

STATE OF 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: **042010-016** Project Number: 2009-10-023

Parent Company: Hilty Quarries, Inc.

Parent Company Address: P.O. Box 407, Clinton, MO 64735

Installation Name: Hilty Quarries, Inc.

Installation ID: 083-0011

Installation Address: 500 SE 1051 Road, Clinton, MO 64735

Location Information: Henry County, S3, T40N, R24W

Application for Authority to Construct was made for:
Change portable asphalt plant (PORT-0155) to a stationary plant. 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.

APR 27 2010

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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 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 Departments' 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 of Natural Resources 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 this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Permit No.	
Project No.	2009-10-023

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. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permit 0999-014F from the Air Pollution Control Program.
2. **Best Management Practices Requirement**
Hilty Quarries, Inc. shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
3. **Ambient Air Impact Limitation**
 - A. Hilty Quarries, Inc. shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Hilty Quarries, Inc. shall demonstrate compliance with special condition 3.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. Hilty Quarries, Inc. shall account for the impacts from other sources of PM₁₀ as instructed in Attachment A.
 - C. Hilty Quarries, Inc. is exempt from the requirements of special condition 3.B when no other plants are operating at this site.
4. **Annual Emission Limit**
 - A. Hilty Quarries, Inc. shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. Hilty Quarries, Inc. shall demonstrate compliance with special condition 4.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
5. **Moisture Content Testing Requirement**
 - A. Hilty Quarries, Inc. shall verify that the moisture content of the processes rock is greater than or equal to 1.5% weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.

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SPECIAL CONDITIONS:

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

- C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Hilty Quarries, Inc. main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in special condition 5.A, another test may be performed with 15 days of the noncompliant test. If the results of that test also exceed the limit, Hilty Quarries, Inc. shall either:
 - 1.) Apply for a new permit to account for the revised information, or
 - 2.) Submit a plan for the installation of wet spray devices to the Air Pollution Control Program Compliance Assistance section within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, Hilty Quarries, Inc. may obtain test results from the supplier of the aggregate that demonstrate compliance with the moisture content in special condition 5.A.
6. Control Device Requirement-Baghouse
- A. Hilty Quarries, Inc. shall control emissions from the drum dryer using baghouses as specified in the permit application.
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Hilty Quarries, Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be

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SPECIAL CONDITIONS:

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

maintained within the design conditions specified by the manufacturer's performance warranty.

- E. Hilty Quarries, Inc. shall maintain an operating and maintenance log for the baghouses and drum filters 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.

- 7. Prohibition Against Concurrent Operations Without Further Review by the Air Pollution Control Program.
The asphalt plant (PORT-0155) is prohibited from operating whenever any other plant(s) are located at this site, except for the following three (3) plants:
 - A. Hilty Quarries, stationary lime screening plant at site 083-0011, (Project #2004-11-095).
 - B. Hilty Quarries, stationary cold mix asphalt at site 083-0011, (Project #2004-12-052).
 - C. Hilty Quarries, stationary rock crushing, 083-0011, (Project #2004-10-016).

- 8. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 1000 feet from the nearest property boundary.

- 9. Record Keeping Requirement
Hilty Quarries, Inc. shall maintain all records required by this permit for five years and make them available to any Missouri Department of Natural Resources personnel upon request.

- 10. Reporting Requirement
Hilty Quarries, Inc. shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten 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: 2009-10-023
Installation ID Number: 083-0011
Permit Number:

Hilty Quarries, Inc.
500 SE 1051 Road
Clinton, MO 64735

Complete: October 8, 2009

Parent Company:
Hilty Quarries, Inc.
P.O. Box 407
Clinton, MO 64735

Henry County, S3, T40N, R24W

INSTALLATION DESCRIPTION

Hilty Quarries, Inc. - Tighwad is a quarry located at 500 SE County Road 1051 in Clinton, Missouri. In 2004 Hilty Quarries moved a hot mix asphalt plant (PORT-0155), a lime screening plant (PORT-0372) and a cold mix asphalt plant (PORT-0170) onto their quarry (083-0011) with their stationary rock crushing plant. Hilty Quarries requested that PORT-0372 and PORT-0170 become stationary plants at 083-0011 and PORT-0155 remain a portable plant. All four plants were amended to allow concurrent operation at (183-0011) with each other only. All four plants at (183-0011) will be considered one installation. This installation is located in Henry County, an attainment area for all criteria pollutants. Hilty Quarries, Inc. currently have a intermediate operating permit.

PROJECT DESCRIPTION

Hilty Quarries, Inc. has requested in their current application that PORT-0155 become a stationary plant. PORT-0155 has a maximum hourly design rate (MHDR) of 300 tons of asphalt per hour and is powered by a 335 HP diesel engine. There is a baghouse installed on the drum dryer to control emissions. PORT-0155 will only be allowed to operate with the plants listed above in the Installation Description. An Intermediate or Part-70 Operating permit will needed for the installation because the conditioned potential VOC emissions are above 100 tons per year.

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 hot mix asphalt plant is 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 counted toward major source applicability.

Hilty Quarries, Inc. received a Notice of Violation on August 27, 2009.

TABLES

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

Table 1: Permit History

Permit Number	Description
0892-005	New Rock Crushing Plant
0793-013	New Rock Crushing Plant
0793-013A	Dust Suppression System
0793-013B	Co-Location with APAC plants
082004-011	Add BMPs-
082004-011A	Co-location with 3 Other Hilty Quarries, Inc. Plants and Remove Diesel Engine
042005-019	Add Lime Screening Plant (formerly PORT-0372)
042005-018	Add Cold Mix Asphalt Plant (formerly PORT-0170)

The table below summarizes the emissions of this project. The potential emissions of process equipment excluding emissions from haul roads and wind erosion, which are site specific should not vary from site to site. The existing actual emissions were taken from the previous years EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). This conditioned potential emissions are based on a voluntary limit of 15.0 tons per year to avoid increment modeling.

Table 2: Emissions Summary of the Application (tons per year)

Air Pollutant	De Minimis Level/ SMAL	¹ Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM ₁₀	15.0	91.25	18.48	52.15	<15.00
SO _x	40.0	N/A	6.45	97.66	28.09
NO _x	40.0	N/A	2.33	125.63	36.14
VOC	40.0	<100.0	0.97	67.03	19.28
CO	100.0	N/A	1.32	185.89	53.47
³ Lead	0.01	N/A	0.00	0.02	0.01
³ Formaldehyde	2.0	N/A	N/A	4.2	1.21
Total HAPs	25.0	N/A	0.00	15.7	4.52

N/A = Not Applicable

¹Existing Potential Emissions taken from *Table 3: Existing Emissions Summary (tons per year)* below

²Conditioned Potential Emissions based on a voluntary 15.0 ton PM₁₀ limit in order to avoid increment modeling. The 15.0 ton PM₁₀ limit only includes the emissions from the asphalt plant only.

³Screen Modeling Action Levels (SMAL)

Table 3: Existing Emissions Summary (tons per year)

Air Pollutant	¹ Lime Screening Plant	² Cold Mix Asphalt	³ Rock Crushing Plant	⁴ Combined Existing Potential Emissions	⁵ Emission Counted Towards a Major Determination
PM ₁₀	25.45	15.8	<50.0	91.25	59.29
SO _x	N/A	N/A	N/A	N/A	28.09
NO _x	N/A	N/A	N/A	N/A	36.14
VOC	N/A	<100.0	N/A	<100.0	119.28
CO	N/A	N/A	N/A	N/A	53.47
Total HAPs	N/A	N/A	N/A	N/A	4.52

N/A = Not Applicable; N/D = Not Determined

¹The Lime Screening Plant Emissions were taken from Permit # 042005-019. According to the definition of fugitive emissions in 40 CFR 60 Subpart "OOO" all emissions from this plant are considered fugitive.

²The Cold Mix Asphalt Plant Emissions were taken from Permit # 042005-018

³The Rock Crushing Plant Emissions were taken from Permit # 082004-011A. According to the definition of fugitive emissions in 40 CFR 60 Subpart "OOO" all emissions from this plant are considered fugitive.

⁴Combined Existing Potential Emissions include both fugitive and non-fugitive emissions

⁵Emissions Counted Towards a Major Determination include the emissions from the **cold mix asphalt** and **hot mix asphalt plants**. The lime screening plant and rock crushing plant do not have any non-fugitive emissions and therefore no emissions from these sources are counted towards a major determination.

Table 4: Ambient Air Quality Impact Analysis

Pollutant	¹ NAAQS/ RAL (µg/m ³)	Averaging Time	² Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	³ Daily Limit (tons/day)
⁴ PM ₁₀ (same)	150.0	24-hour	51.91	N/A	20.0	7200

¹National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

²Modeled impact at maximum capacity with controls

³Indirect limit based on compliance with NAAQS.

⁴Solitary operation or operation with other plants that are owned by Hilty Quarries, Inc.

The plant's drum dryer was modeled using the SCREEN3 screen modeling software. The stack characteristic entered into the modeled are listed in Table 3.

Table 5: SCREEN3 Input Parameters

Equipment Description	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
Dryer	12.5486	1.2893	12.7	394.8167	Rural

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (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 were calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004. Sulfur oxide (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 were calculated using emission factors from AP-42 Section 1.3. Emissions from aggregate handling were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% weight.

Emissions from the diesel engines/generators were calculated using emission factors from AP-42 Section 3.3 "Gasoline and Diesel Industrial Engines," October 1996.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency is applied to the emission calculations for the use of BMPs. Emissions from 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 1.5% 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."

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of PM₁₀. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Program's generic nomographs and the EPA modeling software SCREEN3. The distance from the plant to the nearest site boundary is 1000 feet. The maximum concentration that occurred at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) for PM₁₀. When the plant operates continuously, the modeled concentration of PM₁₀ shows compliance with the NAAQS.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with the three the plants listed in Special Condition 7 only, as long as the NAAQS is not exceeded. No additional plants are permitted to operate at this site without further review by the Air Pollution Control Program.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Hilty Quarries, Inc. 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- An Intermediate Operating Permit amendment is required for this installation within 1 year of equipment startup.
- *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 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities" applies to the equipment. 40 CFR 60 Subpart Kb, "Standards of Performance for Volatile

Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984" 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.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Gerad Fox
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 8, 2009, received October 8, 2009, designating Hilty Quarries, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated November 3, 2009.

Attachment A: Ambient Impact Tracking Sheet

Hilty Quarries, Inc. 083-0011
Project Number: 2009-10-023

Site Name: Hilty Quarries, Inc.
Site Address: 500 SE 1051 Road, Clinton, MO 64735
Site County: Henry County, S3, T40N, R24W

This sheet covers the period from _____ to _____ (Copy as needed)
(Month, Day Year)(Month, Day Year)

Date	Hilty Quarries, Inc. Hot Mix Asphalt Plant 083-0011 Project # 2009-10-023			Hilty Quarries, Inc. Lime Screening Plant 083-0011 Permit #: 042005-019	Hilty Quarries, Inc. Cold Mix Asphalt Plant 083-0011 Permit #: 042005-018	Hilty Quarries, Inc. Rock Crushing Plant 083-0011 Permit #: 082004-011A	Back-ground ($\mu\text{g}/\text{m}^3$)	Total Impact ³ ($\mu\text{g}/\text{m}^3$)
	Daily Production (tons)	Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	Impact ¹ ($\mu\text{g}/\text{m}^3$)	Impact ² ($\mu\text{g}/\text{m}^3$)	Impact ² ($\mu\text{g}/\text{m}^3$)	Impact ² ($\mu\text{g}/\text{m}^3$)		
<i>Example</i>	5,903	0.0072	42.5	10.2	10.2	10.2	20.0	93.1
		0.0072					20.0	
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¹Calculate the impact for 083-0011 by multiplying the daily production by the impact factor.
²Input the impact for any plants owned by Hilty Quarries, Inc. that are operating on the site.
³Calculate the total impact by adding the applicable impacts and background. A total of 150 $\mu\text{g}/\text{m}^3$ or less is necessary for compliance.

Attachment B: PM₁₀ Annual Emissions Tracking Sheet

Hilty Quarries, Inc. 083-0011

Project Number: 2009-10-023

Permit Number:

Site Name: Hilty Quarries, Inc.

Site Address: 500 SE 1051 Road, Clinton, MO 64735

Site County: Henry County, S3, T40N, R24W

This sheet covers the period from _____ to _____ (Copy as needed)
 (Month, Day Year)(Month, Day Year)

Month	Production (tons)	Emission Factor (lb/ton)	Monthly Emissions ¹ (lbs)	Monthly Emissions ² (tons)	12-Month Total Emissions ³ (tons)
<i>Example</i>	<i>60454</i>	<i>0.0397</i>	<i>2,403.6</i>	<i>1.20</i>	<i>14.46</i>
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¹Multiply the monthly production by the emission factor.

²Divide the monthly emissions (lbs) by 2000.

³Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 40.0 is necessary for compliance.

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 portable 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 emissions¹ 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

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Attachment BB: Emission Calculations

Hilty Quarries, Inc.

2009-10-023

Description	¹ MHDR	MHDR Units	² PM ₁₀ EF	EF Units	Control Eff. %	Emissions (lb/hr)	³ Modeling Rate (lb/hr)
Aggregate Handling Bins-Spray Bars	276.00	tph	0.00110	lb/ton	95.80	0.01	0.013
Aggregate Handling Conveyor-Spray Bars	552.00	tph	0.00110	lb/ton	95.80	0.03	0.026
Scalping Screen-Spray Bars	276.00	tph	0.00870	lb/ton	91.50	0.20	0.204
Drum Dryer - #4 Fuel Oil	300.00	tph	6.50000	lb/ton	99.65	6.90	6.900
Silo Loading	300.00	tph	0.00059	lb/ton	N/A	0.18	0.176
Plant Loadout	300.00	tph	0.00052	lb/ton	N/A	0.16	0.157
Asphalt Heater - #4 Fuel Oil	0.0840	1000 gal/hr	5.84280	lb/1000gal	N/A	0.49	0.491
Generator - Industrial Diesel	0.0174	1000 gal/hr	42.47000	lb/1000gal	0.00	0.74	0.738
Storage Pile - Load In MC 1.5	276.00	tph	0.00410	lb/ton	N/A	1.13	1.132
Storage Pile - Load Out MC 1.5	276.00	tph	0.00410	lb/ton	N/A	1.13	1.132
Storage Pile - Wind Errosion	1.00	acres	0.08917	lb/acre-hr	N/A	0.09	0.089
Storage Pile - Vehicular Activity	0.44	VMT/hr	2.84254	lb/VMT	90.00	0.12	0.124
Haul Road Haul Road #1	1.14	VMT/hr	2.05604	lb/VMT	90.00	0.23	0.234
Haul Road Haul Road #2	0.55	VMT/hr	2.05604	lb/VMT	90.00	0.11	0.113
Haul Road Haul Road #3	1.84	VMT/hr	2.05604	lb/VMT	90.00	0.38	0.378

¹Maximum Hourly Design Rate (MHDR)

²Emission Factor (EF)

³The Modeling Rate is the emission rate scaled to the daily hours of operation at MHDR allow by the permit.

Ms. Diane Tucker
Environmental Manager
Hilty Quarries, Inc.
P.O. Box 407
Clinton, MO 64735

RE: New Source Review Permit - Project Number: 2009-10-023

Dear Ms. Tucker:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 and with your amended operating permit 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.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, at the Departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:gfl

Enclosures

C: Kansas City Regional Office
PAMS File: 2009-10-023

Permit Number: