MODIFICATION APPLICATION TO GENERAL PERMIT REGISTRATION G40-C003F MILLVILLE QUARRY

Prepared for:

Bardon, Inc.
6401 Golden Triangle Drive, Suite 400
Greenbelt, Maryland 20770

Prepared by:

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Project No. 0101-17-0157

July 2017

POTESTA

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Attachments not required for this application: H, M, N, and Other.

SECTION I

APPLICATION FOR GENERAL PERMIT REGISTRATION

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • www.dep.wv.gov/daq

APPLICATION FOR GENERAL PERMIT REGISTRATION

CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE
A STATIONARY SOURCE OF AIR POLLUTANTS

□ CONSTRUCTION ■ MODIFICATION □ RELOCATION □ CLASS I ADMINISTRATIVE UPDATE □ CLASS II ADMINISTRATIVE UPDATE

CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:

- ☐ **G10-D** – Coal Preparation and Handling
- ☐ **G20-B** – Hot Mix Asphalt
- ☐ **G33-A** – Spark Ignition Internal Combustion Engines
- ■ **G40-C** – Nonmetallic Minerals Processing
- ☐ **G50-B** – Concrete Batch
- ☐ **G60-C** - Class II Emergency Generator
- ☐ **G65-C** – Class I Emergency Generator

SECTION I. GENERAL INFORMATION

1. Name of applicant (as registered with the WV Secretary of State's Office):
Bardon, Inc.

2. Federal Employer ID No. **(FEIN):**
54-1544548

3. Applicant's mailing address:
Bardon, Inc.
6401 Golden Triangle Drive, Suite 400
Greenbelt, MD 20770

4. Applicant's physical address:
57 Blair Road
Harpers Ferry, WV 25425

5. If applicant is a subsidiary corporation, please provide the name of parent corporation: N/A

6. **WV BUSINESS REGISTRATION.** Is the applicant a resident of the State of West Virginia? ■ **YES** ☐ **NO**

➪ IF **YES,** provide a copy of the Certificate of **Incorporation/ Organization / Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A**.

➪ IF **NO,** provide a copy of the **Certificate of Authority / Authority of LLC / Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A**.

SECTION II. FACILITY INFORMATION

7. Type of plant or facility (stationary source) to be constructed, modified, relocated or administratively updated (e.g., coal preparation plant, primary crusher, etc.):
Conveyor replacement at Millville Quarry.

8a. Standard Industrial Classification (SIC) code: 1422

AND

8b. North American Industry System (NAICS) code: 212312

9. DAQ Plant ID No. (for existing facilities only):
037-00015

10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only):
G40-C003F

A: PRIMARY OPERATING SITE INFORMATION

11A. Facility name of primary operating site:	12A. Address of primary operating site:
Millville Quarry	Mailing: See Box 3 Physical:See Box 4

13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ■ **YES** ☐ **NO**

➪ IF **YES**, please explain: Applicant owns site.

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14A. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F**.

From Charles Town, take U.S. 340 heading towards Harpers Ferry and make a right onto Blair Road. Go about 2 miles on winding road; if you get to the railroad tracks, you have gone too far. Turn right into Millville Quarry just before the railroad tracks.

15A. Nearest city or town:	16A. County:	17A. UTM Coordinates:
Millville	Jefferson	Northing (KM): 4,352.354 Easting (KM): 259.027 Zone: 18

18A. Briefly describe the proposed new operation or change (s) to the facility:	19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):
Replacement of conveyors 3600.331-ST01, 3600.331-BC02 and 3600.331-BC03 with new conveyor 3600.331-BC02.	Latitude: 39.287 Longitude: -77.794

B: 1ST ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits)

11B. Name of 1st alternate operating site:	12B. Address of 1st alternate operating site:
Not Applicable	Mailing:_____ Physical:_____

13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ☐ **YES** ☐ **NO**

➪ IF **YES**, please explain: _____

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14B. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F**.

15B. Nearest city or town:	16B. County:	17B. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18B. Briefly describe the proposed new operation or change (s) to the facility:		19B. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

C: 2ND ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits):

11C. Name of 2nd alternate operating site: Not Applicable	12C. Address of 2nd alternate operating site: Mailing:_____ Physical:_____

13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ☐ **YES** ☐ **NO**

➪ IF **YES**, please explain: _____

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14C. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F**.

_____

_____

_____

15C. Nearest city or town:	16C. County:	17C. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18C. Briefly describe the proposed new operation or change (s) to the facility:		19C. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

20. Provide the date of anticipated installation or change: 09/01/2017 ☐ If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: : ____/____/____	21. Date of anticipated Start-up if registration is granted: 10/01/2017

22. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation).

Hours per day 24 Days per week 7 Weeks per year 52 Percentage of operation 100

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

23. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

24. Include a **Table of Contents** as the first page of your application package.

All of the required forms and additional information can be found under the Permitting Section (General Permits) of DAQ's website, or requested by phone.

25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.

- ■ ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- ■ ATTACHMENT B: PROCESS DESCRIPTION
- ■ ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS
- ■ ATTACHMENT D: PROCESS FLOW DIAGRAM
- ■ ATTACHMENT E: PLOT PLAN
- ■ ATTACHMENT F: AREA MAP
- ■ ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM
- ☐ ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS
- ■ ATTACHMENT I: EMISSIONS CALCULATIONS
- ■ ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- ■ ATTACHMENT K: ELECTRONIC SUBMITTAL
- ■ ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- ☐ ATTACHMENT M: SITING CRITERIA WAIVER
- ☐ ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)
- ■ ATTACHMENT O: EMISSIONS SUMMARY SHEETS
- ☐ OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)

Please mail an original and two copies of the complete General Permit Registration Application with the signature(s) to the DAQ Permitting Section, at the address shown on the front page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

■ I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

☐ I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

☐ I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

☐ I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

☐ I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

☐ I certify that I am the Owner and Proprietor

☐ *I hereby certify that* (please print or type) _____

is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Director of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible

Signature _____ July 12, 2017
(please use blue ink) Responsible Official Date

Name & Title Stephen Ward, Vice President
(please print or type)

Signature _____
(please use blue ink) Authorized Representative (if applicable) Date

Applicant's Name Bardon, Inc.

Phone & Fax (301) 982-1400, Ext. 60520 (855) 293-6428
Phone Fax

Email Lisa Hunt, Area Environmental Manager at lisa.hunt@aggregate-us.com

ATTACHMENT A

BUSINESS CERTIFICATE

State of West Virginia

Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

BARDON, INC.

Control Number: 99R50

a corporation formed under the laws of Maryland has filed its "Application for Certificate of Authority" to transact business in West Virginia as required by the provisions of the West Virginia Code. I hereby declare the organization to be registered as a foreign corporation from its effective date of September 23, 2011.

Therefore, I issue this

CERTIFICATE OF AUTHORITY

to the corporation authorizing it to transact business in West Virginia

Given under my hand and the Great Seal of the State of West Virginia on this day of September 23, 2011

Natalie E Tennant

Secretary of State

ATTACHMENT B

PROCESS DESCRIPTION

ATTACHMENT B

PROCESS DESCRIPTION

Introduction to Project

Bardon, Inc. is applying for a revised registration under General Permit G40-C to include replacement of the existing Conveyor Belts 3600.331-ST01, 3600.331-BC02 and 3600.331-BC03 with a new conveyor belt which is identified as M2 (3600.331-BC02). The hourly rate and the yearly rate of the new conveyor belt will be 1,000 tons per hour and 6,000,000 tons per year. Total facility production remains the same with a feed rate of 1,200 tons per hour and 6.0 million tons per year. The stockpile identified as SP4 will be removed since the new conveyor will bypass this stockpile.

Permitting History Since Entering the General Permit Program

Bardon, Inc. was initially registered under the General Permit G40 by G40-003 in December 2000; an amendment to the registration was approved in September 2001 under G40-003A, then an initial flooding registration G40-003B was approved on July 26, 2002. Afterwards, the registration was modified to allow the installation of log washers on February 29, 2003 (G40-003C). G40-003D for facility streamlining was issued on February 22, 2005. G40-C003E for replacement of several pieces of equipment was issued on November 24, 2015. The current existing registration issued as G40-C003F on August 17, 2016 was for replacing a Hazemag Crusher with a Metso Model HP6 Crusher.

Facility and Process Description

The stone production facilities involve the operations of trucking from the quarry pits, stone sizing and crushing, and final product loadout. The facility is comprised of primary crushing and screening, main plant operations for sized aggregate production, and Wash 1 and Wash 2 operations. Final sized products are loaded to truck and rail via endloaders. For the potential to emit, the hourly emissions estimate is based on the entire facility concurrently operating except for the duplicate screens - full hourly rates are only shown through one screen in the screen pair. The yearly emissions are based on the total yearly throughput and worst-case transfers to avoid double counting of throughput. Operating rates are listed in the affected source sheets for the processing and conveying equipment.

Primary Crushing Operation

Quarried rock is loaded in the pits and trucked and dumped into the Dump Box (3600.311-HP01) at a maximum rate of 1,200tph/6,000,000tpy. The Dump Box is followed with a grizzly screen (3600.311-RZ01) which scalps off the large rock and sends it directly to the Jaw Crusher (3600.311-JC01). The crushed rock and the pass-through rock from the grizzly transfer to conveyor P1 (3600.311-BC01) then to P2 (3600.311-BC02) then to screen PS1

(3600.311-VS01). Screen pass through goes to reversing conveyor P3 (3600.311-BC03) then to either P4 (3600.311-BC04) or to P6 (3600.321-BC01). Material from P3 transfers to P4 (3600.311-BC04) to stacker P5 (3600.311-ST01) to stockpile SP1. Oversize from PS1 is diverted to the gabion stockpile SP2 or to the 7 Crusher (3600.321-CZ01. Material from 7 Crusher transfers to P6. From P6, the material can drop to the surge pile SP3 or transfer to P7 (3600.321-BC02) then to SP3 or P8 (3600.321-BC03) then to SP3 or P9 (3600.321-BC04) then to SP3.

Main Plant

Material from SP3 is reclaimed by conveyor M1 (3600.331-BC01) and transferred to the new conveyor belt M2 (3600.331-BC02). Existing M2 (3600.331-ST01), M3 (3600.331-BC02) and M4 (3600.331-BC03) conveyors are being replaced with the new M2 (3600.331-BC02) conveyor. M2 (3600.331-BC02) transfers material to screens MS1 (3600.331-VS01) and MS2 (3600.331-VS02). Oversize from MS1 and MS2 scalps off to M5 (3600.331-BC04) to M6 (3600.331-BC05) to Hopper Feed Bin 5 (3600.331-HP05). Pass through material from MS1 and MS2 transfer to M14 (3600.331-BC09), M7 (3600.331-BC10), and S1 (3600.352-BC03). M14 transfers to screens MS3 (3600.331-VS03) and MS4 (3600.33-VS04). M7 transfers to M8 (3600.331-BC11) to stacker M9 (3600.331-ST02) to stockpile SP7. S1 transfers to S2 (3600.352-BC04) to the Sand Screen (3600.352-VS01). The Sand Screen is proposed to be replaced with like equipment in 2015. Material from Hopper Feed Bin 5 transfers to the Metso Crusher (3600.331-CZ03) to conveyor M10 (3600.331-BC06) to screens MS5 (3600.331-VS05) and MS6 (3600.331-VS06).

MS3 and MS4 send oversize to conveyor M11 (3600.331-BC07) to M13 (3600.331-BC08) to Hopper Feed Bin 9 (3600.331-HP09). Pass-through materials transfer to M22 (3600.331-BC13), M15 (3600.351-BC01), and M19 (3600.351-BC04). M22 sends material to M24 (3600.331-BC15) to stacker M25 (3600.331-ST03) to stockpile SP14. M15 transfers to M16 (3600.351-BC02) to wash screen MS7 (3600.351-VS01). M19 transfers to M20 (3600.351-BC05) to wash screen MS8 (3600.351-VS02). Hopper Feed Bin 9 transfers to crushers HP500 (3600.331-CZ01) and HP300 (3600.331-CZ02). Material from HP500 and HP300 transfers to M14 and back to screens MS3 and MS4.

MS5 and MS6 send oversize to conveyor M12 (3600.331-BC12) to M13 to Hopper Feed Bin 9 to HP500 and HP300 to M14. Pass-through materials go to reversing conveyor M23 (3600.331-BC14), M15 (see above), and M19 (see above). M23 can send material to either M24 (see above) or to M27 (3600.352-BC01) to M28 (3600.352-BC02) to S2 (see above).

Wash 1

Wash screen MS7 sends material to M17 (3600.351-BC03) and the 67s Screw (3600.351-SY01). M17 transfers to stacker M18 (3600.351-ST01) to stockpile SP13. The 67s Screw transfers to M26 (3600.351-BC07) to M24 (see above). Wash screen MS8 transfers to stacker M21 (3600.351-ST02) to stockpile SP9.

Wash 2

The Sand Screen (a wash screen) transfers oversize to S3 (3600.341-BC01) to the Barmac Crusher (3600.341-VI01) to S4 (3600.341-BC02) to S2 and back to the Sand Screen. Screen pass through transfers to S5 (3600.352-BC05), S6 (3600.352-BC06), or the Sand Screw (3600.352-SY01). S5 transfers to stockpile SP5A, S6 to stockpile SP5B, and the Sand Screw to S7 (3600.352-BC07) to SP5.

Product stockpiles are reclaimed by endloader to truck for transport to remote stockpiling (SP6, 8, 10, 11, 12, 15, 16, 17, and 18) or off site, or reclaimed by endloader to railcar.

ATTACHMENT C

DESCRIPTION OF FUGITIVE EMISSIONS

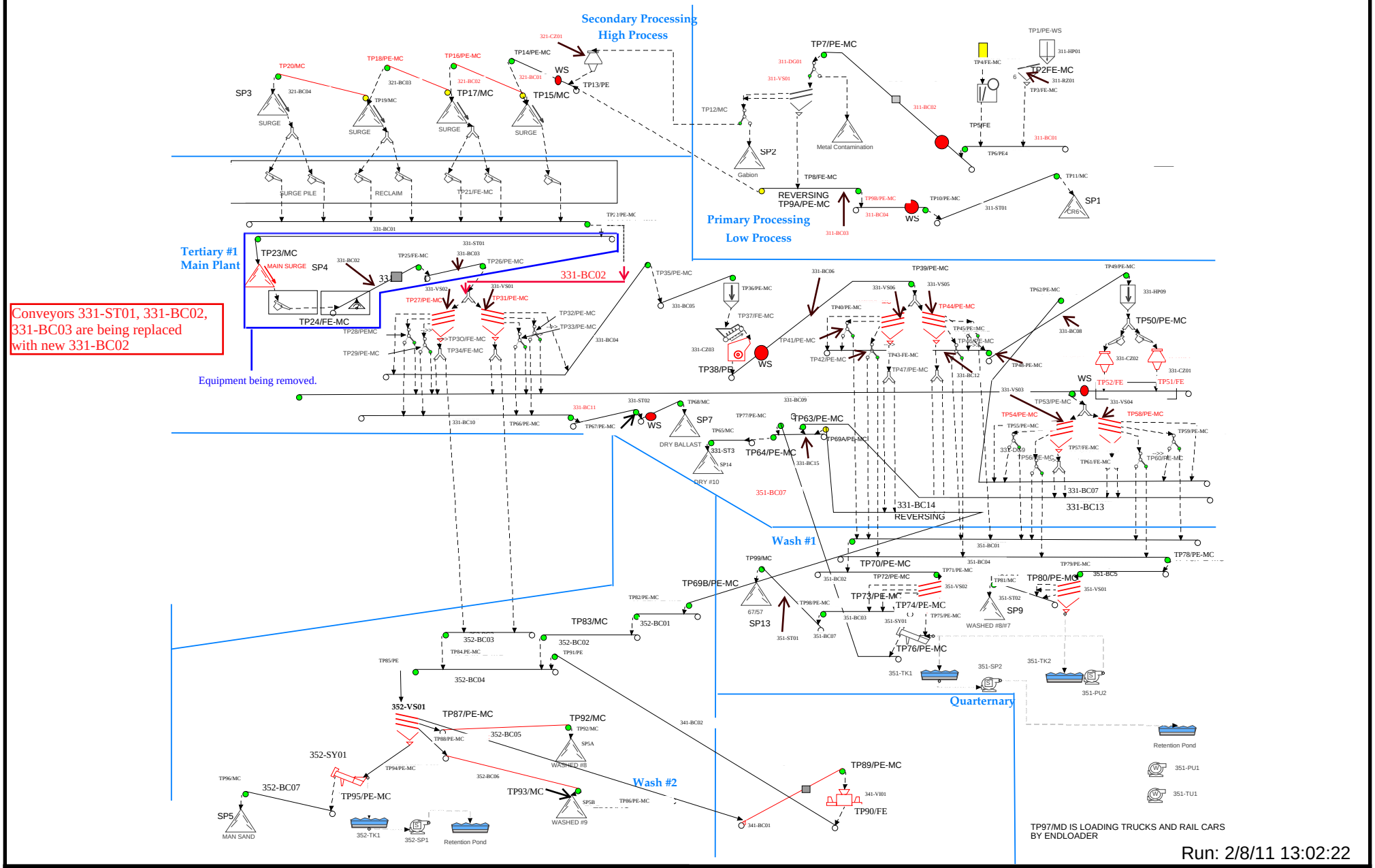
ATTACHMENT C

DESCRIPTION OF FUGITIVE EMISSIONS

Fugitive emissions from the facility include particulate emissions from haulroads, stockpiles, and work areas. Water is applied to the haulroads as needed via a water truck. Water is also applied to the work areas around the stockpiles and plant by the water truck to control particulate emissions.

ATTACHMENT D

PROCESS FLOW DIAGRAM



Calculation results may differ due to variations in operating conditions and application of crushing and screening equipment. This information does not constitute an express or implied warranty, but shows results of calculations based on information provided by customers or equipment manufacturers. Use this information for estimating purposes only.

All calculations performed by AggFlow. http://www.AggFlow.com

AGGREGATE INDUSTRIES, INC.

Millville Quarry SAP

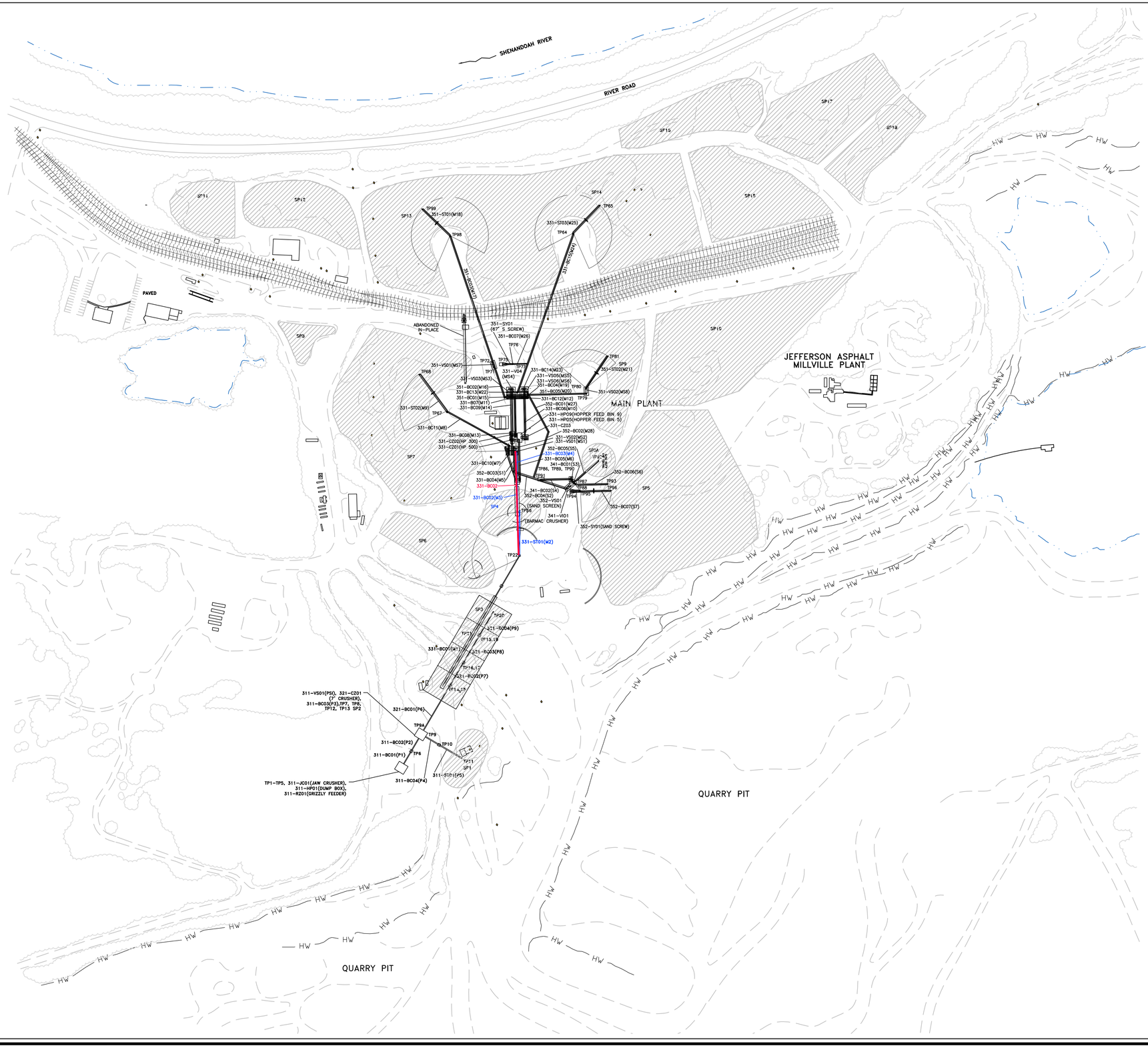
Chad Abramson

Date: June/19/2015

ATTACHMENT E

PLOT PLAN

No.	Date	Revision



APPROXIMATE

NOTES:
1. THE I.D. NUMBERS OF THE EQUIPMENT BEGIN WITH THE PREFIX "3600".
2. STOCKPILES NOT FED DIRECTLY BY CONVEYORS ARE FED BY EITHER LOADER OR TRUCKS. THESE INCLUDE SP8, SP10, SP11, SP12, SP15, SP16, SP17, AND SP18.
3. HAULROADS AND WORK AREAS ARE WATERED BY WATERTRUCK AS NEEDED.

EXISTING EQUIPMENT

REPLACEMENT EQUIPMENT

EQUIPMENT BEING REMOVED/REPLACED

PRELIMINARY

ISSUE DATE 5/15/2016

*-01
CAD File No.
JM
Drawn
ADM
Checked
PEW
Approved
N.T.S.
Scale:
MAY 2017
Date:
16-0231
Project No.

POTESTA & ASSOCIATES, INC.
ENGINEERS AND ENVIRONMENTAL CONSULTANTS
7012 MacCorkle Ave. SE. Charleston, WV 25304
TEL: (304) 342-1400 FAX: (304) 343-9031
E-Mail Address: potesta@potesta.com

POTESTA

Client: MILLVILLE QUARRY, INC.
MILLVILLE, WEST VIRGINIA

Title: MILLVILLE QUARRY

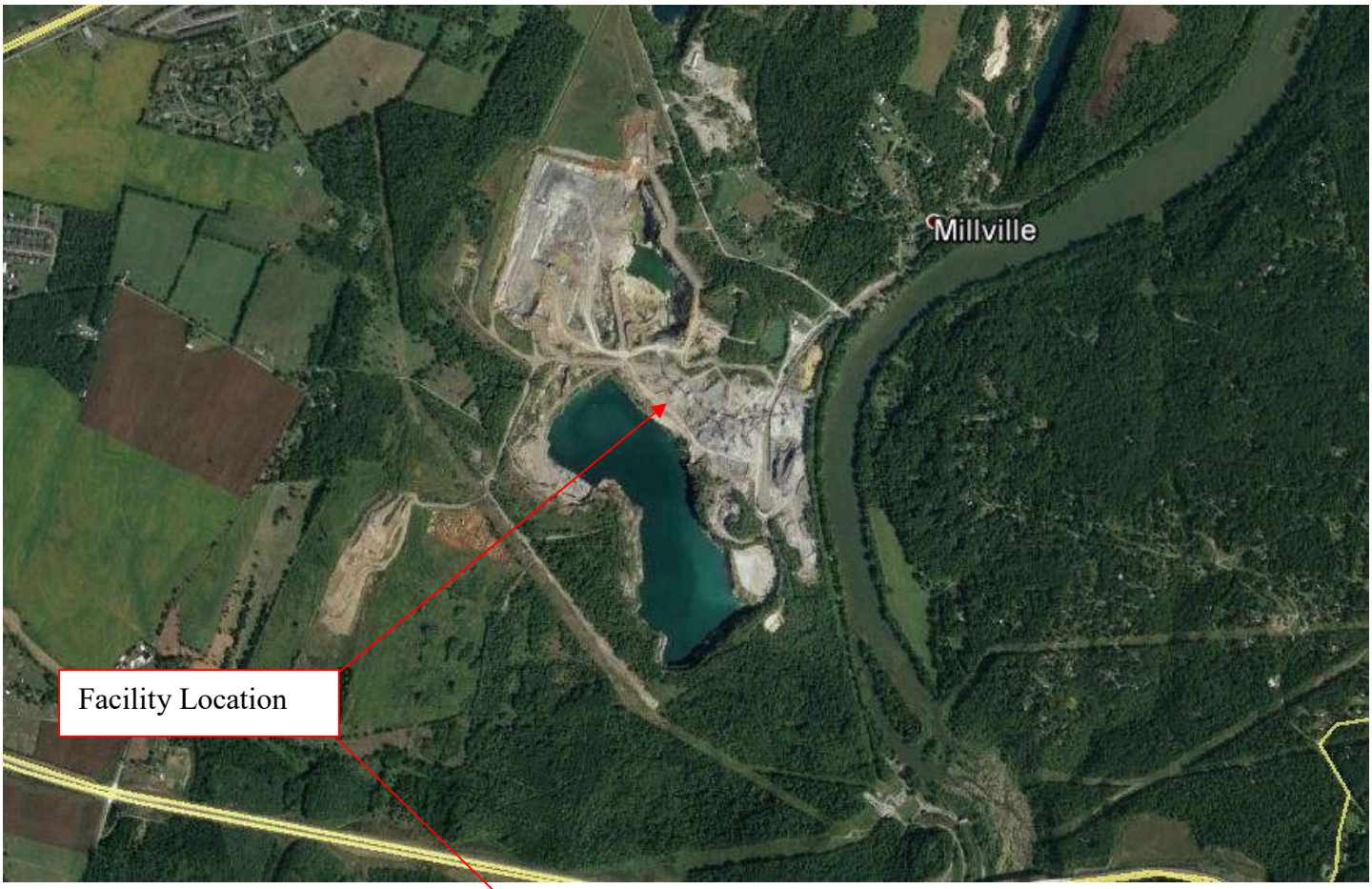
2
Drawing No.

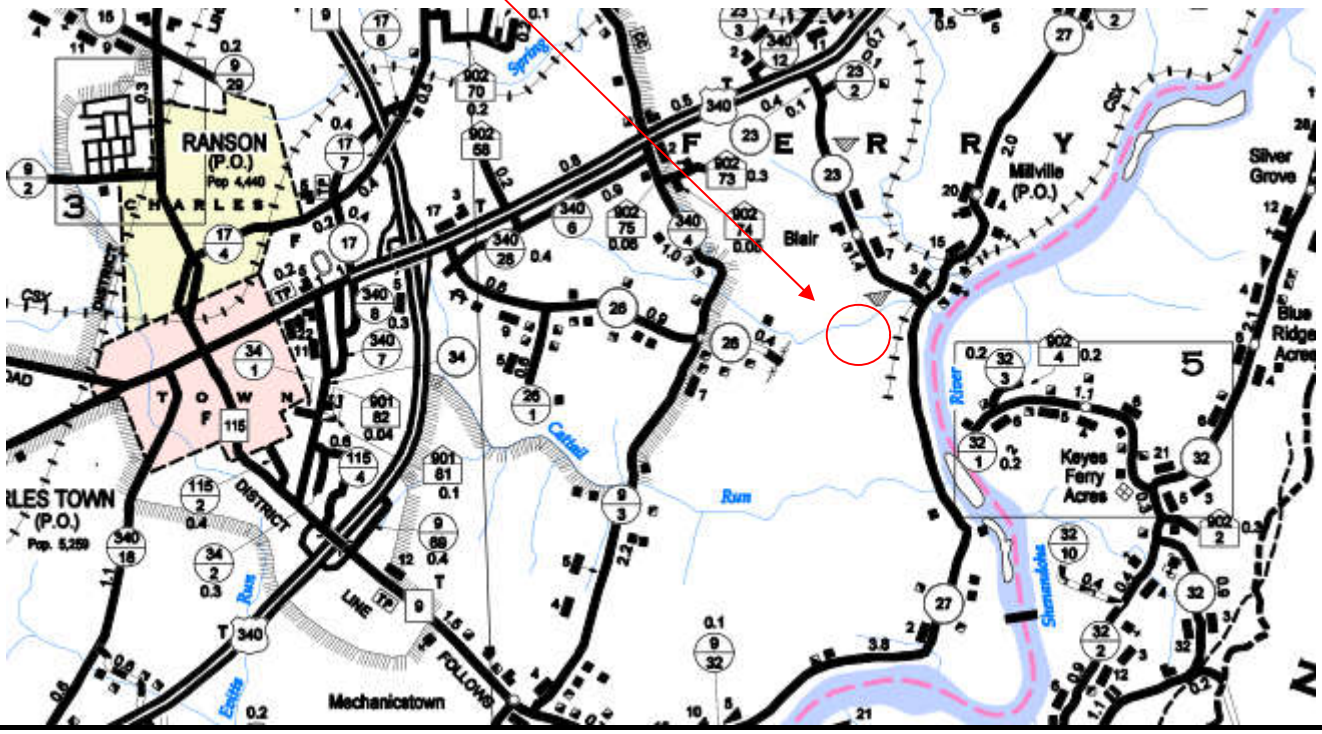
XREF Files:
IMAGE Files:
Last Saved By: jmeadows
Plot Date/Time: May 26, 2017 - 9:13am
Plotted By: bsneely

J:\PROJECTS\2016\16-0231-MILLVILLE QUARRY\16-0231-01.dwg

ATTACHMENT F

AREA MAP





POTESTA
Engineers and Environmental Consultants

7012 MacCorkle Avenue, S.E
Charleston, West Virginia 25304
Phone: (304) 342-1400
Fax: (304) 343-9031

Millville Quarry
Bardon, Inc.
Jefferson County, West Virginia

ATTACHMENT G

EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM

General Permit G40-C Registration
Section Applicability Form

General Permit G40-C allows qualified registrants to seek registration for a variety of sources. These sources include nonmetallic mineral processing plants which include crushers, screens, transfer points (loading, unloading, etc.), open stockpiles, bins, haulroads, reciprocating internal combustion engine driven compressors, emergency standby generators, and tanks. All registered facilities will be subject to Sections 1.0, 1.1, 2.0, 3.0 and 4.0.

General Permit G40-C allows the registrant to choose which sections of the permit that they wish to seek registration under. Therefore, please mark which sections that you are applying for registration under. Please keep in mind, that if this registration is approved, the issued registration will state which sections will apply to your affected facility.

Section 5[1]	Nonmetallic Mineral Processing Operations	☒
Section 6	Standards of Performance for Nonmetallic Mineral Processing Plants that Commenced Construction, Reconstruction or Modification after August 31, 1983 but before April 22, 2008 (40CFR60 Subpart OOO)	☒
Section 7	Standards of Performance for Nonmetallic Mineral Processing Plants that Commenced Construction, Reconstruction or Modification on or after April 22, 2008. (40CFR60 Subpart OOO)	☒
Section 8[2]	Reciprocating Internal Combustion Engines (R.I.C.E.)	☐
Section 9	Tanks	☐
Section 10	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40CFR60 Subpart IIII)	☐
Section 11	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ)	☐

1 Affected facilities that are subject to Section 5 may also be subject to Sections 6 and 7. Therefore, if the applicant is seeking registration under multiple sections, they will need to select all applicable sections.

2 Affected facilities that are subject to Section 8 may also be subject to Sections 10 or 11. Therefore, if the applicant is seeking registration under multiple sections, they will need to select all applicable sections.

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number[1]		3600.311-JC01 (Jaw Crusher)	3600.321-CZ01 (7 Crusher)	331-CZ03 Metso Crusher	3600.331-CZ01 (HP 500)	3600.331-CZ02 (HP 300)	3600.341-VI01 (Barmac Crusher)
Type of Crusher or Screen[2]		JC	CC	CC	CC	CC	IMP
Make, Model No., Serial No.[3]		NA	NA	HP6	NA	NA	NA
Date of Construction, Reconstruction, or Modification (Month/Year)[4]		2001	2001	2016	2006	1999	2007
Maximum Throughput[5]	tons/hour	600	700	800	1,000	1,000	400
	tons/year	3,000,000	4,000,000	2,500,000	2,000,000		750,000
Material sized from/to:[6]		0”-6”	4”-8”	0.5”-4”	0.5”-2.5”	0.5”-2.5”	0.5”-2.5”
Average Moisture Content (%)[7]		1.5	1.5	1.5	1.5	1.5	1.5
Control Device ID Number[8]		FE	FE	FE	FE	FE	FE
Baghouse Stack Parameters[9]	height (ft)						
	diameter (ft)						
	volume (ACFM)						
	exit temp (F)						
	UTM Coordinates						
Maximum Operating Schedule[10]	hours/day	24	24	24	24	24	24
	days/year	365	365	365	365	365	365
	hours/year	8,760	8,760	8,760	8,760	8,760	8,760

1. Enter the appropriate Source Identification Number for each crusher and screen. For example, in the case of an operation which incorporates multiple crushers, the crushers should be designated CR-1, CR-2, CR-3 etc. beginning with the breaker or primary crusher. Multiple screens should be designated S-1, S-2, S-3 etc.
2. Describe types of crushers and screens using the following codes:

HM	Hammermill	SS	Stationary Screen	DR	Double Roll Crusher
SD	Single Deck Screen	BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen	JC	Jaw Crusher
GC	Gyratory Crusher	OT	Other _____	CC	Cone Crusher IMP Impact Crusher

3. Enter the make, model number, and serial number of the crusher/screen.
4. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
5. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
6. Describe the nominal material size reduction (e.g. +2"/ -⅜”).
7. Enter the average percent moisture content of the material processed.
8. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
9. Enter the appropriate stack parameters if a baghouse control device is used.
10. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.

CRUSHING AND SCREENING AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]		Grizzly Screen (3600.311-RZ01)	3600.311-VS01 (PS1)	3600.331-VS01 (MS1)	3600.331-VS02 (MS2)	3600.331-VS03 (MS3)	3600.331-VS04 (MS4)
Type of Crusher or Screen[2]		Grizzly	DD	TD	TD	TD	TD
Make, Model No., Serial No.[3]		NA	NA	NA	NA	NA	NA
Date of Construction, Reconstruction, or Modification (Month/Year)[4]		2001	2009	2004	2004	2004	2011
Maximum Throughput[5]	tons/hour	1,200	1,200	1,000	1,000	1,000	1,000
	tons/year	6,000,000	6,000,000	6,000,000		4,500,000	
Material sized from/to:[6]		0"-8"	0"-8"	0"-4"	0"-4"	0"-2"	0"-2"
Average Moisture Content (%)[7]		1.5	1.5	1.5	1.5	1.5	1.5
Control Device ID Number[8]		MC	PE-MC	PE-MC	PE-MC	PE-MC	PE-MC
Baghouse Stack Parameters[9]	height (ft)						
	diameter (ft)						
	volume (ACFM)						
	exit temp (F)						
	UTM Coordinates						
Maximum Operating Schedule[10]	hours/day	25	24	24	24	24	24
	days/year	365	365	365	365	365	365
	hours/year	8,760	8,760	8,760	8,760	8,760	8,760

1. Enter the appropriate Source Identification Number for each crusher and screen. For example, in the case of an operation which incorporates multiple crushers, the crushers should be designated CR-1, CR-2, CR-3 etc. beginning with the breaker or primary crusher. Multiple screens should be designated S-1, S-2, S-3 etc.
2. Describe types of crushers and screens using the following codes:

HM	Hammermill	SS	Stationary Screen	DR	Double Roll Crusher
SD	Single Deck Screen	BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen	JC	Jaw Crusher
GC	Gyratory Crusher	OT	Other		

3. Enter the make, model number, and serial number of the crusher/screen.
4. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
5. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
6. Describe the nominal material size reduction (e.g. +2"/ -⅜").
7. Enter the average percent moisture content of the material processed.
8. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
9. Enter the appropriate stack parameters if a baghouse control device is used.
10. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.

CRUSHING AND SCREENING AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]		3600.331-VS05 (MS5)	3600.331-VS06 (MS6)	3600.351-VS01 (MS7)	3600.351-VS02 (MS8)	3600.352-VS01 (Sand Screen)
Type of Crusher or Screen[2]		TD	TD	TD	TD	TD
Make, Model No., Serial No.[3]		NA	NA	NA	NA	NA
Date of Construction, Reconstruction, or Modification (Month/Year)[4]		2005	2005	2013	2011	2015
Maximum Throughput[5]	tons/hour	800	800	400	600	500
	tons/year	2,500,000		1,500,000	3,500,000	750,000
Material sized from/to:[6]		0"-1.5"	0"-1.5"	0"-3"	0"-3"	0"-1.5"
Average Moisture Content (%)[7]		1.5	1.5	Wet	Wet	Wet
Control Device ID Number[8]		PE-MC	PE-MC	Wet	Wet	Wet
Baghouse Stack Parameters[9]	height (ft)					
	diameter (ft)					
	volume (ACFM)					
	exit temp (F)					
	UTM Coordinates					
Maximum Operating Schedule[10]	hours/day	24	24	24	24	24
	days/year	365	365	365	365	365
	hours/year	8,760	8,760	8,760	8,760	8,760

1. Enter the appropriate Source Identification Number for each crusher and screen. For example, in the case of an operation which incorporates multiple crushers, the crushers should be designated CR-1, CR-2, CR-3 etc. beginning with the breaker or primary crusher. Multiple screens should be designated S-1, S-2, S-3 etc.
2. Describe types of crushers and screens using the following codes:

HM	Hammermill	SS	Stationary Screen	DR	Double Roll Crusher
SD	Single Deck Screen	BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen	JC	Jaw Crusher
GC	Gyratory Crusher	OT	Other _____	CC	Cone Crusher
IMP	Impact Crusher				

3. Enter the make, model number, and serial number of the crusher/screen.
4. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
5. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
6. Describe the nominal material size reduction (e.g. +2"/ -⅜").
7. Enter the average percent moisture content of the material processed.
8. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
9. Enter the appropriate stack parameters if a baghouse control device is used.
10. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.

CONVEYING AFFECTED SOURCE SHEET

Source Identification Number[1]	Date of Construction, Reconstruction, or Modification (Month/Year)[2]	Type of Material Handled[3]	Size of Material Handled[4]	Maximum Material Transfer Rate[5]		Average Moisture Content (%)[6]	Control Device[7]
				tons/hour	tons/year		
3600.311-BC01 (P1)	2001	Aggregate	0”-8”	1,200	6,000,000	1.5	N
3600.311-BC02 (P2)	2001	Aggregate	0”-8”	1,200	6,000,000	1.5	WS
3600.311-BC03 (P3)	2001	Aggregate	0”-4”	500	2,000,000	1.5	N
3600.311-BC04 (P4)	2001	Aggregate	0”-4”	300	2,000,000	1.5	N
3600.311-ST01 (P5)	2001	Aggregate	0”-4”	300	2,000,000	1.5	N
3600.321-BC01 (P6)	2001	Aggregate	0”-4”	1,200	6,000,000	1.5	WS
3600.321-BC02 (P7)	2001	Aggregate	0”-4”	1,200	6,000,000	1.5	N
3600.321-BC03 (P8)	2001	Aggregate	0”-4”	1,200	6,000,000	1.5	N
3600.321-BC04 (P9)	2001	Aggregate	0”-4”	1,200	6,000,000	1.5	N
3600.331-BC01 (M1)	2001	Aggregate	0”-4”	1,200	6,000,000	1.5	PE
3600.331-BC02 (M2)	2017	Aggregate	0”-4”	1,000	6,000,000	1.5	N
3600.331-ST01 (M2)	2001	TO BE REPLACED					
3600.331-BC02 (M3)	1984						
3600.331-BC03 (M4)	1984						
3600.331-BC04 (M5)	1984	Aggregate	0”-4”	800	2,500,000	1.5	N
3600.331-BC05 (M6)	2005	Aggregate	0”-4”	800	2,500,000	1.5	N
3600.331-BC06 (M10)	2005	Aggregate	0”-1.5”	800	2,500,000	1.5	WS
3600.331-BC12 (M12)	2005	Aggregate	0”-1.5”	300	2,000,000	1.5	N

1. Enter the appropriate Source Identification Number for each conveyor using the following codes. For example, multiple belt conveyors should be designated BC-1, BC-2, BC-3 etc. Transfer points are considered emission points, not sources, and should not be included in the *Conveying Affected Source Sheet*. Transfer Point Identification Numbers shall be assigned in the *Emission Calculation Sheet*.

BC	Belt Conveyor	BE	Bucket Elevator	DL	Drag-link Conveyor
PS	Pneumatic System	SC	Screw Conveyor	VC	Vibrating Conveyor
OT	Other				

2. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
3. Enter the type of material being handled - Raw Material (RM) Sized Material (SM) Refuse (R) Other (O)
4. Enter the nominal size of the material being conveyed (e.g. sized material- ¾" x 0). If more than one material is handled by the listed conveyor, list each material and enter the appropriate data for each material.
5. Enter the maximum material transfer rate for each conveyor in tons per hour and tons per year.
6. Enter the average percent moisture content of the conveyed material.
7. Enter the control device for the conveyor. PE - Partial Enclosure (example 3/4 hoop), FE - Full Enclosure, N – None

CONVEYING AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]	Date of Construction, Reconstruction, or Modification (Month/Year)[2]	Type of Material Handled[3]	Size of Material Handled[4]	Maximum Material Transfer Rate[5]		Average Moisture Content (%)[6]	Control Device[7]
				tons/hour	tons/year		
3600.331-BC08 (M13)	1984	Aggregate	0"-1.5"	600	2,000,000	1.5	N
3600.331-BC09 (M14)	1984	Aggregate	0"-1.5"	1,000	4,500,000	1.5	WS
3600.331-BC10 (M7)	1984	Aggregate	4"	400	250,000	1.5	N
3600.331-BC11 (M8)	1984	Aggregate	4"	400	250,000	1.5	N
3600.331-ST02 (M9)	1984	Aggregate	4"	400	250,000	1.5	WS
3600.331-BC07 (M11)	1984	Aggregate	0"-1.5"	300	2,000,000	1.5	N
3600.331-BC13 (M22)	1984	Aggregate	0"-1.5"	200	1,752,0000	1.5	N
3600.331-BC14 (M23)	1984	Aggregate	0"-1.5"	200	1,752,0000	1.5	N
3600.331-BC15 (M24)	2006	Aggregate	0"-1.5"	400	3,500,000	1.5	N
3600.331-ST03 (M25)	2005	Aggregate	0"-1.5"	400	3,500,000	1.5	N
3600.351-BC01 (M15)	2005	Aggregate	0"-1.5"	600	3,500,000	1.5	N
3600.351-BC02 (M16)	2005	Aggregate	0"-1.5"	600	3,500,000	1.5	N
3600.351-BC03 (M17)	2005	Aggregate	0"-1.5"	600	3,500,000	1.5	N
3600.351-ST01 (M18)	2014	Aggregate	0"-1.5"	600	3,500,000	1.5	N
3600.351-SY01 (67's Screw)	2013	Aggregate	0"-1.5"	50	438,000	1.5	Wet
3600.351-BC07 (M26)	2013	Aggregate	0"-1.5"	50	438,000	1.5	N
3600.351-BC04 (M19)	2005	Aggregate	0"-1.5"	400	1,500,000	1.5	N
3600.351-BC05 (M20)	2005	Aggregate	0"-1.5"	400	1,500,000	1.5	N

1. Enter the appropriate Source Identification Number for each conveyor using the following codes. For example, multiple belt conveyors should be designated BC-1, BC-2, BC-3 etc. Transfer points are considered emission points, not sources, and should not be included in the *Conveying Affected Source Sheet*. Transfer Point Identification Numbers shall be assigned in the *Emission Calculation Sheet*.

BC	Belt Conveyor	BE	Bucket Elevator	DL	Drag-link Conveyor
PS	Pneumatic System	SC	Screw Conveyor	VC	Vibrating Conveyor
OT	Other				

2. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
3. Enter the type of material being handled - Raw Material (RM) Sized Material (SM) Refuse (R) Other (O)
4. Enter the nominal size of the material being conveyed (e.g. sized material- ¾" x 0). If more than one material is handled by the listed conveyor, list each material and enter the appropriate data for each material.
5. Enter the maximum material transfer rate for each conveyor in tons per hour and tons per year.
6. Enter the average percent moisture content of the conveyed material.
7. Enter the control device for the conveyor. PE - Partial Enclosure (example 3/4 hoop), FE - Full Enclosure, N – None

CONVEYING AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]	Date of Construction, Reconstruction, or Modification (Month/Year)[2]	Type of Material Handled[3]	Size of Material Handled[4]	Maximum Material Transfer Rate[5]		Average Moisture Content (%)[6]	Control Device[7]
				tons/hour	tons/year		
3600.351-ST02 (M21)	2005	Aggregate	0"-1.5"	400	1,500,000	1.5	N
3600.352-BC01 (M27)	1998	Aggregate	0"-1.5"	200	750,000	1.5	N
3600.352-BC02 (M28)	1998	Aggregate	0"-1.5"	200	750,000	1.5	N
3600.352-BC03 (S1)	1998	Aggregate	0"-1.5"	300	750,000	1.5	N
3600.352-BC04 (S2)	1998	Aggregate	0"-1.5"	500	750,000	1.5	N
3600.352-BC05 (S5)	1998	Aggregate	0"-1.5"	400	750,000	1.5	N
3600.352-BC06 (S6)	1998	Aggregate	0"-1.5"	200	750,000	1.5	N
3600.352-SY01 (Sand Screw)	1998	Sand	Sand	400	750,000	Wet	Wet
3600.352-BC07 (S7)	1998	Sand	Sand	400	750,000	1.5	N
3600.341-BC01 (S3)	1998	Aggregate	0"-1.5"/sand	400	750,000	1.5	N
3600.341-BC02 (S4)	1998	Aggregate	0"-1.5"/sand	400	750,000	1.5	N

1. Enter the appropriate Source Identification Number for each conveyor using the following codes. For example, multiple belt conveyors should be designated BC-1, BC-2, BC-3 etc. Transfer points are considered emission points, not sources, and should not be included in the *Conveying Affected Source Sheet*. Transfer Point Identification Numbers shall be assigned in the *Emission Calculation Sheet*.

BC	Belt Conveyor	BE	Bucket Elevator	DL	Drag-link Conveyor
PS	Pneumatic System	SC	Screw Conveyor	VC	Vibrating Conveyor
OT	Other				

2. Enter the date that each crusher and screen was constructed, reconstructed, or modified.
3. Enter the type of material being handled - Raw Material (RM) Sized Material (SM) Refuse (R) Other (O)
4. Enter the nominal size of the material being conveyed (e.g. sized material- ¾" x 0). If more than one material is handled by the listed conveyor, list each material and enter the appropriate data for each material.
5. Enter the maximum material transfer rate for each conveyor in tons per hour and tons per year.
6. Enter the average percent moisture content of the conveyed material.
7. Enter the control device for the conveyor. PE - Partial Enclosure (example 3/4 hoop), FE - Full Enclosure, N – None

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number[1]	311-HP01 (Dump Box)	331-HP05 (Hopper Feed Bin 5)	331-HP09 (Hopper Feed Bin 9)	SP1	SP2	SP3
Type of Material Stored[2]	Raw Aggregate	Aggregate	Aggregate	CR6	Gabion Stone	Surge Pile
Average Moisture Content (%)[3]	1.5	1.5	1.5	1.5	1.5	1.5
Maximum Yearly Storage Throughput (tons)[4]	6,000,000	2,500,000	1,750,000	2,000,000		6,000,000
Maximum Storage Capacity (tons)[5]	200	30	30	100,000		37,500
Maximum Base Area (ft^2)[6]	NA	NA	NA	90,000	10,000	74,000
Maximum Pile Height (ft)[7]	NA	NA	NA	50	40	40
Method of Material Load-in[8]	TD	SS	SS	RS	FC	SS
Load-in Control Device Identification Number[9]	PE-WS	PE-MC	PE-MC	MC	MC	MC
Storage Control Device Identification Number[9]	PE	PE	PE	N	N	N
Method of Material Load-out[8]	FC	FC	FC	FE	FE	UC
Load-out Control Device Identification Number[9]	FE	FE-MC	PE-MC	MD	MD	FE-MC

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - OS Open Stockpile
   - SF Stockpiles with wind fences
   - E3 Enclosure (three sided enclosure)
   - SB Storage Building (full enclosure)
   - OT Other
2. Describe the type of material stored or stockpiled. (e.g. sized material, raw material, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - FC Fixed Height Chute from Bins
   - FE Front Endloader
   - MC Mobile Conveyor/Stacker
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - RC Rake or Bucket Reclaim Conveyor
   - SS Stationary Conveyor/Stacker
   - ST Stacking Tube
   - TC Telescoping Chute from Bins
   - TD Truck Dump
   - PC Pneumatic Conveyor/Stacker
   - OT Other RS Radial Stacker

STORAGE ACTIVITY AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]	SP4	SP5	SP5A	SP6	SP7	SP8
Type of Material Stored[2]	Main Surge Pile	Washed #8/#9/Sand	Washed #8	Various	Dry Ballast	Various
Average Moisture Content (%)[3]	1.5	1.5	1.5	1.5	1.5	1.5
Maximum Yearly Storage Throughput (tons)[4]	TO BE REMOVED	750,000		5,000,000	250,000	20,000
Maximum Storage Capacity (tons)[5]		130,000	700	23,000	120,000	2,000
Maximum Base Area (ft^2)[6]		350,000	9,000	33,000	237,000	18,000
Maximum Pile Height (ft)[7]	40	40	40	40	40	40
Method of Material Load-in[8]	RS	SS	SS	FE	RS	FE
Load-in Control Device Identification Number[9]	MC	MC	MC	MC	MC	MC
Storage Control Device Identification Number[9]	N	N	N	N	N	N
Method of Material Load-out[8]	UC	FE	FE	FE	FE	FE
Load-out Control Device Identification Number[9]	FE-MC	MD	MD	MD	MD	MD

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - E3 Enclosure (three sided enclosure)
   - OS Open Stockpile
   - SB Storage Building (full enclosure)
   - SF Stockpiles with wind fences
   - OT Other RS Radial Stacker
2. Describe the type of material stored or stockpiled. (e.g. sized material, raw material, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - SS Stationary Conveyor/Stacker
   - FC Fixed Height Chute from Bins
   - ST Stacking Tube
   - FE Front Endloader
   - TC Telescoping Chute from Bins
   - MC Mobile Conveyor/Stacker
   - TD Truck Dump
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - PC Pneumatic Conveyor/Stacker
   - RC Rake or Bucket Reclaim Conveyor
   - OT Other
9. Enter the appropriate Control Device Identification Number for each storage activity. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.

STORAGE ACTIVITY AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]	SP9	SP10	SP11	SP12	SP13	SP14
Type of Material Stored[2]	Washed #8/#7	Various	Various	Various	67/57	Dry #10
Average Moisture Content (%)[3]	1.5	1.5	1.5	1.5	1.5	1.5
Maximum Yearly Storage Throughput (tons)[4]	1,500,000	300,000	20,000	200,000	3,500,000	
Maximum Storage Capacity (tons)[5]	80,000	100,000	3,000	10,000	250,000	250,000
Maximum Base Area (ft^2)[6]	97,000	219,000	50,000	83,000	277,000	222,000
Maximum Pile Height (ft)[7]	40	40	40	40	40	40
Method of Material Load-in[8]	RS	TD/FE	TD/FE	TD/FE	RS	RS
Load-in Control Device Identification Number[9]	MC	MD	MD	MD	MC	MC
Storage Control Device Identification Number[9]	N	N	N	N	N	N
Method of Material Load-out[8]	FE	FE	FE	FE	FE	FE
Load-out Control Device Identification Number[9]	MD	MD	MD	MD	MD	MD

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - E3 Enclosure (three sided enclosure)
   - OS Open Stockpile
   - SB Storage Building (full enclosure)
   - SF Stockpiles with wind fences
   - OT Other
2. Describe the type of material stored or stockpiled. (e.g. sized material, raw material, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - SS Stationary Conveyor/Stacker
   - FC Fixed Height Chute from Bins
   - ST Stacking Tube
   - FE Front Endloader
   - TC Telescoping Chute from Bins
   - MC Mobile Conveyor/Stacker
   - TD Truck Dump
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - PC Pneumatic Conveyor/Stacker
   - RC Rake or Bucket Reclaim Conveyor
   - OT Other
9. Enter the appropriate Control Device Identification Number for each storage activity. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.

STORAGE ACTIVITY AFFECTED SOURCE SHEET CON'T

Source Identification Number[1]	SP15	SP16	SP17	SP18		
Type of Material Stored[2]	Various	Various	Various	Various		
Average Moisture Content (%)[3]	1.5	1.5	1.5	1.5		
Maximum Yearly Storage Throughput (tons)[4]	60,000	30,000	30,000	30,000		
Maximum Storage Capacity (tons)[5]	20,000	10,000	30,000	10,000		
Maximum Base Area (ft^2)[6]	128,000	85,000	129,000	61,000		
Maximum Pile Height (ft)[7]	40	40	40	40		
Method of Material Load-in[8]	TD/FE	TD/FE	TD/FE	TD/FE		
Load-in Control Device Identification Number[9]	MD	MD	MD	MD		
Storage Control Device Identification Number[9]	N	N	N	N		
Method of Material Load-out[8]	FE	FE	FE	FE		
Load-out Control Device Identification Number[9]	MD	MD	MC	MC		

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - E3 Enclosure (three sided enclosure)
   - OS Open Stockpile
   - SB Storage Building (full enclosure)
   - SF Stockpiles with wind fences
   - OT Other
2. Describe the type of material stored or stockpiled. (e.g. sized material, raw material, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - SS Stationary Conveyor/Stacker
   - FC Fixed Height Chute from Bins
   - ST Stacking Tube
   - FE Front Endloader
   - TC Telescoping Chute from Bins
   - MC Mobile Conveyor/Stacker
   - TD Truck Dump
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - PC Pneumatic Conveyor/Stacker
   - RC Rake or Bucket Reclaim Conveyor
   - OT Other
9. Enter the appropriate Control Device Identification Number for each storage activity. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.

HAULROAD EMISSIONS

Include G40-C Emission Calculation Spreadsheet indicating haulroad emissions, or submit calculations indicating assumptions made to substantiate emission values.

Emission Source	Uncontrolled Emissions (PM/PM10/PM2.5)		Controlled Emissions (PM/PM10/PM2.5)	
	Hourly (lb/hr)	Annual (tpy)	Hourly (lb/hr)	Annual (tpy)
Raw Trucks	214.70/63.46/6.27	521.54/154.15/15.23	53.68/15.87/1.57	130.39/38.54/3.81
Product Trucks	352.98/104.41/10.60	350.53/103.69/10.53	88.25/26.10/2.65	87.63/25.92/2.63
Endloaders	11.24/3.32/0.33	33.72/9.96/0.99	2.81/0.83/0.08	8.43/2.49/0.25

BAGHOUSE AIR POLLUTION CONTROL DEVICE SHEET NOT APPLICABLE

Complete a Baghouse Air Pollution Control Device Sheet for each baghouse control device.

1. Baghouse Control Device Identification Number:
2. Manufacturer's name and model identification:
3. Number of compartments in baghouse:
4. Number of compartments online during normal operation and conditions:
5. Gas flow rate into baghouse: _____ ACFM @ _____ F and _____ PSIA
6. Total cloth area: _____ ft^2
7. Operating air to cloth ratio: _____ ft/min
8. Filter media type:
9. Stabilized static pressure drop across baghouse: _____ inches H_2O
10. Baghouse operation is:
    □ Continuous □ Automatic □ Intermittent
11. Method used to clean bags:
    □ Shaker □ Pulse jet □ Reverse jet □ Other
12. Emission rate of particulate matter entering and exiting baghouse at maximum design operating conditions:
    Entering baghouse: _____ lb/hr and _____ grains/ACF
    Exiting baghouse: _____ lb/hr and _____ grains/ACF
13. Guaranteed minimum baghouse collection efficiency: _____ %
14. Provide a written description of the capture system (e.g. hooding and ductwork arrangement), size of ductwork and hoods and air volume, capacity and operating horsepower of fan:
15. Describe the method of disposal for the collected material:

Air Pollution Control Device Sheet NOT APPLICABLE

(WET COLLECTING SYSTEM-SCRUBBER)

Control Device ID No. (must match Emission Units Table):

Equipment Information

1. Manufacturer: Model No.	2. Method: ☐ Packed Bed ☐ Venturi ☐ Spray Tower ☐ Cyclone ☐ Mechanical ☐ Orifice ☐ Other, specify
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. Provide a scale diagram of the scrubber showing internal construction. Please include packing type and size, spray configurations, baffle plates, and mist eliminators.	
5. What type of liquid entrainment eliminators or system will be used? Submit a schematic diagram showing thickness, mesh, and material of construction.	
6. Describe the scrubber's construction material:	
7. What will be the power requirements of the collector? Fan HP Inlet scrubbing liquid pump:	
8. What type of fan(s) will be used? Type of fan blade: Number of blades: Diameter of blade: in. Also supply a fan curve for each fan to be used.	
9. Estimated gas pressure drop at maximum flow rate: inches H_2O	

Scrubbing Liquor Characteristics

10. Scrubbing Liquor

Composition	Weight %
1	
2	
3	
4	

11. Scrubbing liquor losses (evaporation, etc.): gal/1000 ACF gas

12. Liquor pressure to scrubber: PSIA

13. Pressure drop through scrubber: in. H_2O

14. Source of liquor (explain):

15. Liquor flow rates to scrubber:
Design maximum: gal/min
Average expected: gal/min

16. Describe system to be used to supply liquor to collector:

17. Give the expected solids content of the liquor:

18. If the liquor is to be recirculated, describe any treatment performed:

19. Data for Venturi Scrubber:	20. Data for Packed Towers:
Throat Dimensions: (Specify Units)	Type of Packing:
Throat Velocity: ft/sec	Superficial Gas Velocity through Bed:

Gas Stream Characteristics

21. Gas flow into the collector:	22. Gas stream temperature:
ACF @ °F and PSIA	Inlet: °F
	Outlet: °F
23. Gas flow rate:	24. Particulate Grain Loading in grains/scf:
Design Maximum: ACFM	Inlet:
Average Expected: ACFM	Outlet:

25. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	**IN**		**OUT**		**Guaranteed Minimum Collection Efficiency**
	lb/hr	grains/acf	lb/hr	grains/acf	
A					
B					
C					
D					
E					

26. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor
☐ Particulate (type): ☐ Other:

27. By what method were the uncontrolled emissions calculated? ☐ Material Balance ☐ Stack Test
☐ Pilot Test ☐ Other:

28. Dimensions of stack: Height ft. Diameter ft

29. Supply an equilibrium curve and/or solubility data (at various temperatures) for the proposed system.

30. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 100 percent of design rating of collector.

Particulate Distribution

31. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

32. Describe the collection material disposal system:

33. Have you included ***Wet Collecting (Scrubber) Control Device*** in the Emissions Points Data Summary Sheet?

34. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:	RECORDKEEPING:
REPORTING:	TESTING:

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

35. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
36. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
37. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

ENGINE DATA SHEET NOT APPLICABLE

Source Identification Number[1]							
Engine Manufacturer and Model							
Manufacturer's Rated bhp/rpm							
Source Status[2]							
Date Installed/Modified/Removed (Month/Year)[3]							
Engine Manufactured/Reconstruction Date[4]							
Is this a Certified Stationary Compression Ignition Engine according to 40CFR60 Subpart IIII? (Yes or No)[5]							
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart JJJJ? (Yes or No)[6]							
Engine, Fuel and Combustion Data	Engine Type[7]						
	APCD Type[8]						
	Fuel Type[9]						
	H_2S (gr/100 scf)						
	Operating bhp/rpm						
	BSFC (Btu/bhp-hr)						
	Fuel throughput (ft^3/hr)						
	Fuel throughput ($MMft^3$/yr)						
	Operation (hrs/yr)						
Reference[10]	Potential Emissions[11]	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
	NO_X						
	CO						
	VOC						
	SO_2						
	PM_{10}						
	Formaldehyde						

1. Enter the appropriate Source Identification Number for each reciprocating internal combustion compressor/generator engine located at the facility. Multiple compressor engines should be designated CE-1, CE-2, CE-3 etc. Emergency Generator engines should be designated EG-1, EG-2, EG-3 etc. If more than three (3) engines exist, please use additional sheets.

2. Enter the Source Status using the following codes:

NS	Construction of New Source (installation)	ES	Existing Source
MS	Modification of Existing Source	RS	Removal of Source

3. Enter the date (or anticipated date) of the engine's installation (construction of source), modification or removal.

4. Enter the date that the engine was manufactured, modified or reconstructed.

5. Is the engine a certified stationary compression ignition internal combustion engine according to 40CFR60 Subpart IIII. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4210 as appropriate.

   Provide a manufacturer's data sheet for all engines being registered.

6. Is the engine a certified stationary spark ignition internal combustion engine according to 40CFR60 Subpart JJJJ. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4243a(2)(i) through (iii), as appropriate.

   Provide a manufacturer's data sheet for all engines being registered.

7. Enter the Engine Type designation(s) using the following codes:

LB2S	Lean Burn Two Stroke	RB4S	Rich Burn Four Stroke
LB4S	Lean Burn Four Stroke		

8. Enter the Air Pollution Control Device (APCD) type designation(s) using the following codes:

A/F	Air/Fuel Ratio	IR	Ignition Retard
HEIS	High Energy Ignition System	SIPC	Screw-in Precombustion Chambers
PSC	Prestratified Charge	LEC	Low Emission Combustion
NSCR	Rich Burn & Non-Selective Catalytic Reduction	SCR	Lean Burn & Selective Catalytic Reduction

9. Enter the Fuel Type using the following codes:

PQ	Pipeline Quality Natural Gas	RG	Raw Natural Gas
2FO	#2 Fuel Oil	LPG	Liquid Propane Gas

10. Enter the Potential Emissions Data Reference designation using the following codes. Attach all referenced data to this *Compressor/Generator Data Sheet(s)*.

MD	Manufacturer's Data	AP	AP-42	
GR	GRI-HAPCalc™	OT	Other _____	(please list)

11. Enter each engine's Potential to Emit (PTE) for the listed regulated pollutants in pounds per hour and tons per year. PTE shall be calculated at manufacturer's rated brake horsepower and may reflect reduction efficiencies of listed Air Pollution Control Devices. Emergency generator engines may use 500 hours of operation when calculating PTE. PTE data from this data sheet shall be incorporated in the *Emissions Summary Sheet*.

STORAGE TANK DATA SHEET NOT APPLICABLE

Source ID #[1]	Status[2]	Content[3]	Volume[4]	Dia[5]	Throughput[6]	Orientation[7]	Liquid Height[8]

1. Enter the appropriate Source Identification Numbers (Source ID #) for each storage tank located at the facility. Tanks should be designated T01, T02, T03, etc.
2. Enter storage tank Status using the following:

   EXIST Existing Equipment NEW Installation of New Equipment
   REM Equipment Removed
3. Enter storage tank content such as condensate, pipeline liquids, glycol (DEG or TEG), lube oil, etc.
4. Enter storage tank volume in gallons.
5. Enter storage tank diameter in feet.
6. Enter storage tank throughput in gallons per year.
7. Enter storage tank orientation using the following:

   VERT Vertical Tank HORZ Horizontal Tank
8. Enter storage tank average liquid height in feet.

ATTACHMENT I

EMISSIONS CALCULATIONS

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Proposed Facility Emissions

Total Facility	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	1,068.66	1,675.49	258.82	398.23
PM10	404.41	634.32	97.12	148.75
PM2.5	52.18	81.72	12.45	18.95

Existing PTE

Total Facility	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	1,087.45	1,725.40	263.53	410.19
PM10	413.35	658.08	99.36	154.44
PM2.5	53.52	85.29	12.78	19.81

Change in PTE

Total Facility	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	-18.79	-49.91	-4.71	-11.96
PM10	-8.94	-23.76	-2.24	-5.69
PM2.5	-1.34	-3.57	-0.33	-0.86

Point Sources

Transfer Points	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	332.49	427.33	87.82	107.55
PM10	158.33	203.49	41.82	51.21
PM2.5	23.75	30.52	6.27	7.68

Crushing	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	16.86	20.33	3.37	4.07
PM10	8.03	9.68	1.60	1.94
PM2.5	1.20	1.45	0.24	0.29

Screening	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	137.50	309.38	20.00	47.50
PM10	65.48	147.32	9.52	22.62
PM2.5	9.82	22.10	1.43	3.39

Total	Uncontrolled		Controlled	
Point Source	lb/hr	tpy	lb/hr	tpy
PM	486.85	757.04	111.19	159.12
PM10	231.84	360.49	52.94	75.77
PM2.5	34.77	54.07	7.94	11.36

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Proposed Facility Emissions

Fugitive Sources

Stockpiles	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	2.89	12.66	2.89	12.66
PM10	1.38	6.03	1.38	6.03
PM2.5	0.21	0.90	0.21	0.90

Haulroads	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	578.92	905.79	144.74	226.45
PM10	171.19	267.80	42.80	66.95
PM2.5	17.20	26.75	4.30	6.69

Total	Uncontrolled		Controlled	
Fugitive Source	lb/hr	tpy	lb/hr	tpy
PM	581.81	918.45	147.63	239.11
PM10	172.57	273.83	44.18	72.98
PM2.5	17.41	27.65	4.51	7.59

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Transfer Points

E(lbs/ton) = k*(0.0032)*[(U/5)^1.3]/[(M/2)^1.4]

Where:		PM
k =	particle size multiplier (dimensionless)	0.74
U =	Mean Wind Speed (MPH)	7
M =	Material Moisture Content (%)	1.5
E =	Emission Factor (lbs/ton)	0.0055

Transfer Point ID Number	Material Throughput (tph)	Material Throughput (tpy)	Control Device	Control Efficiency (%)	PM Uncontrolled (lb/hr)	PM Uncontrolled (tpy)	PM Controlled (lb/hr)	PM Controlled (tpy)
TP1	1,200	6,000,000	PE-WS	80	6.60	16.50	1.32	3.30
TP2	1,200	6,000,000	FE-MC	90	6.60	16.50	0.66	1.65
TP3	1,200	3,000,000	FE-MC	90	6.60	8.25	0.66	0.83
TP4	600	3,000,000	FE-MC	90	3.30	8.25	0.33	0.83
TP5	600	3,000,000	FE	80	3.30	8.25	0.66	1.65
TP6	1,200	6,000,000	PE	50	6.60	16.50	3.30	8.25
TP7	1,200	6,000,000	PE-MC	80	6.60	16.50	1.32	3.3
TP8	500	6,000,000	FE-MC	90	2.75	16.50	0.28	1.65
TP9A	500	2,000,000	PE-MC	80	2.75	5.50	0.55	1.10
TP9B	300	0	PE-MC	80	1.65	0	0.33	0
TP10	300	0	PE-MC	80	1.65	0	0.33	0
TP11	300	0	MC	50	1.65	0	0.83	0
TP12	700	4,000,000	MC	50	3.85	11.00	1.93	5.5
TP13	700	4,000,000	PE	50	3.85	11.00	1.93	5.5
TP14	1,200	6,000,000	PE-MC	80	6.60	16.50	1.32	3.30
TP15	1,200	0	MC	50	6.60	0	3.30	0
TP16	1,200	6,000,000	PE-MC	80	6.60	16.50	1.32	3.30
TP17	1,200	0	MC	50	6.60	0	3.30	0
TP18	1,200	6,000,000	PE-MC	80	6.60	16.50	1.32	3.30
TP19	1,200	0	MC	50	6.60	0	3.30	0
TP20	1,200	6,000,000	MC	50	6.60	16.50	3.30	8.25
TP21	1,200	6,000,000	FE-MC	90	6.60	16.50	0.66	1.65
TP22	1,000	6,000,000	PE-MC	80	5.50	16.50	1.10	3.30
TP23	To be removed							
TP24	To be removed							
TP25	To be removed							
TP26	1,000	6,000,000	PE-MC	80	5.50	16.50	1.10	3.30
TP27	800	2,500,000	PE-MC	80	4.40	6.88	0.88	1.38
TP28	1,000	0	PE-MC	80	5.50	0	1.10	0
TP29	1,000	3,500,000	PE-MC	80	5.50	9.63	1.10	1.93
TP30	1,000	0	FE-MC	90	5.50	0	0.55	0
TP31	800	0	PE-MC	80	4.40	0	0.88	0
TP32	1,000	0	PE-MC	80	5.50	0	1.10	0
TP33	1,000	0	PE-MC	80	5.50	0	1.10	0

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Transfer Points

E(lbs/ton) = k*(0.0032)*[(U/5)^1.3]/[(M/2)^1.4]

Where:		PM
k =	particle size multiplier (dimensionless)	0.74
U =	Mean Wind Speed (MPH)	7
M =	Material Moisture Content (%)	1.5
E =	Emission Factor (lbs/ton)	0.0055

Transfer Point ID Number	Material Throughput (tph)	Material Throughput (tpy)	Control Device	Control Efficiency (%)	PM Uncontrolled (lb/hr)	PM Uncontrolled (tpy)	PM Controlled (lb/hr)	PM Controlled (tpy)
TP34	1,000	0	FE-MC	90	5.50	0	0.55	0
TP35	800	2,500,000	PE-MC	80	4.40	6.88	0.88	1.38
TP36	800	2,500,000	PE-MC	80	4.40	6.88	0.88	1.38
TP37	800	2,500,000	FE-MC	90	4.40	6.88	0.44	0.69
TP38	800	2,500,000	PE	50	4.40	6.88	2.20	3.44
TP39	800	2,500,000	PE-MC	80	4.40	6.88	0.88	1.38
TP40	300	2,000,000	PE-MC	80	1.65	5.50	0.33	1.10
TP41	600	0	PE-MC	80	3.30	0	0.66	0
TP42	600	500,000	PE-MC	80	3.30	1.38	0.66	0.28
TP43	200	0	FE-MC	90	1.10	0	0.11	0
TP44	300	0	PE-MC	80	1.65	0	0.33	0
TP45	600	0	PE-MC	80	3.30	0	0.66	0
TP46	600	0	PE-MC	80	3.30	0	0.66	0
TP47	200	0	FE-MC	90	1.10	0	0.11	0
TP48	300	2,000,000	PE-MC	80	1.65	5.50	0.33	1.10
TP49	600	2,000,000	PE-MC	80	3.30	5.50	0.66	1.10
TP50	1,000	2,000,000	PE-MC	80	5.50	5.50	1.10	1.10
TP51	1,000	2,000,000	FE	80	5.50	5.50	1.10	1.10
TP52	1,000	0	FE	80	5.50	0	1.10	0
TP53	1,000	4,500,000	PE-MC	80	5.50	12.38	1.10	2.48
TP54	300	4,500,000	PE-MC	80	1.65	12.38	0.33	2.48
TP55	600	0	PE-MC	80	3.30	0	0.66	0
TP56	600	0	PE-MC	80	3.30	0	0.66	0
TP57	200	0	FE-MC	90	1.10	0	0.11	0
TP58	300	0	PE-MC	80	1.65	0	0.33	0
TP59	600	0	PE-MC	80	3.30	0	0.66	0
TP60	600	0	PE-MC	80	3.30	0	0.66	0
TP61	200	0	FE-MC	90	1.10	0	0.11	0
TP62	300	0	PE-MC	80	1.65	0	0.33	0
TP63	200	0	PE-MC	80	1.10	0	0.22	0
TP64	400	438,000	PE-MC	80	2.20	1.20	0.44	0.24
TP65	400	438,000	MC	50	2.20	1.20	1.10	0.60
TP66	400	250,000	PE-MC	80	2.20	0.69	0.44	0.14
TP67	400	250,000	PE-MC	80	2.20	0.69	0.44	0.14
TP68	400	250,000	MC	50	2.20	0.69	1.10	0.35
TP69A	200	0	PE-MC	80	1.10	0.00	0.22	0

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Transfer Points

E(lbs/ton) = k*(0.0032)*[(U/5)^1.3]/[(M/2)^1.4]

Where:		PM
k =	particle size multiplier (dimensionless)	0.74
U =	Mean Wind Speed (MPH)	7
M =	Material Moisture Content (%)	1.5
E =	Emission Factor (lbs/ton)	0.0055

Transfer Point ID Number	Material Throughput (tph)	Material Throughput (tpy)	Control Device	Control Efficiency (%)	PM Uncontrolled (lb/hr)	PM Uncontrolled (tpy)	PM Controlled (lb/hr)	PM Controlled (tpy)
TP69B	200	750,000	PE-MC	80	1.10	2.06	0.22	0.41
TP70	600	3,500,000	PE-MC	80	3.30	9.63	0.66	1.93
TP71	600	3,500,000	PE-MC	80	3.30	9.63	0.66	1.93
TP72	600	0	PE-MC	80	3.30	0	0.66	0
TP73	600	0	PE-MC	80	3.30	0	0.66	0
TP74	600	0	PE-MC	80	3.30	0	0.66	0
TP75	50	438,000	PE-MC	80	0.28	1.20	0.06	0.24
TP76	50	438,000	PE-MC	80	0.28	1.20	0.06	0.24
TP77	50	438,000	PE-MC	80	0.28	1.20	0.06	0.24
TP78	400	1,500,000	PE-MC	80	2.20	4.13	0.44	0.83
TP79	400	1,500,000	PE-MC	80	2.20	4.13	0.44	0.83
TP80	400	1,500,000	PE-MC	80	2.20	4.13	0.44	0.83
TP81	400	1,500,000	MC	50	2.20	4.13	1.10	2.07
TP82	200	750,000	PE-MC	80	1.10	2.06	0.22	0.41
TP83	200	750,000	MC	50	1.10	2.06	0.55	1.03
TP84	300	0	PE-MC	80	1.65	0.00	0.33	0
TP85	500	750,000	PE	50	2.75	2.06	1.38	1.03
TP86	400	750,000	PE-MC	80	2.20	2.06	0.44	0.41
TP87	400	0	PE-MC	80	2.20	0	0.44	0
TP88	200	0	PE-MC	80	1.10	0	0.22	0
TP89	400	750,000	PE-MC	80	2.20	2.06	0.44	0.41
TP90	400	750,000	FE	80	2.20	2.06	0.44	0.41
TP91	400	750,000	PE	50	2.20	2.06	1.10	1.03
TP92	400	0	MC	50	2.20	0	1.10	0
TP93	200	0	MC	50	1.10	0	0.55	0
TP94	400	0	PE-MC	80	2.20	0	0.44	0
TP95	400	750,000	PE-MC	80	2.20	2.06	0.44	0.41
TP96	400	750,000	MC	50	2.20	2.06	1.10	1.03
TP97	1,000	2,938,000	MD	0	5.50	8.08	5.50	8.08
TP98	600	0	MC	50	3.30	0	1.65	0
TP99	600	0	MC	50	3.30	0	1.65	0
				Total PM	332.49	427.33	87.82	107.55
MS3, 4 Recycle	100%			Total PM10	158.33	203.49	41.82	51.21
				Total PM2.5	23.75	30.52	6.27	7.68

1. PM conversion to PM10 and PM2.5:

Particle size multipliers (k) AP42 Section 13.2.4-4 (11/06):

PM	PM10	PM2.5
0.74	0.35	0.053
Conversion Factor	2.1	14

2. Rates/throughputs set to zero are not in the worst case material flow.

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Crushing and Screening

Emission Factors	PM	Source
Primary Crushing	0.002	DAQ G40-C Emissions Worksheet
Secondary & Tertiary Crushing	0.0054	AP-42 Section 11.19.2-8 (Table 11.19.2-2)
Screening	0.025	AP-42 Section 11.19.2-8 (Table 11.19.2-2)

Totals for Crushing and Screening

	Uncontrolled		Controlled	
	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
PM	154.36	329.71	23.37	52
PM10	73.51	157.00	11.12	25
PM2.5	11.02	23.55	1.67	4

Crusher Emissions

Crusher Identification	ID	Throughput		Control	Control	Uncontrolled		Controlled	
		(ton/hr)	(tons/yr)	Type	Efficiency (%)	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
Jaw Crusher	3600.311-JC01	600	3,000,000	FE	80	1.20	3.00	0.24	0.60
7 Crusher	3600.321-CZ01	700	4,000,000	FE	80	3.78	10.80	0.76	2.16
Metso Crusher	3600.331-CZ03	800	2,500,000	FE	80	4.32	2.50	0.86	0.50
HP500	3600.331-CZ01	1,000	2,000,000	FE	80	5.40	2.00	1.08	0.40
HP300	3600.331-CZ02	0	0	FE	80	0	0	0	0
Barmac Crusher	3600.341-VI01	400	750,000	FE	80	2.16	2.03	0.43	0.41
					PM	16.86	20.33	3.37	4.07
					PM10	8.03	9.68	1.60	1.94
					PM2.5	1.20	1.45	0.24	0.29

Screen Emissions (3)

Screen Identification	ID	Throughput		Control	Control	Uncontrolled		Controlled	
		(ton/hr)	(tons/yr)	Type	Efficiency (%)	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
PS1	3600.311-VS01	1,200	6,000,000	PE-MC	80	30.00	75.00	6.00	15.00
MS1	3600.331-VS01	1,000	6,000,000	PE-MC	80	25.00	75.00	5.00	15.00
MS2	3600.331-VS02	0	0	PE-MC	80	0	0	0	0
MS3	3600.331-VS03	1,000	4,500,000	PE-MC	80	25.00	56.25	5.00	11.25
MS4	3600.331-VS04	0	0	PE-MC	80	0	0	0	0
MS5	3600.331-VS05	800	2,500,000	PE-MC	80	20.00	31.25	4.00	6.25
MS6	3600.331-VS06	0	0	PE-MC	80	0	0	0	0
MS7	3600.351-VS01	400	1,500,000	Wet	100	10.00	18.75	0	0
MS8	3600.351-VS02	600	3,500,000	Wet	100	15.00	43.75	0	0
Sand Screen	3600.352-VS01	500	750,000	Wet	100	12.50	9.38	0	0
					PM	137.50	309.38	20.00	47.50
					PM10	65.48	147.32	9.52	22.62
					PM2.5	9.82	22.10	1.43	3.39

1. PM conversion to PM10 and PM2.5:
Particle size multipliers (k) AP42 Section 13.2.4-4 (11/06):

PM	PM10	PM2.5
0.74	0.35	0.053
Conversion Factor	2.1	14

2. Rates/throughputs set to zero are not in the worst case material flow.
3. Grizzly screen 311-RZ01 emissions are based on transfers of materials onto end of the screen and are included in transfer points.

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Facility Stockpiles
Reference: AP-42 Section 11.2.3, Fugitive Emissions (May, 1983), Equation #2

E = 1.7 (s/1.5) ((365-p)/235) (f/15)

E =	?	Emissions factor, pound per day per acre, (lb/day/acre)
s =	2	Silt content of material (%)
p =	148	number of days with at least 0.254 mm (0.01 in.) of precipitation per year
f =	10	Time wind speed exceeds 12 mph (%)

E = **1.395** lb/day/acre Rounding to 2

Stockpile ID	Stockpile Material	Base Area (acres)	Control Device	Control Eff. (%)	Uncontrolled Emissions lb/hr	Uncontrolled Emissions tpy	Controlled Emissions lb/hr	Controlled Emissions tpy
SP1	CR6	2.1	N	0	0.12	0.53	0.12	0.53
SP2	Gabion	0.2	N	0	0.01	0.05	0.01	0.05
SP3	Surge Pile	1.7	N	0	0.10	0.43	0.10	0.43
SP4	Main Surge Pile	To be removed						
SP5	Washed #8/#9/Sand	8.0	N	0	0.47	2.04	0.47	2.04
SP5A	Washed #8	0.2	N	0	0.01	0.05	0.01	0.05
SP6	Various	0.8	N	0	0.05	0.20	0.05	0.20
SP7	Dry Ballast	5.4	N	0	0.31	1.37	0.31	1.37
SP8	Various	0.4	N	0	0.02	0.10	0.02	0.10
SP9	Washed #8/#7	2.2	N	0	0.13	0.56	0.13	0.56
SP10	Various	5.0	N	0	0.29	1.27	0.29	1.27
SP11	Various	1.1	N	0	0.06	0.28	0.06	0.28
SP12	Various	1.9	N	0	0.11	0.48	0.11	0.48
SP13	67/57	6.4	N	0	0.37	1.63	0.37	1.63
SP14	Dry #10	5.1	N	0	0.30	1.30	0.30	1.30
SP15	Various	2.9	N	0	0.17	0.74	0.17	0.74
SP16	Various	2.0	N	0	0.12	0.51	0.12	0.51
SP17	Various	3.0	N	0	0.17	0.76	0.17	0.76
SP18	Various	1.4	N	0	0.08	0.36	0.08	0.36
				PM:	2.89	12.66	2.89	12.66
				PM10:	1.38	6.03	1.38	6.03
				PM2.5	0.21	0.90	0.21	0.90

1. PM conversion to PM10 and PM2.5:
Particle size multipliers (k) AP42 Section 13.2.4-4 (11/06):

PM	PM10	PM2.5
0.74	0.35	0.053
Conversion Factor	2.1	14

By: ADM
Date: 05/11/2017

Checked: PEW
Date: 05/12/2017

Vehicular Traffic (VT)

Unpaved Haulroads

PM

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [(1)] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Raw Trucks	19	92,308	1.0	11.30	214.70	521.54	RWMW	75	53.68	130.39
Product Trucks	53	105,264	1.0	6.66	352.98	350.53	RWMW	75	88.25	87.63
Endloaders	50	300,000	0.02	11.24	11.24	33.72	RWMW	75	2.81	8.43
				Total	578.92	905.79		Total	144.74	226.45

PM10

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [(1)] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Raw Trucks	19	92,308	1.0	3.34	63.46	154.15	RWMW	75	15.87	38.54
Product Trucks	53	105,264	1.0	1.97	104.41	103.69	RWMW	75	26.10	25.92
Endloaders	50	300,000	0.02	3.32	3.32	9.96	RWMW	75	0.83	2.49
				Total	171.19	267.80		Total	42.80	66.95

PM2.5

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [(1)] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Raw Trucks	19	92,308	1.0	0.33	6.27	15.23	RWMW	75	1.57	3.81
Product Trucks	53	105,264	1.0	0.20	10.60	10.53	RWMW	75	2.65	2.63
Endloaders	50	300,000	0.02	0.33	0.33	0.99	RWMW	75	0.08	0.25
				Total	17.20	26.75		Total	4.30	6.69

	Emission Factors[(1)] PM	PM10	PM2.5	
k =	4.9	1.5	0.15	dimensionless, particle size multiplier
s =	10	10	10	%, surface material silt content
W_{raw} =	81	81	81	tons, mean vehicle weight
$W_{product}$ =	25	25	25	
$W_{endloader}$ =	80	80	80	
a =	0.7	0.9	0.9	constants
b =	0.45	0.45	0.45	constants
p =	148	148	148	no. days/year with 0.1 in of rain
e =	11.30	3.34	0.33	lb/VMT Raw Trucks
e =	6.66	1.97	0.20	lb/VMT Product Trucks
e =	11.24	3.32	0.33	lb/VMT Endloaders

	Raw	Product	Endloaders
Total Hauled (tpy) =	6,000,000	2,000,000	6,000,000
Load Weight (tons) =	65	19	20
Vehicles Per Year =	92,308	105,264	300,000
Total Hauled (tph) =	1,200	1,000	1,000
Load Weight (tons) =	65	19	20
Vehicles Per Hour =	19	53	50
Empty Vehicle Weight (tons) =	48	15	70
Loaded Vehicle Weight (tons) =	113	34	90
Average Vehicle Weight (tons) =	81	25	80

(1) Emission Equation AP-42 Section 13.2.2, Unpaved Roads (12/03), where:

$e = k\,[(s/12)^a\,(W/3)^b]\,[(365-p)/365]$

e = Emission factor, pounds per vehicle-mile-traveled, (lb/VMT)

k, a & b = Constants for equation given in AP-42 Table 13.2.2-2 (dimensionless)

s = Silt content of road surface material (%)

W = Mean vehicle weight, ton

p = Number of days with at least 0.01 in. of precipitation per year

ATTACHMENT J

CLASS I LEGAL ADVERTISEMENT

AIR QUALITY PERMIT NOTICE

Notice of Application

Notice is given that Bardon, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality for a modification to General Permit Registration G40-C003F for Millville Quarry to replace three existing conveyors with one new conveyor. The facility is located off of County Route 23 (Blair Road) near Millville in Jefferson County, West Virginia. The latitude and longitude coordinates are: 39.287, -77.794.

The applicant estimates the change to potential to discharge the following Regulated Air Pollutants will be: PM of -11.96 tons per year (tpy), PM_{10} of -5.69 tpy, and $PM_{2.5}$ of -0.86 tpy.

The facility is operational. The replacement conveyor belt will be installed September 1, 2017. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304 for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the (**Insert Date**) day of July, 2017.

By: Bardon, Inc.
Stephen Ward
Bardon, Inc.
6401 Golden Triangle Drive
Greenbelt, Maryland 20770

ATTACHMENT K

ELECTRONIC SUBMITTAL

ATTACHMENT L

GENERAL PERMIT REGISTRATION APPLICATION FEE

General Permit Levels
Construction, Modification, Relocation, Administrative Update

Class II General Permits – G10-D (Coal Preparation and Handling), G20-B (Hot Mix Asphalt), G30-D (Natural Gas Compressor Stations), G35-A (Natural Gas Compressor Stations with Flares/Glycol Dehydration Units), G40-C (Nonmetallic Minerals Processing), G50-B (Concrete Batch Plant), G60-C (Emergency Generators)

Class I General Permit – G33-A (Spark Ignition Internal Combustion Engines 25 HP-500 HP), G65-C (Emergency Generators)

General Permit	Public Notice	Review Period as per 45CSR13	Application Fee	Criteria	Application Type
Class II General Permit (Construction)	30 days (applicant)	45 days	$500 + applicable NSPS fees	6 lb/hr and 10 tpy of any regulated air pollutant OR 144 lb/day of any regulated air pollutant, OR 2 lb/hr of any hazardous air pollutant OR 5 tpy of aggregated HAP OR 45CSR27 TAP (10% increase if above BAT triggers or increase to BAT triggers) or subject to applicable standard or rule, but subject to specific eligibility requirements	Registration Application
Class II General Permit (Modification)	30 days (applicant)	45 days	$500 + applicable NSPS fees Total fee $1,500	Same as Class II General Permit (Construction) but subject to specific eligibility requirements	Registration Application
Administrative Update (Class I)	None	60 days	None	Decrease in emissions or permanent removal of equipment OR more stringent requirements or change in MRR that is equivalent or superior	Registration Application or Written Request
Administrative Update (Class II)	30 days (applicant)	60 days	$300 + applicable NSPS fees	No change in emissions or an increase less than Class II Modification levels	Registration Application
Relocation	30 days (applicant)	45 days	$500 + applicable NSPS fees	No emissions increase or change in facility design or equipment	Registration Application
Class I General Permit	None	45 days	$250	Same as Class II General Permit (Construction) but subject to specific eligibility requirements	Registration Application

ATTACHMENT O

EMISSIONS SUMMARY SHEETS

EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS

						Registration Number (Agency Use) **G40-C**				
	Potential Emissions (lbs/hr)					**Potential Emissions (tons/yr)**				
Source ID No.	**NO_X**	**CO**	**VOC**	**SO_2**	**PM_{10}**	**NO_X**	**CO**	**VOC**	**SO_2**	**PM_{10}**
Transfer Points					41.82					51.21
Crushing					1.60					1.94
Screening					9.52					22.62
Stockpiles					1.38					6.03
Haul Roads					42.80					66.95
Total					**97.12**					**148.75**

EMISSION SUMMARY SHEET FOR HAZARDOUS/TOXIC POLLUTANTS NOT APPLICABLE

							Registration Number (Agency Use) G40-C					
	Potential Emissions (lbs/hr)						Potential Emissions (tons/yr)					
Source ID No.	Benzene	Ethyl-benzene	Toluene	Xylenes	n-Hexane	Formalde-hyde	Benzene	Ethyl-benzene	Toluene	Xylenes	n-Hexane	Formalde-hyde