



SOUTHEAST REGIONAL OFFICE

March 20, 2018

Mr. Curt Mitchell  
Facility Director  
Richard E. Pierson Materials Corporation  
P.O. Box 714  
Bridgeport, NJ 08014

Re: Richard E. Pierson Materials Corporation –  
East Rockhill Quarry  
Operating Permit No. GP3-09-0157  
**APS ID No. 962526, AUTH ID No. 1218891**  
East Rockhill Township  
Bucks County

Dear Mr. Mitchell:

The Department of Environmental Protection (DEP) has received and reviewed your application for use of the General Plan Approval and General Operating Permit for the modification of sources at a portable nonmetallic mineral processing plant. You are authorized to modify the portable nonmetallic mineral processing plant according to the BAQ-GPA/GP-3. The portable nonmetallic mineral processing plant must be operated as specified in your application and in compliance with all conditions contained in the General Plan Approval and General Operating Permit, a copy of which is enclosed. Please be advised that coverage under any General Permit (GP) does not relieve the permittee of the obligation to obtain all other required DEP permits or approvals before the initiation of construction under any GP.

This authorization is valid for five years and may be renewed by submitting a renewal application before this authorization expires.

Please carefully review the BAQ-GPA/GP3-09-0157 to ensure that all applicable terms and conditions will be met.

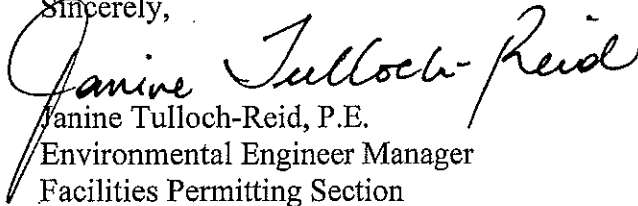
Mr. Curt Mitchell

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March 20, 2018

If you have any questions regarding this matter, please call Mr. Warren L. Colston at the phone number located in the footer below.

Sincerely,

A handwritten signature in cursive script that reads "Janine Tulloch-Reid". The signature is written in black ink and is positioned above the typed name and title.

Janine Tulloch-Reid, P.E.  
Environmental Engineer Manager  
Facilities Permitting Section  
Air Quality

Enclosure

cc: Mr. Colston, Permit Reviewer  
Mr. Mountain – AIR District Supervisor  
PADEP, Harrisburg, Division of Permits  
File No. GP3-09-0157  
Re 30 (TDB18) 079-1

**Commonwealth of Pennsylvania**  
**Department of Environmental Protection**  
**Southeast Regional Office**  
March 5, 2018

Subject: General Plan Approval and General Operating Permit  
Richard E. Pierson Materials Corporation  
East Rockhill Township, Bucks County  
GP3-09-0157  
APS #962526, AUTH #1218991

To: James D. Rebarchak *A 3/13/18*  
Air Quality Program Manager  
Southeast Regional Office

From: Warren L. Colston *(WLC)*  
Engineering Specialist  
Facilities Permitting Section  
Air Quality

Through: Janine Tulloch-Reid, P.E. *(JTR) 3/13/2018*  
Environmental Engineer Manager  
Facilities Permitting Section  
Air Quality

Through: James A. Beach *JAB 3/13/2018*  
Environmental Engineer Manager  
New Source Review  
Air Quality

I. Introduction

On February 20, 2018, Richard E. Pierson Materials Corporation submitted an application for a Bureau of Air Quality General Plan Approval/General Operating Permit (“BAQ-GPA/GP”) for the installation and operation of a new portable nonmetallic mineral processing plant with associated equipment (e.g., crushers, screens and conveyors) at the East Rockhill Quarry located at 2205 North Rockhill Road, in Sellersville, Bucks County.

The quarry is an existing facility permitted under GP3-09-0153, but the company submitted the new application after determining that a different crusher and screener was needed to produce aggregate to specifications.

The previously permitted sources at the quarry include a 550-ton per hour (*tph*) Sandvik UJ440i “Jaw” crusher that is powered by a Volvo D-13 generator with a diesel fuel-fired, 422-horsepower (*hp*) engine, a 300-tph Sandvik QS331 secondary “Cone” crusher that is powered by a Caterpillar

C-9 generator with a diesel fuel-fired, 350-hp engine and a QE441 scalper screen that is by a Caterpillar C-4.4 generator with a diesel fuel-fired, 129-hp engine.

II. Source Description

The company submit a new GP-3 application to replace the existing Sandvik QH311 crusher and Sandvik Q459 screen at the East Rockhill Quarry with a new closed-circuit crusher/screener to produce aggregate to specifications. The new closed-circuit crusher/screener is manufactured by the Mellott Company, model no. MC300HPCC and has a maximum capacity of 300 tph. Power to the new closed-circuit crusher/screener is supplied by a generator with a Caterpillar C-27 diesel fuel-fired engine. The company simultaneously submitted a new GP9 application for the new diesel fuel-fired internal combustion engine. Table 1 lists the existing and new equipment/sources associated with the portable nonmetallic mineral processing plant at the East Rockhill Quarry.

Table 1. Richard E. Pierson Materials Corp. – East Rockhill Quarry Portable Nonmetallic Mineral Processing Plant

Unit Type	Manufacturer	Model No.	Maximum Feed Capacity (tph)	No. of Conveyors	Date of Installation
Jaw Crusher	Sandvik	UJ440i	550	1	12/2017
<b>Closed-Circuit Crusher</b>	<b>Mellott</b>	<b>MC300HPCC</b>	<b>300</b>		
Secondary Cone	Sandvik	QS331	300	2	12/2017
Scalper	Sandvik	QE441	550	3	122017
<b>Closed-Circuit Screener</b>	<b>Mellott</b>	<b>MC300HPCC</b>	<b>300</b>	2	
Stand-Alone Conveyors	various	100 (each)	100 (each)	6	

The company plans to install six (6) stand-alone conveyors at the quarry in the future. All will have small diesel engines with a horsepower rating less than 90 hp.

III. Emissions Analysis

The potential pre-control and post-control emissions of total particulate matter (PM) for crushing, screening and conveyer transfer from the portable nonmetallic mineral processing plant are calculated from the following equation, using the rated capacity of the specific equipment, the emission factors obtained from AP-42, Vol. 1, 5<sup>th</sup> ed., Table 11.19.2-2 (Emission Factors for Crushed Stone Processing Operations (lb/ton)) and the projected hours of operation for the quarry (e.g., 1,849 hr/yr).

➤  $PM\ PTE\ (tpy) = \text{Emission factors (lb/ton)} * \text{Potential Capacity (ton/hr)}$   
 $\quad * \text{Operating hours (hr/yr)} * 1.0\ \text{ton}/2,000\ \text{lb}$

Table 2 contains the potential pre-control PM emission estimates from crushing, screening and conveyer transfer activities from the portable nonmetallic mineral processing plant at the East Rockhill Quarry.

Table 2: Potential Pre-Control PM Emission from the East Rockhill Quarry

Equipment	Emission Factor (lb/ton)	Rated Capacity (tph)	Operating Hours (hr/yr)	PM PTE (tpy)
UJ440i Jaw Crusher	0.0054	550	1849	2.746
One (1) Conveyer	0.003	550	1849	1.525
<b>MC300HPCC Crusher</b>	<b>0.0054</b>	<b>300</b>	<b>1849</b>	<b>1.498</b>
QS331 Secondary Crusher	0.0054	300	1849	1.498
Two (2) Conveyors	0.003	200	1849	1.110
QE441 Scalper	0.025	550	1849	12.712
Three (3) Conveyors	0.003	180	1849	1.498
<b>MC300HPCC Screen</b>	<b>0.025</b>	<b>300</b>	<b>1849</b>	<b>6.934</b>
Two (2) Conveyors	0.003	150 (each)	1849	0.832
Stand-Alone Conveyors (6)	0.003	100 (each)	1849	1.664
<b>Total</b>				<b>32.017</b>

Table 3 contains the potential <sup>post</sup>pre-control PM emission estimates from crushing, screening and conveyer transfer activities from the portable nonmetallic mineral processing plant at the East Rockhill Quarry.

Table 3: Potential Post-Control PM Emission from the East Rockhill Quarry

Equipment	Emission Factor (lb/ton)	Rated Capacity (tph)	Operating Hours (hr/yr)	PM PTE (tpy)
UJ440i Jaw Crusher	0.0012	550	1849	0.610
One (1) Conveyer	0.00014	550	1849	0.071
<b>MC300HPCC Crusher</b>	<b>0.0012</b>	<b>300</b>	<b>1849</b>	<b>0.333</b>
QS331 Secondary Crusher	0.0012	300	1849	0.333
Two (2) Conveyors	0.00014	200	1849	0.052
QE441 Scalper	0.0022	550	1849	1.120
Three (3) Conveyors	0.00014	180	1849	0.070
<b>MC300HPCC Screen</b>	<b>0.0022</b>	<b>300</b>	<b>1849</b>	<b>0.610</b>
Two (2) Conveyors	0.00014	150 (each)	1849	0.039
Stand-Alone Conveyors (6)	0.00014	100 (each)	1849	0.078
<b>Total</b>				<b>3.316</b>

The calculations for the potential annual pre-control and post-control PM emissions are shown in the Appendix.

#### IV. Regulatory Analysis

Pursuant 25 Pa. Code § 127.622(a) and (b), Richard E. Pierson Materials Corp. must comply with the conditions contained within the GP-3 General Plan Approval and/or General Operating Permit for Portable Nonmetallic Mineral Processing Plants.

A fee of \$1,000.00 was paid to the Pennsylvania Department of Environmental Protection by Richard E. Pierson Materials Corp. on February 20, 2018, as required by Condition 10b of the GPA/GP-3.

#### V. Program Coordination

Coordination with other DEP Program was not required for this review.

#### VI. Recommendation

I recommend issuance of the General Plan Approval/General Operating Permit No. GP3-09-0157 to the Richard E. Pierson Materials Corp. for the installation and operation of the new MC300HPCC closed-circuit crusher/screener for the existing portable nonmetallic mineral processing plant at the East Rockhill Quarry located at 2205 North Rockhill Road in Sellersville, PA, Bucks County. GP3-09-0157 will supersede GP-09-0153.

### APPENDIX

The potential pre-control PM emissions from the various sources at the East Rockhill Quarry are calculated using the following equation:

$$\text{PM PTE (tpy)} = \text{Emission factors (lb/ton)} * \text{Potential Capacity (ton/hr)} \\ * \text{Operating hours (hr/yr)} * 1.0 \text{ ton/2,000 lb}$$

1. UJ440i Jaw Crusher =  $0.0054 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 2.746 \text{ tpy}$
2. Jaw Conveyor =  $0.003 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 01.525 \text{ tpy}$
3. **MC300HPCC Crusher =  $0.0054 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 1.498 \text{ tpy}$**
4. QS331 Secondary Crusher =  $0.0054 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 1.498 \text{ tpy}$
5. QS331 Crusher Conveyors (2) =  $2 * 0.003 \text{ lb/ton} * 200 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 1.110 \text{ tpy}$
6. QE441 Scalper =  $0.025 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 12.712 \text{ tpy}$
7. QE441 Scalper Conveyors (3) =  $3 * 0.003 \text{ lb/ton} * 180 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 1.498 \text{ tpy}$
8. **MC300HPCC Screen =  $0.025 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 6.934 \text{ tpy}$**
9. Conveyors (2) =  $2 * 0.003 \text{ lb/ton} * 150 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 0.832 \text{ tpy}$
10. Stand-Alone Conveyors (6) =  $6 * 0.003 \text{ lb/ton} * 100 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 1.664 \text{ tpy}$

Similarly, the potential post-control PM emissions from the various sources at the East Rockhill Quarry are calculated as follows:

$$\text{PM PTE (tpy)} = \text{Emission factors (lb/ton)} * \text{Potential Capacity (ton/hr)} \\ * \text{Operating hours (hr/yr)} * 1.0 \text{ ton/2,000 lb}$$

1. UJ440i Jaw Crusher =  $0.0012 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 0.610 \text{ tpy}$
2. Jaw Conveyor =  $0.00014 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb} = 0.071 \text{ tpy}$
3. **MC300HPCC Crusher =  $0.0012 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton/2,000 lb}$**

$$= \mathbf{0.333 \text{ tpy}}$$

4. QS331 Secondary Crusher =  $0.0012 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton}/2,000 \text{ lb}$   
= 0.333 tpy

5. QS331 Crusher Conveyors (2) =  $2 * 0.00014 \text{ lb/ton} * 200 \text{ ton/hr} * 1,849 \text{ hr/yr}$   
 $* 1.0 \text{ ton}/2,000 \text{ lb} = 0.052 \text{ tpy}$

6. QE441 Scalper =  $0.0022 \text{ lb/ton} * 550 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton}/2,000 \text{ lb} = 1.120 \text{ tpy}$

7. QE441 Scalper Conveyors (3) =  $3 * 0.00014 \text{ lb/ton} * 180 \text{ ton/hr} * 1,849 \text{ hr/yr}$   
 $* 1.0 \text{ ton}/2,000 \text{ lb} = 0.070 \text{ tpy}$

8. **MC300HPCC Screen =  $0.0022 \text{ lb/ton} * 300 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton}/2,000 \text{ lb}$**   
**= 0.610 tpy**

9. Conveyors (2) =  $2 * 0.00014 \text{ lb/ton} * 150 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton}/2,000 \text{ lb} = 0.039 \text{ tpy}$

10. Stand-Alone Conveyors (6) =  $6 * 0.00014 \text{ lb/ton} * 100 \text{ ton/hr} * 1,849 \text{ hr/yr} * 1.0 \text{ ton}/2,000 \text{ lb}$   
= 0.078 tpy



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
FIELD OPERATIONS - BUREAU OF AIR QUALITY

**GENERAL PLAN APPROVAL AND GENERAL OPERATING PERMIT  
(BAQ-GPA/GP-3)**

In accordance with provisions of the Air Pollution Control Act, the act of January 8, 1960, P.L. 2119, as amended, and after due consideration of an application received under Chapter 127 of the Rules and Regulations of the Department of Environmental Protection, the Department hereby issues this permit for the operation of the air contamination source(s) described below:

<b>Permit No.</b>	<u>GP3-09-0157</u>	<b>Source(s)</b>	<u>1-Sandvik UJ440i Jaw Crusher 1-Mellotts MC300HPCC closed-circuit crusher/screener 1-Sandvik QS331Cone Crusher 1-Sandvik Scalper Screen</u>
<b>Owner</b>	<u>Richard E. Pierson Materials Corporation</u>	<b>Air</b>	<u></u>
<b>Address</b>	<u>PO Box 714</u>	<b>Cleaning</b>	<u></u>
	<u>Bridgeport, NJ 08014</u>	<b>Device</b>	<u></u>
<b>Attention</b>	<u>Curt Mitchell</u>	<b>Location</b>	<u>East Rockhill Quarry</u>
	<u>Facility Director</u>		<u>2055 N. Rockhill Road</u>
			<u>Sellersville (E. Rockhill Twp.), Bucks County</u>

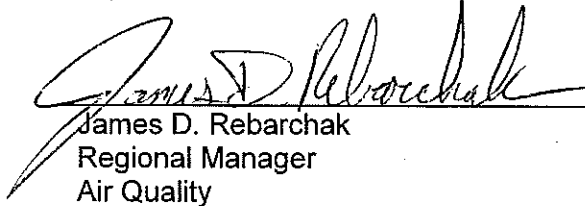
This general Plan Approval and general permit is subject to the attached conditions for Portable Nonmetallic Mineral Processing Plants (BAQ-GPA/GP-3):

This General Permit supersedes GP3-09-0153

**(SEE CONDITIONS ATTACHED)**

Failure to comply with the conditions placed on this permit is a violation of Section 127.444. Violation of this or any other provision of Article III of the Rules and Regulations of the Department of Environmental Protection will result in suspension or revocation of this permit and/or prosecution under Section 9 of the Air Pollution Control Act.

Issued March 14<sup>th</sup>, 2018

  
James D. Rebarchak  
Regional Manager  
Air Quality

Expires March 14<sup>th</sup>, 2023

cc: Central Office  
Administration  
SERO  
Re 30