

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **07 2018-002**

Project Number: 2018-05-004
Installation ID: 031-0141

Parent Company: Ready Mix Concrete, LLC

Parent Company Address: PO Box 608, Perryville, MO 63775

Installation Name: RMC-Fruitland

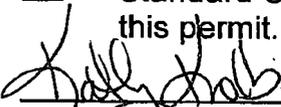
Installation Address: 5154 US Hwy 61, Jackson, MO 63755

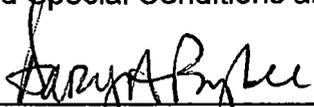
Location Information: Cape Girardeau County, S20 T32N R13E

Application for Authority to Construct was made for:
Construction of a new stationary truck mix concrete plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.


Prepared by
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources

JUL 09 2018

Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). ~~The information must be made available within 30 days of actual startup.~~ Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

1. **Best Management Practices Requirement**
RMC-Fruitland shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
2. **Annual Emission Limit**
 - A. RMC-Fruitland shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation which consists of the equipment listed in Table 1. The SSM emissions as reported to the Air Pollution Control Program's Compliance/Enforcement Section in accordance with the requirements of 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions* shall be included in the limit.
 - B. RMC-Fruitland shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Control Device Requirement- Cartridge Dust Control**
 - A. RMC-Fruitland shall control emissions from the equipment listed below using filter cartridge dust collection system as specified in the permit application.
 - 1) Cement Silo (EU-03)
 - 2) Supplement Silo (EU-04)
 - 3) Weigh Hopper (EU-05)
 - 4) Truck Mix Loadout (shroud vented to baghouse) (EU-06)
 - B. The cartridge dust control system shall be operated and maintained in accordance with the manufacturer's specifications. The cartridge dust control shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the cartridge dust control shall be kept on hand at all times. The filter cartridges shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- D. RMC-Fruitland shall monitor and record the operating pressure drop across the cartridge dust control at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. RMC-Fruitland shall maintain a copy of the filter cartridge dust collection system manufacturer's performance warranty on site.
 - F. RMC-Fruitland shall maintain an operating and maintenance log for the cartridge dust control which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
4. Fuel Requirement- Water Heater
- A. RMC-Fruitland shall exclusively burn natural gas in their hot water heater (EU-12) during concrete production.
 - B. RMC-Fruitland shall keep the records required by Special Condition 4.A onsite and make them available for Department of Natural Resources' employees upon request.
5. Moisture Content Testing Requirement
- A. RMC-Fruitland shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the RMC-Fruitland main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 5.A, another test may be performed within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 5.A, RMC-Fruitland shall either:
 - 1.) Apply for a new permit to account for the revised information, or
 - 2.) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. Plans may be sent by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at aircompliancereporting@dnr.mo.gov. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, RMC-Fruitland may obtain test results that demonstrate compliance with the moisture content in Special Condition 5.A from the supplier of the aggregate.
6. **Record Keeping Requirement**
RMC-Fruitland shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
7. **Reporting Requirement**
RMC-Fruitland shall report to the Air Pollution Control Program, Compliance / Enforcement Section by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2018-05-004
Installation ID Number: 031-0141

Permit Number: **072018-002**

RMC-Fruitland:
5154 US Hwy 61
Jackson, MO 63755

Complete: May 1, 2018

Parent Company:
Ready Mix Concrete, LLC
PO Box 608
Perryville, MO 63775

Cape Girardeau County, S20 T32N R13E

PROJECT DESCRIPTION

RMC-Fruitland is constructing a permanent truck-mix concrete plant within the BRM Fruitland quarry located at 5145 US Hwy 61, Jackson, Missouri in Cape Girardeau County. The plant is a Stephens Truck-Mix Stallion Batch Plant and is rated at 360 tons per hour. The plant is powered with line power/public utilities. Emissions from the silos, weigh hopper and truck loadout are controlled by a dust cartridge system.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Cape Girardeau County, an attainment area for all criteria pollutants.

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

No permits have been issued to RMC-Fruitland from the Air Pollution Control Program.

TABLES

Table 1: Concrete Plant Equipment List

Emission Point	Description	MHDR
EU-1	Aggregate Transfer	166.85 tph
EU-2	Sand Transfer	127.75 tph
EU-3	Cement Unloading to Silo	43.93 tph
EU-4	Supplement Unloading	6.53 tph
EU-5	Weigh Hopper	294.60 tph
EU-6	Truck Loading (Cement and Supplement loading per AP-42)	50.46 tph
EU-7	Hot Water Heater	4.7 MMBtu/hr
EU-8a	Aggregate Storage Pile-Load in	166.85 tph
EU-8b	Aggregate Storage Pile-Load out	166.85 tph
EU-8c	Aggregate Storage Pile-Vehicular Activity	3.16 VMT
EU-8d	Aggregate Storage Pile-Wind Erosion	0.10 acre
EU-9a	Sand Storage Pile-Load in	127.75 tph
EU-9b	Sand Storage Pile-Load out	127.75 tph
EU-9c	Sand Storage Pile-Vehicular Activity	2.42 VMT
EU-9d	Sand Storage Pile-Wind Erosion	0.20 acres
EU-10	Aggregate Haul Road (Unpaved)	0.12 VMT/hr
EU-11	Sand Haul Road (Unpaved)	0.22 VMT/hr
EU-12	Finished Product Haul Road (Unpaved)	0.56 VMT/hr

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. There are no existing actual emissions because this is a new installation. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Conditioned potential emissions account for a voluntary annual PM₁₀ emission limit of 15.0 tons per year in order to avoid refined modeling.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	12.17	N/A	50.40	39.00
PM ₁₀	15.0	5.55	N/A	19.38	<15.0
PM _{2.5}	10.0	2.51	N/A	5.31	4.11
SO _x	40.0	0.01	N/A	0.01	0.01
NO _x	40.0	2.00	N/A	2.00	1.55
VOC	40.0	0.11	N/A	0.11	0.09
CO	100.0	1.68	N/A	1.68	1.30
GHG (CO _{2e})	N/A	2.34	N/A	2.34	1.81
GHG (mass)	N/A	2.34	N/A	2.34	1.81
Total HAPs	25.0	0.04	N/A	0.04	0.03

N/A = Not Applicable

^aExcludes haul roads and storage pile emissions

^bIncludes haul road and storage pile emissions

EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the concrete batch plant:

- Calculated using emission factors from AP-42 Section 11.12 "Concrete Batching," June 2006.
- This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer.
- The cement and supplement silos are controlled with cartridge dust filters, so the controlled emission factors were used.

Emissions from the aggregate weigh hopper:

- Calculated using AP-42 Section 13.2.4, Equation (1).
- These emissions are controlled by a cartridge dust filters so a 99% control factor was applied to the calculation.
- Emissions from mixer loading/mix truck loading are controlled by a shroud vented to the cartridge dust filters, so the controlled emission factor was used.

Emissions from aggregate handling:

- Calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004.
- The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% by weight.

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006.
- A 90% control efficiency for PM and PM₁₀ and a 74% control efficiency for PM_{2.5} were applied to the emission calculations for the use of BMPs.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4.
- The moisture content of the aggregate is at least 1.5% by weight.
- Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

Emissions from the hot water heater:

- Natural gas combustion emission factors were obtained from EPA document AP-42, *Compilation of Air Pollution Emission Factors*, Fifth Edition, Section 1.4 "Natural Gas Combustion" (July 1998).

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit of 15.0 tons per year for stationary plants in order to avoid refined modeling. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

RMC-Fruitland shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No Operating Permit is required because all criteria pollutants are conditioned below de minimis limits.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 does not apply because EP3, EP4, EP5 and EP6 are controlled by a fabric filter.

- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 1, 2018, received May 1, 2018, designating Ready Mix Concrete, LLC as the owner and operator of the installation.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. Pavement

- A.** The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
- B.** Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
- C.** The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants

- A.** The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
- B.** The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
- C.** The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.

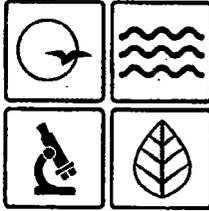
3. Application of Water-Documented Daily

- A.** The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
- B.** Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
- C.** Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
- D.** The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
- E.** The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

APPENDIX A

Abbreviations and Acronyms

%percent	MMBtuMillion British thermal units
°Fdegrees Fahrenheit	MMCFmillion cubic feet
acfmactual cubic feet per minute	MSDSMaterial Safety Data Sheet
BACTBest Available Control Technology	NAAQSNational Ambient Air Quality Standards
BMPsBest Management Practices	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants .
BtuBritish thermal unit	NO_xnitrogen oxides
CAMCompliance Assurance Monitoring	NSPSNew Source Performance Standards
CASChemical Abstracts Service	NSRNew Source Review
CEMSContinuous Emission Monitor System	PMparticulate matter
CFRCode of Federal Regulations	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COcarbon monoxide	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CO₂carbon dioxide	ppmparts per million
CO_{2e}carbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMSContinuous Opacity Monitoring System	PTEpotential to emit
CSRCode of State Regulations	RACTReasonable Available Control Technology
dscfdry standard cubic feet	RALRisk Assessment Level
EIQEmission Inventory Questionnaire	SCCSource Classification Code
EPEmission Point	scfmstandard cubic feet per minute
EPAEnvironmental Protection Agency	SDSSafety Data Sheet
EUEmission Unit	SICStandard Industrial Classification
fpsfeet per second	SIPState Implementation Plan
ftfeet	SMALScreening Model Action Levels
GACTGenerally Available Control Technology	SO_xsulfur oxides
GHGGreenhouse Gas	SO₂sulfur dioxide
gpmgallons per minute	SSMstartup, shutdown, & malfunction
grgrains	tphtons per hour
GWPGlobal Warming Potential	tpytons per year
HAPHazardous Air Pollutant	VMTvehicle miles traveled
hrhour	VOCVolatile Organic Compound
hphorsepower	
lbpound	
lbs/hrpounds per hour	
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	
Mgal1,000 gallons	
MWmegawatt	
MHDRmaximum hourly design rate	



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUL 09 2018

Mr. Ryan Ruckel
ESH Manager
RMC-Fruitland
PO Box 608
Perryville, MO 63775

RE: New Source Review - Project Number: 2018-05-004
Installation Number: 031-0141

Dear Mr. Ruckel:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application is necessary for continued compliance. In addition, please note that RMC-Fruitland cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. Please refer to the permits of any plant that you are operating with to see if their respective permits contain an ambient impact limit. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed



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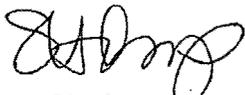
Mr. Ryan Ruckel
Page Two

filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions, please do not hesitate to contact Kathy Kolb, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Susan Heckenkamp
New Source Review Unit Chief

SH:kkj

Enclosures

c: Southeast Regional Office
PAMS File: 2018-05-004

Permit Number: 07 2018 - 002

NOTICE: This spreadsheet is for your use only and should be used with caution. MoDNR does not guarantee the accuracy of the information it contains. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current, accurate and complete information available. MoDNR is not responsible for errors or omissions in this spreadsheet. Submittal of the information contained in this spreadsheet (workbook) does not relieve the responsible official of the certification statement signed on the first page of the application.

		Pollutant	Justification for Limit	Limit Hours per Year
Hours per day	24.0	PM10	NAAQS	
Days per year	282.5	N/A	N/A	Limit Hours per Year w/ 24 hr day
Hours per year	6779.1	PM10	De Minimis	

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 6779 hours per year (tons/yr)	DeMinimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	12.17	50.40	39.00	25	0.0320
PM ₁₀	5.55	19.38	15.00	15	0.0123
PM _{2.5}	2.51	5.31	4.11	10	0.0034
SO ₂	0.01	0.01	0.01	40	0.0000
NO ₂	2.00	2.00	1.55	40	0.0013
VOC	0.11	0.11	0.09	40	0.0001
CO	1.68	1.68	1.30	100	0.0011
CH ₂ O	0.00	0.00	0.00	2	0.0000
C ₁₁ H ₁₀	0.00	0.00	0.00	-	0.0000
Pb	0.00	0.00	0.00	0.01	0.0000
HAPs	0.04	0.04	0.03	10	0.0000
CO ₂	2.34	2.34	1.81	100	0.0015
N ₂ O	0.00	0.00	0.00	100	0.0000
CH ₄	0.00	0.00	0.00	100	0.0000
GHG _{mass}	2.34	2.34	1.81	100	0.0015
CO ₂ eq	2.34	2.34	1.81	100,000	0.0015

Maximum hourly design rate (tons/hr)	360
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Tons of product per day	8,640.0
Tons of product per year	2,440,480.6

Hand Road Control	Documented Watering/Chemical Application	Documented Watering/Chemical Application	Documented Watering/Chemical Application			
Engine Set Information						
Type of Fuel	7A	7B	7C			
Engine Horsepower (hp)						
Engine Idle/Full Rating (RPM) gallons per hour						
Engine MHR (mmBtu per hour, input) Is this a generator-set engine?						
Model Year (yyyy)						
Fuel Sulfur Content (% weight sulfur)						
Combustion Sources						
Combustion ID - Description Heat Rate	Combustion #1	Desc #1	Combustion #2	Desc #2	Combustion #3	Desc #3
		4.7 mmBtu/hour mps/hour		mmBtu/hour mps/hour		mmBtu/hour mps/hour
		0.06 mmBtu/hour		mmBtu/hour		mmBtu/hour
	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98 Natural gas	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98
Fuel Type (NG (< 100 mmBtu/hour)						
Fuel Sulfur Content (% weight sulfur, for oil; grams of sulfur/100 cubic gas vapor for Ethane and Propane; not used for Natural gas)		NOT used for Natural gas		% weight sulfur		% weight sulfur

Emission Point Number	Emission Unit Number	Description	SCC	MHDR	Units	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Units (pounds per)	Emission Rate (lb/hr)	Potential Emissions (tons/yr)	Allowable Emissions (tons/yr)
1	1	Aggregate transfer Moisture Content (% wt.) = 1.5	3-05-011-04	166.85	tons per hour			N/A	N/A	PM	0.0087	ton	1.46E+00	6.37	4.93
								N/A	N/A	PM ₁₀	0.0041	ton	6.98E-01	3.01	2.33
								N/A	N/A	PM _{2.5}	0.0006	ton	1.04E-01	0.46	0.35
2	2	Sand transfer Moisture Content (% wt.) = 4.17	3-05-011-05	127.75	tons per hour			N/A	N/A	PM	0.0021	ton	2.66E-01	1.17	0.90
								N/A	N/A	PM ₁₀	0.0010	ton	1.26E-01	0.55	0.43
								N/A	N/A	PM _{2.5}	0.0001	ton	1.91E-02	0.08	0.06
3	3	Cement unloading to silo	3-05-011-07	43.93	tons per hour	Fabric filter		100%	N/A	PM	0.0010	ton	4.35E-02	0.19	0.15
								100%	N/A	PM ₁₀	0.0003	ton	1.49E-02	0.07	0.05
								100%	N/A	PM _{2.5}	0.0003	ton	1.48E-02	0.07	0.05
4	4	Supplement unloading (pneumatic)	3-05-011-17	6.53	tons per hour	Fabric filter		100%	N/A	PM	0.0089	ton	5.81E-02	0.25	0.20
								100%	N/A	PM ₁₀	0.0049	ton	3.20E-02	0.14	0.11
								100%	N/A	PM _{2.5}	0.0049	ton	3.20E-02	0.14	0.11
5	5	Weigh hopper loading	3-05-011-08	294.60	tons per hour	Fabric filter		100%	99.0%	PM	0.0048	ton	1.41E-02	0.06	0.05
								100%	99.0%	PM ₁₀	0.0029	ton	8.29E-03	0.04	0.03
								100%	99.0%	PM _{2.5}	0.0014	ton	4.24E-03	0.02	0.01
6	6	Truck loading (truck mix) Moisture Content (% wt.) = 0.12	3-05-011-10	50.48	tons per hour	Controlled		N/A	N/A	PM	0.020653965	ton	9.07E-01	3.97	3.08
								N/A	N/A	PM ₁₀	0.008261588	ton	3.63E-01	1.59	1.23
								N/A	N/A	PM _{2.5}	0.003261586	ton	3.63E-01	1.59	1.23
7A	Generator	Model Year			bhp gallons per hour mmBtu/hour			N/A	N/A	PM		MMBtu			
								N/A	N/A	PM ₁₀		MMBtu			
								N/A	N/A	PM _{2.5}		MMBtu			
								N/A	N/A	SO ₂		Gallon			
								N/A	N/A	NO ₂		MMBtu			
								N/A	N/A	CO		MMBtu			
								N/A	N/A	VOC		MMBtu			
								N/A	N/A	CH ₂ O		MMBtu			
								N/A	N/A	HAPs		MMBtu			
								N/A	N/A	CO ₂		MMBtu			
								N/A	N/A	N ₂ O		MMBtu			
N/A	N/A	GHG _{total}		MMBtu											
N/A	N/A	CH ₄		MMBtu											
7B	Generator	Model Year			bhp gallons per hour mmBtu/hour			N/A	N/A	PM		MMBtu			
								N/A	N/A	PM ₁₀		MMBtu			
								N/A	N/A	PM _{2.5}		MMBtu			
								N/A	N/A	SO ₂		Gallon			
								N/A	N/A	NO ₂		MMBtu			
								N/A	N/A	CO		MMBtu			
								N/A	N/A	VOC		MMBtu			
								N/A	N/A	CH ₂ O		MMBtu			
								N/A	N/A	HAPs		MMBtu			
								N/A	N/A	CO ₂		MMBtu			
								N/A	N/A	N ₂ O		MMBtu			
N/A	N/A	GHG _{total}		MMBtu											
N/A	N/A	CH ₄		MMBtu											
7C	Generator	Model Year			bhp gallons per hour mmBtu/hour			N/A	N/A	PM		MMBtu			
								N/A	N/A	PM ₁₀		MMBtu			
								N/A	N/A	PM _{2.5}		MMBtu			
								N/A	N/A	SO ₂		Gallon			
								N/A	N/A	NO ₂		MMBtu			
								N/A	N/A	CO		MMBtu			
								N/A	N/A	VOC		MMBtu			
								N/A	N/A	CH ₂ O		MMBtu			
								N/A	N/A	HAPs		MMBtu			
								N/A	N/A	CO ₂		MMBtu			
								N/A	N/A	N ₂ O		MMBtu			
N/A	N/A	GHG _{total}		MMBtu											
N/A	N/A	CH ₄		MMBtu											

Equipment	Unit ID	Description of Unit	Equipment Description/SCC	Heat Rate	UoM per hour					Emission Factor (bs/UoM)				
7	Combustion #1	NG (< 100 mmBtu/hour)	4.7 mmBtu/mgal	0.00 mmscf	100%	N/A	PM	7.60	mmscf	3.47E-02	0.15	0.12		
					100%	N/A	PM ₁₀	7.60	mmscf	3.47E-02	0.15	0.12		
					100%	N/A	PM _{2.5}	7.60	mmscf	3.47E-02	0.15	0.12		
					100%	N/A	SO ₂	0.60	mmscf	2.74E-03	0.01	0.01		
					100%	N/A	NO ₂	100.00	mmscf	4.57E-01	2.00	1.55		
					100%	N/A	VOC	5.50	mmscf	2.51E-02	0.11	0.09		
					100%	N/A	CO	84.00	mmscf	3.84E-01	1.68	1.30		
					100%	N/A	CH ₂ O	0.08	mmscf	3.43E-04	0.00	0.00		
					100%	N/A	Pb	0.00	mmscf	2.28E-08	0.00	0.00		
					100%	N/A	HAPs	1.89	mmscf	8.63E-03	0.04	0.03		
					100%	N/A	CO ₂	116.89	mmscf	5.34E-01	2.34	1.81		
					100%	N/A	H ₂ O	0.00	mmscf	1.01E-06	0.00	0.00		
					100%	N/A	GHG _{max}	116.89	mmscf	5.34E-01	2.34	1.81		
					100%	N/A	CH ₄	0.00	mmscf	1.01E-05	0.00	0.00		
	Combustion #2		mmBtu/mgal	mmscf	100%	N/A	PM		mgal					
					100%	N/A	PM ₁₀		mgal					
					100%	N/A	PM _{2.5}		mgal					
					100%	N/A	SO ₂		mgal					
					100%	N/A	NO ₂		mgal					
					100%	N/A	VOC		mgal					
					100%	N/A	CO		mgal					
					100%	N/A	CH ₂ O		mgal					
					100%	N/A	Pb		mgal					
					100%	N/A	HAPs		mgal					
					100%	N/A	CO ₂		mgal					
					100%	N/A	H ₂ O		mgal					
					100%	N/A	GHG _{max}		mgal					
					100%	N/A	CH ₄		mgal					
	Combustion #3		mmBtu/mgal	mmscf	100%	N/A	PM		mgal					
					100%	N/A	PM ₁₀		mgal					
					100%	N/A	PM _{2.5}		mgal					
					100%	N/A	SO ₂		mgal					
					100%	N/A	NO ₂		mgal					
					100%	N/A	VOC		mgal					
					100%	N/A	CO		mgal					
					100%	N/A	CH ₂ O		mgal					
					100%	N/A	Pb		mgal					
					100%	N/A	HAPs		mgal					
					100%	N/A	CO ₂		mgal					
					100%	N/A	H ₂ O		mgal					
					100%	N/A	GHG _{max}		mgal					
					100%	N/A	CH ₄		mgal					
8a	Pile #1 (used for Aggregate transfer)	Load in	166.85	tons per hour	N/A	N/A	PM	0.0087	ton	1.46E+00	6.37	4.93		
					N/A	N/A	PM ₁₀	0.0041	ton	6.88E-01	3.01	2.33		
					N/A	N/A	PM _{2.5}	0.0006	ton	1.04E-01	0.46	0.35		
8b	Load out	166.85	tons per hour	N/A	N/A	PM	0.0087	ton	1.46E+00	6.37	4.93			
				N/A	N/A	PM ₁₀	0.0041	ton	6.88E-01	3.01	2.33			
				N/A	N/A	PM _{2.5}	0.0006	ton	1.04E-01	0.46	0.35			
8c	Vehicular Activity	3.16	VMT per hour	Unpaved, Documented Watering/Chemical	N/A	90%	PM	7.5714	VMT	2.39E+00	10.48	8.11		
					N/A	90%	PM ₁₀	2.1630	VMT	6.80E-01	2.98	2.31		
					N/A	74%	PM _{2.5}	0.2153	VMT	1.77E-01	0.77	0.60		
8d	Wind Erosion	0.10	acres		N/A	N/A	PM	0.1783	acre-hr	1.78E-02	0.08	0.06		
					N/A	N/A	PM ₁₀	0.0892	acre-hr	8.92E-03	0.04	0.03		
					N/A	N/A	PM _{2.5}	0.0134	acre-hr	1.34E-03	0.01	0.00		
9a	Pile #2 (used for Sand transfer)	Load in	127.75	tons per hour	N/A	N/A	PM	0.0021	ton	2.66E-01	1.17	0.90		
					N/A	N/A	PM ₁₀	0.0010	ton	1.26E-01	0.55	0.43		
					N/A	N/A	PM _{2.5}	0.0001	ton	1.91E-02	0.08	0.06		
9b	Load out	127.75	tons per hour	N/A	N/A	PM	0.0021	ton	2.66E-01	1.17	0.90			
				N/A	N/A	PM ₁₀	0.0010	ton	1.26E-01	0.55	0.43			
				N/A	N/A	PM _{2.5}	0.0001	ton	1.91E-02	0.08	0.06			
9c	Vehicular Activity	2.42	VMT per hour	Unpaved, Documented Watering/Chemical	N/A	80%	PM	7.5714	VMT	1.83E+00	8.02	6.21		
					N/A	80%	PM ₁₀	2.1530	VMT	5.21E-01	2.28	1.77		
					N/A	74%	PM _{2.5}	0.2153	VMT	1.35E-01	0.59	0.46		
9d	Wind Erosion	0.20	acres		N/A	N/A	PM	0.2698	acre-hr	5.00E-02	0.25	0.20		
					N/A	N/A	PM ₁₀	0.1449	acre-hr	2.90E-02	0.13	0.10		
					N/A	N/A	PM _{2.5}	0.0217	acre-hr	4.35E-03	0.02	0.01		

		Pile #3												
		Load in		tons per hour			N/A	N/A	PM		ton			
							N/A	N/A	PM ₁₀		ton			
							N/A	N/A	PM _{2.5}		ton			
		Load out		tons per hour			N/A	N/A	PM		ton			
							N/A	N/A	PM ₁₀		ton			
							N/A	N/A	PM _{2.5}		ton			
		Vehicular Activity		VMT per hour			N/A	N/A	PM		VMT			
							N/A	N/A	PM ₁₀		VMT			
							N/A	N/A	PM _{2.5}		VMT			
		Wind Erosion		acres			N/A	N/A	PM		acre-hr			
							N/A	N/A	PM ₁₀		acre-hr			
							N/A	N/A	PM _{2.5}		acre-hr			
		Pile #4												
		Load in		tons per hour			N/A	N/A	PM		ton			
							N/A	N/A	PM ₁₀		ton			
							N/A	N/A	PM _{2.5}		ton			
		Load out		tons per hour			N/A	N/A	PM		ton			
							N/A	N/A	PM ₁₀		ton			
							N/A	N/A	PM _{2.5}		ton			
		Vehicular Activity		VMT per hour			N/A	N/A	PM		VMT			
							N/A	N/A	PM ₁₀		VMT			
							N/A	N/A	PM _{2.5}		VMT			
		Wind Erosion		acres			N/A	N/A	PM		acre-hr			
							N/A	N/A	PM ₁₀		acre-hr			
							N/A	N/A	PM _{2.5}		acre-hr			
	10	Road #1		0.12	VMT per hour	Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	11.4654	VMT	1.35E-01	0.59	0.46
							N/A	90%	PM ₁₀	3.3930	VMT	3.97E-02	0.17	0.13
							N/A	74%	PM _{2.5}	0.3393	VMT	1.03E-02	0.05	0.03
	11	Road #2		0.22	VMT per hour	Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	11.4654	VMT	2.47E-01	1.08	0.84
							N/A	90%	PM ₁₀	3.3930	VMT	7.30E-02	0.32	0.25
							N/A	74%	PM _{2.5}	0.3393	VMT	1.90E-02	0.08	0.06
	12	Road #3		0.55	VMT per hour	Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.8941	VMT	6.02E-01	2.64	2.04
							N/A	90%	PM ₁₀	3.2450	VMT	1.78E-01	0.78	0.60
							N/A	74%	PM _{2.5}	0.3245	VMT	4.62E-02	0.20	0.16