Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

MAY 15 2019

Mr. Cody Phillips
Vice President
Ideker, Inc.
4614 South 40th Street
St. Joseph, MO 64503

RE: New Source Review Permit - Project Number: 2019-02-049
Project Number: 2019-02-049; Installation Number: 165-2461

Dear Mr. Phillips:

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 and your new source review permit application are necessary for continued compliance. In addition, please note that Ideker, Inc. 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, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

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

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:kkj

Enclosures

c: Kansas City Regional Office
PAMS File: 2019-02-049

Permit Number: 052019-005

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: 052019-005

Project Number: 2019-02-049
Installation ID: 165-2461

Parent Company: Ideker, Inc.

Parent Company Address: 4614 South 40th Street, St.Joseph, MO 64503

Installation Name: Ideker, Inc.

Installation Address: Junction of Bern Street and Mexico Avenue
Kansas City Airport
Kansas City, MO 64503

Location Information: Platte County, S22 T52N R34W

Application for Authority to Construct was made for:
Make PORT-0733 a stationary plant at Kansas City Airport. This review was conducted in accordance with Section (5), 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.

Director or Designee
Department of Natural Resources

MAY 15 2019

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 sources(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 sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

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

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

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/

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

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (3)(E). "Conditions required by permitting authority."

1. Best Management Practices Requirement
   Ideker, Inc. 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. Ideker, Inc. shall emit less than 15.0 tons of PM_{10} in any 12-month period from the entire installation which consists of the equipment listed in Table 2. 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. Ideker, Inc. 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. Ideker, Inc. shall control emissions from the equipment listed below using a baghouse as specified in the permit application.
      1) Cement Silo EU-3
      2) Supplement Silo EU-4
      3) Weigh Hopper EU-5
      4) Truck Mix Loadout (shroud vented to baghouse) EU-6

   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).

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

D. Ideker, Inc. shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours when the associated equipment is in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Ideker, Inc. shall maintain a copy of the baghouse manufacturer's performance warranty on site.

F. Ideker, Inc. 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-Generator EU-11
   A. Ideker, Inc. shall burn exclusively ultra low sulfur diesel fuel in their generator (EU-11) with a sulfur content less than or equal to 15 parts per million by weight.

   B. Ideker, Inc. 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*.

   C. Ideker, Inc. 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. Record Keeping Requirement
   Ideker, Inc. shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.

6. Reporting Requirement
   Ideker, Inc. 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 (5) REVIEW
Project Number: 2019-02-049
Installation ID Number: 165-2461
Permit Number: 052019-005

Ideker, Inc.:
Junction of Bern Street and Mexico Avenue
Kansas City Airport
Kansas City, MO 64503

Complete: February 28, 2019

Parent Company:
Ideker, Inc.
4614 South 40th Street
St. Joseph, MO 64503

Platte County, S22 T52N R34W

PROJECT DESCRIPTION

Ideker, Inc. will be extending the stay of PORT-0733 at the Kansas City Airport and therefore making the concrete batch plant a stationary plant at that site. The concrete plant consists of a 2016 Model S 12 L Concrete Batch Plant with serial number 2566. The plant will be used to produce concrete for reconstruction of the Kansas City Airport in Platte County, Missouri. The plant has a maximum hourly design rate (MHDR) of 700 tons per hour (tph).

The plant will be powered by a 670 horsepower (500 KW) Caterpillar Generator, Model XQ500 manufactured in 2012.

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.

Ideker, Inc. is not considered a common installation with the existing Kansas City Airport. Although the concrete plant is located on property of the Kansas City airport, the other requirements for a common installation are not met. The concrete plant and the airport belong to two (2) separate industrial groupings: concrete ready mix SIC code is 3273 and the airport's SIC code is 4581. Once Ideker's commitment to provide concrete for the airport expansion is completed, the plant will be removed from the airport's property.

This installation is located in Platte County, an attainment/unclassified area for all other criteria pollutants.

This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

TABLES

The following permits have been issued to Ideker, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
042016-003	Portable Concrete Batch Plant
1471	Kansas City Department of Health relocating PORT-0733 to KC Airport

Table 2: Concrete Plant Equipment List

Emission Point	Description	MHDR
EU-1	Aggregate Transfer	324.43 tph
EU-2	Sand Transfer	248.41 tph
EU-3	Cement Unloading to Silo	85.41 tph
EU-4	Supplement Unloading	12.70 tph
EU-5	Weigh Hopper	572.84 tph
EU-6	Truck Loading (Cement and Supplement loading per AP-42)	98.11 tph
EU-7a	Aggregate Storage Pile-Load in	324.43 tph
EU-7b	Aggregate Storage Pile-Load out	324.43 tph
EU-7c	Aggregate Storage Pile-Vehicular Activity	0.77 VMT
EU-7d	Aggregate Storage Pile-Wind Erosion	0.5 acre
EU-8a	Sand Storage Pile-Load in	248.41 tph
EU-8b	Sand Storage Pile-Load out	248.41 tph
EU-8c	Sand Storage Pile-Vehicular Activity	0.59 VMT
EU-8d	Sand Storage Pile-Wind Erosion	0.5 acres
EU-9	Haul #1 Aggregate/Sand Receiving	8.9 VMT/hr
EU-10	Haul #2 /Finished Product	9.3 VMT/hr
EU-11	Generator 2012 CAT 670 HP Model XQ500	670 HP

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. 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). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM_{10} emission limit.

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 rational 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
°F .....degrees Fahrenheit
acfm.....actual cubic feet per minute
BACT.....Best Available Control Technology
BMPs.....Best Management Practices
Btu.....British thermal unit
CAM .....Compliance Assurance Monitoring
CAS.....Chemical Abstracts Service
CEMS .....Continuous Emission Monitor System
CFR.....Code of Federal Regulations
CO.....carbon monoxide
CO_2.....carbon dioxide
CO_2e.....carbon dioxide equivalent
COMS.....Continuous Opacity Monitoring System
CSR.....Code of State Regulations
dscf.....dry standard cubic feet
EIQ.....Emission Inventory Questionnaire
EP.....Emission Point
EPA.....Environmental Protection Agency
EU .....Emission Unit
fps.....feet per second
ft .....feet
GACT .....Generally Available Control Technology
GHG.....Greenhouse Gas
gpm .....gallons per minute
gr .....grains
GWP .....Global Warming Potential
HAP.....Hazardous Air Pollutant
hr.....hour
hp .....horsepower
lb.....pound
lbs/hr.....pounds per hour
MACT.....Maximum Achievable Control Technology
µg/m^3.....micrograms per cubic meter
m/s.....meters per second
Mgal.....1,000 gallons
MW.....megawatt
MHDR.....maximum hourly design rate
MMBtu ....Million British thermal units
MMCF .....million cubic feet
MSDS.....Material Safety Data Sheet
NAAQS ....National Ambient Air Quality Standards
NESHAPs..National Emissions Standards for Hazardous Air Pollutants
NO_x.....nitrogen oxides
NSPS .....New Source Performance Standards
NSR.....New Source Review
PM.....particulate matter
$PM_{2.5}$.....particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} .....particulate matter less than 10 microns in aerodynamic diameter
ppm .....parts per million
PSD Prevention of Significant Deterioration
PTE .....potential to emit
RACT.....Reasonable Available Control Technology
RAL.....Risk Assessment Level
SCC .....Source Classification Code
scfm .....standard cubic feet per minute
SDS.....Safety Data Sheet
SIC.....Standard Industrial Classification
SIP .....State Implementation Plan
SMAL.....Screening Model Action Levels
SO_x.....sulfur oxides
SO_2.....sulfur dioxide
SSM.....startup, shutdown, & malfunction
tph .....tons per hour
tpy.....tons per year
VMT.....vehicle miles traveled
VOC .....Volatile Organic Compound

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
Hours per day	24.0	PM10	NAAQS
Days per year	66.6	N/A	N/A
Hours per year	1598.0	PM10	De Minimis

Limit Hours per Year

Limit Hours per Year w/ 24 hr day

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 1598 hours per year (tons/yr)	DeMinimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	41.75	204.47	37.30	25	0.0667
PM_{10}	20.44	82.23	15.00	15	0.0268
$PM_{2.5}$	5.04	17.11	3.12	10	0.0056
SO_2	0.03	0.03	0.01	40	0.0000
NO_2	2.59	2.59	0.47	40	0.0008
VOC	1.23	1.23	0.22	40	0.0004
CO	22.64	22.64	4.13	100	0.0074
CH_2O	0.00	0.00	0.00	2	0.0000
$C_{11}H_{10}$	0.00	0.00	0.00	-	0.0000
Pb	0.00	0.00	0.00	0.01	0.0000
HAPs	0.03	0.03	0.01	10	0.0000
CO_2	3303.50	3303.50	602.64	100	1.0775
N_2O	0.03	0.03	0.00	100	0.0000
CH_4	0.16	0.16	0.03	100	0.0001
GHG_{mass}	3303.68	3303.68	602.68	100	1.0775
CO_2eq	3315.44	3315.44	604.82	100,000	1.0814

Maximum hourly design rate (tons/hr)	700

0.7% MOISTURE

Tons of product per day	16,800.0
Tons of product per year	1,118,631.8

Plant Information

Plant Type	Central mix
Plant annual throughput	700
Haul Management Practices	Yes

Emission Point Information

Emission Point	Stack Height (feet)	Stack Exhaust Diameter (feet)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp (°F)

Material Information

Material	Composition in Concrete (% by weight)	Ballast Composition (% by weight)	Moisture Content of Material (% by weight)
Crushed limestone	46.35%	46.35%	0.7
Sand	35.49%	35.49%	4.17
Cement	12.20%	12.20%	0.12
Supplement to Cement	1.81%	1.81%	0.12
Water	4.15%	4.15%	
	100%	100%	

Control Device Information (select all that apply)

Cement silo controlled by fabric filter?	Yes
Supplement silo controlled by fabric filter?	Yes
Aggregate weigh hopper controlled by fabric filter?	Yes
Truck loading controlled by a shroud/water or a fabric filter?	Yes

Storage Pile Information

Storage Pile ID No.	Pile #1 (used for Aggregate transfer)	Pile #2 (used for Sand transfer)	Pile #3	Pile #4
Maximum Area of Storage Pile (Acres)	0.5	0.5		
Type of Material Stored	Crushed limestone	Sand		
Moisture Content %	0.7	4.17		
Silt Content %	1.6	2.6		
Method of Load In to Storage Pile	Truck	Truck		
Method of Load Out from Storage Pile	Loader	Loader		
Distance Loader Travels (feet)	50	50		
Unloaded Loader Weight (tons)	32.00	32.00		
Loaded Loader Weight (tons)	40.00	40.00		
Rate (tons/hour)	324.43	248.41		
max VMT per hour	0.7681	0.5881		
Surface Treatment	Unpaved	Unpaved		
Vehicular Area Control	Documented Watering/Chemical Application	Documented Watering/Chemical Application		

Haul Road Information

Haul Road ID No.	Road #1	Road #2	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	528	528				
Unloaded Truck Weight (tons)	12	10				
Loaded Truck Weight (tons)	27	25				
Rate Hauled (tons/hour)	676.94930472	700				
max VMT per hour	8.9460	9.3333				
Surface Treatment	Unpaved	Unpaved				
Haul Road Control	Documented Watering/Chemical Application	Documented Watering/Chemical Application				

Engine Set Information

	7A	7B	7C
Type of Fuel	diesel		
Brake Horsepower (bhp)	670		
Engine kilowatt rating (kW)	499.55		
gallons per hour	33.12		
Engine MHDR (mmBtu per hour, input)	4.57		
Is this a generator-set engine?	Yes		
Model Year (yyyy)	2012		
Fuel Sulfur Content (% weight sulfur)	0.0015		

Combustion Sources

Combustion ID - Description	Combustion #1	Desc #1	Combustion #2	Desc #2	Combustion #3	Desc #3
Heat Rate		mmBtu/hour		mmBtu/hour		mmBtu/hour
		mgal/hour		mgal/hour		mgal/hour
		mmscf/hour		mmscf/hour		mmscf/hour
	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98
Fuel Type						
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur/100 cuft gas vapor for Butane and Propane; not used for Natural gas)	% weight sulfur		% weight sulfur		% weight sulfur	

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

Cell: A26
Comment: Material 1:
Also known as aggregate, rock. Various limestone products is NOT a valid choice here.

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

Cell: D40
Comment: Pile #1:
This pile is associated with the Aggregate transfer, load-in/load-out used there for drop points

Cell: E40
Comment: Pile #2:
This pile is associated with the Sand transfer, load-in/load-out used there for drop points

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

Cell: C43
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	0.46 to 5.0	2.1
Sand	--	7.4
Clay/Dirt Mix	--	14.0
Clay	8.9 to 11.0	10.0

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

Cell: C44
Comment: Storage Pile Materials - Silt Content Information

Material Stored	Silt Content % Range	Mean
Crushed Limestone *	1.3 to 1.9	1.6
Various Limestone Products	0.8 to 14	14.0
Sand	--	2.8
Clay/Dirt Mix	--	9.2
Clay	4.5 to 7.4	6.6

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

Cell: C46
Comment: Unloaded Loader Weight:
This data will be used by Paved & Unpaved worksheets to calculate storage pile traffic emissions

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

Cell: C51
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: C58
Comment: Haul Road ID No.: Enter a value or number to uniquely identify this emission unit/point at the 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: C58
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 x 50 tons) + (0.25 x 30 tons)]
= [(37.5 tons) + (7.5 tons)]
= 45 tons

Cell: C59
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 x 50 tons) + (0.25 x 30 tons)]
= [(37.5 tons) + (7.5 tons)]
= 45 tons

Cell: C60
Comment: Rate Hauled:
For Road #1, the default is the primary crusher size

Cell: C61
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: D67
Comment: Randy Raymond:
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: D69
Comment: Randy Raymond:
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: C71
Comment: Generator-set engine:
means an engine used primarily to operate an electrical generator or alternator to produce electric power for other applications

Cell: C73
Comment: Fuel Sulfur Content:
From: Randolph, Bob
Sent: Monday, December 22, 2014 12:05 PM
To: Little, David
Cc: Heckenkamp, Susan
Subject: RW: 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.

Emission Point Number	Emission Unit Number	Description	SCC	MHDR	Units	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Units (pounds per)	Emission Rate (lb/hr)	Potential Emissions (tons/yr)	Allowable Emissions (tons/yr)
1	1	Aggregate transfer Moisture Content (% wt.) = 0.7	3-05-011-04	324.43	tons per hour			N/A	N/A	PM	0.0254	ton	8.23E+00	36.03	6.57
								N/A	N/A	PM_{10}	0.0120	ton	3.89E+00	17.04	3.11
								N/A	N/A	$PM_{2.5}$	0.0018	ton	5.89E-01	2.58	0.47
2	2	Sand transfer Moisture Content (% wt.) = 4.17	3-05-011-05	248.41	tons per hour			N/A	N/A	PM	0.0021	ton	5.18E-01	2.27	0.41
								N/A	N/A	PM_{10}	0.0010	ton	2.45E-01	1.07	0.20
								N/A	N/A	$PM_{2.5}$	0.0001	ton	3.71E-02	0.16	0.03
3	3	Cement unloading to silo	3-05-011-07	85.41	tons per hour		Fabric filter	100%	N/A	PM	0.0010	ton	8.46E-02	0.37	0.07
								100%	N/A	PM_{10}	0.0003	ton	2.90E-02	0.13	0.02
								100%	N/A	$PM_{2.5}$	0.0003	ton	2.90E-02	0.13	0.02
4	4	Supplement unloading (pneumatic)	3-05-011-17	12.70	tons per hour		Fabric filter	100%	N/A	PM	0.0089	ton	1.13E-01	0.50	0.09
								100%	N/A	PM_{10}	0.0049	ton	6.22E-02	0.27	0.05
								100%	N/A	$PM_{2.5}$	0.0049	ton	6.22E-02	0.27	0.05
5	5	Weigh hopper loading	3-05-011-08	572.84	tons per hour		Fabric filter	100%	99.0%	PM	0.0048	ton	2.75E-02	0.12	0.02
								100%	99.0%	PM_{10}	0.0028	ton	1.60E-02	0.07	0.01
								100%	99.0%	$PM_{2.5}$	0.0014	ton	8.25E-03	0.04	0.01
6	6	Mixer loading (central mix) Moisture Content (% wt.) = 0.12	3-05-011-09	98.11	tons per hour		Controlled	N/A	N/A	PM	0.0062588	ton	5.35E-01	2.34	0.43
								N/A	N/A	PM_{10}	0.004155765	ton	3.55E-01	1.55	0.28
								N/A	N/A	$PM_{2.5}$	0.004155765	ton	3.55E-01	1.55	0.28
7A	7A	Generator Large stationary diesel (> 600 bhp) Model Year 2012	SCC 2-02-004-01	670 33.12352885 4.57	bhp gallons per hour mmBtu/hour			N/A	N/A	PM	4.41E-05	bhp	2.95E-02	0.13	0.023604683
								N/A	N/A	PM_{10}	1.05E-04	bhp	7.01E-02	0.31	0.055983171
								N/A	N/A	$PM_{2.5}$	1.03E-04	bhp	6.93E-02	0.30	0.055335945
								N/A	N/A	SO_2	2.13E-04	Gallon	7.06E-03	0.03	0.005637354
								N/A	N/A	NO_2	8.82E-04	bhp	5.91E-01	2.59	0.472093652
								N/A	N/A	CO	7.72E-03	bhp	5.17E+00	22.64	4.130819451
								N/A	N/A	VOC	4.19E-04	bhp	2.81E-01	1.23	0.224244484
								N/A	N/A	CH_2O	7.89E-05	MMBtu	3.61E-04	0.00	0.000288172
								N/A	N/A	HAPs	1.57E-03	MMBtu	7.19E-03	0.03	0.005748758
								N/A	N/A	CO_2	1.65E+02	MMBtu	7.54E+02	3,303.50	602.6411245
								N/A	N/A	N_2O	1.32E-03	MMBtu	6.05E-03	0.03	0.00483121
								N/A	N/A	GHG_{mass}	1.65E+02	MMBtu	7.54E+02	3,303.68	602.6755399
								N/A	N/A	CH_4	8.10E-03	MMBtu	3.70E-02	0.16	0.029584201
7B	7B	Generator Model Year			bhp gallons per hour mmBtu/hour			N/A	N/A	PM		MMBtu			
								N/A	N/A	PM_{10}		MMBtu			
								N/A	N/A	$PM_{2.5}$		MMBtu			
								N/A	N/A	SO_2		Gallon			
								N/A	N/A	NO_2		MMBtu			
								N/A	N/A	CO		MMBtu			
								N/A	N/A	VOC		MMBtu			
								N/A	N/A	CH_2O		MMBtu			
								N/A	N/A	HAPs		MMBtu			
								N/A	N/A	CO_2		MMBtu			
								N/A	N/A	N_2O		MMBtu			
								N/A	N/A	GHG_{mass}		MMBtu			
								N/A	N/A	CH_4		MMBtu			
7C	7C	Generator Model Year			bhp gallons per hour mmBtu/hour			N/A	N/A	PM		MMBtu			
								N/A	N/A	PM_{10}		MMBtu			
								N/A	N/A	$PM_{2.5}$		MMBtu			
								N/A	N/A	SO_2		Gallon			
								N/A	N/A	NO_2		MMBtu			
								N/A	N/A	CO		MMBtu			
								N/A	N/A	VOC		MMBtu			
								N/A	N/A	CH_2O		MMBtu			
								N/A	N/A	HAPs		MMBtu			
								N/A	N/A	CO_2		MMBtu			
								N/A	N/A	N_2O		MMBtu			
								N/A	N/A	GHG_{mass}		MMBtu			
								N/A	N/A	CH_4		MMBtu			

Equipment	Unit ID	Description of Unit	Equipment Description/SCC	Heat Rate	UoM per hour							Emission Factor (lbs/UoM)			
		Combustion #1			mmBtu			100%	N/A	PM		mgal			
					mgal			100%	N/A	PM_{10}		mgal			
					mmscf			100%	N/A	$PM_{2.5}$		mgal			
								100%	N/A	SO_2		mgal			
								100%	N/A	NO_2		mgal			
								100%	N/A	VOC		mgal			
								100%	N/A	CO		mgal			
								100%	N/A	CH_2O		mgal			
								100%	N/A	Pb		mgal			
								100%	N/A	HAPs		mgal			
								100%	N/A	CO_2		mgal			
								100%	N/A	N_2O		mgal			
								100%	N/A	GHG_{mass}		mgal			
								100%	N/A	CH_4		mgal			
		Combustion #2			mmBtu			100%	N/A	PM		mgal			
					mgal			100%	N/A	PM_{10}		mgal			
					mmscf			100%	N/A	$PM_{2.5}$		mgal			
								100%	N/A	SO_2		mgal			
								100%	N/A	NO_2		mgal			
								100%	N/A	VOC		mgal			
								100%	N/A	CO		mgal			
								100%	N/A	CH_2O		mgal			
								100%	N/A	Pb		mgal			
								100%	N/A	HAPs		mgal			
								100%	N/A	CO_2		mgal			
								100%	N/A	N_2O		mgal			
								100%	N/A	GHG_{mass}		mgal			
								100%	N/A	CH_4		mgal			
		Combustion #3			mmBtu			100%	N/A	PM		mgal			
					mgal			100%	N/A	PM_{10}		mgal			
					mmscf			100%	N/A	$PM_{2.5}$		mgal			
								100%	N/A	SO_2		mgal			
								100%	N/A	NO_2		mgal			
								100%	N/A	VOC		mgal			
								100%	N/A	CO		mgal			
								100%	N/A	CH_2O		mgal			
								100%	N/A	Pb		mgal			
								100%	N/A	HAPs		mgal			
								100%	N/A	CO_2		mgal			
								100%	N/A	N_2O		mgal			
								100%	N/A	GHG_{mass}		mgal			
								100%	N/A	CH_4		mgal			
		Pile #1(used for Aggregate transfer)													
		Load in		324.43	tons per hour			N/A	N/A	PM	0.0254	ton	8.23E+00	36.03	6.57
								N/A	N/A	PM_{10}	0.0120	ton	3.89E+00	17.04	3.11
								N/A	N/A	$PM_{2.5}$	0.0018	ton	5.89E-01	2.58	0.47
		Load out		324.43	tons per hour			N/A	N/A	PM	0.0254	ton	8.23E+00	36.03	6.57
								N/A	N/A	PM_{10}	0.0120	ton	3.89E+00	17.04	3.11
								N/A	N/A	$PM_{2.5}$	0.0018	ton	5.89E-01	2.58	0.47
		Vehicular Activity		0.77	VMT per hour		Unpaved, Documented Watering/Chemica	N/A	90%	PM	11.5812	VMT	8.90E-01	3.90	0.71
								N/A	90%	PM_{10}	3.2933	VMT	2.53E-01	1.11	0.20
								N/A	74%	$PM_{2.5}$	0.3293	VMT	6.58E-02	0.29	0.05
		Wind Erosion		0.50	acres			N/A	N/A	PM	0.1783	acre-hr	8.92E-02	0.39	0.07
								N/A	N/A	PM_{10}	0.0892	acre-hr	4.46E-02	0.20	0.04
								N/A	N/A	$PM_{2.5}$	0.0134	acre-hr	6.69E-03	0.03	0.01
		Pile #2(used for Sand transfer)													
		Load in		248.41	tons per hour			N/A	N/A	PM	0.0021	ton	5.18E-01	2.27	0.41
								N/A	N/A	PM_{10}	0.0010	ton	2.45E-01	1.07	0.20
								N/A	N/A	$PM_{2.5}$	0.0001	ton	3.71E-02	0.16	0.03
		Load out		248.41	tons per hour			N/A	N/A	PM	0.0021	ton	5.18E-01	2.27	0.41
								N/A	N/A	PM_{10}	0.0010	ton	2.45E-01	1.07	0.20
								N/A	N/A	$PM_{2.5}$	0.0001	ton	3.71E-02	0.16	0.03
		Vehicular Activity		0.59	VMT per hour		Unpaved, Documented Watering/Chemica	N/A	90%	PM	11.5812	VMT	6.81E-01	2.98	0.54
								N/A	90%	PM_{10}	3.2933	VMT	1.94E-01	0.85	0.15
								N/A	74%	$PM_{2.5}$	0.3293	VMT	5.04E-02	0.22	0.04
		Wind Erosion		0.50	acres			N/A	N/A	PM	0.2898	acre-hr	1.45E-01	0.63	0.12
								N/A	N/A	PM_{10}	0.1449	acre-hr	7.24E-02	0.32	0.06
								N/A	N/A	$PM_{2.5}$	0.0217	acre-hr	1.09E-02	0.05	0.01

		Pile #3														
		Load in			tons per hour			N/A	N/A	PM		ton				
								N/A	N/A	PM_{10}		ton				
								N/A	N/A	$PM_{2.5}$		ton				
		Load out			tons per hour			N/A	N/A	PM		ton				
								N/A	N/A	PM_{10}		ton				
								N/A	N/A	$PM_{2.5}$		ton				
		Vehicular Activity			VMT per hour			N/A	N/A	PM		VMT				
								N/A	N/A	PM_{10}		VMT				
								N/A	N/A	$PM_{2.5}$		VMT				
		Wind Erosion			acres			N/A	N/A	PM		acre-hr				
								N/A	N/A	PM_{10}		acre-hr				
								N/A	N/A	$PM_{2.5}$		acre-hr				
		Pile #4														
		Load in			tons per hour			N/A	N/A	PM		ton				
								N/A	N/A	PM_{10}		ton				
								N/A	N/A	$PM_{2.5}$		ton				
		Load out			tons per hour			N/A	N/A	PM		ton				
								N/A	N/A	PM_{10}		ton				
								N/A	N/A	$PM_{2.5}$		ton				
		Vehicular Activity			VMT per hour			N/A	N/A	PM		VMT				
								N/A	N/A	PM_{10}		VMT				
								N/A	N/A	$PM_{2.5}$		VMT				
		Wind Erosion			acres			N/A	N/A	PM		acre-hr				
								N/A	N/A	PM_{10}		acre-hr				
								N/A	N/A	$PM_{2.5}$		acre-hr				
		Road #1		8.95	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	10.0134	VMT	8.96E+00	39.24	7.16	
								N/A	90%	PM_{10}	2.9556	VMT	2.64E+00	11.58	2.11	
								N/A	74%	$PM_{2.5}$	0.2958	VMT	6.87E-01	3.01	0.55	
		Road #2		9.33	VMT per hour		Unpaved, Documented Watering/Chemical Application	N/A	90%	PM	9.5374	VMT	8.90E+00	38.99	7.11	
								N/A	90%	PM_{10}	2.8151	VMT	2.63E+00	11.51	2.10	
								N/A	74%	$PM_{2.5}$	0.2815	VMT	6.83E-01	2.99	0.55	
		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				