



Matt Blunt, Governor • Doyle Childers, Director

## DEPARTMENT OF NATURAL RESOURCES

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JUN 29 2007

Mr. Tommy Crouch  
Operations Manager  
Capital Quarries Company  
822 West Stadium Blvd.  
Jefferson City, MO 65109

Re: Temporary permit for portable rock-crushing plant, PORT-0462  
Temporary Permit Number: **06 2007 - 015**  
Project Number: 2007-06-010  
Temporary Permit Expiration Date: August 31, 2007

Dear Mr. Crouch:

The Department of Natural Resources' Air Pollution Control Program completed a review of your June 1, 2007 request for a temporary permit for your portable rock-crushing plant, PORT-0462, to operate concurrently with Continental Cement Company's stationary plant (173-0001) in Ralls County (S2, T56N, R4W). The Air Pollution Control Program is hereby granting your request for this temporary operation.

In August, 2006, a temporary permit (Permit #082006-006) was issued to PORT-0462 to process rock for the construction of the foundation for the newly permitted Continental Cement Kiln at the same site. This permit expired on October 23, 2006. Now, Continental Cement has requested that Capital Quarries return to this site to process more rock for site development of the kiln. PORT-0462 will crush shot rock supplied by Continental Cement. There will be a 200 feet haul road for the transportation of the shot rock from the pit to the plant, but no haul roads will be used for the crushed rocks because the crushed rocks will be stockpiled near the plant. The plant will be located no less than 1,155 feet from the nearest property boundary. The plant will require no longer than four (4) weeks to process these rocks, but will be given two months to complete the project in case of delays due to weather and other factors beyond the company's control. The expiration date of this temporary permit is August 31, 2007. The company shall not operate at this site beyond this date.

The portable plant, PORT-0462, will be permitted to crush up to 30,000 tons of rock while at this location. It is assumed that the ambient impact of particulate matter less than 10  $\mu\text{m}$  in diameter ( $\text{PM}_{10}$ ) at or beyond the nearest property boundary should be negligible due to the low production rate and long distance to the nearest property boundary. This assumption is based on the use of Best Management Practices to control fugitive emissions from haul roads and storage piles, an inherent moisture content of greater than 1.5%, and a production limit of 30,000 tons of rock. Please see the attached Site-Specific Special Conditions for details on these control measures and other compliance requirements for the plant.

PORT-0462 is a generic plant and will be allowed to operate a maximum of four (4) diesel engines with a combined horsepower of 2,500 to power its equipment. The diesel engine shall only operate for the

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purpose of powering equipment for production. For emissions analysis, a diesel engine efficiency of 35% is assumed.

Since nothing has been changed from the last time the plant was at the site, the potential emissions of the application should have stayed the same. However, due to new emission factors developed by the EPA since the issuance of the last temporary permit, the potential emission of this project is different than the previous project.

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

Air Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2005 EIQ)	Potential Emissions of the Application	*New Installation Conditioned Potential	Emission Factor (lb/ton)
PM <sub>10</sub>	15.0	137.64	1.78	99.06	1.73	N/A
SO <sub>x</sub>	40.0	32.15	0.15	32.15	0.18	N/A
NO <sub>x</sub>	40.0	254.62	4.53	254.64	1.45	N/A
VOC	40.0	6.52	0.37	6.52	0.04	N/A
CO	100.0	67.63	0.98	67.64	0.39	N/A
HAPs	10.0/25.0	0.13	N/D	0.13	0.00	N/A

Note: N/A = Not Applicable

\* Conditioned potential based on a production limit of 30,000 tons of rocks while operating at the site.

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable, federal, state, or local agency regulations. Specifically, you should avoid violating, 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin* and 10 CSR 10-6.220, *Restriction of Emissions of Visible Air Contaminants*.

A copy of this letter and the attached special conditions should be kept with the plant and be made available to any Department of Natural Resources' personnel upon request.

If you have any questions regarding this temporary permit, please contact Chia-Wei Young at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 1527, Jefferson City, MO 65102 or telephone (573) 751-4817. Thank you for your time and cooperation.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Kyra L. Moore  
Permits Section Chief

KLM: cwyk

c: Mr. Dean Smart, Midwest Environmental Consultants  
Northeast Regional Office  
PAMS File 2007-06-010

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**SITE-SPECIFIC SPECIAL CONDITIONS:**

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

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.*

Site ID No.: 173-0001  
 Site Name: Continental Cement Quarry  
 Site Address: 10107 Highway 79 South, Hannibal, MO 63401  
 Site County: Ralls County (S2, T56N, R4W)

1. **Best Management Practices**  
 Capital Quarries Company shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. **Moisture Content Testing Requirement for Inherent Moisture Content**
  - A. The inherent moisture content of the rock will reduce particulate emissions. Capital Quarries Company claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt.%, which shall be verified by testing.
  - B. Testing shall be conducted according to approved methods, such as those prescribed by the *American Society for Testing Materials (ASTM D-2216 or C-566)*, EPA AP-42 Appendix C.2, or other method(s) approved by the Director. The first test shall be no later than 5 days after startup.
  - C. Test samples shall be obtained immediately after being processed by the first crusher and prior to load-in to bins and/or storage piles. During the sample processing run only, any spray devices shall be turned off during the processing from which test samples are obtained. The written analytical report shall include the raw data and moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test. Within 30 days of completion of the required tests, the report shall be filed on-site or at Capital Quarries Company's main office.
  - D. If the inherent moisture content result of the first test is less than 1.5 wt.%, a second test must be performed within 5 days. If the result of the second test is less than 1.5 wt.%, Capital Quarries Company shall cease operations at the site and apply for a new construction permit to account for the revised information or install wet spray devices on the affected units.
3. **Restrictions on Production**
  - A. The portable plant, PORT-0462, shall be limited to 30,000 tons of rock processed during the time that it is at the site.
  - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. Attachment A, *Total Production Tracking Record*, or other equivalent forms, shall be used for this purpose.
4. **Prohibition Against Concurrent Operations Without Further Air Pollution Control Program Review**  
 The portable plant (PORT-0462) is prohibited from operating whenever any other plant(s) are located at this site, except for Continental Cement Company's stationary plant, 173-0001.
5. **Restriction on Process Configuration of Primary Emission Point(s)**  
 The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Capital Quarries Company has designated the following unit(s) as the primary emission point(s) of the portable plant: Primary Crusher. Bypassing the primary emission point(s) for processing is prohibited.

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**SITE-SPECIFIC SPECIAL CONDITIONS:**

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

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6. **Restriction on Minimum Distance to Nearest Property Boundary**  
The primary emission point of the portable plant, which is the primary crusher, shall be located at least 1,155 feet from the nearest property boundary whenever it is operating at this site.
7. **Restriction on the Use of Diesel Engine(s)**  
The portable plant, PORT-0462, shall only operate the diesel engine for the purpose of powering equipment for production.
8. **Record Keeping Requirement**  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
9. **Reporting Requirement**  
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.



## Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Control Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

### For Haul Roads:

1. Pavement of Road Surfaces –
  - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve "Control of Fugitive Emissions"<sup>1</sup> while the plant is operating.
  - B. Maintenance and/or 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(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) 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(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.
  
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. 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. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) 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.)

**For Vehicle Activity Areas around Open Storage Piles:**

1. Pavement of Stockpile Vehicle Activity Surfaces –
  - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and/or 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(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) 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(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.
  
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. 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. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.