

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **102009-002**

Project Number: 2009-07-055

Parent Company: Fred Weber, Inc.

Parent Company Address: 2320 Creve Coeur Mill Road, Maryland Heights, MO 63043

Installation Name: Fred Weber, Inc. - Fast Pack Plant 1

Installation ID: PORT-0641

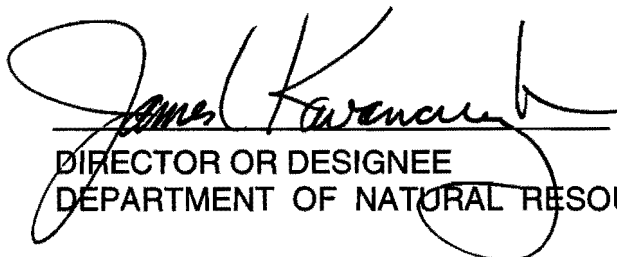
Installation Address: 838 VFW Drive, Festus, MO 63028

Location Information: Jefferson County, S16, T4S, R6E

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.

OCT - 2 2009
EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Project No.	2009-07-055

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) 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. **Portable Equipment Identification Requirement**
Fred Weber, Inc. - Fast Pack Plant 1 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. Fred Weber, Inc. - Fast Pack Plant 1 shall not be operated at any location longer than 24 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 (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 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, 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**
Fred Weber, Inc. - Fast Pack Plant 1 shall maintain all records required by this permit and subsequent relocations for no less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**
Fred Weber, Inc. - Fast Pack Plant 1 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 and any subsequent relocations.

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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) 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-0641

Site ID Number: 099-0008

Site Name: Festus Quarry

Site Address: 838 VFW Drive Festus, MO 63028

Site County: Jefferson S16, T4S, R6E

1. Best Management Practices Requirement
Fred Weber, Inc. - Fast Pack Plant 1 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. Fred Weber, Inc. - Fast Pack Plant 1 shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Fred Weber, Inc. - Fast Pack Plant 1 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. Fred Weber, Inc. - Fast Pack Plant 1 shall account for the impacts from other sources of PM₁₀ as instructed in Attachment A.
 - C. Fred Weber, Inc. - Fast Pack Plant 1 is exempt from the requirements of special condition 2.B when no other plants are operating at this site.
3. Annual Emission Limit
 - A. Fred Weber, Inc. - Fast Pack Plant 1 shall emit less than 40.0 tons of NO_x in any 12-month period from the entire installation.
 - B. Fred Weber, Inc. - Fast Pack Plant 1 shall demonstrate compliance with special condition 3.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
4. Moisture Content Testing Requirement
 - A. Fred Weber, Inc. - Fast Pack Plant 1 shall verify that the moisture content of the processes rock is greater than or equal to 1.5% weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

- C. The initial test shall be conducted at least 45 day 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 (e.g. quarry) of aggregate.
 - 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 Fred Weber, Inc. - Fast Pack Plant 1 main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in special condition 4.A, another test may be performed with 15 days of the noncompliant test. If the results of that test also exceed the limit, Fred Weber, Inc. - Fast Pack Plant 1 shall either:
 - 1.) Apply for a new permit to account for the revised information, or
 - 2.) Submit a plant for the installation of wet spray devices to the Air Pollution Control Program Compliance Assistance section within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, Fred Weber, Inc. - Fast Pack Plant 1 may obtain test results of the supplier of the aggregate that demonstrate compliance with the moisture content in special condition 4.A.
5. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 1650 feet from the nearest property boundary.
6. Prohibition Against Concurrent Operations Without Further Air Pollution Control Program Review
Fred Weber, Inc. - Fast Pack Plant 1 shall operate in accordance with only the following scenarios:
- A. Solitary Operation: Operation when no other installations or portable plants are present at the site.
 - B. Concurrent Same-Owner Operation: Operation when only other installations or portable plants owned by the parent company are located at the site.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2009-07-055

Installation ID Number: PORT-0641

Permit Number:

Fred Weber, Inc. - Fast Pack Plant 1
838 VFW Drive
Festus, MO 63028

Complete: July 27, 2009

Parent Company:
Fred Weber, Inc.
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

Jefferson County, S16, T4S, R6E

PROJECT DESCRIPTION

Fred Weber, Inc. is installing a new portable rock crushing plant (PORT-0641) at Festus Quarry. The plant has a maximum hourly design rate of 500 tons of rock crushed per hour and is powered by two (2) C-15 Caterpillar and three (3) C-13 Caterpillar diesel engines. Currently at the Festus Quarry there are three plants all owned by Fred Weber, Inc.: stationary asphalt plant (099-0007), stationary sandstone crushing plant (099-0008b) and stationary rock crushing plant (099-0008a). The asphalt plant and sandstone crushing plant are remaining at the site upon the installation of the new portable rock crushing plant. The stationary rock crushing plant (099-0008a) will be removed before PORT-0641 is operational. PORT-0641 shall only operate if the plants located at Festus Quarry are owned by Fred Weber, Inc.

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 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants. Part Jefferson County is a nonattainment area for lead.

No permits have been issued to Fred Weber, Inc. - Fast Pack Plant 1 from the Air Pollution Control Program.

TABLES

The table below summarizes the emissions of this project. The potential emissions of process equipment excluding emissions from haul roads and wind erosion, which are site specific, should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). This conditioned potential emissions are based on a voluntary limit of 40.0 tons per year to avoid refined modeling.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/ SMAL	¹ Potential Emissions of the Process Equipment	Existing Actual Emissions (YYYY EIQ)	² Potential Emissions of the Application	⁴ Conditioned Potential Emissions
PM ₁₀	15.0	63.05	N/A	82.11	48.90
SO _x	40.0	9.99	N/A	9.99	5.75
NO _x	40.0	69.52	N/A	69.52	³ <40.00
VOC	40.0	27.50	N/A	27.50	15.82
CO	100.0	60.25	N/A	60.25	34.67
Total HAPs	25.0	0.30	N/A	0.30	0.17

N/A = Not Applicable

¹Excludes haul road and wind erosion emissions

²Includes site specific haul road and storage pile emissions

³Because there is other plants located at this site and a screening model has not been run by those plants for NO_x, a 40.0 ton NO_x limit was given to PORT-0641

⁴Other pollutants were proportionally reduced based on a 40.0 ton NO_x limit

Table 2: Ambient Air Quality Impact Analysis

Pollutant	¹ NAAQS (µg/m ³)	Averaging Time	² Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	³ Daily Limit (tons/day)
⁴ PM ₁₀ (same)	150.0	24-hour	62.60	00	20.0	N/A

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

²Modeled impact at maximum capacity with controls for PORT-0641. This does not include any other plants located at this site.

³Indirect limit based on compliance with NAAQS.

⁴Solitary operation or operation with other plants that are owned by Fred Weber, Inc.

The plant's five diesel engines were modeled using the SCREEN3 screen modeling software. The concentrations from the SCREEN3 data was used to calculate the PM₁₀ ambient impact at the site. The stack characteristic entered into the modeled are listed in Table 3.

Table 3: SCREEN3 Input Parameters

Equipment Description	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
Two (2) C-15 Caterpillar (540 HP)	1.524	0.2042	50.085	782.15	Rural
Three (3) C-13 Caterpillar (440 HP)	1.524	0.2042	40.117	782.15	Rural

EMISSIONS CALCULATIONS

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

Emissions from the 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 greater than 1.5% weight and the equipment is controlled by water spray devices.

Emissions from the diesel engines/generators were calculated using emission factors from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines," October 1996 and the Environmental Protection Agency (EPA) Tier 3 Nonroad Diesel Engine Emission Standards. PORT-0641 will be using a Tier 3 rated diesel engines to power their plant. All the criteria pollutants emissions except for Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) were calculated using AP-42. The NO_x and CO emissions were calculated using the EPA Tier 3 Emission Standards.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency is applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of PM₁₀. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Program's generic nomographs and the EPA modeling software SCREEN3. The maximum concentration of PM₁₀ that occurred at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS). The distance from the plant to the nearest site boundary/residence is 1650 feet. When the plant operates continuously, the modeled concentration of PM₁₀ showed compliance with the NAAQS.

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

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Fred Weber, Inc. - Fast Pack Plant 1 shall demonstrate compliance with the NAAQS.

- When plants that are owned by Fred Weber, Inc. are located at the site, Fred Weber, Inc. must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS.
- Fred Weber, Inc. is not permitted to operate concurrently with any plants owned by other companies.

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 PM₁₀ are above de minimis levels.

APPLICABLE REQUIREMENTS

Fred Weber, Inc. - Fast Pack Plant 1 shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- Operating Permit is not 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
- *Control of Odors in Ambient Air*, 10 CSR 10-5.160

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.

Gerad Fox
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 24, 2009, received July 27, 2009, designating Fred Weber, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Site Survey, dated August 14, 2009.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the portable plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date and volume of water application or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request

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

Ms. Genevieve Bodnar
Environmental Manager
Fred Weber, Inc. - Fast Pack Plant 1
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: New Source Review Permit - Project Number: 2009-07-055

Dear Ms. Bodnar:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:gfl

Enclosures

c: St. Louis Regional Office
PAMS File: 2009-07-055

Permit Number: