

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: **032018-013**

Project Number: 2018-02-004
Installation ID: 097-0179

Parent Company: Joplin Concrete Company

Parent Company Address: 7425 Newman Road
PO Box 1000, Joplin, MO 64801

Installation Name: Joplin Concrete Company, Inc.-Wildwood Plant

Installation Address: 7110 West 20th Street, Joplin, MO 64801

Location Information: Jasper County, S14 T27N R34W

Application for Authority to Construct was made for:
construct a new 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

MAR 30 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**
Joplin Concrete Company, Inc.-Wildwood Plant 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. Joplin Concrete Company, Inc.-Wildwood Plant 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. Joplin Concrete Company, Inc.-Wildwood Plant 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-Baghouse**
 - A. Joplin Concrete Company, Inc.-Wildwood Plant shall control emissions from the following emission units using baghouses as specified in the permit application.
 - 1) EU-3 Cement Silo
 - 2) EU-4 Supplement Silo
 - 3) EU-5 Weigh Hopper
 - 4) EU-6 Truck Mix Loadout (shroud vented to baghouse)
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse 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 baghouses shall be kept on hand at all times. The bags 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. Joplin Concrete Company, Inc.-Wildwood Plant shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours when the associated equipment is in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Joplin Concrete Company, Inc.-Wildwood Plant shall maintain a copy of the baghouse manufacturer's performance warranty on site.
 - F. Joplin Concrete Company, Inc.-Wildwood Plant shall maintain an operating and maintenance log for the baghouses 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-Diesel Engines/Water Heater
- A. Joplin Concrete Company, Inc.-Wildwood Plant shall exclusively burn natural gas in their hot water heater (EU-12) during concrete production.
 - B. Joplin Concrete Company, Inc.-Wildwood Plant shall keep the records required by Special Condition 4.A onsite and make them available for Department of Natural Resources' employees upon request.
5. Record Keeping Requirement
- Joplin Concrete Company, Inc.-Wildwood Plant 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.
6. Reporting Requirement
- Joplin Concrete Company, Inc.-Wildwood Plant 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: 2018-02-004

Installation ID Number: 097-0179

Permit Number:

032018-013

Joplin Concrete Company, Inc.-Wildwood Plant:
7110 West 20th Street
Joplin, MO 64801

Complete: February 9, 2018

Parent Company:
Joplin Concrete Company
7425 Newman Road
PO Box 1000
Joplin, MO 64801

Jasper County, S14 T27N R34W

PROJECT DESCRIPTION

Joplin Concrete Company, Inc. has purchased a concrete batch plant known as the Wildwood Batch Plant located at 7110 W 20th Street in Joplin, Missouri, Jasper County. The plant is a LP-14C-80-4-1000/2 Vince Hagan Low Profile Transportable Stationary Concrete Batch Plant. It has a MHDR of 300 tons per hour. Power will be supplied by the local utility. There is a 3.5 MMBtu/hr hot water heater using natural gas as its fuel. Particulate matter emissions are controlled by a VH-730JP Free Standing Central Dust Collector System that included 64 bags with 730 square feet of cloth area and a 10 HP 5100 CFM blower.

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 Jasper County, attainment status 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 Joplin Concrete Company, Inc.-Wildwood Plant from the Air Pollution Control Program.

TABLES

Table 1: Concrete Plant Equipment List

| Emission Point | Description | MHDR |
|----------------|---------------------------------------------------------|--------------|
| EU-1 | Aggregate Transfer | 139.04 tph |
| EU-2 | Sand Transfer | 106.46 tph |
| EU-3 | Cement Unloading to Silo | 36.61 tph |
| EU-4 | Supplement Unloading | 5.44 tph |
| EU-5 | Weigh Hopper | 245.50 tph |
| EU-6 | Truck Loading (Cement and Supplement loading per AP-42) | 42.05 tph |
| EU-7a | Aggregate Storage Pile-Load in | 139.04 tph |
| EU-7b | Aggregate Storage Pile-Load out | 139.04 tph |
| EU-7c | Aggregate Storage Pile-Vehicular Activity | 1.17 VMT |
| EU-7d | Aggregate Storage Pile-Wind Erosion | 0.35 acre |
| EU-8a | Sand Storage Pile-Load in | 106.46 tph |
| EU-8b | Sand Storage Pile-Load out | 106.46 tph |
| EU-8c | Sand Storage Pile-Vehicular Activity | 0.90 VMT |
| EU-8d | Sand Storage Pile-Wind Erosion | 0.19 acres |
| EU-9 | Material Haul Road (Sand and Aggregate) | 1.08 VMT/hr |
| EU-10 | Finished Product Haul Road (unpaved) | 0.64 VMT/hr |
| EU-11 | Finished Product Haul Road (paved) | 0.21 VMT/hr |
| EU-12 | Hot Water Heater | 3.5 MMBtu/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. This is a new plant so there are no existing actual emissions. 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 according to 10 CSR 10-6.060 (6)(B)3.

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 | 20.26 | N/A | 64.91 | 34.47 |
| PM ₁₀ | 15.0 | 9.40 | N/A | 28.25 | <15.0 |
| PM _{2.5} | 10.0 | 2.80 | N/A | 60.7 | 3.22 |
| SO _x | 40.0 | 0.01 | N/A | 0.01 | 4.75E-03 |
| NO _x | 40.0 | 1.49 | N/A | 1.49 | 0.79 |
| VOC | 40.0 | 0.08 | N/A | 0.08 | 0.04 |
| CO | 100.0 | 1.25 | N/A | 1.25 | 0.67 |
| GHG (CO ₂ e) | N/A | 1.74 | N/A | 1.74 | 0.93 |
| GHG (mass) | N/A | 1.74 | N/A | 1.74 | 0.93 |
| Total HAPs | 25.0 | 0.03 | N/A | 0.03 | 0.01 |

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 baghouses, 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 baghouse so a 99% control factor was applied to the calculation.
- Emissions from mixer loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used.

Emissions from the Combustion of Natural Gas Hot Water Heater

- Calculated using AP-42 Section 1.4 "Natural Gas Combustion", July 1998.

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.1 "Paved Roads," November 2006.
- 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 0.7% 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."

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 according to 10 CSR 10-6.060 (6)(B)3. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

Joplin Concrete Company, Inc.-Wildwood Plant 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.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No Operating Permit is required for this installation because all emissions are conditioned below de minimis levels and PM does not trigger operating permits requirements. There are no federal regulations requiring an operating permit.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170

Attachment A: PM₁₀ 12-Month Rolling Total Emissions Tracking Sheet

Joplin Concrete Company, Inc.-Wildwood Plant 097-0179

Project Number: 2018-02-004

Permit Number:

032018-013

Site Name: Wildwood Plant

Site Address: 7110 West 20th Street, Joplin, MO 64801

Site County: Jasper County

This sheet covers the period from _____ to _____ (Copy as needed)

(Month, Day Year) (Month, Day Year)

| Month | Production (tons) | PM ₁₀ Composite Emission Factor (lb/ton) | Monthly PM ₁₀ Emissions ¹ (lbs) | Startup, Shutdown and Malfunction PM ₁₀ Emissions ² (lbs) | Monthly PM ₁₀ Emissions ³ (tons) | 12-Month Rolling Total Emissions ⁴ (tons) |
|----------------|-------------------|-----------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| <i>Example</i> | 50,000 | 0.0215 | 1,075 | 0.0 | .54 | 0.54 + 11 previous months |
| | | 0.0215 | | | | |
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| | | 0.0215 | | | | |

¹Multiply the monthly production by the PM₁₀ composite emission factor.

²As reported to the Air Pollution Control Program’s Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.

³Add the monthly PM₁₀ emissions plus the SSM emissions from the same time period and divide by 2000 and

⁴Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM₁₀ per consecutive 12 months is necessary for compliance.

- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- 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.
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261 does not apply because natural gas is used as fuel for the water heater EU-11.

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 January 29, 2018, received February 1, 2018, designating Joplin Concrete Company 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 | |

| 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.) = 0.7 | 3-05-011-04 | 139.04 | tons per hour | | | N/A | N/A | PM | 0.0254 | ton | 3.53E+00 | 15.44 | 8.20 |
| | | | | | | | | N/A | N/A | PM ₁₀ | 0.0120 | ton | 1.67E+00 | 7.30 | 3.88 |
| | | | | | | | | N/A | N/A | PM _{2.5} | 0.0018 | ton | 2.52E-01 | 1.11 | 0.59 |
| 2 | 2 | Sand transfer Moisture Content (% wt.) = 4.17 | 3-05-011-05 | 106.48 | tons per hour | | | N/A | N/A | PM | 0.0021 | ton | 2.22E-01 | 0.97 | 0.52 |
| | | | | | | | | N/A | N/A | PM ₁₀ | 0.0010 | ton | 1.05E-01 | 0.46 | 0.24 |
| | | | | | | | | N/A | N/A | PM _{2.5} | 0.0001 | ton | 1.59E-02 | 0.07 | 0.04 |
| 3 | 3 | Cement unloading to silo | 3-05-011-07 | 36.81 | tons per hour | Fabric filter | | 100% | N/A | PM | 0.0010 | ton | 3.62E-02 | 0.16 | 0.08 |
| | | | | | | | | 100% | N/A | PM ₁₀ | 0.0003 | ton | 1.24E-02 | 0.05 | 0.03 |
| | | | | | | | | 100% | N/A | PM _{2.5} | 0.0003 | ton | 1.24E-02 | 0.05 | 0.03 |
| 4 | 4 | Supplement unloading (pneumatic) | 3-05-011-17 | 5.44 | tons per hour | Fabric filter | | 100% | N/A | PM | 0.0089 | ton | 4.84E-02 | 0.21 | 0.11 |
| | | | | | | | | 100% | N/A | PM ₁₀ | 0.0049 | ton | 2.67E-02 | 0.12 | 0.06 |
| | | | | | | | | 100% | N/A | PM _{2.5} | 0.0049 | ton | 2.67E-02 | 0.12 | 0.06 |
| 5 | 5 | Weigh hopper loading | 3-05-011-08 | 245.50 | tons per hour | Fabric filter | | 100% | 99.0% | PM | 0.0048 | ton | 1.18E-02 | 0.05 | 0.03 |
| | | | | | | | | 100% | 99.0% | PM ₁₀ | 0.0028 | ton | 6.87E-03 | 0.03 | 0.02 |
| | | | | | | | | 100% | 99.0% | PM _{2.5} | 0.0014 | ton | 3.54E-03 | 0.02 | 0.01 |
| 6 | 6 | Truck loading (truck mix) Moisture Content (% wt.) = 0.12 | 3-05-011-10 | 42.05 | tons per hour | Controlled | | N/A | N/A | PM | 0.020653965 | ton | 7.56E-01 | 3.31 | 1.76 |
| | | | | | | | | N/A | N/A | PM ₁₀ | 0.008261588 | ton | 3.02E-01 | 1.32 | 0.70 |
| | | | | | | | | N/A | N/A | PM _{2.5} | 0.008261588 | ton | 3.02E-01 | 1.32 | 0.70 |
| 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 _x | | 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 _{mass} | | 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 _{mass} | | 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 _{mass} | | MMBtu | | | |
| | | | | | | | | N/A | N/A | CH ₄ | | MMBtu | | | |

| Equipment | Unit ID | Description of Unit | Equipment Description/SCC | Heat Rate | UoM per hour | Emission Factor (lbs/UoM) | | | | | | | | | | | | | | | | | |
|---------------|---------------------------------|-----------------------|---------------------------|---------------------------------------|---------------------------------------|---------------------------|-------------------|--------------------------------------|---------------------|---------------|---------------------------------------|---------------------------------------|---------------|-------------------|---------------------|--------|----------|----------|-------|------|-----|-------------------|------|
| 12 | Combustion #1 | NG (< 100 mmBtu/hour) | 3.5 mmBtu | mgal | 100% | N/A | PM | 7.60 | mmscf | 2.59E-02 | 0.11 | 0.06 | | | | | | | | | | | |
| | | | | | | | | | | | | | 100% | N/A | PM ₁₀ | 7.60 | mmscf | 2.59E-02 | 0.11 | 0.06 | | | |
| | | | | | | | | | | | | | 100% | N/A | PM _{2.5} | 7.60 | mmscf | 2.59E-02 | 0.11 | 0.06 | | | |
| | | | | | | | | | | | | | 100% | N/A | SO ₂ | 0.60 | mmscf | 2.04E-03 | 0.01 | 0.00 | | | |
| | | | | | | | | | | | | | 100% | N/A | NO ₂ | 100.00 | mmscf | 3.40E-01 | 1.49 | 0.79 | | | |
| | | | | | | | | | | | | | 100% | N/A | VOC | 5.50 | mmscf | 1.87E-02 | 0.08 | 0.04 | | | |
| | | | | | | | | | | | | | 100% | N/A | CO | 84.00 | mmscf | 2.86E-01 | 1.25 | 0.67 | | | |
| | | | | | | | | | | | | | 100% | N/A | CH ₂ O | 0.08 | mmscf | 2.55E-04 | 0.00 | 0.00 | | | |
| | | | | | | | | | | | | | 100% | N/A | Pb | 0.00 | mmscf | 1.70E-06 | 0.00 | 0.00 | | | |
| | | | | | | | | | | | | | 100% | N/A | HAPs | 1.89 | mmscf | 6.43E-03 | 0.03 | 0.01 | | | |
| | | | | | | | | | | | | | 100% | N/A | CO ₂ | 116.89 | mmscf | 3.98E-01 | 1.74 | 0.93 | | | |
| | | | | | | | | | | | | | 100% | N/A | N ₂ O | 0.00 | mmscf | 7.51E-07 | 0.00 | 0.00 | | | |
| | | | | | | | | | | | | | 100% | N/A | GHG _{base} | 116.89 | mmscf | 3.98E-01 | 1.74 | 0.93 | | | |
| | | | | | | | | | | | | | 100% | N/A | CH ₄ | 0.00 | mmscf | 7.51E-06 | 0.00 | 0.00 | | | |
| | | | | | | | | | | | | | Combustion #2 | mmBtu | mgal | 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 | N ₂ O | mgal | | | | | | | | | | | | | | | | | | | | |
| 100% | N/A | GHG _{base} | mgal | | | | | | | | | | | | | | | | | | | | |
| 100% | N/A | CH ₄ | mgal | | | | | | | | | | | | | | | | | | | | |
| Combustion #3 | mmBtu | mgal | 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 | N ₂ O | mgal | | | | | | | | | | | | | |
| | | | | | | | 100% | N/A | GHG _{base} | mgal | | | | | | | | | | | | | |
| | | | | | | | 100% | N/A | CH ₄ | mgal | | | | | | | | | | | | | |
| | | | | | | | 7a | Pile #1(used for Aggregate transfer) | Load in | 139.04 | tons per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM | 0.0254 | ton | 3.53E+00 | 15.44 | 8.20 | | | |
| | | | | | | | | | | | | | N/A | N/A | PM ₁₀ | 0.0120 | ton | 1.67E+00 | 7.30 | 3.88 | | | |
| | | | | | | | 7b | Load out | 139.04 | tons per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM _{2.5} | 0.0018 | ton | 2.52E-01 | 1.11 | 0.59 | | | | |
| | | | | | | | | | | | | N/A | N/A | PM | 0.0254 | ton | 3.53E+00 | 15.44 | 8.20 | | | | |
| 7c | Vehicular Activity | 1.17 | VMT per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM ₁₀ | 0.0120 | ton | 1.67E+00 | 7.30 | 3.88 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM _{2.5} | 0.0018 | ton | 2.52E-01 | 1.11 | 0.59 | | | | | | | | | | | |
| 7d | Wind Erosion | 0.35 | acres | Paved, Documented Watering/Chemical A | N/A | 90% | PM | 1.2795 | VMT | 1.50E-01 | 0.66 | 0.35 | | | | | | | | | | | |
| | | | | | N/A | 90% | PM ₁₀ | 0.2559 | VMT | 3.00E-02 | 0.13 | 0.07 | | | | | | | | | | | |
| 7d | Wind Erosion | 0.35 | acres | Paved, Documented Watering/Chemical A | N/A | 74% | PM _{2.5} | 0.0628 | VMT | 1.91E-02 | 0.08 | 0.04 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM | 0.1783 | acre-hr | 6.24E-02 | 0.27 | 0.15 | | | | | | | | | | | |
| 7d | Wind Erosion | 0.35 | acres | Paved, Documented Watering/Chemical A | N/A | N/A | PM ₁₀ | 0.0892 | acre-hr | 3.12E-02 | 0.14 | 0.07 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM _{2.5} | 0.0134 | acre-hr | 4.68E-03 | 0.02 | 0.01 | | | | | | | | | | | |
| 8a | Pile #2(used for Sand transfer) | Load in | 106.46 | tons per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM | 0.0021 | ton | 2.22E-01 | 0.97 | 0.52 | | | | | | | | | | |
| | | | | | | N/A | N/A | PM ₁₀ | 0.0010 | ton | 1.05E-01 | 0.46 | 0.24 | | | | | | | | | | |
| 8b | Load out | 106.46 | tons per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM _{2.5} | 0.0001 | ton | 1.59E-02 | 0.07 | 0.04 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM | 0.0021 | ton | 2.22E-01 | 0.97 | 0.52 | | | | | | | | | | | |
| 8c | Vehicular Activity | 0.90 | VMT per hour | Paved, Documented Watering/Chemical A | N/A | N/A | PM ₁₀ | 0.0010 | ton | 1.05E-01 | 0.46 | 0.24 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM _{2.5} | 0.0001 | ton | 1.59E-02 | 0.07 | 0.04 | | | | | | | | | | | |
| 8d | Wind Erosion | 0.19 | acres | Paved, Documented Watering/Chemical A | N/A | 90% | PM | 1.2792 | VMT | 1.15E-01 | 0.50 | 0.27 | | | | | | | | | | | |
| | | | | | N/A | 90% | PM ₁₀ | 0.2558 | VMT | 2.29E-02 | 0.10 | 0.05 | | | | | | | | | | | |
| 8d | Wind Erosion | 0.19 | acres | Paved, Documented Watering/Chemical A | N/A | 74% | PM _{2.5} | 0.0628 | VMT | 1.46E-02 | 0.06 | 0.03 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM | 0.2898 | acre-hr | 5.51E-02 | 0.24 | 0.13 | | | | | | | | | | | |
| 8d | Wind Erosion | 0.19 | acres | Paved, Documented Watering/Chemical A | N/A | N/A | PM ₁₀ | 0.1449 | acre-hr | 2.75E-02 | 0.12 | 0.06 | | | | | | | | | | | |
| | | | | | N/A | N/A | PM _{2.5} | 0.0217 | acre-hr | 4.13E-03 | 0.02 | 0.01 | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|--|--------------------|---------|------|---------------|------------------------------------------------------|-----|-----|-------------------|-------------------|-----|----------|------|------|--|--|--|--|
| | Pile #3 | | | | | | | | | | | | | | | | |
| | Load in | | | tons per hour | | | 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 ₁₀ | | ton | | | | | | |
| | | | | | | | N/A | N/A | PM _{2.5} | | ton | | | | | | |
| | Vehicular Activity | | | VMT per hour | | | N/A | N/A | PM ₁₀ | | VMT | | | | | | |
| | | | | | | | N/A | N/A | PM _{2.5} | | VMT | | | | | | |
| | Wind Erosion | | | acres | | | 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 ₁₀ | | ton | | | | | | |
| | | | | | | | N/A | N/A | PM _{2.5} | | ton | | | | | | |
| | Load out | | | tons per hour | | | 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 ₁₀ | | VMT | | | | | | |
| | | | | | | | N/A | N/A | PM _{2.5} | | VMT | | | | | | |
| | Wind Erosion | | | acres | | | N/A | N/A | PM ₁₀ | | acre-hr | | | | | | |
| | | | | | | | N/A | N/A | PM _{2.5} | | acre-hr | | | | | | |
| | 9 | Road #1 | 1.08 | VMT per hour | Unpaved, Documented Watering/Chemical Application | N/A | 90% | PM | 11.1979 | VMT | 1.21E+00 | 5.29 | 2.81 | | | | |
| | | | | | | N/A | 90% | PM ₁₀ | 3.3052 | VMT | 3.57E-01 | 1.56 | 0.83 | | | | |
| | | | | | | N/A | 74% | PM _{2.5} | 0.3305 | VMT | 9.27E-02 | 0.41 | 0.22 | | | | |
| | 10 | Road #2 | 0.84 | VMT per hour | Unpaved, Documented Watering/Chemical Application | N/A | 90% | PM | 11.2982 | VMT | 7.19E-01 | 3.15 | 1.67 | | | | |
| | | | | | | N/A | 90% | PM ₁₀ | 3.3348 | VMT | 2.12E-01 | 0.93 | 0.49 | | | | |
| | | | | | | N/A | 74% | PM _{2.5} | 0.3335 | VMT | 5.52E-02 | 0.24 | 0.13 | | | | |
| | 11 | Road #3 | 0.21 | VMT per hour | Paved | N/A | N/A | PM | 1.8846 | VMT | 3.92E-01 | 1.72 | 0.91 | | | | |
| | | | | | | N/A | N/A | PM ₁₀ | 0.3769 | VMT | 7.83E-02 | 0.34 | 0.18 | | | | |
| | | | | | | N/A | N/A | PM _{2.5} | 0.0925 | VMT | 1.92E-02 | 0.08 | 0.04 | | | | |

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| | | | | |
|----------------|--------|-----------|-------------------------|-----------------------------------|
| | | Pollutant | Justification for Limit | Limit Hours per Year |
| Hours per day | 24.0 | PM10 | NAAQS | |
| Days per year | 193.8 | N/A | N/A | Limit Hours per Year w/ 24 hr day |
| Hours per year | 4651.4 | PM10 | De Minimis | |

| Pollutant | Potential Emissions of Process Equipment (tons/yr) | Potential Emissions including fugitives (tons/yr) | Allowable Emissions for 4651 hours per year (tons/yr) | De Minimis Thresholds | Plant-wide Composite Emission Factor (lb/ton) |
|---------------------------------|----------------------------------------------------|---------------------------------------------------|-------------------------------------------------------|-----------------------|-----------------------------------------------|
| PM | 20.26 | 64.91 | 34.47 | 25 | 0.0494 |
| PM ₁₀ | 9.40 | 28.25 | 15.00 | 15 | 0.0215 |
| PM _{2.5} | 2.80 | 6.07 | 3.22 | 10 | 0.0046 |
| SO ₂ | 0.01 | 0.01 | 4.75E-03 | 40 | 0.0000 |
| NO ₂ | 1.49 | 1.49 | 0.79 | 40 | 0.0011 |
| VOC | 0.08 | 0.08 | 0.04 | 40 | 0.0001 |
| CO | 1.25 | 1.25 | 0.67 | 100 | 0.0010 |
| 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 | 0.03 | 0.03 | 0.01 | 10 | 0.0000 |
| CO ₂ | 1.74 | 1.74 | 0.93 | 100 | 0.0013 |
| 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} | 1.74 | 1.74 | 0.93 | 100 | 0.0013 |
| CO ₂ eq | 1.74 | 1.74 | 0.93 | 100,000 | 0.0013 |

| | |
|--------------------------------------|-----|
| Maximum hourly design rate (tons/hr) | 300 |
|--------------------------------------|-----|

| | |
|--------------------------|-------------|
| Tons of product per day | 7,200.0 |
| Tons of product per year | 1,395,431.4 |

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Paved Information

| | |
|----------------------------|-----------|
| Is this a new application? | Track mix |
| Is this a re-application? | 300 |
| Is this a re-application? | Yes |

Subgrade Paving Information

| Subgrade Type | Subgrade | Subgrade | Subgrade | Subgrade |
|---------------|----------|----------|----------|----------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Material Information

| Material | As Specified | As Produced | As Produced |
|------------------------|--------------|-------------|-------------|
| Crushed Inertives | 66.33% | 66.33% | 0.7 |
| Sand | 33.49% | 33.49% | 4.17 |
| Coarsest | 12.20% | 12.20% | 0.12 |
| Supplement to Coarsest | 1.81% | 1.81% | 0.12 |
| Water | 4.13% | 4.13% | |
| | 100% | 100% | |

Control Joints Information (select all that apply)

| | |
|-----------------------------------------|-----|
| Control Joints Installed by Batch Plant | Yes |
| Control Joints Installed by Job Site | Yes |
| Control Joints Installed by Batch Plant | Yes |
| Control Joints Installed by Job Site | Yes |

Storage Pile Information

| | Pile #1 | Pile #2 | Pile #3 | Pile #4 |
|--------------------------------------|--------------------------------------------|--------------------------------------------|---------|---------|
| Storage Pile ID No. | (used for Aggregate transfer) | (used for Road transfer) | | |
| Maximum Area of Storage Pile (Acres) | 11.431 | 0.171 | | |
| Type of Material Stored | Crushed Inertives | Sand | | |
| Minimum Contained No. | 0.7 | 4.17 | | |
| 200 Coarsest No. | 1.6 | 2.1 | | |
| Method of Load In to Storage Pile | Truck | Truck | | |
| Method of Load Out from Storage Pile | Loader | Loader | | |
| Distance Loader Travels (feet) | 100 | 100 | | |
| Loaded Loader Weight (tons) | 18.46 | 18.46 | | |
| Rate (tons/acre) | 119.64 | 116.46 | | |
| max VMT per hour | 1.7354 | 0.8941 | | |
| Surfactant Treatment | Ferred | Ferred | | |
| Weathering/Chemical Application | Documented Weathering/Chemical Application | Documented Weathering/Chemical Application | | |

Road Road Information

| | Road and Aggregate delivery | Finished | Finished/ferred | Road #4 | Road #5 | Road #6 |
|------------------------------|--------------------------------------------|--------------------------------------------|-----------------|---------|---------|---------|
| Length of Road (feet) | 415 | 27 | 48 | | | |
| Unloaded Truck Weight (tons) | 10 | 15 | 15 | | | |
| Loaded Truck Weight (tons) | 40 | 24 | 24 | | | |
| Rate (tons/acre) | 196.4 | 240 | 240 | | | |
| max VMT per hour | 1.0787 | 0.6364 | 0.2078 | | | |
| Surfactant Treatment | Unferred | Unferred | Ferred | | | |
| Road Road Condition | Documented Weathering/Chemical Application | Documented Weathering/Chemical Application | | | | |

Engine Fuel Information

| | 7A | 7B | 7C |
|-----------------------------------------|----|----|----|
| Type of Fuel | | | |
| Engine Horsepower (HP) | | | |
| Engine Speed (rpm) | | | |
| Gallons per hour | | | |
| Engine Fuel Consumption (gph) | | | |
| Is this a generator set? | | | |
| Is this a generator set? | | | |
| Fuel Supply: Document the vehicle model | | | |

Combustion Source

| Combustion ID - Description | Combustion #1 | Combustion #2 | Combustion #3 | Combustion #4 | Combustion #5 |
|------------------------------|---------------|---------------|---------------|---------------|---------------|
| Fuel Type | Natural gas | Natural gas | Natural gas | Natural gas | Natural gas |
| Is subject to 40 CFR Part 63 | Yes/Flow | Yes/Flow | Yes/Flow | Yes/Flow | Yes/Flow |
| Is subject to 40 CFR Part 61 | No | No | No | No | No |
| Is subject to 40 CFR Part 62 | No | No | No | No | No |
| Fuel Storage | Natural gas | Natural gas | Natural gas | Natural gas | Natural gas |
| Is subject to 40 CFR Part 63 | No | No | No | No | No |

Call: C4
Comment: Plant Capacity:
One cubic yard of concrete weighs approximately two tons

Call: A28
Comment: Material 1:
Also known as aggregate, rock. Various limestone products is NOT a valid choice here.

Call: C40
Comment: Storage Pile ID No.:
The storage pile No. is not used on the emission factor pages, but rather labeled "Storage Pile"

Call: D40
Comment: Pile #1:
This pile is associated with the Aggregate transfer, load-to-load-out used there for drop points.

Call: E40
Comment: Pile #2:
This pile is associated with the Sand transfer, load-to-load-out used there for drop points.

Call: C41
Comment: Minimum Surface Area of Storage Pile (Acres):
Enter the total surface area of all storage piles

Call: C43
Comment: Storage Pile Materials - Moisture Content Information
Moisture Content %

| Material Stored | Range | Mean |
|----------------------------|-------------|------|
| Crushed Limestone * | 0.2 to 1.1 | 0.7 |
| Various Limestone Products | 0.46 to 6.0 | 2.1 |
| Sand | - | 7.4 |
| Clay/DTM Mix | - | 14.0 |
| Clay | 8.9 to 11.0 | 10.0 |

* Additional documentation (i.e. test data, ASTM-C-136 method) should be provided if using a different value for the moisture contents in place of the default (mean) value.

Call: C44
Comment: Storage Pile Materials - Silt Content Information
Silt Content %

| Material Stored | Range | Mean |
|----------------------------|------------|------|
| Crushed Limestone * | 1.3 to 1.9 | 1.6 |
| Various Limestone Products | 0.8 to 14 | 14.0 |
| Sand | - | 2.8 |
| Clay/DTM Mix | - | 8.2 |
| Clay | 4.9 to 7.4 | 6.0 |

* Additional documentation (i.e. test data, ASTM-C-136 method) should be provided if using a different value for the silt contents in place of the default (mean) value.

Call: D44
Comment: Silt Content %:
The initial default values for silt content should be replaced with site-specific information.

Call: C48
Comment: Unloaded Loader Weight:
This data will be used by Paved & Unpaved worksheets to calculate storage pile traffic emissions

Call: C50
Comment: Rate:
For Pile #1, the default is the primary crusher size.

Call: C61
Comment: max VMT per hour:
 $MHDR = 2 * D * R / (U - 1)$ where:
MHDR = maximum hourly design rate (VMT/hr)
D = one way length of haul road (miles)
R = rate of material hauled (ton/hr)
U = unloaded truck weight (tons)
L = loaded truck weight (tons)

Call: C68
Comment: Haul Road ID No.: Enter a value or number to uniquely identify the emission unit/point at this installation. The value entered for the Haul Road ID No. must be consistent with those in your Emission Inventory Questionnaire (EQ) and your Operating Permit Application.

Call: C69
Comment: Unloaded Truck Weight (Tons): Enter the unloaded weight of the haul trucks. Note: If using haul trucks of varying unloaded weights, then a "fleet" weighted average value should be used and documentation of the analysis should be included with your submittal.
Example: 70% of rock is hauled in a 30 ton truck and 30% is hauled in a 20 ton truck. The "fleet" average unloaded weight would be calculated as follows:
"Fleet" Avg. Wt. = [(0.70 * 30 tons) + (0.30 * 20 tons)]
= [(21.0 tons) + (6.0 tons)]
= 27 tons

Call: C70
Comment: Average Loaded Truck Weight (Tons): Enter the average loaded weight of the haul trucks. Note: If using haul trucks of varying loaded weights, then a "fleet" weighted average value should be used and documentation of the analysis should be included with your submittal.
Example: 70% of rock is hauled in a 30 ton truck and 30% is hauled in a 20 ton truck. The "fleet" average unloaded weight would be calculated as follows:
"Fleet" Avg. Wt. = [(0.70 * 30 tons) + (0.30 * 20 tons)]
= [(21.0 tons) + (6.0 tons)]
= 27 tons

Call: C80
Comment: Rate Hauled:
For Road #1, the default is the primary crusher size.

Call: C61
Comment: max VMT per hour:
 $MHDR = 2 * D * R / (U - 1)$ where:
MHDR = maximum hourly design rate (VMT/hr)
D = one way length of haul road (miles)
R = rate of material hauled (ton/hr)
U = unloaded truck weight (tons)
L = loaded truck weight (tons)

Call: D67
Comment: Ready Raymond:
Because BHP and gallons per hour are linked through code, if you want to assess them, you have to highlight both cells and then hit the delete key.

Call: D68
Comment: Ready Raymond:
Because BHP and gallons per hour are linked through code, if you want to assess them, you have to highlight both cells and then hit the delete key.

Call: C71
Comment: Generator set engine:
means an engine used primarily to operate an electrical generator or alternator to produce electric power for other applications.

Call: C73
Comment: Fuel Sulfur Content:
From: Naeveigh, Bob
Sent: Monday, December 22, 2014 12:05 PM
To: Lisa, David
Cc: Hecker, Tom; Susan
Subject: FW: no permit required concurrence

The Air Quality Planning Section agrees with the no construction permit required determination per the requirements of 10 CSR 10-6.061.

Additional Comment:

Please note that as part of the development of the 1-hour BQ2 NAAQS State Implementation Plan, Missouri may in the next few years codify a state regulatory requirement that all diesel powered engines and boilers throughout Missouri (or near large BQ2 sources) shall be required to use diesel fuel compliant with federal Ultra Low Sulfur Diesel (ULSD) requirements (15 ppm Sulfur content). Though the Air Program has been informed by diesel purchasers and users that ULSD is their only option when purchasing diesel fuel in Missouri and throughout the Midwest, the USEPA does not consider the federal requirements to be binding. As a result, Missouri may be required by USEPA to include such a binding ULSD requirement in a future state rulemaking and/or as part of another permanent and enforceable mechanism(s). Thank you.

From: Whitou, Emily
Sent: Monday, December 15, 2014 1:52 PM
To: Rasmussen, Bob
Subject: PER: no permit required concurrence

From: LIRA, David
Sent: Monday, December 15, 2014 1:48 PM
To: Bybee, Darcy; C'Heath, Nathan; Stevens, Jeffrey; Stanfield, Michael; Whitou, Emily
Cc: Hirschbarger, Susan
Subject: no permit required concurrence

The Permits Section is requesting concurrence on a permit determination. A draft no permit required letter is attached. The Permits Section is sending this email to request each section to review the draft letter and provide input and approval.

Please respond to this email by December 22.

Thank you.

David LIRA, PE
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102
david.lira@dnr.mo.gov 573-781-4817

Call: 678

Comment: Desc:
Enter your own description of combustion source 1.

Call: 000

Comment: Fuel Type:
You should list in a choice for both Chap 11 & Part 88 and these choices must coincide.

Call: 082

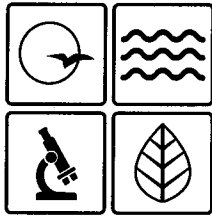
Comment: Default Fuel Sulfur Content:
= 15 grams/100 cubic feet (default for Propane)
= 0.0015 % (default for Fuel Oil)

Call: F02

Comment: Default Fuel Sulfur Content:
= 15 grams/100 cubic feet (default for Propane)
= 0.0015 % (default for Fuel Oil)

Call: H02

Comment: Default Fuel Sulfur Content:
= 15 grams/100 cubic feet (default for Propane)
= 0.0015 % (default for Fuel Oil)



Missouri Department of

dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAR 30 2018

Mr. Justin Tucker
General Manager
Joplin Concrete Company, Inc.-Wildwood Plant
PO Box 1000
Joplin, MO 64801

RE: New Source Review Permit - Project Number: 2018-02-004
Installation Number: 097-0179

Dear Mr. Tucker:

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 Joplin Concrete Company, Inc.-Wildwood Plant 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 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,



Recycled paper

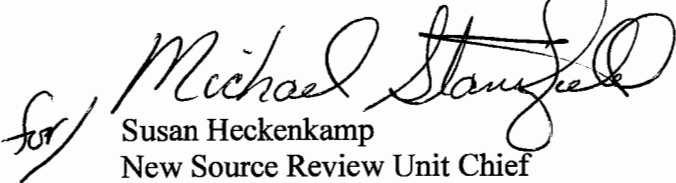
Mr. Justin Tucker
Page Two

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: Southwest Regional Office
PAMS File: 2018-02-004

Permit Number: **032018-013**