4. Does this application request that the new/modified emission units be incorporated into an existing FESOP issued by the BOA?
   ☒ No ☐ Yes If Yes, provide Permit Number: __ __ __ __ __ __ __ __ __ __

Source Information

5. Source name:*
   Mississippi Sand, LLC - Ottawa Plant
6. Source street address:*
   1222 E Illinois Rte. 71

7. City:	8. County:	9. Zip code:
Ottawa	LaSalle	61350

ONLY COMPLETE THE FOLLOWING FOR A SOURCE WITHOUT AN ID NUMBER.

10. Is the source located within city limits? ☐ Yes ☒ No
    If no, provide Township Name: South Ottawa Township

11. Description of source and product(s) produced:	12. Primary Classification Code of source:
Industrial Sand Processing Plant	SIC: 1446 or NAICS: __ __ __ __ __ __
13. Latitude (DD:MM:SS.SSSS): 41:18:40.824	14. Longitude (DD:MM:SS.SSSS): 88:55:38.391

* If this information different than previous information, then complete a new Form 200-CAAPP to change the source name in initial FESOP application for the source or Form APC-620 for Air Permit Name and/or Ownership Change if the FESOP has been previously issued.

Applicant Information

15. Who is the applicant?	16. All correspondence to: (check one)
☐ Owner ☒ Operator	☐ Owner ☒ Operator ☐ Source
17. Applicant's FEIN: 26-1506512	18. Attention name and/or title for written correspondence: Mr. Tony Giordano, President - Mississippi Sand, LLC

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Owner Information*		
19. Name: Mississippi Sand, LLC		
20. Address: 12209 Big Bend Rd.		
21. City: Saint Louis	22. State: MO	23. Zip code: 63122-6837

* If this information different than previous information, then complete Form 272-CAAPP for a Request for Ownership Change for CAAPP Permit for an initial FESOP application for the source or Form APC-620 for Air Permit Name and/or Ownership Change if the FESOP has been previously issued.

Operator Information (If Different from Owner)*		
24. Name Mississippi Sand, LLC		
25. Address: 12209 Big Bend Rd.		
26. City: Saint Louis	27. State: Missouri	28. Zip code: 63122-6837

* If this information different than previous information, then complete a new Form 200-CAAPP to change the source name in initial FESOP application for the source or Form APC-620 for Air Permit Name and/or Ownership Change if the FESOP has been previously issued.

Technical Contacts for Application	
29. Preferred technical contact: (check one) ☒ Applicant's contact ☐ Consultant	
30. Applicant's technical contact person for application: Mr. Gordie Stevens	
31. Contact person's telephone number 630-795-7322	32. Contact person's email address: gstevens@patrickengineering.com
33. Applicant's consultant for application:	
34. Consultant's telephone number:	35. Consultant's email address:

Review Of Contents of the Application		
36. Is the emission unit covered by this application already constructed? If "yes", provide the date construction was completed: Note: The Illinois EPA is unable to issue a construction permit for a emission unit that has already been constructed.	☐ Yes	☒ No
37. Does the application include a narrative description of the proposed project?	☒ Yes	☐ No
38. Does the application contain a list or summary that clearly identifies the emission units and air pollution control equipment that are part of the project?	☒ Yes	☐ No
39. Does the application include process flow diagram(s) for the project showing new and modified emission units and control equipment and related existing equipment and their relationships?	☒ Yes	☐ No
40. If the project is at a source that has not previously received a permit from the BOA, does the application include a source description, plot plan and site map?	☒ Yes	☐ No

Review Of Contents of the Application (continued)	
41. Does the application include relevant information for the proposed project as requested on Illinois EPA, BOA application forms (or otherwise contain all the relevant information)?	☒ Yes ☐ No
42. Does the application identify and address all applicable or potentially applicable emissions standards, including: a. State emission standards (35 IAC Chapter I, Subtitle B); b. Federal New Source Performance Standards (40 CFR Part 60); c. Federal standards for HAPs (40 CFR Parts 61 and 63)?	☒ Yes ☐ No
43. Does the application address whether the proposed project or the source could be a major project for Prevention of Significant Deterioration (PSD), 40 CFR 52.21?	☒ Yes ☐ No . ☐ N/A
44. Does the application address for which pollutant(s) the proposed project or the source could be a major project for PSD, 40 CFR 52.21?	☒ Yes ☐ No . ☐ N/A
45. Does the application address whether the proposed project or the source could be a major project for "Nonattainment New Source Review," (NA NSR), 35 IAC Part 203?	☒ Yes ☐ No ☐ N/A
46. Does the application address for which pollutant(s) the proposed project or the source could be a major project for NA NSR, 35 IAC Part 203?	☒ Yes ☐ No ☐ N/A
47. Does the application address whether the proposed project or the source could potentially be subject to federal Maximum Achievable Control Technology (MACT) standard under 40 CFR Part 63 for Hazardous Air Pollutants (HAP) and identify the standard that could be applicable?	☐ Yes ☐ No ☒ N/A* * Source not major ☒ Project not major ☐
48. Does the application identify the HAP(s) from the proposed project or the source that would trigger the applicability of a MACT standard under 40 CFR Part 63?	☒ Yes ☐ No ☐ N/A
49. Does the application include a summary of the current and the future potential emissions of the source after the proposed project has been completed for each criteria air pollutant and/or HAP (tons/year)?	☒ Yes ☐ No ☐ N/A* * Applicability of PSD, NA NSR or 40 CFR 63 not applicable to the source's emissions.
50. Does the application include a summary of the requested permitted annual emissions of the proposed project for the new and modified emission units (tons/year)?	☒ Yes ☐ No ☐ N/A* * Project does not involve an increase in emissions from new or modified emission units.
51. Does the application include a summary of the requested permitted production, throughput, fuel, or raw material usage limits that correspond to the annual emissions limits of the proposed project for the new and modified emission units?	☒ Yes ☐ No ☐ N/A* * Project does not involve an increase in emissions from new or modified emission units.
52. Does the application include sample calculations or methodology for the emission estimations and the requested emission limits?	☒ Yes ☐ No
53. Does the application address the relationships with and implications of the proposed project for the source's FESOP?	☒ Yes ☐ No ☐ N/A* *FESOP not yet issued.
54. If the application contains information that is considered a TRADE SECRET, has such information been properly marked and claimed and other requirements to perfect such a claim been satisfied in accordance with 35 IAC Part 130? Note: "Claimed information will not be legally protected from disclosure to the public if it is not properly claimed or does not qualify as trade secret information.	☐ Yes ☐ No ☒ N/A* * No information in the application is claimed to be a TRADE SECRET

Review Of Contents of the Application (continued)		
55. If the source is located in a county other than Cook County, are two separate copies of this application being submitted?	☒ Yes	☐ No
56. If the source is located in Cook County, are three separate copies of this application being submitted?	☐ Yes	☒ No
57. Does the application include a completed "FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION," Form 197-FEE, for the emission units and control equipment for which a permit for construction or modification is being sought?	☒ Yes	☐ No
58. Does the application include a check in the proper amount for payment of the Construction permit fee?	☒ Yes	☐ No

Note: Answering "No" to Items 36 through 58 may result in the application being deemed incomplete.

Signature Block

Pursuant to 35 IAC 201.159, all applications and supplements thereto shall be signed by the owner and operator of the source, or their authorized agent, and shall be accompanied by evidence of authority to sign the application. Applications without a signed certification will be deemed incomplete.

59. Authorized Signature:

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete and that I am a responsible official for the source, as defined by Section 39.5(1) of the Environmental Protection Act. In addition, the technical contact person identified above is authorized to submit (by hard copy and/or by electronic copy) any supplemental information related to this application that may be requested by the Illinois EPA.

BY: _____ President – Mississippi Sand, LLC

AUTHORIZED SIGNATURE — TITLE OF SIGNATORY

Mr. Tony Giordano — 5 / 8 / 2012

TYPED OR PRINTED NAME OF SIGNATORY — DATE

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION PROCESS EMISSION SOURCE	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. NAME OF PROCESS: See Attachment 1 to APC 220	6. NAME OF EMISSION SOURCE EQUIPMENT: --	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: --	8. MODEL NUMBER: --	9. SERIAL NUMBER: --
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: --		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): --		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: __--__ HRS/DAY __--__ DAYS/WK __--__ WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: __--__ HRS/DAY __--__ DAYS/WK __--__ WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB __--__ % MAR-MAY __--__ % JUN-AUG __--__ % SEPT-NOV __--__ %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATION TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. See Attachment 2 to APC 220	b. -- LB/HR	c. -- LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. See Attachment 3 to APC 220	b. -- LB/HR	c. -- LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. NA	b. -- LB/HR	c. -- LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b. ----------	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E. G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 220			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 220	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): --	
66. EXIT HEIGHT ABOVE GRADE: --	67. EXIT DIAMETER: --
68. GREATEST HEIGHT OF NEARBY BUILDINGS: --	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: --
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: -- °F	72. EXIT GAS TEMPERATURE: -- °F
71. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM	73. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM Emissions (TPY): 55.44

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0256	0.31	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0256	0.31	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0256	0.31	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0409	0.49	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0511	0.61	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0949	1.14	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0949	1.14	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.1518	1.82	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00052 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0949	1.14	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4015	4.82	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.0022 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.4818	5.78	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM Emissions (TPY): 55.44

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0204	0.25	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0511	0.61	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0256	0.31	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0256	0.31	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.0012 lb/ton	AP-42	AP-42	>12% moisture	0.4380	5.26	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.0012 lb/ton	AP-42	AP-42	>12% moisture	0.2190	2.63	30502003 (controlled)
B. Proposed Permit Limits for PM from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.6202**	**55.44**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{500 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.0012 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{2.63 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM-10 Emissions (TPY): 21.2

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0084	0.10	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0084	0.10	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0084	0.10	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0134	0.16	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0168	0.20	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0456	0.55	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0456	0.55	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0730	0.88	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.00025 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0456	0.55	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1351	1.62	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.00074 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.1621	1.94	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM-10 Emissions (TPY): 21.2

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0067	0.08	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0168	0.20	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0084	0.10	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0084	0.10	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.00054 lb/ton	AP-42	AP-42	>12% moisture	0.1971	2.37	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.00054 lb/ton	AP-42	AP-42	>12% moisture	0.0986	1.18	30502003 (controlled)
B. Proposed Permit Limits for PM-10 from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.7670**	**21.20**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{500 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.00054 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{1.18 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM2.5 Emissions (TPY): 2.7

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
18	C12	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
19	C13	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
4	C01	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
23	C15	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
25	C16	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0024	0.03	30502006 (controlled)
28	C18	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0024	0.03	30502006 (controlled)
50	C19	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0024	0.03	30502006 (controlled)
52	C21	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
54	C22	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
57	C25	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0038	0.05	30502006 (controlled)
5	C02	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
7	C03	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
8	C04	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
9	C05	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 4)	0.0047	0.06	30502006 (controlled)
15	C09	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
16	C10	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
17	C11	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
20	C14	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
26	C17	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0015	0.02	RadialStacker
51	C20	Belt Conveyor	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0015	0.02	RadialStacker
55	C23	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
56	C24	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
58	C26	Belt Conveyor	584000.0 tons/month	7008000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 4)	0.0023	0.03	RadialStacker
22	F03	Belt Feeder	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
31	CY01	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
32	CY02	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
39	CY03	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
40	CY04	Dewatering Cyclone	365000.0 tons/month	4380000 tons/year	0.000008 lb/ton	NA	NA	>12% moisture (See Figure 5)	0.0015	0.02	Cyclone
35	DWS01	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
36	DWS02	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
41	DWS03	Dewatering Screen	365000.0 tons/month	4380000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0091	0.11	30502002 (controlled)
24	SCR01	Double Deck Screen	438000.0 tons/month	5256000 tons/year	0.00005 lb/ton	AP-42	AP-42	>12% moisture (See Figure 7)	0.0110	0.13	30502002 (controlled)
1	FH01	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
21	FH03	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
60	G01	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
61	G02	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
62	G03	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
63	G04	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
64	G05	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant I: Total PM2.5 Emissions (TPY): 2.7

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
65	G06	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
66	G07	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
67	G08	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
68	G09	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
69	G10	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
70	G11	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
71	G12	Gate Feeder	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 2)	0.0019	0.02	30502006 (controlled)
2	F01	Grizzly Feeder	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 2)	0.0047	0.06	30502006 (controlled)
33	HY01	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0024	0.03	30502006 (controlled)
34	HY02	Hydrosizer	365000.0 tons/month	4380000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 6)	0.0024	0.03	30502006 (controlled)
3	CR01	Impact Crusher	730000.0 tons/month	8760000 tons/year	0.0001 lb/ton	AP-42	AP-42	>12% moisture	0.0365	0.44	30502003 (controlled)
27	CR02	VSI Crusher	365000.0 tons/month	4380000 tons/year	0.0001 lb/ton	AP-42	AP-42	>12% moisture	0.0183	0.22	30502003 (controlled)
B. Proposed Permit Limits for PM2.5 from Wet Plant I:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.2251**	**2.70**	

C. Emission Factor Source by Reference ID:

30502002 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)
30502003 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502003, Tertiary Crushing (controlled)
30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
Cyclone	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 27:

$$\frac{500\ \text{tons}}{\text{hour}} \left| \frac{8760\ \text{Hours}}{\text{year}} \right| \frac{0.0001\ \text{lb}}{\text{ton}} \left| \frac{\text{ton}}{2000\ \text{lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.22\ \text{ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

Attachment 5 to APC220: Stack Information

Item 64. Flow Diagram Designation of Exhaust Point	Wet Plant I
Item 65. Description of Exhaust Point	This stack ID represents fugitive sources from wet sand processing.
Item 66. Exit Height above Grade (feet)	NA
Item 67. Exit Diameter (feet)	NA
Item 68. Greatest Height of Nearby Building (feet)	To be determined
Item 69. Distance to Nearest Property Line (feet)	300
Item 70. Average Exhaust Gas Temperature (F)	NA
Item 71. Average Flow Rate (acfm)	NA
Item 72. Maximum Exhaust Gas Temperature (F)	NA
Item 73. Maximum Flow Rate (acfm)	NA

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION PROCESS EMISSION SOURCE	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. NAME OF PROCESS: Wet Plant II	6. NAME OF EMISSION SOURCE EQUIPMENT: See Attachment 1 to APC 220	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: --	8. MODEL NUMBER: --	9. SERIAL NUMBER: --
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: --		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): --		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB -- % MAR-MAY -- % JUN-AUG -- % SEPT-NOV -- %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATION TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. See Attachment 2 to APC 220	b. -- LB/HR	c. -- LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. See Attachment 3 to APC 220	b. -- LB/HR	c. -- LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. NA	b. -- LB/HR	c. -- LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b. ----------	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E. G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 220			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 220	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): --	
66. EXIT HEIGHT ABOVE GRADE: --	67. EXIT DIAMETER: --
68. GREATEST HEIGHT OF NEARBY BUILDINGS: --	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: --
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: -- °F	72. EXIT GAS TEMPERATURE: -- °F
71. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM	73. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant II: Total PM Emissions (TPY): 9.95

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0511	0.61	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0307	0.37	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.00014 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0511	0.61	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.00014 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0307	0.37	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.0022 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.4818	5.78	30502002 (controlled)
B. Proposed Permit Limits for PM from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.8293**	**9.95**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left. \frac{0.0022 \text{ lb}}{\text{ton}} \right| \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{5.78 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Wet Plant II: Total PM-10 Emissions (TPY): 3.31

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0168	0.20	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0101	0.12	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000046 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0168	0.20	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000046 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0101	0.12	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.00074 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.1621	1.94	30502002 (controlled)
B. Proposed Permit Limits for PM-10 from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.2762**	**3.31**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left| \frac{0.00074 \text{ lb}}{\text{ton}} \right. \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{1.94 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

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**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

Wet Plant II: Total PM2.5 Emissions (TPY): 0.52

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
72	C27	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
10	C06	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
11	C07	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
12	C08	Belt Conveyor	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 1)	0.0047	0.06	30502006 (controlled)
76	F04	Belt Conveyor	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 1)	0.0028	0.03	30502006 (controlled)
14	F02	Belt Feeder	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
13	FH02	Feed Hopper	730000.0 tons/month	8760000 tons/year	0.000013 lb/ton	AP-42	AP-42	>12% moisture (See Figure 3)	0.0047	0.06	30502006 (controlled)
75	FH04	Feed Hopper	438000.0 tons/month	5256000 tons/year	0.000013 lb/ton	AP-42	AP-42	>5% moisture (See Figure 3)	0.0028	0.03	30502006 (controlled)
74	SCR02	Single Deck Screen	438000.0 tons/month	5256000 tons/year	0.00005 lb/ton	AP-42	AP-42	>5% moisture (See Figure 7)	0.0110	0.13	30502002 (controlled)
B. Proposed Permit Limits for PM2.5 from Wet Plant II:			730000.0 tons/month	8760000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0432**	**0.52**	

C. Emission Factor Source by Reference ID:

30502002 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502002, Screening (controlled)

30502006 (controlled) AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)

D. Example Calculation for Item 74:

$$\frac{600 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left| \frac{0.00005 \text{ lb}}{\text{ton}} \right. \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.13 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

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Attachment 5 to APC220: Stack Information

Item 64. Flow Diagram Designation of Exhaust Point	Wet Plant II
Item 65. Description of Exhaust Point	This stack ID represents fugitive sources from wet sand processing.
Item 66. Exit Height above Grade (feet)	NA
Item 67. Exit Diameter (feet)	NA
Item 68. Greatest Height of Nearby Building (feet)	To be determined
Item 69. Distance to Nearest Property Line (feet)	300
Item 70. Average Exhaust Gas Temperature (F)	NA
Item 71. Average Flow Rate (acfm)	NA
Item 72. Maximum Exhaust Gas Temperature (F)	NA
Item 73. Maximum Flow Rate (acfm)	NA

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

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1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. NAME OF PROCESS: Dry Sand Processes	6. NAME OF EMISSION SOURCE EQUIPMENT: See Attachment 1 to APC 260	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: --	8. MODEL NUMBER: --	9. SERIAL NUMBER: --
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: --		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): --		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB -- % MAR-MAY -- % JUN-AUG -- % SEPT-NOV -- %		

INSTRUCTIONS
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DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

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RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. See Attachment 2 to APC 260	b. -- LB/HR	c. -- LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. See Attachment 3 to APC 260	b. -- LB/HR	c. -- LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. NA	b. -- LB/HR	c. -- LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b. ----------	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E. G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 260			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 260	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): --	
66. EXIT HEIGHT ABOVE GRADE: --	67. EXIT DIAMETER: --
68. GREATEST HEIGHT OF NEARBY BUILDINGS: --	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: --
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: -- °F	72. EXIT GAS TEMPERATURE: -- °F
71. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM	73. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF CONTROL EQUIPMENT: 2320 Creve Coeur Mill Rd	4. CITY OF CONTROL EQUIPMENT LaSalle County, Ottawa Township
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: Baghouse (Fabric Filter) Dust Collector	

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION SECTION. 2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM. 3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION. 4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION. 5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OR THE SOURCE EQUIPMENT. FOR EXAMPLE, “MAXIMUM EFFICIENCY” IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND “AVERAGE FLOW RATE” IS THE FLOW RATE INTO HE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION. 6. FOR GENERAL INFORMATION REFER TO “GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS,” APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

EMISSION INFORMATION			
1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. GR/SCF	b. LB/HR	c. See Attachment 4 to APC 260
CARBON MONOXIDE	3a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	4a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	7a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	9a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	10a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	13a. PPM (VOL)	b. LB/HR	c.

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION	
1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 260	
2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):	
3. EXIT HEIGHT ABOVE GRADE:	4. EXIT DIAMETER:
5. GREATEST HEIGHT OF NEARBY BUILDINGS:	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
AVERAGE OPERATION	MAXIMUM OPERATION
7. EXIT GAS TEMPERATURE: °F	9. EXIT GAS TEMPERATURE: °F
8. GAS FLOW RATE THROUGH EACH EXIT: ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: ACFM

FILTER UNIT	
1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: BGH02	
2. MANUFACTURER: To be determined (TBD)	3. MODEL NAME AND NUMBER: TBD
4. FILTERING MATERIAL: TBD	5. FILTERING AREA: TBD FT^2
6. CLEANING METHOD: ☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☒ PULSE JET ☐ OTHER: SPECIFY _____	
7. GAS COOLING METHOD: ☐ DUCT WORK: LENGTH NA FT., DIAM _____ IN. ☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER: SPECIFY _____	

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 20800 SCFM	12. GAS FLOW RATE (FROM SOURCE): 20800 SCFM
9. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY -- GPM	13. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY - GPM
10. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F	14. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM Emissions (TPY): 58.67

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0153	0.18	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.00052 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0380	0.46	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0204	0.25	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.00014 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0153	0.18	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.4454	17.34	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.0841	13.01	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	1.0841	13.01	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.0637	12.76	BH02

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM Emissions (TPY): 58.67

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.8889**	**58.67**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM-10 Emissions (TPY): 20.68

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0050	0.06	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.00025 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0183	0.22	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0067	0.08	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000046 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0050	0.06	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.2336	2.80	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.1752	2.10	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.1752	2.10	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.0637	12.76	BH02

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM-10 Emissions (TPY): 20.68

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM-10 from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.7230**	**20.68**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM2.5 Emissions (TPY): 15.59

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
106	C28	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
111	C30	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
112	C31	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
120	C32	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
121	C33	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
135	C34	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 10)	0.0014	0.02	30502006 (controlled)
143	C35	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
146	C36	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
153	C37	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
160	C38	Belt Conveyor	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
107	C29	Belt Conveyor	146000.0 tons/month	1752000 tons/year	0.000008 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 4)	0.0006	0.01	RadialStacker
96	F05	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
98	F06	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
100	F07	Belt Feeder	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
117	F08	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
126	F09	Belt Feeder	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
92	BE01	Bucket Elevator	292000.0 tons/month	3504000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0019	0.02	30502006 (controlled)
113	BE02	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
122	BE03	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
136	BE04	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
144	BE05	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
161	BE06	Bucket Elevator	219000.0 tons/month	2628000 tons/year	0.000013 lb/ton	AP-42	AP-42	Covered (See Figure 9)	0.0014	0.02	30502006 (controlled)
103	SCR03	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
104	SCR04	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
105	SCR05	Dry Screen	97090.0 tons/month	1165080 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
119	SCR06	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
128	SCR07	Dry Screen	219000.0 tons/month	2628000 tons/year	0 lb/ton	100	0	Controlled by BH02 (See Figure 10)	0.0000	0.00	NONE
93	FH05	Feed Hopper	292000.0 tons/month	3504000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0876	1.05	30503813
114	FH06	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0657	0.79	30503813
123	FH07	Feed Hopper	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 8)	0.0657	0.79	30503813
129	BGH02	Screening Baghouse	1489.2 million dscf/month	17870.4 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.0637	12.76	BH02

ATTACHMENTS 1 THROUGH 4 TO APC260

Dry Sand Processes: Total PM2.5 Emissions (TPY): 15.59

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
B. Proposed Permit Limits for PM2.5 from Dry Sand Processes:			97090.0 tons/month	3504000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.2994**	**15.59**	

C. Emission Factor Source by Reference ID:

30502006 (controlled)	AP-42, Table 11.19.2-2 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30502006, Conveyor Transfer Point (controlled)
30503813	AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control
BH02	Proposed limit of 0.01 grains per dry standard cubic foot of exhaust
NONE	Controlled by Baghouse (see Emission Unit ID BGH02 for emissions)
RadialStacker	AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 129:

$$\frac{2.04 \text{ million dscf}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{1428.5 \text{ lb}}{\text{million dscf}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{12.76 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

Attachment 5 to APC260: Stack Information

Item 64. Flow Diagram Designation of Exhaust Point	Dry Sand Processes
Item 65. Description of Exhaust Point	This stack ID has an actual exhaust points on Dwg. No. 050111-01:131.
Item 66. Exit Height above Grade (feet)	20
Item 67. Exit Diameter (feet)	3
Item 68. Greatest Height of Nearby Building (feet)	To be determined
Item 69. Distance to Nearest Property Line (feet)	300
Item 70. Average Exhaust Gas Temperature (F)	140
Item 71. Average Flow Rate (acfm)	30000
Item 72. Maximum Exhaust Gas Temperature (F)	175
Item 73. Maximum Flow Rate (acfm)	34000

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION PROCESS EMISSION SOURCE	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. NAME OF PROCESS: Storage Silos	6. NAME OF EMISSION SOURCE EQUIPMENT: See Attachment 1 to APC 220	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: --	8. MODEL NUMBER: --	9. SERIAL NUMBER: --
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: --		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): --		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB -- % MAR-MAY -- % JUN-AUG -- % SEPT-NOV -- %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATION TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. See Attachment 2 to APC 220	b. -- LB/HR	c. -- LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. See Attachment 3 to APC 220	b. -- LB/HR	c. -- LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. NA	b. -- LB/HR	c. -- LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b. ----------	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E. G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 220			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 220	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): --	
66. EXIT HEIGHT ABOVE GRADE: --	67. EXIT DIAMETER: --
68. GREATEST HEIGHT OF NEARBY BUILDINGS: --	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: --
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: -- °F	72. EXIT GAS TEMPERATURE: -- °F
71. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM	73. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

ATTACHMENTS 1 THROUGH 4 TO APC220

Storage Silos: Total PM Emissions (TPY): 60.71

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.7227	8.67	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0099 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	1.0841	13.01	30503813
B. Proposed Permit Limits for PM from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**5.0589**	**60.71**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300\ \text{tons}}{\text{hour}} \left| \frac{8760\ \text{Hours}}{\text{year}} \right| \frac{0.0099\ \text{lb}}{\text{ton}} \left| \frac{\text{ton}}{2000\ \text{lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{13.01\ \text{ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Storage Silos: Total PM-10 Emissions (TPY): 9.81

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1168	1.40	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0016 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.1752	2.10	30503813
B. Proposed Permit Limits for PM-10 from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.8176**	**9.81**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.0016 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{2.1 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Storage Silos: Total PM2.5 Emissions (TPY): 3.68

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
108	WTK01	Drive through Oversize Tank	146000.0 tons/month	1752000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0438	0.53	30503813
137	STK01	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
147	STK02	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
154	STK03	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
162	STK04	Storage Tank	219000.0 tons/month	2628000 tons/year	0.0006 lb/ton	100	0	Covered & controlled by bin vent dust collector (See Figure 11)	0.0657	0.79	30503813
B. Proposed Permit Limits for PM2.5 from Storage Silos:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.3066**	**3.68**	

C. Emission Factor Source by Reference ID:

30503813 AP-42, Table 11.19.2-4 Crushed Stone Processing and Pulverized Mineral Processing, SCC 30503813, Product Storage with Fabric Filter Control

D. Example Calculation for Item 162:

$$\frac{300 \text{ tons}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{0.0006 \text{ lb}}{\text{ton}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{0.79 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

Attachment 5 to APC220: Stack Information

Item 64. Flow Diagram Designation of Exhaust Point	Storage Silos
Item 65. Description of Exhaust Point	This stack ID has an actual exhaust points on Dwg. No. 050111-01: 137, 147, 154, 162 and 108.
Item 66. Exit Height above Grade (feet)	94
Item 67. Exit Diameter (feet)	0.75
Item 68. Greatest Height of Nearby Building (feet)	To be determined
Item 69. Distance to Nearest Property Line (feet)	350
Item 70. Average Exhaust Gas Temperature (F)	NA
Item 71. Average Flow Rate (acfm)	900
Item 72. Maximum Exhaust Gas Temperature (F)	NA
Item 73. Maximum Flow Rate (acfm)	1200

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION PROCESS EMISSION SOURCE	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. NAME OF PROCESS: Truck Loadout	6. NAME OF EMISSION SOURCE EQUIPMENT: See Attachment 1 to APC 220	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: --	8. MODEL NUMBER: --	9. SERIAL NUMBER: --
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: --		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): --		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB -- % MAR-MAY -- % JUN-AUG -- % SEPT-NOV -- %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATION TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. See Attachment 2 to APC 220	b. -- LB/HR	c. -- LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. See Attachment 3 to APC 220	b. -- LB/HR	c. -- LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. NA	b. -- LB/HR	c. -- LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b. ----------	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: NA BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E. G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 220			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. -- LB/HR	c. --
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 220	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): --	
66. EXIT HEIGHT ABOVE GRADE: --	67. EXIT DIAMETER: --
68. GREATEST HEIGHT OF NEARBY BUILDINGS: --	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: --
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: -- °F	72. EXIT GAS TEMPERATURE: -- °F
71. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM	73. GAS FLOW RATE THROUGH EACH EXIT: -- ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

ATTACHMENTS 1 THROUGH 4 TO APC220

Truck Loadout: Total PM Emissions (TPY): 0.98

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.017 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0205	0.25	LOADOUT
B. Proposed Permit Limits for PM from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0818**	**0.98**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300\ \text{tons}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{0.017\ \text{lb}}{\text{ton}} \times \frac{\text{ton}}{2000\ \text{lb}} * ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.25\ \text{ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Truck Loadout: Total PM-10 Emissions (TPY): 0.46

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.008 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0096	0.12	LOADOUT
B. Proposed Permit Limits for PM-10 from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0385**	**0.46**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300\ \text{tons}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{0.008\ \text{lb}}{\text{ton}} \times \frac{\text{ton}}{2000\ \text{lb}} \times ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.12\ \text{ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

Truck Loadout: Total PM2.5 Emissions (TPY): 0.14

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
141	BLS01	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
151	BLS02	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
158	BLS03	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
166	BLS04	Loading Spout	219000.0 tons/month	2628000 tons/year	0.0025 lb/ton	99	99.9	Covered/controlled & vented into storage silo (See Figure 12)	0.0030	0.04	LOADOUT
B. Proposed Permit Limits for PM2.5 from Truck Loadout:			219000.0 tons/month	2628000 tons/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0120**	**0.14**	

C. Emission Factor Source by Reference ID:

LOADOUT AP-42 - Section 13.2.4 Aggregate Handling & Storage Piles; Batch/Continuous Drop Equation (1)

D. Example Calculation for Item 166:

$$\frac{300\ \text{tons}}{\text{hour}} \times \frac{8760\ \text{Hours}}{\text{year}} \times \frac{0.0025\ \text{lb}}{\text{ton}} \times \frac{\text{ton}}{2000\ \text{lb}} \times ((1 - 99\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0.04\ \text{ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

Attachment 5 to APC220: Stack Information

Item 64. Flow Diagram Designation of Exhaust Point	Truck Loadout
Item 65. Description of Exhaust Point	This stack ID represents items on Dwg. No. 050111-01: 141, 151,158, 166,140,150,157 and 165, which are vented back into the storage silos and exhausted through points 137, 147, 154 and 162.
Item 66. Exit Height above Grade (feet)	NA
Item 67. Exit Diameter (feet)	NA
Item 68. Greatest Height of Nearby Building (feet)	To be determined
Item 69. Distance to Nearest Property Line (feet)	350
Item 70. Average Exhaust Gas Temperature (F)	NA
Item 71. Average Flow Rate (acfm)	NA
Item 72. Maximum Exhaust Gas Temperature (F)	NA
Item 73. Maximum Flow Rate (acfm)	NA

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION FUEL COMBUSTION EMISSION SOURCE	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED FOR THE PRIMARY PURPOSE OF PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN EMISSION SOURCE THAT DOES NOT FIT THIS DESCRIPTION, INCLUDING AND EMISSION SOURCE USING DIRECT HEATING, IS EITHER A PROCESS EMISSION SOURCE OR AN INCINERATOR.

1. NAME OF PLANT OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF EMISSION SOURCE: 2320 Creve Coeur Mill Rd	4. CITY OF EMISSION SOURCE: LaSalle County, Ottawa Township

GENERAL INFORMATION		
5. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: See Attachment 1 to APC 240		
6. MANUFACTURER: --	7. MODEL NUMBER: --	8. SERIAL NUMBER: --
9. AVERAGE OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	10. MAXIMUM OPERATING TIME OF EMISSION SOURCE: -- HRS/DAY -- DAYS/WK -- WKS/YR	
11. PERCENT OF ANNUAL HEAT INPUT: DEC-FEB -- % MAR-MAY -- % JUN-AUG -- % SEPT-NOV -- %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE APPROPRIATE FUEL SECTION OR SECTIONS. IF MORE THAN ONE FUEL IS FIRED OR IF THE CAPABILITY EXISTS TO FIRE MORE THAN ONE FUEL, THE ACTUAL USAGE OF FUELS AND THE RELATIONSHIP BETWEEN FUELS, SIMULTANEOUS FIRING, ALTERNATE FIRING, RESERVE FUEL, ETC., MUST BE MADE CLEAR.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. FIRING RATES AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.
MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

GAS FIRING		
*11. ORIGIN OF GAS: ☐ DISTILLATE FUEL OIL GASIFICATION ☐ OTHER LIQUID FUEL GASIFICATION ☐ SOLID FUEL GASIFICATION ☐ BYPRODUCT SPECIFY SOURCE ☒ PIPELINE		
12. ARE YOU ON AN INTERRUPTABLE GAS SUPPLY: ☒ YES ☐ NO IF "YES", SPECIFY ALTERNATE FUEL: Propane		
13. ANNUAL CONSUMPTION: SCF	*14. HEAT CONTENT: BTU/SCF	*15. SULFUR CONTENT: % BY WT.
16. AVERAGE FIRING RATE: BTU/HR	17. MAXIMUM FIRING RATE: BTU/HR	

* IF THE GAS FIRED IS NATURAL GAS, THESE ITEMS NEED NOT BE COMPLETED.

OIL FIRING: NA	
18. TYPE OF OIL: GRADE NUMBER: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 OTHER: SPECIFY	
19. ANNUAL CONSUMPTION: GALLONS	20. HEAT CONTENT: ☐ BTU/LB ☐ BTU/GAL
21. SULFUR CONTENT: % BY WT	22. ASH CONTENT: % BY WT
23. DIRECTION OF FIRING: ☐ HORIZONTAL ☐ TANGENTIAL ☐ OTHER: SPECIFY	
24. AVERAGE FIRING RATE: BTU/HR	25. MAXIMUM FIRING RATE: BTU/HR

SOLID FUEL FIRING: NA		
26. TYPE OF SOLID FUEL ☐ SUB-BITUMINOUS COAL ☐ BITUMINOUS COAL ☐ ANTHRACITE COAL ☐ OTHER: SPECIFY		
27. ANNUAL CONSUMPTION: TONS	28. HEAT CONTENT AS FIRED: BTU/LB	
29. MOISTURE CONTENT AS FIRED: % BY WT.	30. ASH CONTENT AS FIRED: % BY WT.	31. SULFUR CONTENT AS FIRED: % BY WT.
32. TYPE OF FIRING: ☐ CYCLONE ☐ PULVERIZED { ☐ WET BOTTOM OR ☐ DRY BOTTOM, ☐ HORIZONTALLY OPPOSED OR ☐ OTHER: SPECIFY _____		
☐ SPREADER STOKER: % REINJECTION _____ ☐ OTHER: SPECIFY _____		
33. AVERAGE FIRING RATE: BTU/HR	34. MAXIMUM FIRING RATE: BTU/HR	
SUBMIT COPIES OF THOSE PORTIONS OF COAL OR OTHER SOLID FUEL CONTRACTS WHICH SET FORTH THE SPECIFICATIONS OF THE FUEL AND THE DURATION OF THE CONTRACT. IF THE ACTUAL FUEL FIRED IS A BLEND OF SOLID FUELS, SUBMIT APPROPRIATE PORTIONS OF ALL FUEL CONTRACTS AND SET FORTH THE MANNER IN WHICH THE FUELS ARE BLENDED AND ACTUALLY FRIED. REFERENCE THIS INFORMATION TO THIS FORM.		

*EMISSION INFORMATION

35. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): See Attachment 4 to APC 240

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	36a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	37a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	38a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	39a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	40a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	41a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	42a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	43a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	44a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	45a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

* IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT, OR IF NATURAL GAS IS THE FUEL FIRED, ITEMS 36 THROUGH 47 NEED NOT BE COMPLETED.

**EXHAUST POINT INFORMATION

46. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 240

47. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

48. EXIT HEIGHT ABOVE GRADE:	50. EXIT DIAMETER:
49. GREATEST HEIGHT OF NEARBY BUILDINGS:	51. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
52. EXIT GAS TEMPERATURE: °F	54. EXIT GAS TEMPERATURE: °F
53. GAS FLOW RATE THROUGH EACH EXIT: ACFM	55. GAS FLOW RATE THROUGH EACH EXIT: ACFM

** IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT THIS SECTION SHOULD NOT BE COMPLETED.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF CONTROL EQUIPMENT: 2320 Creve Coeur Mill Rd	4. CITY OF CONTROL EQUIPMENT LaSalle County, Ottawa Township
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: Baghouse (Fabric Filter) Dust Collector	

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION SECTION. 2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM. 3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION. 4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION. 5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OR THE SOURCE EQUIPMENT. FOR EXAMPLE, “MAXIMUM EFFICIENCY” IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND “AVERAGE FLOW RATE” IS THE FLOW RATE INTO HE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION. 6. FOR GENERAL INFORMATION REFER TO “GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS,” APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

FILTER UNIT	
1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: BGH01	
2. MANUFACTURER: To be determined (TBD)	3. MODEL NAME AND NUMBER: TBD
4. FILTERING MATERIAL: TBD	5. FILTERING AREA: TBD FT^2
6. CLEANING METHOD: ☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☒ PULSE JET ☐ OTHER: SPECIFY _____	
7. GAS COOLING METHOD: ☐ DUCT WORK: LENGTH NA FT., DIAM _____ IN. ☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER: SPECIFY _____	

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 20800 SCFM	12. GAS FLOW RATE (FROM SOURCE): 20800 SCFM
9. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY -- GPM	13. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY - GPM
10. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F	14. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %

EMISSION INFORMATION			
1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. GR/SCF	b. LB/HR	c. See Attachment 4 to APC 220
CARBON MONOXIDE	3a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	4a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	7a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	9a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	10a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	13a. PPM (VOL)	b. LB/HR	c.

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION	
1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 260	
2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):	
3. EXIT HEIGHT ABOVE GRADE:	4. EXIT DIAMETER:
5. GREATEST HEIGHT OF NEARBY BUILDINGS:	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
AVERAGE OPERATION	MAXIMUM OPERATION
7. EXIT GAS TEMPERATURE: °F	9. EXIT GAS TEMPERATURE: °F
8. GAS FLOW RATE THROUGH EACH EXIT: ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: ACFM

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total Carbon Dioxide Emissions (TPY): 28908

A. Carbon Dioxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	120000 lb/million scf N.G.	NA	NA	Uncontrolled	2409.0000	28908.00	DRY01 Combustion
B. Proposed Permit Limits for Carbon Dioxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**2409.0000**	**28908.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \left. \frac{120000 \text{ lb}}{\text{million scf N.G.}} \right| \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = \frac{28908 \text{ ton CO2}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total Carbon Monoxide Emissions (TPY): 58.97

A. Carbon Monoxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	244.8 lb/million scf N.G.	NA	NA	Uncontrolled	4.9144	58.97	DRY01 Combustion
B. Proposed Permit Limits for Carbon Monoxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**4.9144**	**58.97**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion Manufacturer's guarantee

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{244.8 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{((1 - 100 \% capture/100) + (1 - 0 \% control/100))}) = \frac{58.97 \text{ ton CO}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total Nitrogen Oxides Emissions (TPY): 41.77

A. Nitrogen Oxides Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	173.4 lb/million scf N.G.	NA	NA	Uncontrolled	3.4810	41.77	DRY01 Combustion
B. Proposed Permit Limits for Nitrogen Oxides from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**3.4810**	**41.77**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion Manufacturer's guarantee

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{173.4 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{(1 - 100 \% capture/100) + (1 - 0 \% control/100)}) = \frac{41.77 \text{ ton NOx}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total PM Emissions (TPY): 0

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0002	0.00	DRY01 Combustion
B. Proposed Permit Limits for PM from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0002**	**0.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{0 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total PM-10 Emissions (TPY): 0

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0002	0.00	DRY01 Combustion
B. Proposed Permit Limits for PM-10 from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0002**	**0.00**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times \left((1 - 100\,\%\text{ capture}/100) + (1 - 99.9\,\%\text{ control}/100)\right) = \frac{0 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total PM2.5 Emissions (TPY): 0.18

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	7.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0153	0.18	DRY01 Combustion
B. Proposed Permit Limits for PM2.5 from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0153**	**0.18**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{7.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times ((1 - 100\ \%\ \text{capture}/100) + (1 - 90\ \%\ \text{control}/100)) = \frac{0.18 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total Sulfur Dioxide Emissions (TPY): 0.14

A. Sulfur Dioxide Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	0.6 lb/million scf N.G.	NA	NA	Uncontrolled	0.0120	0.14	DRY01 Combustion
B. Proposed Permit Limits for Sulfur Dioxide from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.0120**	**0.14**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{0.6 \text{ lb}}{\text{million scf N.G.}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{((1 - 100 \% capture/100) + (1 - 0 \% control/100))}) = \frac{0.14 \text{ ton SO2}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC220

N.G. Combustion: Total Volatile Organic Compounds Emissions (TPY): 1.32

A. Volatile Organic Compounds Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
81	BR01	56 mmBtu/hr (HHV) Dryer	40.2 million scf N.G./month	481.8 million scf N.G./year	5.5 lb/million scf N.G.	NA	NA	Uncontrolled	0.1104	1.32	DRY01 Combustion
B. Proposed Permit Limits for Volatile Organic Compounds from N.G. Combustion:			40.2 million scf N.G./month	481.8 million scf N.G./year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**0.1104**	**1.32**	

C. Emission Factor Source by Reference ID:

DRY01 Combustion AP-42, TABLE 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion Gas Combustion

D. Example Calculation for Item 81:

$$\frac{0.055 \text{ million scf N.G.}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right| \frac{5.5 \text{ lb}}{\text{million scf N.G.}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 0\ \%\ \text{control}/100)) = 1.32 \text{ ton VOM} / \text{year}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

* DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF OWNER: Mississippi Sand, LLC.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same as Owner
3. STREET ADDRESS OF CONTROL EQUIPMENT: 2320 Creve Coeur Mill Rd	4. CITY OF CONTROL EQUIPMENT LaSalle County, Ottawa Township
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: Baghouse (Fabric Filter) Dust Collector	

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION SECTION. 2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM. 3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION. 4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION. 5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OR THE SOURCE EQUIPMENT. FOR EXAMPLE, “MAXIMUM EFFICIENCY” IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND “AVERAGE FLOW RATE” IS THE FLOW RATE INTO HE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION. 6. FOR GENERAL INFORMATION REFER TO “GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS,” APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

FILTER UNIT	
1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: BGH01	
2. MANUFACTURER: To be determined (TBD)	3. MODEL NAME AND NUMBER: TBD
4. FILTERING MATERIAL: TBD	5. FILTERING AREA: TBD FT^2
6. CLEANING METHOD: ☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☒ PULSE JET ☐ OTHER: SPECIFY _____	
7. GAS COOLING METHOD: ☐ DUCT WORK: LENGTH NA FT., DIAM _____ IN. ☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER: SPECIFY _____	

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 20800 SCFM	12. GAS FLOW RATE (FROM SOURCE): 20800 SCFM
9. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY -- GPM	13. GAS COOLING FLOW RATE: BLEED-IN AIR -- SCFM, WATER SPRAY - GPM
10. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F	14. INLET GAS CONDITION: TEMPERATURE 250 °F DEWPOINT -- °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %

EMISSION INFORMATION			
1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. GR/SCF	b. LB/HR	c. See Attachment 4 to APC 260
CARBON MONOXIDE	3a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	4a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	7a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	9a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	10a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	13a. PPM (VOL)	b. LB/HR	c.

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION	
1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: See Attachment 5 to APC 260	
2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):	
3. EXIT HEIGHT ABOVE GRADE:	4. EXIT DIAMETER:
5. GREATEST HEIGHT OF NEARBY BUILDINGS:	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
AVERAGE OPERATION	MAXIMUM OPERATION
7. EXIT GAS TEMPERATURE: °F	9. EXIT GAS TEMPERATURE: °F
8. GAS FLOW RATE THROUGH EACH EXIT: ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: ACFM

ATTACHMENTS 1 THROUGH 4 TO APC260

Sand Drying: Total PM Emissions (TPY): 17.94

A. PM Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.4954	17.94	BH01
B. Proposed Permit Limits for PM from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{(1 - 100 \% capture/100) + (1 - 99.9 \% control/100)}) = \frac{17.94 \text{ ton PM}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

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ATTACHMENTS 1 THROUGH 4 TO APC260

Sand Drying: Total PM-10 Emissions (TPY): 17.94

A. PM-10 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.4954	17.94	BH01
B. Proposed Permit Limits for PM-10 from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868 \text{ million dscf}}{\text{hour}} \left| \frac{8760 \text{ Hours}}{\text{year}} \right. \frac{1428.5 \text{ lb}}{\text{million dscf}} \left| \frac{\text{ton}}{2000 \text{ lb}} \right. * ((1 - 100\ \%\ \text{capture}/100) + (1 - 99.9\ \%\ \text{control}/100)) = \frac{17.94 \text{ ton PM-10}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.

ATTACHMENTS 1 THROUGH 4 TO APC260

Sand Drying: Total PM2.5 Emissions (TPY): 17.94

A. PM2.5 Emissions by Equipment Unit ID (EID):

(1) Item	(2) EID	(3) Emission Unit Desription	(4) Max Short Term Throughput	(5) Max Annual Throughput	(6) Emission Factor	(7)* Capture Efficiency	(8)** Control Efficiency	(9) Control Description	(10) TPM	(11) TPY	(12) Emission Factor Reference ID
83	BGH01	Dryer Baghouse	2093.6 million dscf/month	25123.68 million dscf/year	1428.5 lb/million dscf	100	99.9	.005 gr/dcfm@.5 microns or >	1.4954	17.94	BH01
B. Proposed Permit Limits for PM2.5 from Sand Drying:			2093.6 million dscf/month	25123.68 million dscf/year		As defined in I.A. (7), (8) and (9) for sources with capture and/or control efficiencies for pollution control equipment.			**1.4954**	**17.94**	

C. Emission Factor Source by Reference ID:

BH01 Proposed limit of 0.01 grains per dry standard cubic foot of exhaust

D. Example Calculation for Item 83:

$$\frac{2.868 \text{ million dscf}}{\text{hour}} \times \frac{8760 \text{ Hours}}{\text{year}} \times \frac{1428.5 \text{ lb}}{\text{million dscf}} \times \frac{\text{ton}}{2000 \text{ lb}} \times (\text{(1 - 100 \% capture/100) + (1 - 99.9 \% control/100)}) = \frac{17.94 \text{ ton PM2.5}}{\text{year}}$$

E. Notes:

*The term “capture system” for the purpose of this application means the equipment (including hoods, ducts, etc.) used to contain, capture, or transport an air contaminant to a control device. In addition, the term “capture efficiency” means the weight per unit time of an air contaminant entering a capture system and delivered to a control device, divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage. Therefore, if the emission unit is not exhausted to a control device, the capture system and capture efficiency is not applicable (NA). If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the capture efficiency.

**The term “control system” for the purpose of this application means any control device or technique which is designed and operated to reduce the quantity of air contaminants emitted to the atmosphere. The term “control efficiency” means the percentage by which a control device or technique reduces the emissions from a stationary source. If the emission unit is controlled by a control device, the capture and control efficiencies are identified. If the emission unit is using an emission factor with an overall emission reduction efficiency included in the factor, “AP-42” has been assigned to the control efficiency.