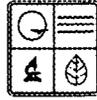


STATE OF MISSOURI

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: 052014-009A

Project Number: 2014-06-021

Installation ID: PORT-0704

Parent Company: Mulberry Limestone Quarry Co., Inc.

Parent Company Address: 325 North 260th Street, Mulberry, Kansas 66756

Installation Name: Jasper Quarry

Installation Address: 12525 Thorn Road, Jasper, MO 64755

Location Information: Jasper County, S18 T30N R30W

Application for Authority to Construct was made for:  
The installation of a new portable rock-crushing plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

May 28, 2014

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 Department's Air Pollution Control Program of the anticipated date of startup 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 startup 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.

Page No.	3
Permit No.	052014-009A
Project No.	2014-06-021

**GENERAL 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. **Equipment Identification Requirement**

Jasper Quarry shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Jasper Quarry shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
    - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
    - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**

Jasper Quarry shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**

Jasper Quarry 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.

Page No.	4
Permit No.	052014-009A
Project No.	2014-06-021

**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."*

PORT ID Number: PORT-0704

Site ID Number: 097-0175

Site Name: Jasper Quarry

Site Address: 12525 Thorn Road, Jasper, MO 64755

Site County: Jasper County, S18 T30N R30W

1. **Best Management Practices Requirement**  
Jasper Quarry 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. Jasper Quarry shall emit less than 10.0 tons of PM<sub>2.5</sub> in any 12-month period from the entire installation.
  - B. Jasper Quarry 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. **Moisture Content Testing Requirement**
  - A. Jasper Quarry 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 Jasper Quarry main office within 30 days of completion of the required test.

Page No.	5
Permit No.	052014-009A
Project No.	2014-06-021

**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, Jasper Quarry 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 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, Jasper Quarry may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.
4. **Minimum Distance to Property Boundary Requirement**  
The primary emission point, the primary crusher (EP-1), shall be located at least 330 feet from the nearest property boundary.
5. **Concurrent Operation Restriction**  
Jasper Quarry is prohibited from operating whenever other plants are located at the site.
6. **Primary Equipment Requirement**  
Jasper Quarry shall process all rock through the primary crusher (EP-1). Bypassing the primary crusher is prohibited.
7. **Record Keeping Requirement**  
Jasper Quarry 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**  
Jasper Quarry 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 (6) REVIEW

Project Number: 2014-06-021  
Installation ID Number: PORT-0704  
Permit Number: 052014-009A

Jasper Quarry  
12525 Thorn Road  
Jasper, MO 64755

Complete: March 24, 2014

Parent Company:  
Mulberry Limestone Quarry Co., Inc.  
325 North 260th Street  
Mulberry, Kansas 66756

Jasper County, S18 T30N R30W

#### PROJECT DESCRIPTION

Mulberry Limestone Quarry Co., Inc. has submitted an Application for Authority to Construct for the installation of a new portable rock-crushing plant, referred to as Jasper Quarry. The primary crusher (EP-1) is rated to crush 550 tons of aggregate per hour. This rock-crushing plant is powered by a 251 horsepower engine. Because this plant will operate at this site more than 12 consecutive months, the emissions of this engine were included in this project.

This project is serving as a pilot project to see if Mulberry Limestone Quarry Co., Inc. would like to expand their operation at this site. The Nelson Brothers Quarry formally operated on property adjacent to Jasper Quarry's proposed site. Per Mulberry Limestone Quarry Co., Inc.'s consultant, the Nelson Brothers Quarry is no longer operating and is dismantling their equipment at the time of this project's review

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 Jasper County, an attainment area for all 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.

No permits have been issued to Jasper Quarry from the Air Pollution Control Program.

## TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions are based on a voluntary limit of 10.0 tons of PM<sub>2.5</sub> to avoid modeling requirements. All other pollutants are proportionally reduced.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	<sup>a</sup> Potential emissions of process equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	12.63	N/A	124.80	62.96
PM <sub>10</sub>	15.0	6.17	N/A	42.36	21.42
PM <sub>2.5</sub>	10.0	2.97	N/A	19.88	< 10.00
SO <sub>x</sub>	40.0	1.31	N/A	1.31	0.66
NO <sub>x</sub>	40.0	34.08	N/A	34.08	17.11
VOC	40.0	2.72	N/A	2.72	1.36
CO	100.0	7.34	N/A	7.34	3.69
GHG (CO <sub>2</sub> e)	75,000 / 100,000	92.85	N/A	92.85	46.72
GHG (mass)	0.0 / 100.0 / 250.0	92.54	N/A	92.54	46.56
Total HAPs	25.0	0.03	N/A	0.03	0.01

N/A = Not Applicable

<sup>a</sup>Potential emissions of process equipment

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

Table 2: Ambient Air Quality Impact Analysis

Pollutant	NAAQS (µg/m <sup>3</sup> )	Averaging Time	<sup>a</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>b</sup> Daily Limit (tons/day)
<sup>c</sup> PM <sub>10</sub> (Solitary)	150.0	24-hour	195.70	130.0	20.0	9,390

<sup>a</sup>Modeled impact of plant at maximum capacity with controls

<sup>b</sup>Indirect limit based on compliance with NAAQS

## EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment 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 equal to or greater than 1.5 % by weight.

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 for PM and PM<sub>10</sub> and a 40% control efficiency for PM<sub>2.5</sub> were 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% 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."

Greenhouse gas emissions were calculated using emission factors from 40 CFR 98 Tables C-1 and C-2.

#### 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 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 NAAQS or 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 20.0 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 (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are above de minimis levels, but below major source levels. Potential emissions of PM<sub>2.5</sub> are conditioned below the de minimis level.

## APPLICABLE REQUIREMENTS

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

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No Operating Permit is required for this installation.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" 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 (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Daronn A. Williams  
New Source Review Unit

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 10, 2014, received March 17, 2014, designating Mulberry Limestone Quarry Co., Inc. 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 plant is operating.

1. Pavement
  - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Application of Chemical Dust Suppressants
  - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
  - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.
  
3. Application of Water-Documented Daily
  - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
  - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
  - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
  - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....percent	<b>MMBtu</b> ..... Million British thermal units
<b>°F</b> .....degrees Fahrenheit	<b>MMCF</b> .....million cubic feet
<b>acfm</b> ..... actual cubic feet per minute	<b>MSDS</b> .....Material Safety Data Sheet
<b>BACT</b> ..... Best Available Control Technology	<b>NAAQS</b> .....National Ambient Air Quality Standards
<b>BMPs</b> ..... Best Management Practices	<b>NESHAPs</b> ..... National Emissions Standards for Hazardous Air Pollutants
<b>Btu</b> ..... British thermal unit	<b>NO<sub>x</sub></b> .....nitrogen oxides
<b>CAM</b> ..... Compliance Assurance Monitoring	<b>NSPS</b> .....New Source Performance Standards
<b>CAS</b> ..... Chemical Abstracts Service	<b>NSR</b> ..... New Source Review
<b>CEMS</b> ..... Continuous Emission Monitor System	<b>PM</b> .....particulate matter
<b>CFR</b> ..... Code of Federal Regulations	<b>PM<sub>2.5</sub></b> .....particulate matter less than 2.5 microns in aerodynamic diameter
<b>CO</b> ..... carbon monoxide	<b>PM<sub>10</sub></b> .....particulate matter less than 10 microns in aerodynamic diameter
<b>CO<sub>2</sub></b> ..... carbon dioxide	<b>ppm</b> .....parts per million
<b>CO<sub>2e</sub></b> ..... carbon dioxide equivalent	<b>PSD</b> .....Prevention of Significant Deterioration
<b>COMS</b> ..... Continuous Opacity Monitoring System	<b>PTE</b> .....potential to emit
<b>CSR</b> ..... Code of State Regulations	<b>RACT</b> .....Reasonable Available Control Technology
<b>dscf</b> ..... dry standard cubic feet	<b>RAL</b> .....Risk Assessment Level
<b>EQ</b> ..... Emission Inventory Questionnaire	<b>SCC</b> .....Source Classification Code
<b>EP</b> ..... Emission Point	<b>scfm</b> .....standard cubic feet per minute
<b>EPA</b> ..... Environmental Protection Agency	<b>SIC</b> .....Standard Industrial Classification
<b>EU</b> ..... Emission Unit	<b>SIP</b> .....State Implementation Plan
<b>fps</b> ..... feet per second	<b>SMAL</b> ..... Screening Model Action Levels
<b>ft</b> ..... feet	<b>SO<sub>x</sub></b> .....sulfur oxides
<b>GACT</b> ..... Generally Available Control Technology	<b>SO<sub>2</sub></b> .....sulfur dioxide
<b>GHG</b> ..... Greenhouse Gas	<b>tph</b> ..... tons per hour
<b>gpm</b> ..... gallons per minute	<b>tpy</b> ..... tons per year
<b>gr</b> ..... grains	<b>VMT</b> .....vehicle miles traveled
<b>GWP</b> ..... Global Warming Potential	<b>VOC</b> ..... Volatile Organic Compound
<b>HAP</b> ..... Hazardous Air Pollutant	
<b>hr</b> ..... hour	
<b>hp</b> ..... horsepower	
<b>lb</b> ..... pound	
<b>lbs/hr</b> ..... pounds per hour	
<b>MACT</b> ..... Maximum Achievable Control Technology	
<b>µg/m<sup>3</sup></b> ..... micrograms per cubic meter	
<b>m/s</b> ..... meters per second	
<b>Mgal</b> ..... 1,000 gallons	
<b>MW</b> ..... megawatt	
<b>MHDR</b> ..... maximum hourly design rate	

Mr. Matt Blessant  
Owner  
Jasper Quarry  
325 North 260<sup>th</sup> Street  
Mulberry, Kansas 66756

RE: New Source Review Permit Number: 052014-009A  
Project Number: 2014-06-021; Installation Number: PORT-0704

Dear Mr. Blessant:

On May 28, 2014, the Air Pollution Control Program issued Construction Permit 052014-009 (Project Number 2014-03-027), for the installation of a new portable rock-crushing plant. The portable plant identification number was inadvertently omitted from the permit. Thus, the Air Pollution Control Program is re-issuing the permit in order to include the portable identification number. The effective date of the permit will remain the same. Please replace the original permit, Construction Permit 052014-0019, with this document.

If you have any questions regarding this permit, please do not hesitate to contact Daronn A. Williams, 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:dwk

Enclosures

c: Southwest Regional Office  
PAMS File: 2014-06-021

Permit Number: 052014-009A