west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • Fax: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

# GENERAL PERMIT REGISTRATION APPLICATION
# ENGINEERING EVALUATION / FACT SHEET

## BACKGROUND INFORMATION

| | |
|---|---|
| Application No.: | G40-C081 |
| Plant ID No.: | 039-00673 |
| Applicant: | Pritchard Mining Company, Inc. |
| Facility Name: | Tyler Morgan Mine |
| Location: | Standard, Kanawha County, WV |
| SIC Code: | 1422 (Crushed and Broken Limestone Mining and Quarrying) |
| Application Type: | Construction |
| Received Date: | August 26, 2016 |
| Engineer Assigned: | Thornton E. Martin Jr. |
| Fee Amount: | $500 (August 31, 2016), $1,000 (October 26, 2016) |
| Date Received: | August 31, 2016 ($500) |
| Complete Date: | October 27, 2016 |
| Applicant's Ad Date: | September 12, 2016 |
| Newspaper: | *Charleston Gazette Mail* |
| UTM's: | Easting: 464.37150 km Northing: 4217.47760 km Zone: 17 |
| Description: | The Applicant proposes to construct and operate a portable jaw crusher, refurbished with a Lippman jaw crusher. The portable crusher will utilize ancillary equipment (screen and stacking belts). |

## DESCRIPTION OF PROCESS

Pritchard Mining Company, Inc. proposes to relocate a portable rock crusher with screen from a former location on surface mine permit near 4-mile branch of Lens Creek, near Hernshaw, West Virginia to an active surface mine permit operated by Tyler Morgan LLC near Fourmile Fork of Paint Creek, near Standard, West Virginia. Pritchard acquired rights to use the area via contract with Tyler Morgan. In relocating this facility (R13-2239A, 039-00470), Pritchard proposes to exchange the Jeffery crusher with a Lippman jaw crusher, serial no. 551003. The material handling components of this portable rock crushing facility will remain as in the Hernshaw site.

This facility includes delivery of native rock, predominantly durable grey sandstone to a stockpile near the crusher. The receiving hopper will be fed by front-end loader. Use of the screen will allow the company to prepare rock sized for various construction projects, which will be discharged to small stockpiles by short conveyors. The primary material will be 4" x 6" product, with a short conveyor discharging a 3" diameter

rock and another for reject material. Material discharged from the facility will be dropped to ground level and temporarily stored in small stockpiles until it is loaded into dump truck for transport away from the yard. Rock products generated will be used for access road construction, ditch linings, ditch and pond outlet protection and other construction activities.

The equipment will be located on re-graded fill material, isolated from nearby communities by distance and terrain. Particulate matter, fugitive dust from handling the sandstone, will be controlled by periodic wetting by the water truck, which is maintained on site for dust suppression on the mine roads.

An individual diesel combustion engine will power the jaw crusher and screen. The portable system will utilize a Caterpillar C-15, Serial No. BEM06017, Tier II Certified, (ENG-S1) to power their screen. ENG-S1 has a Manufacture Date of 09-23-2005.

The portable plant shall be constructed and operated in accordance with the following equipment and control device information taken from permit applications G40-C081:

| Equip-ment ID No. | AMR[1] | Year | Description | Maximum Capacity | | Control Equip-ment[2] |
|---|---|---|---|---|---|---|
| | | | | TPH | TPY | |
| **Portable Crusher and Screen Circuit** | | | | | | |
| OS-1 | A | 2016 | 70,000 Ton Open Stockpile - large diameter rock | ---- | 50,000 | N |
| CR-1 | A | 2016 | Lippmann Jaw Crusher - receives material from feed bin, crushes, then transfers to screen | 32 | 50,000 | FE |
| S-1 | M | 2014 | Finlay Triple Deck Screen - receives material from crusher CR-1 then distributes based on size of material to belt conveyor BC-2, belt conveyor BC-3 or belt conveyor BC-4 | 32 | 50,000 | PE |
| BC-2 | M | 2014 | Belt Conveyor - transfers 4" X 6" product from screen to stockpile OS-2 | 9.6 | 15,000 | N |
| OS-2 | M | 2014 | 10' Drop Height Open Stockpile - 4" X 6" product | ---- | 15,000 | N |
| BC-3 | M | 2014 | Belt Conveyor - transfers 3" product from screen to stockpile OS-3 | 16 | 25,000 | N |
| OS-3 | M | 2014 | 18' Drop Height Open Stockpile - 3" product | ---- | 25,000 | N |
| BC-4 | M | 2014 | Belt Conveyor - transfers sand/fines product from screen to stockpile OS-4 | 6.4 | 10,000 | N |
| OS-4 | M | 2014 | 10' Drop Height Open Stockpile - rejects product | ---- | 10,000 | N |

[1] A - Addition, M - Modification, R - Removal (Existing unmodified equipment to be included in the permit is labeled with an M.)
[2] FE - Full Enclosure; PE - Partial Enclosure; N - None

## ADDITIONAL EMISSION SOURCE

This permit application (G40-C081) includes authorization for the operation of one (1) power generator for the crusher, screen and conveyors. The Applicant proposes to utilize a Caterpillar C-15, Serial No. BEM06017, Tier II Certified, (ENG) to power their crusher, screen and conveyors. ENG has a Manufacture Date of 09-23-2005, utilizing compression ignition and No. 2 Diesel as fuel.

| Source ID No. | Description | Engine | | | | | | | Control Equipment |
|---|---|---|---|---|---|---|---|---|---|
| | | Manufacturer | Model | Mfg. Date | HP Rating | Fuel | Tier | EPA Engine Family | |
| **Portable Rock Crusher** | | | | | | | | | |
| ENG | Pump Drive / Elect. Source | Caterpillar | C-15 | 2005 | 525 | Diesel | Tier II | CPXL146ESK | N/A |

## SITE INSPECTIONS

Roy F. Teel of the DAQ's Compliance and Enforcement Section performed a full, on-site, targeted inspection on June 22, 2016. The facility was given a Status Code 10 - Out of Compliance. A Notice of

Violation was issued on July 21, 2016 and a response to the NOV received on August 04, 2016. The writer deemed that a site inspection was not necessary at this time due to the type and scope of the construction proposed.

Directions from Charleston: 4.7 miles South of the junction of CR 83 and WV 61, turn right at the community of Standard, WV onto CR 83/4 and go 1.24 miles to the mine haulroad; follow main haulroad up to central location on reclaimed backfill area, approximately 1.25 miles.

## ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Sources of emissions at eligible nonmetallic mineral processing plants include crushers, screens, transfer points (loading, unloading, etc.), open storage piles, bins, haulroads, reciprocating internal combustion engine power units and tanks. Emission calculations for operations, transfer points, crushing and screening, storage piles, and paved and unpaved haulroads are based on AP-42 Fifth Edition, "Compilation of Air Pollution Emission Factors". The estimated emission calculations were performed by the applicant's consultant and were checked for accuracy and completeness by the writer.

The proposed construction will result in an estimated potential to discharge controlled emissions (not including fugitive or engine emissions) of 12.36 pounds per hour and 9.64 TPY of PM (particulate matter), all of which is assumed to be $PM_{10}$ (particulate matter less than 10 microns in diameter).

The proposed operation of this equipment will result in the following estimated potential to discharge controlled emissions:

| ***Emissions Summary*** - *Pritchard Mining Company, Inc.* ***G40-C081*** | **Controlled PM Emissions** | | **Controlled $PM_{10}$ Emissions** | |
|---|---|---|---|---|
| | lb/hr | TPY | lb/hr | TPY |
| **Fugitive Emissions** | | | | |
| Stockpile Emissions | 0.001 | 0.0009 | 0.001 | 0.0009 |
| Unpaved Haulroad Emissions | 0.107 | 0.084 | 0.107 | 0.084 |
| Paved Haulroad Emissions | 0.00 | 0.00 | 0.00 | 0.00 |
| **Fugitive Emissions Total** | *0.119* | *0.093* | *0.119* | *0.093* |
| **Point Source Emissions** | | | | |
| Equipment Emissions | 0.12 | 0.0936 | 0.12 | 0.0936 |
| Transfer Point Emissions | 12.24 | 9.548 | 12.24 | 9.548 |
| **Point Source Emissions Total** | *12.36* | *9.642* | *12.36* | *9.642* |
| | | | | |
| **FACILITY EMISSIONS TOTAL** | **12.48** | **9.73** | **12.48** | **9.73** |

Calculations are based on 50,000 tons per year and 1,560 hours of operation.

Maximum uncontrolled emissions from Pritchard Mining Company, Inc.'s diesel fired generator is summarized below and not included in the Emissions Summary above:

| Criteria Pollutants | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (ton/year) |
|---|---|---|
| $NO_X$ | 4.75 | 4.04 |
| CO | 2.77 | 2.36 |
| HC | 0.79 | 0.67 |
| PM | 0.15 | 0.13 |

## REGULATORY APPLICABILITY

The construction of the portable aggregate processing facility is subject to the following state and federal rules:

*45CSR7* *To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C081 are in operation.

According to Table 45-7B, for a type 'a' source with a maximum process weight rate of 64,000 lb/hour, the maximum allowable emission rate is 31 lb/hour of particulate matter. The maximum emission rate is 12.36 lb/hour of particulate matter according to estimated emissions in fact sheet G40-C081.

*45CSR13* *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed construction of the portable aggregate processing plant is subject to the requirements of 45CSR13. The construction results in a potential to discharge of greater than 6 lb/hr and 10 TPY of a regulated air pollutant and therefore requires a permit to construct. The applicant submitted an application fee of $1500 and published a Class I legal advertisement in the *Charleston Gazette Mail* on September 12, 2016.

*45CSR16* *Standards of Performance for New Stationary Sources*
*40 CFR 60* *Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants*

The proposed change remains subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 25 tons of rock per hour. The proposed construction will include three (3) open stockpiles, one (1) screen, one (1) crusher and three (3) belt conveyors, which are defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C081 are in operation.

*45CSR30* *Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, the aggregate processing plant will continue to be a non-major source which is subject to NSPS Subpart OOO. The facilities potential to emit will be 9.64 TPY of a regulated air pollutant ($PM_{10}$), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will continue to be subject to 45CSR30 and classified as a Title V deferred non-major source.

*40CFR63* *Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Pritchard Mining Company, Inc. is subject to 40CFR63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because ENG is considered a new area source of HAPs since it will be installed on or after June 12, 2006, however, the only requirements that apply are those required under 45CFR60 Subpart IIII.

The proposed construction of Pritchard Mining Company, Inc.'s portable aggregate processing facility is not subject to the following state and federal rules:

*45CSR14* *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

In accordance with 45CSR14 Major Source Determination, the proposed additions and aggregate processing facilities are not listed in Table 1. The facilities will have a combined potential to emit 9.64 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

*45CFR60* *Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Pritchard Mining Company, Inc. is not subject to this subpart because the engine was manufactured prior to April 1, 2006 and there is no modification or reconstruction of the engine after July 11, 2005. The engine emissions for ENG are EPA Tier II Certified.

## TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants being emitted from this facility are primarily PM (particulate matter) and $PM_{10}$ (particulate matter less than 10 microns in diameter).

## AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and proposed location of this facility. This facility will be located in Kanawha County, WV, which is currently classified as non-attainment for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). Under 40CFR Part 51, Appendix S, the definition of a major source of $PM_{2.5}$ is, including fugitive emissions, a PTE at or above 100 TPY. The proposed Standard

facility has a PTE, including fugitives, of 9.73 TPY of $PM_{10}$. Since $PM_{2.5}$ is a subset of $PM_{10}$, the Standard facility is not defined as a major source under Appendix S.

## MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily records and monthly records of the amount of coal processed. Also, the applicant shall maintain certified maintenance records. Such records shall be retained on site by the permittee for at least five (5) years and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

## RECOMMENDATION TO DIRECTOR

The information contained in this permit application indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a permit to Pritchard Mining Company, Inc. for the operation of a portable limestone processing unit at the Standard location is hereby recommended.

Thornton E. Martin Jr.
Permit Engineer

October 27, 2016
Date