

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: 122017-010

Project Number: 2017-11-015
Installation ID: PORT-0761

Parent Company: Houston Excavating

Parent Company Address: 5030 NW Waukomis Drive, Northmoor, MO 64151

Installation Name: Houston Excavating PORT-0761

Installation Address: 2001 Blue Ridge Blvd, Independence, MO 64052

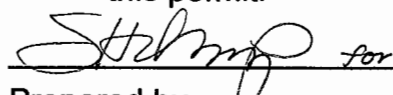
Location Information: Jackson County, S8 T49N R32W

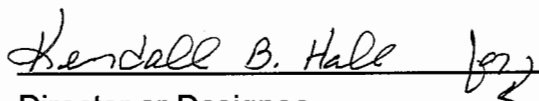
Application for Authority to Construct was made for:

Construction of a new portable rock crusher. 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

DEC 21 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**
Houston Excavating PORT-0761 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.
2. **Relocation of Portable Rock Crushing Plant**
 - A. Houston Excavating PORT-0761 shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0671, 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 rock crushing plant.
 - 1) If the portable rock crushing 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 rock crushing plant is moving to a new site, or if circumstances at the site have changed, 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**
Houston Excavating PORT-0761 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**
Houston Excavating PORT-0761 shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, 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-0761

Site Name: Blue Ridge Mountain

Site Address: 2001 Blue Ridge Blvd, Independence, MO 64052

Site County: Jackson S8 T49N R32W

1. **Undocumented Watering Requirement**
Houston Excavating PORT-0761 shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.
2. **Annual Emission Limit**
 - A. Houston Excavating PORT-0761 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. Houston Excavating PORT-0761 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. **Primary Equipment Requirement**
Houston Excavating PORT-0761 shall process all rock through the screen (EP-4) with a 1" mesh. Bypassing the screen is prohibited.
4. **Record Keeping Requirement**
Houston Excavating PORT-0761 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.
5. **Reporting Requirement**
Houston Excavating PORT-0761 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: 2017-11-015
Installation ID Number: PORT-0761
Permit Number:

122017-010

Houston Excavating PORT-0761:
2001 Blue Ridge Blvd
Independence, MO 64052

Complete: November 21, 2017

Parent Company:
Houston Excavating
5030 NW Waukomis Drive
Northmoor, MO 64151

Jackson County, S8 T49N R32W

PROJECT DESCRIPTION

Houston Excavation is renting a KPI-JCI (Astec) Track Mounted Horizontal Shaft Impactor Model GT440CC S/N 416093-416096 (2016). It has a MHDR of 150 tph. It is a self-contained unit with a vibrating grizzly, impact crusher, a Cummins QSL0 380 hp/258 KW Tier 4 generator, a vibrating screen with a 1" mesh and associated conveyors. Although the crusher is rated at 200 tph, the screen with a 1" mesh will bottleneck the entire process to less than 150 tph. Any changes to the screen size that increase the throughput of the screen above 150 tph will constitute the need for a new permit. The PORT-0761 will consist of the following equipment in Table 1.

The CAT engine that is used to provide power to the track mounted KPI-JCI crusher serves a dual purpose by both propelling itself and providing power to the crusher, screen, and conveyors. Therefore it meets the definition of a nonroad engine as stated in 40 CFR 89.2 (1)(i) and the engine emissions were not included in the calculations.

The applicant is using undocumented watering to control emissions from haul roads and vehicular activity areas.

This installation is located in Jackson County, a maintenance area for ozone and an attainment area for all other 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 Houston Excavating PORT-0761 from the Air Pollution Control Program.

TABLES

Table 1: PORT-0761 Equipment

Emission No.	Equipment Description	MHDR
EP-1	Load-in/grizzly	150 tph
EP-2	Astec GT440CC	150 tph
EP-3	Underconveyor from crusher	150 tph
EP-4	Screen	150 tph
EP-5	Underconveyor from screen	150 tph
EP-6 ^a	Side delivery conveyor	0 tph
EP-7 ^a	Cross conveyor	0 tph
EP-8 ^a	Recirculating conveyor	0 tph
EP-9a	Storage pile load-in	150 tph
EP-9b	Storage pile load-out	150 tph
EP-9c	Vehicular Activity	2.27 VMT/hr
EP-9d	Wind Erosion	1 acre
EP-10	Haul road	0.34 VMT/hr

^aEP-6, 7 and 8 are auxiliary conveyors and their emissions were calculated with a MHDR of 0 tph. EP-7 and EP-8 conveyors take product and return it to the crusher to be crushed again; EP-6 distributes fine material that falls through the grizzly and transferred to a storage pile. Worst case scenario is when all product goes through the crusher, screen, and underconveyors.

Table 2 below summarizes the emissions of this project. The potential emissions of the process equipment, which exclude emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. There are no existing actual emissions because this is a new portable plant. 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 emission limit to avoid dispersion modeling requirements found in 10 CSR-6.060 Section (6).

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions from Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	23.91	N/A	115.90	41.95
PM ₁₀	15.0	8.74	N/A	41.44	<15.0
PM _{2.5}	10.0	1.09	N/A	5.49	1.99
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO ₂ e)	N/A	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific 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 rock-crushing equipment:

- 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 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 50% control efficiency for PM and PM₁₀ and a 41% control efficiency for PM_{2.5} were applied to the emission calculations for the use of undocumented watering on haul roads and vehicular activity.

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 less than 1.5% by weight.
- Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

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 required by 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

Houston Excavating PORT-0761 shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- Operating Permit is not needed because this is a portable plant.
- *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

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" does not apply to the equipment because its MHDR is 150 tph as stated in §60.670 (c)(2)
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

STAFF RECOMMENDATION

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

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 2, 2017, received November 13, 2017, designating Houston Excavating as the owner and operator of the installation.

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
CO₂ecarbon 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	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (baUoM)	Emission Rate (t/yr)	Potential Emissions (t/yr)	Allowable Emissions (t/yr)
	10	Road #1		0.34	VMT per hour		Unpaved, Watering	N/A	50%	PM	11.6887	VMT	1.99E+00	8.73	3.18
		Road #2			VMT per hour			N/A	60%	PM ₁₀	3.4500	VMT	5.88E-01	2.58	0.89
								N/A	41%	PM _{2.5}	0.3450	VMT	8.93E-02	0.30	0.11
		Road #3			VMT per hour			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}		VMCT			
		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			

Equipment	Unit ID	Description of Unit	Equipment Description/SCC	Heat Rate	UoM per hour	Emission Factor (baUoM)
		Combustion #1			mmBtu mgal mmscf	100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO ₂ 100% N/A VOC 100% N/A CO 100% N/A CH ₂ O 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A N ₂ O 100% N/A GHG _{total} 100% N/A CH ₄
		Combustion #2			mmBtu mgal mmscf	100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO ₂ 100% N/A VOC 100% N/A CH ₂ O 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A N ₂ O 100% N/A GHG _{total} 100% N/A CH ₄
		Combustion #3			mmBtu mgal mmscf	100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO ₂ 100% N/A VOC 100% N/A CH ₂ O 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A N ₂ O 100% N/A GHG _{total} 100% N/A CH ₄

Equipment Operational Status	Emission Unit Number	Description of Unit	Equipment/SCC Description	MHTP	Units	Equip Type	Control Type	Emission Factor (baUoM)
N	EP-01	loading into crusher/plizzly	Truck Unloading - Fragmented Stone EF 30502031	150.00	Tons	Fugitive Fugitive Fugitive	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5}
N	EP-02	primary crusher/Astec FT4240CC	Crusher-Primary, (Diameter 3-12') 30502001	150.00	Tons	Process Process Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.000444444 Tons
N	EP-03	underconveyor crusher	Conveyor 30502006	150.00	Tons	Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.003 Tons
N	EP-04	screen	Screens, (3/16" or Greater) 30502002	150.00	Tons	Process Process Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.002 Tons
N	EP-05	underconveyor screen	Conveyor 30502006	150.00	tons	Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.00087838 Tons
N	EP-06	Side Delivery conveyor	Conveyor 30502006	0.00	tons	Process Process Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.003 tons
N	EP-07	Cross Conveyor	Conveyor 30502006	0.00	tons	Process Process Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.00031087 tons
N	EP-08	Recirculating Conveyor	Conveyor 30502006	0.00	tons	Process Process Process	No Control	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5} 0.00031087 tons

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lb/LiOM)	Emission Rate (lb/hr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
		EngSet #1 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO ₂ CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{total} CH ₄	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
		EngSet #2 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO ₂ CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{total} CH ₄	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
		EngSet #3 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO ₂ CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{total} CH ₄	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
	9a	Pile #1 Load in		150.00	tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	0.0254 ton 0.0120 ton 0.0018 ton	3.80E+00 1.80E+00 2.72E-01	16.66 7.86 1.19	6.03 2.85 0.43	
	9b	Load out		150.00	tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	0.0254 ton 0.0120 ton 0.0018 ton	3.80E+00 1.80E+00 2.72E-01	16.66 7.86 1.19	6.03 2.85 0.43	
	9c	Vehicular Activity		2.27	VMT per hour		Unpaved, Watering	N/A N/A	50% 50%	PM PM ₁₀	0.8727 VMT 2.8074 VMT	1.12E+01 3.19E+00	49.14 13.97	17.78 5.06	
	9d	Wind Erosion		1.00	acres			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	0.1763 acre-hr 0.0892 acre-hr 0.0134 acre-hr	1.78E-01 0.92E-02 1.34E-02	1.96 0.39 0.06	0.90 0.28 0.14	
		Pile #2 Load in			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Load out			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Vehicular Activity			VMT per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	VMT VMT VMT				
		Wind Erosion			acres			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr				
		Pile #3 Load in			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Load out			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Vehicular Activity			VMT per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	VMT VMT VMT				
		Wind Erosion			acres			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr				
		Pile #4 Load in			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Load out			tons per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	ton ton ton				
		Vehicular Activity			VMT per hour			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	VMT VMT VMT				
		Wind Erosion			acres			N/A N/A N/A	N/A N/A N/A	PM PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr				

Cell: K90

Comment: Control Type: Using the pulldown menus in the cells below, select the appropriate control type for each specific emission unit. Leave the cell blank or chose "No Control" if there are no control measures associated with the emission unit.
Control Efficiency %: The Control Efficiency % is found on 11.19.2 Control Table worksheet for PM pollutant. If a Control Efficiency % is different from the Control Table or for a non-PM pollutant you should enter that percentage on the Emission Calculations worksheet for the specific equipment & pollutant. Note: Documentation on the Control Efficiency % may also need to be provided to justify the value entered.

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

Cell: C55

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

Cell: C57

Comment: Fuel Sulfur Content:
From: Randolph, Bob
Sent: Monday, December 22, 2014 12:05 PM
To: Little, David
Cc: Heckenkamp, 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 SO₂ 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 SO₂ 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: Wilbur, Emily
Sent: Monday, December 15, 2014 1:52 PM
To: Randolph, Bob
Subject: FW: no permit required concurrence

From: Little, David
Sent: Monday, December 15, 2014 1:49 PM
To: Bybee, Darcy; O'Neil, Nathan; Stevens, Jeffrey; Stanfield, Michael; Wilbur, Emily
Cc: Heckenkamp, 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 Little, PE
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102
david.little@dnr.mo.gov 573-751-4817

Cell: E60

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

Cell: D64

Comment: Fuel Type:
You should fill in a choice for both Chap 11 & Part 86 and those choices must coincide.

Cell: D66

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

Cell: F68

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

Cell: H66

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

Cell: C69

Comment: Annual VOC (pounds):
This is the total VOC emissions per year from the EPA Tank 4.09v program, or some other source.

Cell: A78

Comment: Below Equipment List:
DO NOT include combustion sources, storage piles, haul roads or generator sets in the equipment list below. The below list is for all the equipment not listed above.

Cell: I78

Comment: Maximum Hourly Throughput (MHTP): The maximum hourly throughput of the specific process or piece of equipment. The MHTP for storage piles and haul roads should automatically be filled in when the "Equipment/SCC Description" value is selected, assuming the required storage pile and haul road entries at the top of this page are completed first.

On most processes and equipment, the worksheet will default this MHTP value to the "Primary Unit Size" in tons per hour. If the individual maximum hourly design rate (MHDR) for a piece of equipment is different, then the appropriate MHTP call in this column should be revised. The process flow diagram should document and support the usage of any alternative value(s) entered.

Some emission units may be physically limited or bottlenecked by operations that precede the unit. In such a situation, the actual MHDR of the individual unit should be reported as a Comment to the MHTP call for the equipment. The default value for this field is 100% of the MHDR of the unit passing through the unit.
Example: Two (2) 100 tph conveyors immediately follow a 150 tph screen. The MHTP of the conveyors should be entered as 100 tph and this field should be adjusted so the emissions and ambient impacts from the conveyors total to only the 150 tph allowed by the preceding screen.

Cell: J78

Comment: MHTP Units: The MHTP Units should automatically be entered when the appropriate "Equipment/SCC Description" code is selected. If a non-standard emission unit is to be entered, then the MHTP Units may have to be entered. In addition, the Emission Factor and Nomograph Value for Unit on the appropriate worksheets will probably also have to be revised.

Cell: A80

Comment: Equipment Operational Status:
Indicate the status of equipment regarding construction in this project.

Cell: B80

Comment: Unit ID: Enter a value or number to uniquely identify this emission unit/point at this installation. This Unit ID number must be consistent with those in your Emission Inventory Questionnaire (EIQ) and your Operating Permit/Application.

Cell: C80

Comment: Description of Unit: Enter a description of the emission unit that uniquely describes the activity associated with that emission unit at the installation. This Unit Description should be consistent with those in your Emission Inventory Questionnaire (EIQ) and your Operating Permit/Application.

Cell: F80

Comment: Equipment/SCC Description: Using the pulldown menus in the cells below, select the appropriate equipment description/code that describes the activity associated with the specific emission unit.

Cell: H80

Comment: Equip Type:
This is used to determine the fugitive vs non-fugitive status.

Cell: A3

Comment: One cubic yard of concrete weighs approximately two tons

Cell: C24

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

Cell: C25

Comment: Maximum Surface Area of Storage Pile (Acres):
Enter the total surface area of all storage piles.

Cell: C26

Comment: Type of Material Stored:
Do NOT use Various limestone products for aggregate, rock or crushed limestone.

Cell: C27

Comment: Storage Pile Materials - Moisture Content Information

Material Stored	Moisture Content %	
	Range	Mean
Crushed Limestone *	0.2 to 1.1	0.7
Various Limestone Products	0.48 to 5.0	2.1
Sand	—	7.4
Clay/Dirt Mix	—	14.0
Clay	8.8 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.

Cell: C28

Comment: Storage Pile Materials - Silt Content Information

Material Stored	Silt Content %	
	Range	Mean
Crushed Limestone *	1.3 to 1.9	1.5
Various Limestone Products	0.8 to 14	14.0
Sand	—	2.8
Clay/Dirt Mix	—	9.2
Clay	4.5 to 7.4	8.0

* 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.

Cell: C32

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

Cell: C34

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

Cell: C35

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

Cell: C40

Comment: Haul Road ID No.: Enter a value or number to uniquely identify this 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 (EIQ) and your Operating Permit/Application.

Cell: C42

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 included with your submittal.
Example: 75% of rock is hauled in a 50 ton truck and 25% is hauled in a 30 ton truck. The "fleet" average unloaded weight would be calculated as follows:
"Fleet" Avg. Wt. = $[(0.75 * 50 \text{ tons}) + (0.25 * 30 \text{ tons})]$
= $[(37.5 \text{ tons}) + (7.5 \text{ tons})]$
= 45 tons

Cell: C43

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 included with your submittal.
Example: 75% of rock is hauled in a 50 ton truck and 25% is hauled in a 30 ton truck. The "fleet" average unloaded weight would be calculated as follows:
"Fleet" Avg. Wt. = $[(0.75 * 50 \text{ tons}) + (0.25 * 30 \text{ tons})]$
= $[(37.5 \text{ tons}) + (7.5 \text{ tons})]$
= 45 tons

Cell: C44

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

Cell: C45

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

Cell: D51

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

Cell: E51

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

Cell: F51

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

Cell: D53

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

Cell: E53

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

Cell: F53

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.

For Single Plant Operation

Hours per day	8.0
Days per year	396.3
Hours per year	3170.5

For Multiple Plant Operation

Hours per day	8.0
Days per year	396.3
Hours per year	3170.5

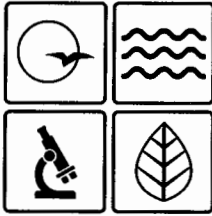
Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 3170 hours per year (tons/yr)	Deminimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	23.91	115.90	41.95	25	0.1764
PM ₁₀	8.74	41.44	15.00	15	0.0631
PM _{2.5}	1.09	5.49	1.99	10	0.0084
SO ₂	-	-	-	40	0.0000
NO ₂	-	-	-	40	0.0000
VOC	-	-	-	40	0.0000
CO	-	-	-	100	0.0000
CH ₂ O	-	-	-	2.00	0.0000
Pb	-	-	-	0.01	0.0000
HAPs	-	-	-	10	0.0000
CO ₂	-	-	-	100	0.0000
N ₂ O	-	-	-	100	0.0000
CH ₄	-	-	-	100	0.0000
GHG _{mass}	-	-	-	100	0.0000
CO ₂ eq	-	-	-	100,000	0.0000

Limit Hours per Year
Limit Hours per Year w/ 24 hr day

Maximum hourly design rate (tons/hr)	150
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Tons of product per day	1,200.0
Tons of product per year	475,572.8



Missouri Department of

dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

DEC 21 2017

Mr. Lance Houston
Owner
Houston Excavating PORT-0761
5030 NW Waukomis Drive
Northmoor, MO 64151

RE: New Source Review - Permit Number:
Project Number: 2017-11-015; Installation Number: PORT-0761

Dear Mr. Houston:

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 Houston Excavating PORT-0761 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

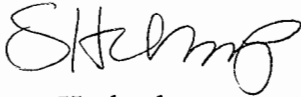
Mr. Lance Houston
Page Two

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.aa.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: Kansas City Regional Office
PAMS File: 2017-11-015

Permit Number: