

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: **092017-013**

Project Number: 2017-08-015
Installation ID: PORT-0757

Parent Company: Herzog Contracting Corporation

Parent Company Address: 600 S. Riverside Rd, St. Joseph, MO 64052

Installation Name: Herzog Contracting Corporation

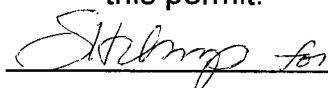
Installation Address: NE JCT of Squirrel Rd and Holt 180, Maitland, MO

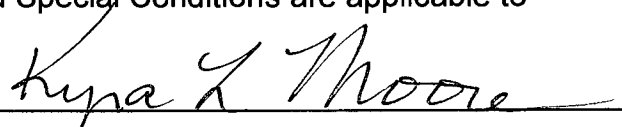
Location Information: Holt County, S27/28 T66N R23W

Application for Authority to Construct was made for:
Installation of a new portable asphalt 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

SEP 27 2017

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/>

GENERAL 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. Equipment Identification Requirement

Herzog Contracting Corporation shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable asphalt plant.

2. Relocation of Portable Asphalt Plant

A. Herzog Contracting Corporation shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0757, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.

B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable asphalt plant.

1) If the portable asphalt plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.

2) If the portable asphalt plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.

3. Record Keeping Requirement

Herzog Contracting Corporation shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.

4. Reporting Requirement

Herzog Contracting Corporation shall report to the Air Pollution Control Program Compliance / Enforcement Section by mail at P.O. Box 176, Jefferson City, MO 65102 or electronically at AirComplianceReporting@dnr.mo.gov, no later than 10 days after any exceedances of the limitations imposed by this permit.

SITE SPECIFIC 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."

PORT ID Number: PORT-0757

Site ID Number:

Site Name: Norris Quarries

Site Address: NE JCT of Squirrel Rd and Holt 180, Maitland, MO

Site County: Holt S27/28 T66N R23W

1. **Best Management Practices Requirement**
Herzog Contracting Corporation 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. Herzog Contracting Corporation shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. Herzog Contracting Corporation 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. Herzog Contracting Corporation shall control emissions from the drum dryer (EP-4) using a baghouse as specified in the permit application.
 - B. The baghouse 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 baghouse 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).
 - D. Herzog Contracting Corporation shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

SITE SPECIFIC SPECIAL CONDITIONS:

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

- E. Herzog Contracting Corporation shall maintain a copy of the baghouse manufacturer's performance warranty on site.
 - F. Herzog Contracting Corporation shall maintain an operating and maintenance log for the baghouse 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-Drum Dryer and Asphalt Heater
- A. Herzog Contracting Corporation shall burn in residual #6 oil in their Drum Dryer (EP-4) during asphalt production. The residual #6 oil shall have a sulfur content no higher than 0.2% (2,000 ppm).
 - B. Herzog Contracting Corporation shall burn ultra-low sulfur diesel fuel (15 ppm) in their Asphalt Heater (EP-7) during asphalt production.
 - C. Herzog Contracting Corporation shall demonstrate compliance with Special Condition 4.A by obtaining records of the fuel's sulfur content from the vendor for each shipment of fuel received or by testing each shipment of fuel for the sulfur content in accordance with the method described in 10 CSR 10-6.040 *Reference Methods*.
 - D. Herzog Contracting Corporation shall keep the records required by Special Condition 4.B with the unit and make them available for Department of Natural Resources' employees upon request.
5. Nonroad Engine Requirement
- Herzog Contracting Corporation's engine shall not remain at one location within this site longer than 12 consecutive months in order for the engine to meet the definition of a nonroad engine as stated in 40 CFR 89.2. These engines shall be moved with its associated equipment at least once every 12 consecutive months at this site.
6. Record Keeping Requirement
- Herzog Contracting Corporation 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
- Herzog Contracting Corporation 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: 2017-08-015
Installation ID Number: PORT-0757

Permit Number: **092017-013**

Herzog Contracting Corporation:
NE JCT of Squirrel Rd and Holt 180
Maitland, MO

Complete: August 17, 2017

Parent Company:
Herzog Contracting Corporation
600 S. Riverside Rd
PO Box 1089
St. Joseph, MO 64052

Holt County, S27/28 T66N R23W

PROJECT DESCRIPTION

Herzog Contracting Corporation is installing a new portable asphalt plant located in Holt County. It will be operating concurrently with the rock crushing operation at Norris Quarries, LLC (Site ID: 087-0002). Norris Quarries, LLC has amended their permit to allow concurrent operations based on a daily production limit (Project #2017-08-047).

The plant is an ASTEC, manufactured in 2017, Model: Six Pack with a high efficiency baghouse. The MHDR is 400 tph. The nonroad engine is a MTU, manufactured in 2017, Model DP900, 900 KW, 1200 HP. The drum dryer will burn residual #6 fuel oil with a sulfur content no greater than 0.2% sulfur. The 1.5 mmBTU/hr asphalt heater and the MTU engine will burn ultra low sulfur diesel.

The following table lists the new pieces of equipment associated with this project.

Table 1: Project Equipment List

Emission Unit	Equipment Description	MHDR
EP1	Aggregate Bins	400 tph
EP2	Aggregate handling conveyor (3)	400 tph
EP3	Vibrating Screen	400 tph
EP4	Drum Dryer	400 tph
EP5	Plant Loadout	400 tph
EP6	Silo Loading	400 tph
EP7	Asphalt Heater	1.5 mmBTU/hr
EP11a	Storage Piles (Sand)	1.0 acre
EP11b	Storage Pile (Aggregate)	1.0 Acre
EP11c	Storage Pile (RAP)	1.0 Acre
EP12a	Haul Roads (Receiving)	1650 feet
EP12b	Haul Roads (Sales/Finished Product)	211 feet

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.

The portable plant is moving to this site to complete highway project MoDOT Job # J1L1703D, J1L11703E and J1P2224.

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

This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Fugitive emissions are counted toward major source applicability. However, Category 27 does not apply to the 100 tons per year major source level thresholds. Therefore, the major source threshold for this asphalt plant is 250 tons per year.

No permits have been issued to Herzog Contracting Corporation for PORT-0757 from the Air Pollution Control Program.

TABLES

The Table 2 below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. The existing actual emissions were taken from the previous year's EIQ. 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 the voluntary PM₁₀ annual emissions limit to avoid dispersion modeling requirements.

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	138.76	N/A	371.45	34.20
PM ₁₀	15.0	72.31	N/A	162.93	<15.00
PM _{2.5}	10.0	48.48	N/A	65.68	6.06
SO _x	40.0	55.08	N/A	55.08	5.07
NO _x	40.0	280.39	N/A	280.39	25.81
VOC	40.0	108.57	N/A	108.57	10.00
CO	100.0	63.15	N/A	63.15	5.81
H ₂ S	10.0	8.84	N/A	8.84	0.814
GHG (CO ₂ e)	N/A	94,413.13	N/A	94,413.13	8,692.11
GHG (mass)	N/A	94,017.89	N/A	94,017.89	8,655.72
Formaldehyde CH ₂ O	10.0/2.0 ^c	5.74	N/A	5.74	0.53
2-methylnaphthalene ^d	10.0/0.01 ^c	0.32	N/A	0.32	0.03
Lead Compounds	10.0/0.01 ^c	0.03	N/A	0.03	0.00
Total HAPs	25.0	18.34	N/A	18.34	1.69

N/A = Not Applicable

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific haul road and storage pile emissions

^cSMAL

^d2-methylnaphthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

Table 3 summarizes the ambient air quality impact analysis. An AAQIA is required for pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the EPA modeling software AERSCREEN. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The 24-hour limited impacts and daily limit are based on compliance with RAL for 2-methylnaphthalene.

Table 3: Ambient Air Quality Impact Analysis

Pollutant	RAL (µg/m ³)	Averaging Time	^a Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	Daily Limit (tons/day)
2-methylnaphthalene	23	24-hour	0.10	N/A	N/A	N/A
2-methylnaphthalene ^b	2.3	Annual	0.0016	N/A	N/A	N/A

^aModeled impact at maximum capacity with controls

^b2-methylnaphthalene is a member of the polycyclic organic matter (POM) HAP group.

The plant's drum dryer (EP-4) was modeled using the AERSCREEN screen modeling software. The stack characteristic entered into the modeled are listed in Table 4.

Table 4: AERSCREEN Input Parameters

Equipment Description	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
Drum Dryer (EP-4)	6.5	0.98	42.18	388.7	Rural

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 drum mix asphalt plant:

- Calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004.
- SO_x emissions were calculated using the SO₂ and SO₃ emission factors from AP-42 Section 1.3 "Fuel Oil Combustion," September 1998 and assuming half of the sulfur up to 0.1 pound per ton of product is absorbed into the product.
- The asphalt plant is controlled by a baghouse, so the fabric filter controlled emission factor was used to calculate PM₁₀ emissions.
- Emissions from plant load-out were calculated using predictive equations found in AP-42 Table 11.1-14. Default values were used for asphalt volatility and mix temperature.

Emissions from the asphalt heater:

- Calculated using emission factors from AP-42 Section 1.3.

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 uncontrolled emission factors were used because the inherent moisture content of the crushed rock is less 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 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 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

Herzog Contracting Corporation 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

- *Operating Permits*, 10 CSR 10-6.065 is not required because this is a portable plant.
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *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 the drum dryer is controlled by a baghouse. All other sources are fugitive.
- 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities" applies to the equipment.
- 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 apply but this plant complies by the usage of residual #6 fuel with a sulfur content less than 8,509 ppm.

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 August 7, 2017, received August 8, 2017, designating Herzog Contracting Corporation 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	MMBtu	Million British thermal units
°F	degrees Fahrenheit	MMCF	million cubic feet
acfm	actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	NAAQS	National Ambient Air Quality Standards
BMPs	Best Management Practices	NESHAPs ..	National Emissions Standards for Hazardous Air Pollutants
Btu	British thermal unit	NO_x	nitrogen oxides
CAM	Compliance Assurance Monitoring	NSPS	New Source Performance Standards
CAS	Chemical Abstracts Service	NSR	New Source Review
CEMS	Continuous Emission Monitor System	PM	particulate matter
CFR	Code of Federal Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CO	carbon monoxide	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CO₂	carbon dioxide	ppm	parts per million
CO₂e	carbon dioxide equivalent	PSD	Prevention of Significant Deterioration
COMS	Continuous Opacity Monitoring System	PTE	potential to emit
CSR	Code of State Regulations	RACT	Reasonable Available Control Technology
dscf	dry standard cubic feet	RAL	Risk Assessment Level
EIQ	Emission Inventory Questionnaire	SCC	Source Classification Code
EP	Emission Point	scfm	standard cubic feet per minute
EPA	Environmental Protection Agency	SDS	Safety Data Sheet
EU	Emission Unit	SIC	Standard Industrial Classification
fps	feet per second	SIP	State Implementation Plan
ft	feet	SMAL	Screening Model Action Levels
GACT	Generally Available Control Technology	SO_x	sulfur oxides
GHG	Greenhouse Gas	SO₂	sulfur dioxide
gpm	gallons per minute	SSM	startup, shutdown, & malfunction
gr	grains	tph	tons per hour
GWP	Global Warming Potential	tpy	tons per year
HAP	Hazardous Air Pollutant	VMT	vehicle miles traveled
hr	hour	VOC	Volatile Organic Compound
hp	horsepower		
lb	pound		
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		
m/s	meters per second		
Mgal	1,000 gallons		
MW	megawatt		
MHDR	maximum hourly design rate		

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	Limit Hours per Year w/ 24 hr day
Days per year	33.6	N/A	N/A	
Hours per year	806.5	PM10	De Minimis	

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 806 hours per year (tons/yr)	De Minimis Thresholds	Plant-wide Composite Emission Factor (lbs/ton)
PM	138.76	371.45	34.20		0.2120
PM ₁₀	72.31	162.93	15.00		0.0930
PM _{2.5}	48.48	65.68	6.05		0.0375
SO ₂	55.08	55.08	5.07		0.0314
NO ₂	280.39	280.39	25.81		0.1600
VOC	108.57	108.57	10.00		0.0620
CO	63.15	63.15	5.81		0.0360
H ₂ S	8.84	8.84	0.814		0.0050
CH ₂ O	5.74	5.74	0.53		0.0033
C ₁₁ H ₁₀	0.32	0.32	0.03		0.0002
Pb	0.03	0.03	0.00		0.0000
HAPs	18.34	18.34	1.69		0.0105
CO ₂	94,009.97	94,009.97	8,654.99		53.6587
CH ₄	7.17	7.17	0.66		0.0041
N ₂ O	0.75	0.75	0.07		0.0004
GHG _{mass}	94,017.89	94,017.89	8,655.72		53.6632
CO ₂ eq	94,413.13	94,413.13	8,692.11		53.8888

Maximum hourly design rate (tons/hr)	400
Distance to property boundary (ft)	1256

Tons of product per day	9600.0
Tons of product per year	322,594.5

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly Design Rate	Units	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Units (pounds per unit shown)	Emission Rate (pounds per hour)	Potential Emissions (tons per year)	Allowable Emissions (tons per year)	Nomograph Type (followed by 24-hr conc, then by annual conc)	Hours Adjusted Ambient For one hr (up/m3)	Emission Adjusted Ambient Average (up/m3)	Ambient Impact Annual Average (ug/m3)
1	1	Aggregate handling bins		368.00	tonshour			N/A	N/A	PM ₁₀	0.0020	ton	1.10	4.84	0.45	None			
								N/A	N/A	PM _{2.5}	0.0011	ton	0.40	1.77	0.16				
								N/A	N/A	PM _{2.5}	0.0003	ton	0.11	0.50	0.05				
2	2	Aggregate handling conveyor		2,208.00	tonshour			N/A	N/A	PM ₁₀	0.0030	ton	8.62	29.01	2.67	None			
								N/A	N/A	PM ₁₀	0.0011	ton	2.43	10.84	0.98				
								N/A	N/A	PM _{2.5}	0.0003	ton	0.89	3.51	0.25				
3	3	Vibrating screen		368.00	tonshour			N/A	N/A	PM ₁₀	0.0250	ton	9.20	40.30	3.71	None			
								N/A	N/A	PM ₁₀	0.0087	ton	3.20	14.02	1.29				
								N/A	N/A	PM _{2.5}	0.0008	ton	0.22	0.96	0.09				
18	18	RAP/RAS Crusher			tonshour		Undocumented Watering	N/A	50%	PM ₁₀		ton				None			
								N/A	50%	PM _{2.5}		ton							
								N/A	50%	PM _{2.5}		ton							
4	4	Drum mix hot mix asphalt plant	3-05-002-05, 55-05	400.00	tonshour		Fabric filter	N/A	N/A	PM ₁₀	0.0030	ton	13.20	67.8	5.3	AERSCREEN	1.50	19.83	0.30
		Waste oil-fired dryer		120.00	mmBtu/hour			N/A	N/A	PM ₁₀	0.0230	ton	9.20	40.3	3.7	1.502	1.50	13.82	0.21
		Residual oil fired (R, >= 100 mmBtu/hr)		0.80	mgal/hour			N/A	N/A	PM _{2.5}	0.0220	ton	8.60	38.5	3.5	0.2903	1.50	13.28	0.20
		Residual Fuel Oil No. 6			mmach/hour			N/A	N/A	SO ₂	15.7000	mgal	12.56	55.0	5.1		1.50	18.87	0.25
		liquid asphalt		32.00	lph			N/A	N/A	NO _x	47.0000	mgal	37.60	164.7	15.2		1.50	56.48	0.87
		CO (b)ton liquid asphalt, sum with fuel combustion						0.08	N/A	CO	5.0000	mgal	5.62	25.9	2.4		1.50	8.89	0.14
									N/A	VOC	0.0250	ton	12.80	58.1	5.2		1.50	18.29	0.26
									N/A	CH ₄	0.0031	ton	1.24	5.4	0.5		1.50	1.86	0.03
									N/A	C ₁₀ H ₁₆	0.0002	ton	0.07	0.3	0.02742		1.50	0.10	0.016
									N/A	Pb	0.0000	ton	0.01	0.0	0.0		1.50	0.01	0.00
									N/A	HAPs	0.0108	ton	4.39	17.5	1.8		1.50	6.01	0.09
									N/A	CO ₂	155.5670	mmBtu	19,928.04	87,022.0	8,011.8		1.50	2841.79	457.50
									N/A	CH ₄	0.0120	ton	1.44	6.3	0.6		1.50	2.18	0.03
									N/A	H ₂ S	0.0050	ton	2.00	8.8	0.8				
									N/A	H ₂ O	0.0013	mmBtu	0.18	0.77	0.1		1.50	0.24	0.00
5	5	Piled loadout	3-05-002-14	400.00	tonshour			N/A	N/A	PM ₁₀	0.0005	ton	0.21	0.9	0.1	None			
		liquid asphalt		32.00	lph			N/A	N/A	PM _{2.5}	0.0005	ton	0.21	0.9	0.1				
								N/A	N/A	CO	0.0013	ton	0.54	2.4	0.2				
								N/A	N/A	VOC	0.0039	ton	1.56	6.8	0.8				
								N/A	N/A	CH ₄	0.0000	ton	0.00	0.0	0.0				
								N/A	N/A	HAPs	0.0001	ton	0.03	0.2	0.0				
								N/A	N/A	H ₂ S	0.0002	ton liquid asphalt	0.01	0.028	0.003				
								N/A	N/A	CH ₄	0.0003	ton	0.11	0.5	0.0				
6	6	Silo loading	3-05-002-13	400.00	tonshour			N/A	N/A	PM ₁₀	0.0008	ton	0.23	1.0	0.1	None			
		liquid asphalt		32.00	lph			N/A	N/A	PM _{2.5}	0.0006	ton	0.23	1.0	0.1				
								N/A	N/A	CO	0.0012	ton	0.47	2.1	0.2				
								N/A	N/A	VOC	0.0122	ton	4.97	21.4	2.0				
								N/A	N/A	CH ₄	0.0001	ton	0.03	0.1	0.0				
								N/A	N/A	HAPs	0.0002	ton	0.07	0.3	0.0				
								N/A	N/A	H ₂ S	0.0002	ton liquid asphalt	0.01	0.028	0.003				
								N/A	N/A	CH ₄	0.0000	ton	0.01	0.1	0.0				

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly Design Rate	Units	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Units (pounds per unit shown)	Emission Rate (pounds per hour)	Potential Emissions (tons per year)	Allowable Emissions (tons per year)	Nomograph Type (followed by 24-hr conc, then by annual conc)	Hours Adjusted Ambient Impact 24-hr For one hr (µg/m ³)	Emission Adjusted Ambient Impact 24-hr Average (µg/m ³)	Ambient Impact Annual Average (µg/m ³)
7	7	Asphalt heater Distillate oil fired (#2, < 100 mmBtu/hr) Distillate Fuel Oil No. 2	1-02-005-[01,02,03]	400.00 1.60 0.01	tons/hour mmBtu/hour mgal/hour mmac/hour			100%	N/A	PM	3.30	mgal	0.34	0.2	None				
										PM ₁₀	2.30	mgal	0.03	0.1					
										PM _{2.5}	1.55	mgal	0.02	0.1					
										SO ₂	0.21	mgal	0.00	0.0					
										NO _x	20.00	mgal	0.52	1.0					
										CO	5.00	mgal	0.05	0.2					
										VOC	0.34	mgal	0.00	0.0					
										CH ₄	0.03	mgal	0.00	0.0					
										Pb	0.00	mgal	0.00	0.0					
										HAPs	0.04	mgal	0.00	0.0					
										CO ₂	183.05	mmBtu	244.58	1,071.3					
										CH ₄	0.01	mmBtu	0.01	0.0					
										N ₂ O	0.00	mmBtu	0.00	0.0					
										PM	0.01050	ton liquid weigh	0.34	1.471					
										PM ₁₀	0.01050	ton liquid weigh	0.34	1.471					
										PM _{2.5}	0.01050	ton liquid weigh	0.34	1.471					
										VOC	0.15233	ton liquid weigh	4.87	21.351					
CO	0.01475	ton liquid weigh	0.47	2.067															
H ₂ S	0.0002	ton liquid weigh	0.01	0.028															
THAPS	0.00198	ton liquid weigh	0.06	0.278															
CH ₂ O	0.00105	ton liquid weigh	0.03	0.147															
Cl ₂	0.00017	ton liquid weigh	0.01	0.023															
8	8	Engine Large stationary diesel (> 800 bhp) Model Year 2017	SCC 2-02-004-01	1,200.00 69.33 8.19 900.00	bhp gallons per hour mmBtu/hour kW-hr			100%	N/A	PM	0.0900	mmBtu	0.737	3.227	None				
										PM ₁₀	0.0570	mmBtu	0.468	2.055					
										PM _{2.5}	0.0556	mmBtu	0.455	1.904					
										SO ₂	0.0002	Gallon	0.013	0.056					
										NO _x	3.2000	mmBtu	26.198	114.748					
										CO	0.9500	mmBtu	8.859	38.483					
										VOC	0.0819	mmBtu	0.671	2.837					
										CH ₄	0.0001	mmBtu	0.001	0.003					
										HAPs	0.0016	mmBtu	0.013	0.056					
										CO ₂	165.0000	mmBtu	1,365.947	5,918.700					
										N ₂ O	0.0013	mmBtu	0.011	0.047					
										CH ₄	0.0081	mmBtu	0.066	0.282					
										PM		mmBtu							
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		Gallon							
										NO _x		mmBtu							
CO		mmBtu																	
VOC		mmBtu																	
CH ₄		mmBtu																	
HAPs		mmBtu																	
CO ₂		mmBtu																	
N ₂ O		mmBtu																	
CH ₄		mmBtu																	
9	9	Engine Model Year			bhp gallons per hour mmBtu/hour kW-hr			100%	N/A	PM		mmBtu		None					
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		Gallon							
										NO _x		mmBtu							
										CO		mmBtu							
										VOC		mmBtu							
										CH ₄		mmBtu							
										HAPs		mmBtu							
										CO ₂		mmBtu							
										N ₂ O		mmBtu							
										CH ₄		mmBtu							
										PM		mmBtu							
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		Gallon							
										NO _x		mmBtu							
CO		mmBtu																	
VOC		mmBtu																	
CH ₄		mmBtu																	
HAPs		mmBtu																	
CO ₂		mmBtu																	
N ₂ O		mmBtu																	
CH ₄		mmBtu																	
10	10	Engine Model Year			bhp gallons per hour mmBtu/hour kW-hr			100%	N/A	PM		mmBtu		None					
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		Gallon							
										NO _x		mmBtu							
										CO		mmBtu							
										VOC		mmBtu							
										CH ₄		mmBtu							
										HAPs		mmBtu							
										CO ₂		mmBtu							
										N ₂ O		mmBtu							
										CH ₄		mmBtu							
										PM		mmBtu							
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		Gallon							
										NO _x		mmBtu							
CO		mmBtu																	
VOC		mmBtu																	
CH ₄		mmBtu																	
HAPs		mmBtu																	
CO ₂		mmBtu																	
N ₂ O		mmBtu																	
CH ₄		mmBtu																	
Combustion #2		Combustion #2			mmBtu mgal mmac			100%	N/A	PM		mmBtu		None					
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		mmBtu							
										NO _x		mmBtu							
										VOC		mmBtu							
										CH ₄		mmBtu							
										Pb		mmBtu							
										HAPs		mmBtu							
										CO ₂		mmBtu							
										N ₂ O		mmBtu							
										CH ₄		mmBtu							
										PM		mmBtu							
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		mmBtu							
										NO _x		mmBtu							
VOC		mmBtu																	
CH ₄		mmBtu																	
Pb		mmBtu																	
HAPs		mmBtu																	
CO ₂		mmBtu																	
N ₂ O		mmBtu																	
CH ₄		mmBtu																	
Combustion #3		Combustion #3			mmBtu mgal mmac			100%	N/A	PM		mmBtu		None					
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		mmBtu							
										NO _x		mmBtu							
										VOC		mmBtu							
										CH ₄		mmBtu							
										Pb		mmBtu							
										HAPs		mmBtu							
										CO ₂		mmBtu							
										N ₂ O		mmBtu							
										CH ₄		mmBtu							
										PM		mmBtu							
										PM ₁₀		mmBtu							
										PM _{2.5}		mmBtu							
										SO ₂		mmBtu							
										NO _x		mmBtu							
VOC		mmBtu																	
CH ₄		mmBtu																	
Pb		mmBtu																	
HAPs		mmBtu																	
CO ₂		mmBtu																	
N ₂ O		mmBtu																	
CH ₄		mmBtu																	

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly Design Rate	Units	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Units (pounds per unit shown)	Emission Rate (tons per hour)	Potential Emissions (tons per year)	Allowable Emissions (tons per year)	Homograph Type (followed by 24-hr conc. then by annual conc.)	Hours Adjusted Ambient 24-hr For one hr (µg/m ³)	Emission Adjusted Ambient Impacted 24-hr Average (µg/m ³)	Ambient Impact Annual Average (µg/m ³)
		Pile #1																	
		Load In		268.00	tons per hour			N/A	N/A	PM	0.0254	ton	6.79E+00	26.76	2.74				
								N/A	N/A	PM ₁₀	0.0120	ton	3.21E+00	14.08	1.30				
								N/A	N/A	PM _{2.5}	0.0018	ton	4.87E-01	2.13	0.20				
		Load out		268.00	tons per hour			N/A	N/A	PM	0.0254	ton	6.79E+00	26.76	2.74				
								N/A	N/A	PM ₁₀	0.0120	ton	3.21E+00	14.08	1.30				
								N/A	N/A	PM _{2.5}	0.0018	ton	4.87E-01	2.13	0.20				
		Vehicular Activity		1.12	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.3428	VMT	1.15E+00	5.06	0.47				
								N/A	90%	PM ₁₀	2.9411	VMT	3.28E-01	1.44	0.13				
								N/A	74%	PM _{2.5}	0.2941	VMT	6.64E-02	0.37	0.03				
		Wind Erosion		1.00	acres			N/A	N/A	PM	0.1783	acre-hr	1.78E-01	0.78	0.07				
								N/A	N/A	PM ₁₀	0.0692	acre-hr	6.92E-02	0.30	0.04				
								N/A	N/A	PM _{2.5}	0.0134	acre-hr	1.34E-02	0.06	0.01				
		Pile #2																	
		Load In		100.00	tons per hour			N/A	N/A	PM	0.0021	ton	2.08E-01	0.91	0.09				
								N/A	N/A	PM ₁₀	0.0010	ton	9.86E-02	0.43	0.04				
								N/A	N/A	PM _{2.5}	0.0001	ton	1.49E-02	0.07	0.01				
		Load out		100.00	tons per hour			N/A	N/A	PM	0.0021	ton	2.08E-01	0.91	0.09				
								N/A	N/A	PM ₁₀	0.0010	ton	9.86E-02	0.43	0.04				
								N/A	N/A	PM _{2.5}	0.0001	ton	1.49E-02	0.07	0.01				
		Vehicular Activity		0.42	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.3428	VMT	4.31E-01	1.89	0.17				
								N/A	90%	PM ₁₀	2.9411	VMT	1.23E-01	0.64	0.06				
								N/A	74%	PM _{2.5}	0.2941	VMT	3.18E-02	0.14	0.01				
		Wind Erosion		1.00	acres			N/A	N/A	PM	0.2996	acre-hr	2.99E-01	1.27	0.12				
								N/A	N/A	PM ₁₀	0.1449	acre-hr	1.45E-01	0.63	0.06				
								N/A	N/A	PM _{2.5}	0.0217	acre-hr	2.17E-02	0.10	0.01				
		Pile #3																	
		Load In		268.00	tons per hour			N/A	N/A	PM	0.0254	ton	6.79E+00	26.76	2.74				
								N/A	N/A	PM ₁₀	0.0120	ton	3.21E+00	14.08	1.30				
								N/A	N/A	PM _{2.5}	0.0018	ton	4.87E-01	2.13	0.20				
		Load out		268.00	tons per hour			N/A	N/A	PM	0.0254	ton	6.79E+00	26.76	2.74				
								N/A	N/A	PM ₁₀	0.0120	ton	3.21E+00	14.08	1.30				
								N/A	N/A	PM _{2.5}	0.0018	ton	4.87E-01	2.13	0.20				
		Vehicular Activity		1.12	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.3428	VMT	1.15E+00	5.06	0.47				
								N/A	90%	PM ₁₀	2.9411	VMT	3.28E-01	1.44	0.13				
								N/A	74%	PM _{2.5}	0.2941	VMT	6.64E-02	0.37	0.03				
		Wind Erosion		1.00	acres			N/A	N/A	PM	0.1783	acre-hr	1.78E-01	0.78	0.07				
								N/A	N/A	PM ₁₀	0.0692	acre-hr	6.92E-02	0.30	0.04				
								N/A	N/A	PM _{2.5}	0.0134	acre-hr	1.34E-02	0.06	0.01				
		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							
		Road #1		17.66	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.9941	VMT	1.95E+01	85.99	7.92				
								N/A	90%	PM ₁₀	3.2450	VMT	6.79E+00	26.38	2.34				
								N/A	74%	PM _{2.5}	0.3245	VMT	1.51E+00	6.60	0.61				
		Road #2		2.28	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.9941	VMT	2.51E+00	11.00	1.01				
								N/A	90%	PM ₁₀	3.2450	VMT	7.41E-01	3.25	0.30				
								N/A	74%	PM _{2.5}	0.3245	VMT	1.93E-01	0.84	0.08				
		Road #3			VMT per hour			N/A	N/A	PM		VMT							
								N/A	N/A	PM ₁₀		VMT							
								N/A	N/A	PM _{2.5}		VMT							
		Road #4			VMT per hour			N/A	N/A	PM		VMT							
								N/A	N/A	PM ₁₀		VMT							
								N/A	N/A	PM _{2.5}		VMT							
		Road #5			VMT per hour			N/A	N/A	PM		VMT							
								N/A	N/A	PM ₁₀		VMT							
								N/A	N/A	PM _{2.5}		VMT							
		Road #6			VMT per hour			N/A	N/A	PM		VMT							
								N/A	N/A	PM ₁₀		VMT							
								N/A	N/A	PM _{2.5}		VMT							

Plant Information

Plant Type	Drum mix hot mix asphalt plant
Plant Output Capacity (ton/hour)	400
Runner Input Capacity (ton/hour)	120
Control Device	Fabric filter
Best Management Practices	Yes

Open Fuel Type	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 69	In regards to AP-42 Chapter 11	You should fill in a choice for both Chap 1 & Part 69 and these choices must coincide.
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur per 10 ⁶ cuft for Natural gas, grains of sulfur/100 cuft gas vapor for Butane and Propane)	Residual oil fired (R2, >= 100 mm(µm/hr)	Residual Fuel Oil No. 6	Waste oil-fired dryer	
		0.20 % weight sulfur		

Number of Conveyor Drop Points	8
Screening Device	Vibrating screen
Distance to Property Boundary (ft)	1256

Emission Point Information

Emission Point	Stack Height (feet)	Stack Inside Diameter (feet)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp (°F)
4	21.3	3.2	96782	245

Material Information

Material	Composition of Asphalt (% by weight)	Default Composition (% by weight)	Moisture Content of Material (% by weight)
Crushed limestone	87.00%	82.00%	0.7
Sand	25.00%	38.00%	4.17
Asphalt Cement	8.00%	8.00%	N/A
Total (100%)	100%	100%	

Asphalt Information

	Asphalt Volatility	Asphalt Temperature (°F)
Default	0.5	225
Site Specific	0.5	225

Engine Set Information

Engine Set Information	Engine Set Information	8	9	10
Type of Fuel		diesel		
Brake Horsepower (BHP)		1200		
Engine kilowatt rating (KW)		900.00		
gal/min per hour		59.25		
Engine MHD (mmBtu per hour, input)		8.19		
Is this a generator set engine?		Yes		
Model Year (yyyy)		2017		
Fuel Sulfur Content (% weight sulfur)		0.0015		

RAP/RAS Crusher

Aggregate Replaced by RAP/RAS (% by weight)	25.00%
Control Type	Undocumented/Watering

Storage Pile Information

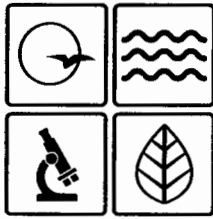
Storage Pile ID No.	aggregate	sand	rap	Pile #4
Maximum Area of Storage Pile (Acres)	1	1	1	
Type of Material Stored	Crushed limestone	Sand	Crushed limestone	
Moisture Content %	4.17	0.7	0.7	
Silt Content %	1.8	2.8	1.8	
Method of Load in to Storage Pile	Truck	Truck	Truck	
Method of Load Out from Storage Pile	Loader	Loader	Loader	
Distance Loader Travels (feet)	220	220	220	
Unloaded Loader Weight (tons)	18.00	18.00	18.00	
Loaded Loader Weight (tons)	38.00	38.00	38.00	
Rate (ton/hour)	288	100	288	
max VMT per hour	1,1157	0,4187	1,1187	
Surface Treatment	Unpaved	Unpaved	Unpaved	
Vehicular Area Control	Documented Watering/Chemical Application	Documented Watering/Chemical Application	Documented Watering/Chemical Application	

Haul Road Information

Haul Road ID No.	Shipping	Reels	Road #3	Road #4	Road #5	Road #6
Length of Haul Road (feet) Enter the length of each roadway in feet. The plant layout diagram (drawn to scale) should document and support the value entered. Note: Twice this distance is used, one trip in and one out.	1800	211				
Unloaded Truck Weight (tons)	10	10				
Loaded Truck Weight (tons)	38	38				
Rate Hauled (ton/hour)	800	800				
max VMT per hour	17,8871	2,2835				
Surface Treatment	Unpaved	Unpaved				
Haul Road Control	Documented Watering/Chemical Application	Documented Watering/Chemical Application				

Combustion Sources

Combustion ID - Description	AC Heater	Disc #1	Combustion #2	Disc #2	Combustion #3	Disc #3
Heat Rate	0.01 mmbtu/hour	1.6 mmbtu/hour	mmbtu/hour	mmbtu/hour	mmbtu/hour	mmbtu/hour
			mmbtu/hour	mmbtu/hour	mmbtu/hour	mmbtu/hour
			mmbtu/hour	mmbtu/hour	mmbtu/hour	mmbtu/hour
Fuel Type	Disc #1: Residual oil fired (R2, >= 100 mm(µm/hr)	Disc #2: Residual Fuel Oil No. 6	Disc #3: Waste oil-fired dryer			
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur per 10 ⁶ cuft for Natural gas, grains of sulfur/100 cuft gas vapor for Butane and Propane)	0.00 % weight sulfur		% weight sulfur			% weight sulfur



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

SEP 27 2017

Mr. Bob Wills
Manager
Herzog Contracting Corporation
600 S. Riverside Rd
PO Box 1089
St. Joseph, MO 64052

RE: New Source Review - Permit Number:
Project Number: 2017-08-015; Installation Number: PORT-0757

Dear Mr. Wills:

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. 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, 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.



Recycled paper

Mr. Bob Wills
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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: Kansas City Regional Office
PAMS File: 2017-08-015

Permit Number: 092017-013