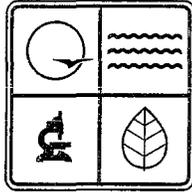


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

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: **112006-005** Project Number: **2006-06-051**
PORT-0565
Owner: **Capital Quarries Co. Inc.**
Owner's Address: **822 West Stadium Blvd., Jefferson City, MO 65109**
Installation Name: **Capital Quarries Co. Portable Plant PORT-0565**
Installation Address: **22120 County Road 75-60, Newburg, MO 65550**
Location Information: **Phelps County, S24, T37N, R7W**

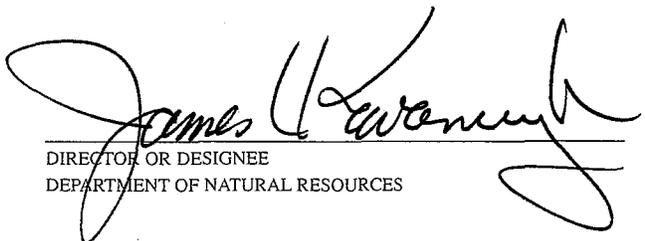
Application for Authority to Construct was made for:

The installation of a new portable rock crushing plant. The rock crushing plant is a Generic Plant. Rock is processed through no more than 4 crushers, 5 screens, 50 conveyors, 8 bins, 1 grizzly feeder, 1 pug mill, and 1 wet screen. The rock crushing plant has a maximum hourly design rate (MHDR) of 600.00 tons per hour (tph). 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 (listed as attachments starting on page 2) are applicable to this permit.

NOV - 6 2006

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. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

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GENERAL 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.

1. Generic Plant Designation and Maximum Combined Hourly Design Rate
Capital Quarries Co. portable rock crushing plant (PORT-0565) has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) for the primary unit(s) and each of the following generic equipment types shall not exceed the maximum installation capacities listed below at any time the installation is in operation.

Equipment Type	Maximum Combined Hourly Design Rate	Maximum Number of Units
Primary Unit(s) (Primary Crusher)	600 tons per hour	1
Feeder/Grizzly	600 tons per hour	1
Crusher(s) including primary crusher	2,400 tons per hour	4
Conveyor(s), Stacker(s)	20,000 tons per hour	50
Screen(s)	2,400 tons per hour	5
Pugmill, Storage Bin(s)	1,800 tons per hour	9

2. Generic Plant Equipment Identification Requirement
 - A. Within fifteen (15) days of actual startup, Capital Quarries Co. Portable Plant PORT-0565 shall submit to the Air Pollution Control Program's (APCP) Permitting Section, and the Southeast Regional Office, the following information for the generic plant (PORT-0565):
 - 1.) A Master List of all equipment that will be permitted for use with the generic plant (PORT-0565). This master list shall include the following information for each piece of equipment. The manufacturer's name, the model number, the serial number, the actual MHDR, the date of manufacture, any company-assigned equipment number, and any other additional information such as sizes and/or dimensions that is necessary to uniquely identify all of the equipment.
 - 2.) A list of the core equipment that will always be utilized with the generic plant (PORT-0565). The core equipment associated with the generic plant shall include at least one (1) primary unit. Core equipment items are rate-controlling components of the process flow (e.g., primary crusher and/or primary screen). The maximum hourly design rate of the generic plant is defined to be the sum of the MHDR(s) of the core equipment. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.
 - 3.) A determination on the applicability of 40 CFR Part 60, Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, for each piece of equipment. Capital Quarries Co. Portable Plant PORT-0565 shall indicate whether or not each piece of equipment is subject to Subpart "OOO" and provide the justification for this applicability determination.
 - 4.) Capital Quarries Co. Portable Plant PORT-0565 shall submit notification to the APCP and the Regional Office if the core equipment is changed and/or if new equipment is added to the supplemental equipment list.
 - B. To assure that each piece of equipment is properly identified as being a part of this generic portable rock crushing plant (PORT-0565), Capital Quarries Co. Portable Plant PORT-0565 shall provide and maintain suitable, 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 APCP and the Regional Office no later than fifteen (15) days after start-up of the generic plant.
 - C. Capital Quarries Co. Portable Plant PORT-0565 shall at all times maintain a list of the specific equipment currently being utilized with the generic portable rock crushing plant (PORT-0565). The installation shall immediately make this list of currently used equipment available to any Missouri

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GENERAL SPECIAL CONDITIONS:

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

Department of Natural Resources' personnel upon request.

3. 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.
4. Relocation of Portable Plant
 - A. If this portable generic rock crushing plant moves from the initial site reviewed in this permit (Jerome Quarry, Site ID No: 161-0046), then the portable generic rock crushing plant shall not be operated at any site location longer than 24 consecutive months without an intervening relocation.
 - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable generic rock crushing plant.
 - 1) If the portable generic plant is moving to a site previously permitted, and if there are no other new plants at the site, then the application must be received by the Air Pollution Control Program at least seven (7) days prior to the relocation.
 - 2) If the portable generic plant is moving to a new site, or if there are other plants or equipment at the site that have not been evaluated for concurrent operation, then the application must be received by the Air Pollution Control Program at least twenty-one (21) days prior to the relocation. The application must include written notification of any concurrently operating plants.
5. Operating Permit Applicability
If this portable generic rock crushing plant does not move from the initial site (Jerome Quarry, Site ID No: 161-0046) within 24 consecutive months, then Capital Quarries Co. Portable Plant PORT-0565 shall submit an operating permit application. The Air Pollution Control Program must receive this application no later than 30 days after the exceedance of the 24 months.
6. 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.

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SPECIAL CONDITIONS:

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

Site ID No.: 051-0065
Site Name: Algoa Quarry
Site Address: 2619 Shamrock, Jefferson City, MO
Site County: Cole County, S24, T44N, R11W

Site ID No.: 093-0022
Site Name: Arcadia Quarry
Site Address: Highway 21, Arcadia, MO
Site County: Iron County, S6, T33N, R4E

Site ID No.: 073-P033
Site Name: Bay Quarry
Site Address: Brinkman Rd., Bay, MO
Site County: Gasconade County, S18, T43N, R5W

Site ID No.: 135-P016
Site Name: California Quarry
Site Address: Highway 87 N, California, MO
Site County: Moniteau County, S20, T46N, R14W

Site ID No.: 055-P042
Site Name: Cuba Quarry
Site Address: Highway ZZ, Cuba, MO
Site County: Crawford County, S2, T38N, R5W

Site ID No.: 051-0059
Site Name: Eugene Quarry
Site Address: 15103 Highway 17, Eugene, MO
Site County: Cole County, S20/29/30, T42N, R5W

Site ID No.: 073-0047
Site Name: Hermann Quarry
Site Address: Sawmill Rd. off Highway 100, Hermann, MO
Site County: Gasconade County, S35, T46N, R5W

Site ID No.: 219-0032
Site Name: High Hill Quarry
Site Address: 1164 Tree Farm Rd., High Hill, MO
Site County: Warren County, S3, T33N, R4W

Site ID No.: 051-0029
Site Name: Highway 54 Quarry
Site Address: 2229 Christy Drive, Jefferson City, MO
Site County: Cole County, S23/24, T44N, R12W

Site ID No.: 019-0050
Site Name: Highway 63 Quarry
Site Address: Highway 63 N, MO
Site County: Boone County, S13/14, T45N, R12W

Site ID No.: 161-P047
Site Name: Highway 72 Quarry
Site Address: Highway 72 E., Rolla, MO

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SPECIAL CONDITIONS:

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

Site County: Phelps County, S9, T36N, R7W

Site ID No.: 027-P035
Site Name: Highway 94 Quarry
Site Address: 2503 Highway 94, Holts Summit, MO
Site County: Callaway County, S18, T44N, R10W

Site ID No.: 161-0030
Site Name: Highway Y Quarry
Site Address: County Rd. 8120 Highway Y, Rolla, MO
Site County: Phelps County, S33/4, T38/37N, R8W

Site ID No.: 161-0046
Site Name: Jerom Quarry
Site Address: 22120 County Road 75-60, Newburg, MO 65550
Site County: Phelps County, S24, T37N, R7W

Site ID No.: 151-P038
Site Name: Linn Quarry
Site Address: Rt. 1 Box 36A, Linn, MO
Site County: Osage County, S19/20, T43N, R7W

Site ID No.: 073-0019
Site Name: Owensville Quarry
Site Address: Highway Y, Owensville, MO
Site County: Gasconade County, S36, T42N, R6W

Site ID No.: 161-0027
Site Name: Rolla Quarry
Site Address: Highway 63, MO
Site County: Phelps County, S14, T44N, R12W

Site ID No.: 051-P067
Site Name: Route B Quarry
Site Address: Highway 179/ Rt. B, Jefferson City, MO
Site County: Cole County, S25, T44N, R12W

Site ID No.: 065-0040
Site Name: Salem Quarry
Site Address: County Road 522, Salem, MO
Site County: Dent County, S3, T33N, R4W

Site ID No.: 071-P212
Site Name: St. Clair Quarry
Site Address: Dry Branch Rd. off Highway WW, St. Clair, MO
Site County: Franklin County, S6/31, T41/42N, R1W

Site ID No.: 055-9001
Site Name: Sullivan Quarry
Site Address: 3105 Highway FF, Bourbon, MO
Site County: Crawford County, S32, T39/40N, R2W

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SPECIAL CONDITIONS:

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

1. **Best Management Practices**
Capital Quarries Co. Portable Plant PORT-0565 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. **National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)**
 - A. The operator(s) for Capital Quarries Co. Portable Plant PORT-0565's rock crushing plant (PORT-0565) shall ensure, while operating at this site, that the ambient impact of PM₁₀ at or beyond the nearest property boundary does not exceed 150 µg/m³ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
 - B. The total daily ambient impact of PM₁₀ at this site shall include the combined impact of the rock crushing plant and any ambient background concentration from installations or equipment located on the same site as the rock crushing plant.
 - C. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. Attachment A, *Daily Ambient PM₁₀ Impact Tracking Record*, or other equivalent form(s), will be used for this purpose.
 - D. During solitary operation at the High Hill Quarry, PORT-0565 is exempt from the record keeping described in Special Condition 2.C.
3. **Annual Emission Limit of Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)**
 - A. The operator(s) shall ensure that Capital Quarries Co. Portable Plant PORT-0565 emits less than 50 tons of PM₁₀ into the atmosphere in any 12-month period.
 - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and PM₁₀. Attachment B, *Monthly PM₁₀ Emissions Tracking Record*, or other equivalent form(s), will be used for this purpose.
4. **Annual Emission Limit of Nitrogen Oxides (NOx)**
 - A. The operator(s) shall ensure that Capital Quarries Co. Portable Plant PORT-0565 emits less than 100 tons of NOx into the atmosphere in any 12-month period.
 - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and NOx. Attachment C, *Monthly Nitrogen Oxide (NOx) Emissions Tracking Record*, or other equivalent forms, will be used for this purpose.
5. **Moisture Content Testing Requirement for Inherent Moisture Content**
 - A. The inherent moisture content of the rock will reduce particulate emissions. Capital Quarries Co. Portable Plant PORT-0565 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 45 days after startup. Testing shall be conducted for three consecutive years during the months of June through September, while the rock crushing plant is active at this site. If the test results have been consistently greater than 1.5 wt% and there is no reported emission exceedances from the plant, then no further testing is required and this site shall be deemed to have met this condition on all subsequent permits. Verification of the results will be performed during a routine inspection. If the test results have been less than 1.5 wt% and/or there is substantial change in the emissions from the plant, then Capital Quarries Co. Portable Plant PORT-0565 shall apply for a new construction permit to account for the revised information or operate a wet suppression system capable of maintaining visible emissions standards for each unit within 30 days.
 - C. The operator shall obtain test samples before processing (before entering the Primary Crusher, EP-01) and after processing (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

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SPECIAL CONDITIONS:

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

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 either on-site or at Capital Quarries Co.'s main office.

6. Performance Testing for New Source Performance Standards (NSPS)
 - A. Capital Quarries Co. Portable Plant PORT-0565 shall submit the enclosed testing plan to the Enforcement section of the Air Pollution Control Program for all equipment applicable to NSPS Subpart "OOO". Capital Quarries Co. Portable Plant PORT-0565 shall contact the Enforcement section to obtain all requirements for testing, and the plan must be submitted to the Enforcement section at least 30 days prior to the proposed test date.
 - B. Testing must be performed no later than 60 days after achieving the maximum production rate of the process, and in any case no later than 180 days after initial startup. The performance test results shall be submitted to the Enforcement section no later than 30 days after completion of any required testing.

7. Prohibition Against Concurrent Operations Without Further APCP Review
 - A. The rock crushing plant (PORT-0565) is prohibited from operating whenever any other plants are located at the site while operating at the sites listed below.
 1. Bay (073-P033)
 2. Cuba (055-P042)
 3. Eugene (051-0059)
 4. Hermann (073-0047)
 5. Highway 50 West (051-P039)
 6. Highway 72 (161-P047)
 7. Highway 94 (027-P035)
 8. Highway Y (161-0030)
 9. Linn (151-P038)
 10. Route B (051-P067)
 11. St. Clair (071-P212)
 - B. When operating at one of the sites listed below, the rock crushing plant (PORT-0565) may operate with another rock-crushing, concrete, or asphalt plant located at the site, if that plant is permitted to operate with rock-crushing plants, and has an ambient impact limit for PM₁₀ less than or equal to the limit listed below for the site.
 1. Alcoa (051-0065) 80.00 µg/m³ of PM₁₀
 2. Arcadia (093-0022) 69.46 µg/m³ of PM₁₀
 3. California (135-P016) 80.00 µg/m³ of PM₁₀
 4. High Hill (219-0032) 90 µg/m³ of PM₁₀
 5. Highway 54 (051-0029) 64.87 µg/m³ of PM₁₀
 6. Highway 63 (019-0050) 80.00 µg/m³ of PM₁₀
 7. Jerome (161-0046) 65.00 µg/m³ of PM₁₀
 8. Owensville (073-0019) 40.00 µg/m³ of PM₁₀
 9. Rolla (161-0027) 40.00 µg/m³ of PM₁₀
 10. Salem (065-0040) 80.00 µg/m³ of PM₁₀
 11. Sullivan (055-9001) 80.00 µg/m³ of PM₁₀

8. 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 Co. Portable Plant PORT-0565 has designated the following unit(s) as the primary emission point(s) of the rock crushing plant: primary crusher (EP-01). Bypassing the primary emission point(s) for processing is prohibited.

9. Restriction on Minimum Distance to Nearest Property Boundary

The primary emission point of the rock crushing plant, which is the primary crusher (EP-01), shall be

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SPECIAL CONDITIONS:

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

located not less than the minimum allowed distance from the nearest property boundary whenever it is operating at the listed sites.

- A. Algoa 600 ft.
- B. Arcadia 600 ft.
- C. Bay 400 ft.
- D. California 750 ft.
- E. Cuba 500 ft.
- F. Eugene 300 ft.
- G. Hermann 400 ft.
- H. High Hill 1,956 ft.
- I. Highway 50 West 450 ft.
- J. Highway 54 600 ft.
- K. Highway 63 1,000 ft.
- L. Highway 72 325 ft.
- M. Highway 94 400 ft.
- N. Highway Y 500 ft.
- O. Jerome 600 ft.
- P. Linn 500 ft.
- Q. Owensville 450 ft.
- R. Rolla 500 ft.
- S. Route B 600 ft.
- T. Salem 900 ft.
- U. St. Clair 800 ft.
- V. Sullivan 1,000 ft.

10. 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 to any Missouri Department of Natural Resources' personnel upon request.

11. 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.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

PROJECT DESCRIPTION

Rock, composed of non-metallic minerals, is drilled/blasted, loaded into haul trucks, and transported to processing. Rock is processed through feeders, crushers, screens, conveyors, and bins. Processing equipment is powered with two diesel generators. The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Phelps County, an attainment area for all criteria air pollutants.

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM₁₀. The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a minor source under 10 CSR 10-6.060 section (6).

The rock crushing plant has an annual emission limit of less than 50 tons of PM₁₀ in any 12-month period. A composite PM₁₀ emission factor was developed for the rock crushing plant. The composite emission factor is incorporated into the monthly record keeping table, Attachment B. If the conditioned potential emissions of PM₁₀ were 50 tons per year or greater, then the owner would be required to submit dispersion modeling results.

Table 1: Emissions Summary (tons per year)

Pollutants	Sites	Regulatory De Minimis Levels	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
SOx	All	40.0	37.51	12.63	NA
NOx	All	40.0	297.07	< 100	0.1130
VOC	All	40.0	7.60	2.56	NA
CO	All	100.0	78.91	26.56	NA
HAPs	All	10.0/25.0	0.15	0.05	NA
PM ₁₀	Algoa	15.0	152.83	< 50	0.0582
PM ₁₀	Arcadia	15.0	172.19	< 50	0.0655
PM ₁₀	Bay	15.0	164.84	< 50	0.0627
PM ₁₀	California	15.0	164.84	< 50	0.0627
PM ₁₀	Cuba	15.0	160.11	< 50	0.0609
PM ₁₀	Eugene	15.0	158.83	< 50	0.0604
PM ₁₀	Hermann	15.0	163.13	< 50	0.0621
PM ₁₀	High Hill	15.0	234.02	< 50	0.0890
PM ₁₀	Highway 50 W	15.0	147.00	< 50	0.0207
PM ₁₀	Highway 54	15.0	161.12	< 50	0.0613
PM ₁₀	Highway 63	15.0	182.19	< 50	0.0693
PM ₁₀	Highway 72	15.0	146.92	< 50	0.0559
PM ₁₀	Highway 94	15.0	161.26	< 50	0.0614
PM ₁₀	Highway Y	15.0	158.83	< 50	0.0604
PM ₁₀	Jerome	15.0	163.59	< 50	0.0622
PM ₁₀	Linn	15.0	163.59	< 50	0.0622
PM ₁₀	Owensville	15.0	166.99	< 50	0.0635
PM ₁₀	Rolla	15.0	161.26	< 50	0.0614
PM ₁₀	Route B	15.0	150.23	< 50	0.0572
PM ₁₀	Salem	15.0	157.85	< 50	0.0601
PM ₁₀	St. Clair	15.0	171.44	< 50	0.0652
PM ₁₀	Sullivan	15.0	156.86	< 50	0.0596

Note: NA = Not Applicable

** Conditioned potential based on daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

AMBIENT AIR QUALITY IMPACT ANALYSIS

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 µg/m³ of PM₁₀ at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the rock crushing plant. This ambient impact factor is incorporated into the daily record keeping table, Attachment A.

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 µg/m³ of PM₁₀. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 µg/m³ of PM₁₀ at or beyond the nearest property boundary.

Table 2: Ambient Air Quality Impact Analysis of PM₁₀, 24-Hour Averaging Time

Plant Name	Operation	Ambient Impact Factor (µg/m ³ /ton)	Modeled Impact (µg/m ³)	*Background (µg/m ³)	NAAQS (µg/m ³)	Daily Production Limit (tons)
Algoa	1. Solitary	0.0167	130.00	20.00	150.00	7,794.
	2. Concurrent	0.0126	50.00	100.00	150.00	3,397.
Arcadia	1. Solitary	0.0167	130.00	20.00	150.00	7,794.
	2. Concurrent	0.0126	60.54	89.46	150.00	4,800.
Bay	1. Solitary	0.0238	130.00	20.00	150.00	5,455.
California	1. Solitary	0.0146	130.00	20.00	150.00	8,904.
	2. Concurrent	0.0083	50.00	100.00	150.00	6,038.
Cuba	1. Solitary	0.0393	130.00	20.00	150.00	6,896.
Eugene	1. Solitary	0.0393	130.00	20.00	150.00	6,896.
Hermann	1. Solitary	0.0283	130.00	20.00	150.00	5,455.
High Hill	1. Solitary	0.0035	50.25	20.00	150.00	14,400.
	2. Concurrent	0.0035	40.00	110.00	150.00	11,339.
Highway 50 W	1. Solitary	0.0207	130.00	20.00	150.00	6,270.
Highway 54	1. Solitary	0.0167	130.00	20.00	150.00	7,794.
	2. Concurrent	0.0121	65.00	85.00	150.00	5,383.
Highway 63	1. Solitary	0.0099	130.00	20.00	150.00	13,127.
	2. Concurrent	0.0070	50.00	100.00	150.00	7,094.
Highway 72	1. Solitary	0.0393	130.00	20.00	150.00	3,311.
Highway 94	1. Solitary	0.0238	130.00	20.00	150.00	5,455.
Highway Y	1. Solitary	0.0189	130.00	20.00	150.00	6,896.
Jerome	1. Solitary	0.0167	130.00	20.00	150.00	7,794.
	2. Concurrent	0.0121	65.00	85.00	150.00	5,383.
Linn	1. Solitary	0.0189	130.00	20.00	150.00	6,896.
Owensville	1. Solitary	0.0207	130.00	20.00	150.00	6,270.
	2. Concurrent	0.0199	90.00	60.00	150.00	4,514.
Rolla	1. Solitary	0.0189	130.00	20.00	150.00	6,896.
	2. Concurrent	0.0170	90.00	60.00	150.00	5,307.
Route B	1. Solitary	0.0167	130.00	20.00	150.00	7,794.
Salem	1. Solitary	0.0116	130.00	20.00	150.00	11,248.
	2. Concurrent	0.0075	50.00	100.00	150.00	6,656.
St. Clair	1. Solitary	0.0136	130.00	20.00	150.00	9,570.
Sullivan	1. Solitary	0.0099	130.00	20.00	150.00	13,127.
	2. Concurrent	0.0070	50	100.00	150.00	7,094.

* Background PM10 level of 20.00 µg/m³ from haul roads and stockpiles and from the operation of other permitted installations.

The operator(s) must balance production among concurrently operating plants, with the ambient impact factors for each, such that NAAQS is not exceeded. Other ambient impact factors are listed in Attachment A.

This permit allows for two (2) operation scenarios: Scenario 1 for solitary operation and Scenario 2 for concurrent operation with other rock-crushing, concrete, or asphalt plants that have been permitted for concurrent operation at this site.

While operating at the High Hill Quarry, the ambient impact for PM₁₀ will not exceed the NAAQS. Therefore, during solitary operation, the plant is exempt from the record keeping described in Special

Condition 2.C. However, the plant must still show that its annual PM₁₀ emissions are below 50 tpy by completing the *Monthly PM₁₀ Emissions Tracking Record* found in Attachment B.

Ambient air quality modeling was performed to determine the ambient impact of Nitrogen Oxides. Ambient impact modeling was performed using screen view, the interface for EPA screen 3 modeling. The results of this modeling show that the site is in compliance with the established limits from NAAQS at the property boundary.

Table 3: Ambient Air Quality Impact Analysis for NOx

Air Pollutant	Modeled Impact (µg/m ³)	NAAQS (µg/m ³)	Time Basis
NOx	61.11321	100	Annual Arithmetic Mean

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- No Operating Permit is required for this rock crushing plant. If this portable rock crushing plant remains at the initial site reviewed in this permit longer than 24 consecutive months, then the owner shall submit an Operating Permit Application. The Air Pollution Control Program must receive this application no later than 30 days after the exceedance of 24 months.
- *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
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS)
- 40 CFR Part 60 Subpart "Kb", *Standards for Performance for Volatile Organic Liquid Storage Vessels*, of the New Source Performance Standards (NSPS)
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

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.

 Michael Mittermeyer
 Environmental Engineer

 Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Capital Quarries Co. Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp. book, Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Southeast Regional Office Site Survey.
- Best Management Practices

Attachment D: Ambient Impact Data Table

Ambient Impact Data							
Site Name (Site ID)	Solitary Impact Factor	Concurrent Impact Factor	Concurrent Site Impact	Site Name (Site ID)	Solitary Impact Factor	Concurrent Impact Factor	Concurrent Site Impact
Algoa Quarry (051-0065)	0.0167	0.0126	80.00	Highway 72 (161-P047)	0.0393	NA	NA
Arcadia (093-0022)	0.0167	0.0126	69.46	Highway 94 (027-P035)	0.0238	NA	NA
Bay (073-P033)	0.0238	NA	NA	Highway Y (161-0030)	0.0189	NA	NA
California (135-P016)	0.0146	0.0083	80.00	Jerome (161-0046)	0.0167	0.0121	65.00
Cuba (055-P042)	0.0393	NA	NA	Linn (151-P038)	0.0189	NA	NA
Eugene (051-0059)	0.0393	NA	NA	Owensville (073-0019)	0.0207	0.0199	40.00
Hermann (073-0047)	0.0238	NA	NA	Rolla (161-0027)	0.0189	0.0170	40.00
High Hill (219-0032)	0.0035	0.0035	90.00	Route B (051-P067)	0.0167	NA	NA
Highway 50 West (051-P039)	0.0207	NA	NA	Salem (065-0040)	0.0116	0.0075	80.00
Highway 54 (051-0029)	0.0167	0.0121	64.87	St. Clair (071-P212)	0.0136	NA	NA
Highway 63 (019-0050)	0.0099	0.0070	80.00	Sullivan (055-9001)	0.0099	0.0070	80.00

NA: Not Applicable

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 Emissions¹” 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.

¹ 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.

Mr. Tommy Crouch
Operation Manager
Capital Quarries Co. Inc.
822 West Stadium Blvd.
Jefferson City, MO 65109

RE: New Source Review Permit - Project Number: 2006-06-051

Dear Mr. Crouch:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit, the New Source Review application submitted for project 2006-06-051, and your amended operating permit, if required, is necessary for continued compliance. Please review your amended operating permit, as it will contain all applicable requirements for your rock crushing plant, including any special conditions from your New Source Review permit.

The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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 me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KH: mm

Enclosures

c: Southeast Regional Office
Northeast Regional Office
PAMS File 2006-06-051
Permit Number: