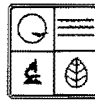


STATE OF MISSOURI

PERMIT BOOK



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: 092013-014

Project Number: 2013-04-071
Installation ID: 099-0010

Parent Company: Breckenridge Material Company

Parent Company Address: P.O. Box 440459, St. Louis, MO 63144

Installation Name: Breckenridge of Jefferson County - Plant 5

Installation Address: 1160 South Truman Blvd., Festus, MO 63028

Location Information: Jefferson County, S7 T40N R6E

Application for Authority to Construct was made for:
A truck mix concrete 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.

SEP 19 2013

EFFECTIVE DATE

Kyra L. Moore
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 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 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.	2013-04-071

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

1. **Best Management Practices Requirement**  
Breckenridge of Jefferson County - Plant 5 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.
2. **Ambient Air Impact Limitation**
  - A. Breckenridge of Jefferson County - Plant 5 shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour averages in ambient air.
  - B. Breckenridge of Jefferson County - Plant 5 shall demonstrate compliance with Special Condition 2.A using Attachment A or other equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. Breckenridge of Jefferson County - Plant 5 shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
3. **Moisture Content Testing Requirement**
  - A. Breckenridge of Jefferson County - Plant 5 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by 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.
  - 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 Breckenridge of Jefferson County - Plant 5 main office within 30 days of completion of the required test.

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Permit No.	
Project No.	2013-04-071

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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- F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 3.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceeded the limit, Breckenridge of Jefferson County - Plant 5 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 Compliance/Enforcement Section of the Air Pollution Control Program within ten 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, Breckenridge of Jefferson County - Plant 5 may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.
  
- 4. Control Device Requirement-Baghouse
  - A. Breckenridge of Jefferson County - Plant 5 shall control emissions from the equipment listed below using baghouses as specified in the permit application.
    - 1) Cement Silo
    - 2) Supplement Silo
    - 3) Truck Mix Loadout (shroud vented to baghouse)
  
  - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that 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. Breckenridge of Jefferson County - Plant 5 shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  
  - E. Breckenridge of Jefferson County - Plant 5 shall maintain a copy of the baghouse manufacturer's performance warranty on site.
  
  - F. Breckenridge of Jefferson County - Plant 5 shall maintain an operating and maintenance log for the baghouses which shall include the following:

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Permit No.	
Project No.	2013-04-071

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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- 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.
- 
5. **Minimum Distance to Property Boundary Requirement**  
The primary emission point, the weigh hopper (EP-12), shall be located at least 140 feet from the nearest property boundary.
  6. **Concurrent Operation Restriction**  
Breckenridge of Jefferson County - Plant 5 is prohibited from operating whenever other plants are located at the site.
  7. **Record Keeping Requirement**  
Breckenridge of Jefferson County - Plant 5 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.
  8. **Reporting Requirement**  
Breckenridge of Jefferson County - Plant 5 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: 2013-04-071  
Installation ID Number: 099-0010  
Permit Number:

Breckenridge of Jefferson County - Plant 5  
1160 South Truman Blvd.  
Festus, MO 63028

Complete: June 3, 2013

Parent Company:  
Breckenridge Material Company  
P.O. Box 440459  
St. Louis, MO 63144

Jefferson County, S7 T40N R6E

PROJECT DESCRIPTION

This ready mix concrete plant is a dry batch (truck mix) plant with a maximum hourly design rate (MHDR) of 200 tons.

Stone and sand are delivered to the site by truck and unloaded into large storage bins. Small amounts of specialty aggregates are also delivered this way and unloaded onto a stockpile that is 0.4 acre or less in area. The stone and sand storage bins are located on a tunnel conveyor. Stone and sand are gravity fed from their bins into the tunnel conveyor. The specialty aggregate is carried approximately 150 feet over a paved road from the storage pile by a loader with a 4 ton bucket and then dumped through its own bin into the tunnel conveyor. The conveyor transports the material to four aggregate bins at the concrete plant. Cement, fly ash, and slag are delivered to the site via truck and unloaded into a cement silo, a fly ash silo, and a slag silo, respectively.

During production, aggregates are dropped from the four aggregate bins into the weigh hopper and transported from the weigh hopper to the truck via a loading belt. Cement, fly ash, and slag are then piped from their silos into the weigh hopper and transported from that to the truck via a screw conveyor. Finally, water from an on-site well is added to the truck. In winter, the water is heated by a 2.49 MMBtu natural gas boiler before being added to the truck.

A central dust collection system is connected to the cement silo, fly ash silo, slag silo and truck load out point and used to control emissions from all four points.

The concrete plant is powered by electricity from the grid. A 10,000 gallon tank is used to store ultra low sulfur diesel fuel for use in vehicles.

No other plants are located at this site, and this permit prohibits co-location.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Jefferson County, a nonattainment area for the eight-hour ozone standard and the PM<sub>2.5</sub> standard and an attainment area for all other criteria pollutants. Part of Jefferson County is a nonattainment area for lead. The installation is not located in the Jefferson County lead nonattainment area.

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 100 tons each per year for PM<sub>2.5</sub> and VOC and 250 tons per year each for all other criteria pollutants, and fugitive emissions are not counted toward major source applicability.

No New Source Review permits have been issued to Breckenridge of Jefferson County - Plant 5 from the Air Pollution Control Program. A basic operating permit was issued in 2001, was renewed in 2003 and again in 2008. A third renewal request is pending. However, no operating permit is required for this installation. No notices of excess emissions or notices of violation have been issued to Breckenridge of Jefferson County - Plant 5 from the Air Pollution Control Program in the past five years.

## TABLES

The following table summarizes the emissions of this project. 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 account for a mandatory limit to meet National Ambient Air Quality Standards (NAAQS).

**Table 1: Emissions Summary (tons per year)**

Air Pollutant	De Minimis Level/SMAL <sup>c</sup>	<sup>a</sup> Potential Emissions of the Process Equipment	Existing Actual Emissions (2012 EIQ)	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	19.96	N/D	50.32	10.42
PM <sub>10</sub>	15.0	7.05	1.92	15.30	3.17
PM <sub>2.5</sub>	10.0	3.71	0.94	5.38	1.11
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	1.07	0.00	1.07	0.22
VOC	40.0	0.06	0.00	0.06	0.01
CO	100.0	0.90	0.00	0.90	0.19
GHG (CO <sub>2e</sub> )	100,000	1,357	N/D	1,357	281
Formaldehyde	10.0/2.0 <sup>c</sup>	0.0008	N/D	0.0008	0.0002
2-methylnaphthalene <sup>d</sup>	10.0/0.01 <sup>c</sup>	N/A	N/A	N/A	N/A
Total HAPs	25.0	0.02	0.00	0.02	0.00

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

<sup>a</sup> Excludes haul road and storage pile emissions

<sup>b</sup> Includes haul road and storage pile emissions

<sup>c</sup> Screening Model Action Level (SMAL)

<sup>d</sup> 2-methylnaphthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

**Table 2: Ambient Air Quality Impact Analysis**

Pollutant	<sup>a</sup> NAAQS/RAL (µg/m <sup>3</sup> )	Averaging Time	<sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>c</sup> Daily Limit (tons/day)
<sup>d</sup> PM <sub>10</sub> (solitary)	150.0	24-hour	700.82	130.0	20.0	994

<sup>a</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation



## 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 concrete batch plant were calculated using emission factors from AP-42 Section 11.12 "Concrete Batching," June 2006. This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer. The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used. Emissions from the aggregate weigh hopper were calculated using AP-42 Section 13.2.4, Equation (1). Emissions from mix truck loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.1 "Paved Roads," November 2006. A 90 percent control efficiency for PM and PM<sub>10</sub> and a 40 percent control efficiency for PM<sub>2.5</sub> are 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 at least 1.5 percent 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."

## AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 2. The Air Pollution Control Program requires an AAQIA of PM<sub>10</sub> for all asphalt, concrete and rock-crushing plants regardless of the level of PM<sub>10</sub> emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard.

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/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Program's BMPs interim policy.

## 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 PM<sub>10</sub> are conditioned below the de minimis level, which also brings PM below the de minimis level. Potential emissions of other pollutants are below their respective de minimis levels.

## APPLICABLE REQUIREMENTS

Breckenridge of Jefferson County - Plant 5 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. St. Louis County local ordinances may also apply.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- A Basic Operating Permit is not required for this installation.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

### SPECIFIC REQUIREMENTS

- None of the New Source Performance Standards (NSPS) apply to this installation. 40 CFR 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" does not apply to the boiler because its MHDR is less than 10 MMBtu per hour. 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" does not apply to the 10,000 gallon diesel fuel tank because it holds less than 75 cubic meters. 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" does not apply to the installation because it has no crushers or grinding mills.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.

- None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to this installation. 40 CFR 63 Subpart JJJJJJ, “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources” does not apply to the boiler because it is gas-fired.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260 does not apply to the boiler because it burns natural gas.
- *Restriction of Emission of Particulate Matter Emissions From Industrial Processes*, 10 CSR 10-6.400 does not apply to the proposed equipment. The boiler and tank do not emit particulate matter. Calculations show that the weigh hopper is exempt per 10 CSR 10-6.400(1)(B)16. The remaining emissions are either fugitive and exempt per 10 CSR 10-6.400(1)(B)7 or controlled by baghouses with an efficiency of at least 90 percent and exempt per 10 CSR 10-6.400(1)(B)15.
- *Restriction of Emission of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405 applies to the boiler, but it is deemed to be always in compliance because it burns natural gas.

#### 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.

\_\_\_\_\_  
 Cheryl Steffan  
 New Source Review Unit

\_\_\_\_\_  
 Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 2, 2013, received April 19, 2013, designating Breckenridge Material Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.



## 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 emissions<sup>1</sup> 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.

<sup>1</sup>For 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.)

Mr. Jerry Freeman  
Operations Manager  
Breckenridge of Jefferson County - Plant 5  
P.O. Box 440459  
St. Louis, MO 63144

RE: New Source Review Permit - Project Number: 2013-04-071

Dear Mr. Freeman:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 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 Cheryl Steffan, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone 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:csk

Enclosures

c: St. Louis Regional Office  
PAMS File: 2013-04-071

Permit Number: