



**MODIFICATION APPLICATION TO  
GENERAL PERMIT  
REGISTRATION G40-C003E  
MILLVILLE QUARRY**

*Prepared for:*

**Bardon, Inc.**

6401 Golden Triangle Drive, Suite 400  
Greenbelt, Maryland 20770

*Prepared by:*

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Project No. 0101-16-0231

June 2016



**POTESTA**



## TABLE OF CONTENTS

Application for General Permit Registration .....	SECTION I
Business Certificate .....	ATTACHMENT A
Process Description.....	ATTACHMENT B
Description of Fugitive Emissions.....	ATTACHMENT C
Process Flow Diagram .....	ATTACHMENT D
Plot Plan.....	ATTACHMENT E
Area Map .....	ATTACHMENT F
Equipment Data Sheets and Registration Section Applicability Form .....	ATTACHMENT G
Emissions Calculations .....	ATTACHMENT I
Class I Legal Advertisement.....	ATTACHMENT J
General Permit Registration Application Fee .....	ATTACHMENT L
Emissions Summary Sheets .....	ATTACHMENT O

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 57<sup>th</sup> 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:**

- |   |  |
|---|--|
| <input type="checkbox"/> <b>G10-D</b> – Coal Preparation and Handling                                   | <input checked="" type="checkbox"/> <b>G40-C</b> – Nonmetallic Minerals Processing       |
| <input type="checkbox"/> <b>G20-B</b> – Hot Mix Asphalt   | <input type="checkbox"/> <b>G50-B</b> – Concrete Batch                                   |
| <input type="checkbox"/> <b>G30-D</b> – Natural Gas Compressor Stations                                 | <input type="checkbox"/> <b>G60-C</b> - Class II Emergency Generator                     |
| <input type="checkbox"/> <b>G33-A</b> – Spark Ignition Internal Combustion Engines                      | <input type="checkbox"/> <b>G65-C</b> – Class I Emergency Generator                      |
| <input type="checkbox"/> <b>G35-A</b> – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit) | <input type="checkbox"/> <b>G70-A</b> – Class II Oil and Natural Gas Production Facility |

**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: NA			
6. <b>WV BUSINESS REGISTRATION.</b> Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<input type="checkbox"/> 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.			
<input type="checkbox"/> 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.):  Crusher Replacement	8a. Standard Industrial Classification 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-C003E		

**A: PRIMARY OPERATING SITE INFORMATION**

11A. Facility name of primary operating site:  Millville Quarry	12A. Address of primary operating site:  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? <span style="float:right"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span> ⇨ IF YES, please explain: Applicant owns site.  ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14A. ⇨ For <b>Modifications or Administrative Updates</b> 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 <b>MAP as Attachment F.</b>  From Charles town take US 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:  Millville	16A. County:  Jefferson	17A. UTM Coordinates:  Northing (KM): 4,352.354 Easting (KM): 259.027 Zone: 18
18A. Briefly describe the proposed new operation or change (s) to the facility:  Replacement of an existing Hazemag Crusher.		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):  Latitude: 39.287 Longitude: -77.794

**B: 1<sup>ST</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits) NOT APPLICABLE**

11B. Name of 1 <sup>st</sup> alternate operating site:  _____  _____	12B. Address of 1 <sup>st</sup> alternate operating site:  Mailing: _____ Physical: _____  _____	
13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <span style="float:right"><input type="checkbox"/> YES <input type="checkbox"/> NO</span> ⇨ IF YES, please explain: _____  _____ ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14B. ⇨ For <b>Modifications or Administrative Updates</b> 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 <b>MAP as Attachment F.</b>  _____  _____  _____		

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: 2<sup>ND</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits): NOT APPLICABLE**

11C. Name of 2 <sup>nd</sup> alternate operating site:	12C. Address of 2 <sup>nd</sup> 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:  <u>07 / 25 / 2016</u>  If this is an <b>After-The-Fact</b> permit application, provide the date upon which the proposed change did happen: :  _____/_____/____	21. Date of anticipated Start-up if registration is granted:  <u>08 / 01 / 2016</u>
---	---

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 \_\_\_\_\_ Responsible Official \_\_\_\_\_ Date 6/15/2014  
(please use blue ink)

Name & Title Josep Maset, Vice President  
(please print or type)

Signature NOT APPLICABLE  
(please use blue ink) Authorized Representative (if applicable) \_\_\_\_\_ Date \_\_\_\_\_

Applicant's Name Bardon, Inc.

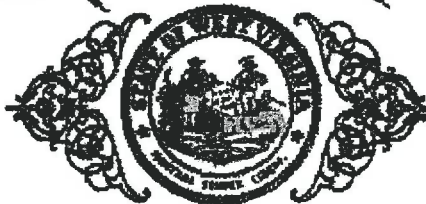
Phone & Fax 301-982-1400 X60520 855-293-6428  
Phone Fax

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 Hazemag 1322K tertiary crusher with a new Metso Model HP6 crusher which is identified as 331-CZ03. The hourly rate and the yearly rate of the new crusher will be the same as the existing crusher. Total facility production remains the same with a feed rate of 1,200 tons per hour and 6.0 million tons per year. In Attachment G, the proposed crusher is shown in red text.

#### 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. The current existing registration was issued as G40-C003E on November 24, 2015.

#### 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), transferred to stacker M2 (3600.331-ST01) and then to the Main Surge Pile SP4. SP4 is reclaimed by M3 (3600.331-BC02) transferred to M4 (3600.331-BC03) and goes 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 Hazemag Crusher (3600.331-HI1) to conveyor M10 (3600.331-BC06) to screens MS5 (3600.331-VS05) and MS6 (3600.331-VS06). **A Metso Crusher (331-CZ03) will replace the Hazemag Crusher.**

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**

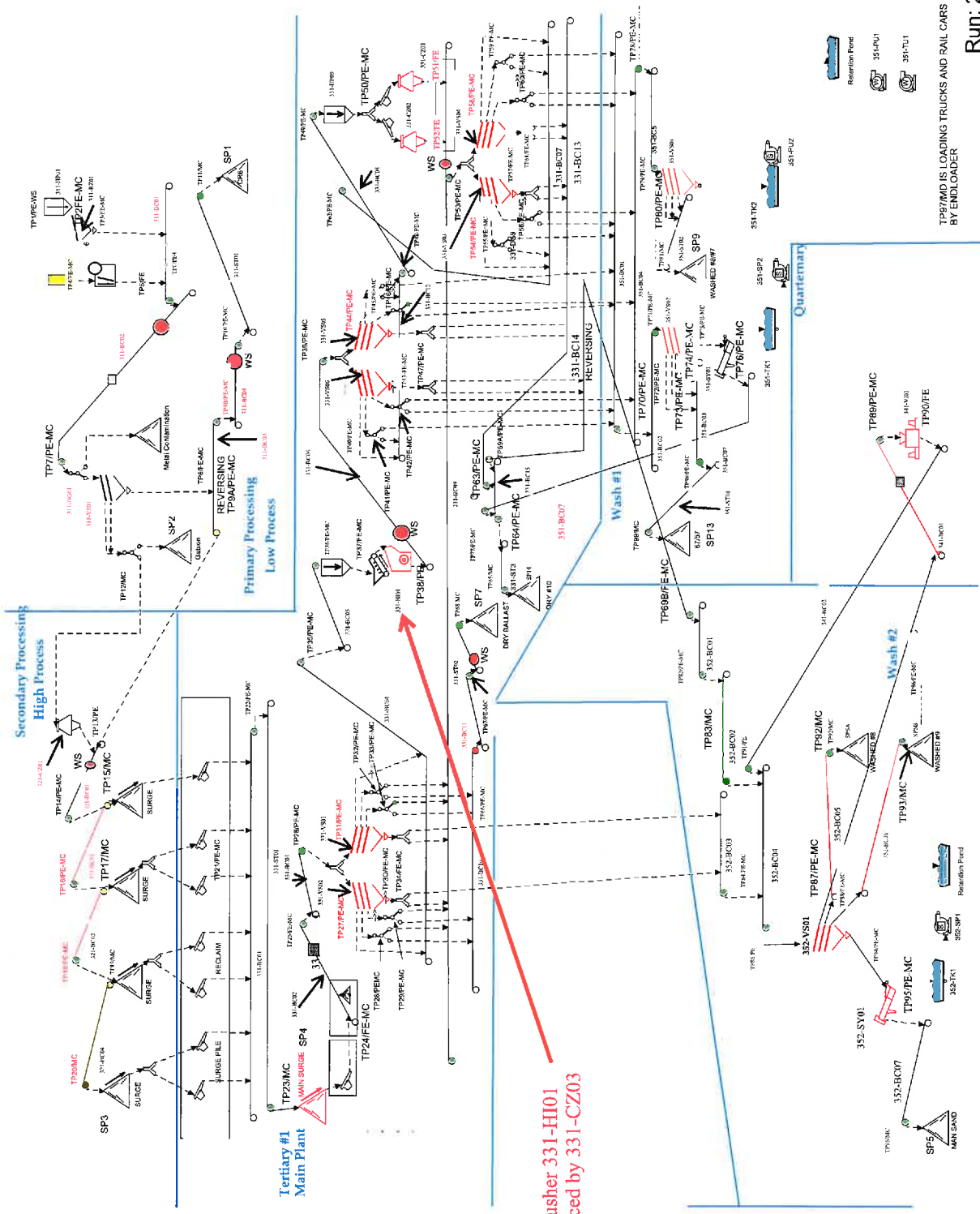
## **ATTACHMENT C**

### **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**



Tertiary Crusher 331-HI01  
being replaced by 331-CZ03

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  
Page #1

TP97/MD IS LOADING TRUCKS AND RAIL CARS BY ENDOILER

Run: 2/8/11 13:02:22

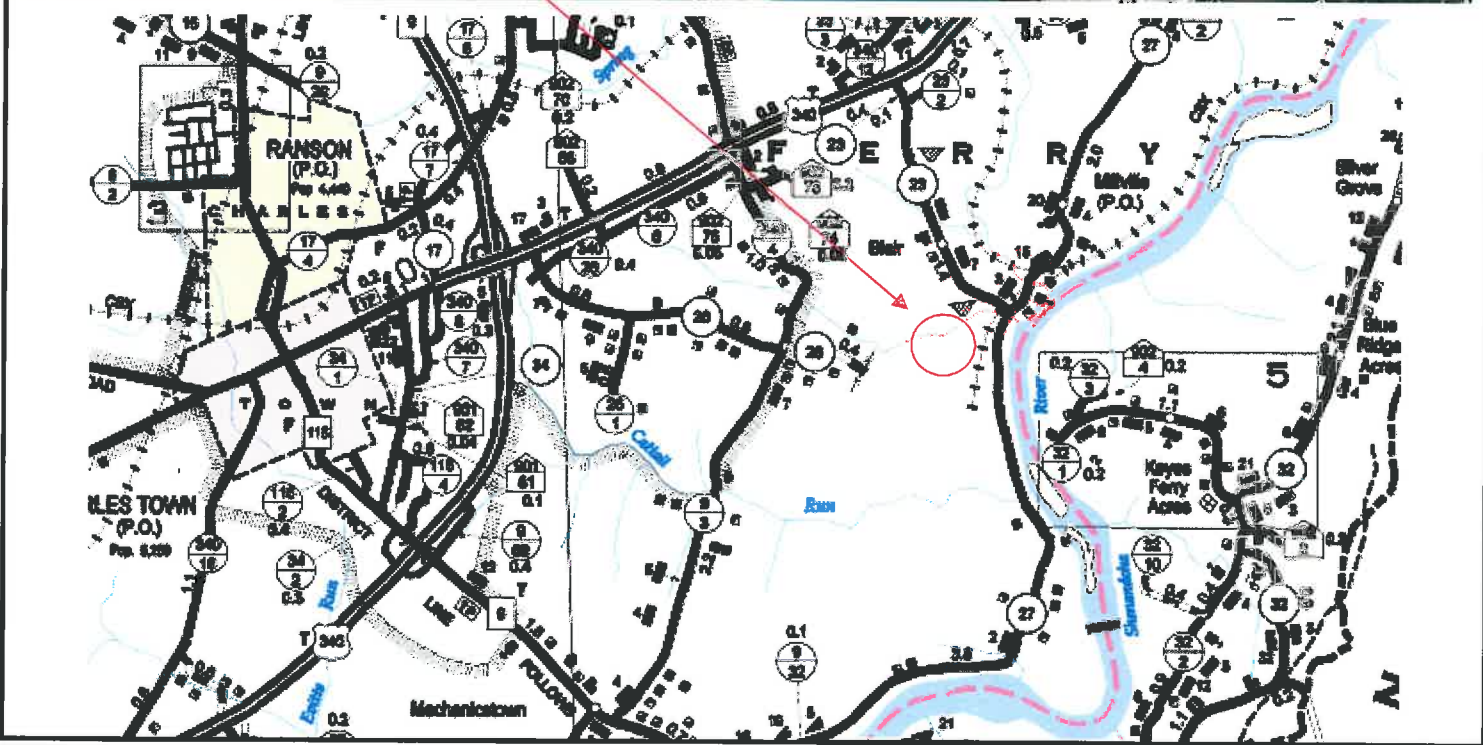
Date: June/19/2015

**ATTACHMENT E**

**PLOT PLAN**



Facility Location



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 F**  
**AREA MAP**



**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 <sup>1</sup> | Nonmetallic Mineral Processing Operations  | <input checked="" type="checkbox"/> |
| 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) | <input checked="" type="checkbox"/> |
| 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)                     | <input checked="" type="checkbox"/> |
| Section 8 <sup>2</sup> | Reciprocating Internal Combustion Engines (R.I.C.E.)   | <input type="checkbox"/>            |
| Section 9              | Tanks  | <input type="checkbox"/>            |
| Section 10             | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40CFR60 Subpart IIII)  | <input type="checkbox"/>            |
| Section 11             | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ)  | <input type="checkbox"/>            |

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 <sup>1</sup>	3600.311- JC01 (Jaw Crusher)	3600.321- CZ01 (7 Crusher)	3600.331- HI01 (Hazemag 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 <sup>2</sup>	JC	CC	IMP	CC	CC	CC	IMP	
Make, Model No., Serial No. <sup>3</sup>	NA	NA	NA	HP6	NA	NA	NA	
Date of Construction, Reconstruction, or Modification (Month/Year) <sup>4</sup>	2001	2001	To Be Removed	2016	2006	1999	2007	
Maximum Throughput <sup>5</sup>	tons/hour	600	700	800	800	1,000	1,000	400
	tons/year	3,000,000	4,000,000	2,500,000	2,500,000	2,000,000		750,000
Material sized from/to: <sup>6</sup>	0"-6"	4"-8"	0.5"-4"	0.5"-4"	0.5"-2.5"	0.5"-2.5"	0.5"-2.5"	
Average Moisture Content (%) <sup>7</sup>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Control Device ID Number <sup>8</sup>	FE	FE	FE	FE	FE	FE	FE	
Baghouse Stack Parameters <sup>9</sup>	height (ft)							
	diameter (ft)							
	volume (ACFM )							
	exit temp (F)							
	UTM Coordin ates							
Maximum Operating Schedule <sup>10</sup>	hours/da y	24	24	24	24	24	24	
	days/yea r	365	365	365	365	365	365	
	hours/ye ar	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% -3%).
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 <sup>1</sup>	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 <sup>2</sup>	Grizzly	DD	TD	TD	TD	TD
Make, Model No., Serial No. <sup>3</sup>	NA	NA	NA	NA	NA	NA
Date of Construction, Reconstruction, or Modification (Month/Year) <sup>4</sup>	2001	2009	2004	2004	2004	2011
Maximum Throughput <sup>5</sup>	tons/hour	1,200	1,200	1,000	1,000	1,000
	tons/year	6,000,000	6,000,000	6,000,000		4,500,000
Material sized from/to: <sup>6</sup>	0"-8"	0"-8"	0"-4"	0"-4"	0"-2"	0"-2"
Average Moisture Content (%) <sup>7</sup>	1.5	1.5	1.5	1.5	1.5	1.5
Control Device ID Number <sup>8</sup>	MC	PE-MC	PE-MC	PE-MC	PE-MC	PE-MC
Baghouse Stack Parameters <sup>9</sup>	height (ft)					
	diameter (ft)					
	volume (ACFM)					
	exit temp (F)					
	UTM Coordinates					
Maximum Operating Schedule <sup>10</sup>	hours/day	25	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		
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"/-3/8").
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 <sup>1</sup>		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 <sup>2</sup>		TD	TD	TD	TD	TD
Make, Model No., Serial No. <sup>3</sup>		NA	NA	NA	NA	NA
Date of Construction, Reconstruction, or Modification (Month/Year) <sup>4</sup>		2005	2005	2013	2011	2015
Maximum Throughput <sup>5</sup>	tons/hour	800	800	400	600	500
	tons/year	2,500,000		1,500,000	3,500,000	750,000
Material sized from/to: <sup>6</sup>		0"-1.5"	0"-1.5"	0"-3"	0"-3"	0"-1.5"
Average Moisture Content (%) <sup>7</sup>		1.5	1.5	Wet	Wet	Wet
Control Device ID Number <sup>8</sup>		PE-MC	PE-MC	Wet	Wet	Wet
Baghouse Stack Parameters <sup>9</sup>	height (ft)					
	diameter (ft)					
	volume (ACFM)					
	exit temp (F)					
	UTM Coordinates					
Maximum Operating Schedule <sup>10</sup>	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

Crusher      IMP      Impact
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" / -3/8").
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 <sup>1</sup>	Date of Construction, Reconstruction, or Modification (Month/Year) <sup>2</sup>	Type of Material Handled <sup>3</sup>	Size of Material Handled <sup>4</sup>	Maximum Material Transfer Rate <sup>5</sup>		Average Moisture Content (%) <sup>6</sup>	Control Device <sup>7</sup>
				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-ST01 (M2)	2001	Aggregate	0"-4"	1,200	6,000,000	1.5	N
3600.331-BC02 (M3)	1984	Aggregate	0"-4"	1,000	6,000,000	1.5	PE
3600.331-BC03 (M4)	1984	Aggregate	0"-4"	1,000	6,000,000	1.5	N
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 <sup>1</sup>	Date of Construction, Reconstruction, or Modification (Month/Year) <sup>2</sup>	Type of Material Handled <sup>3</sup>	Size of Material Handled <sup>4</sup>	Maximum Material Transfer Rate <sup>5</sup>		Average Moisture Content (%) <sup>6</sup>	Control Device <sup>7</sup>
				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 <sup>1</sup>	Date of Construction, Reconstruction, or Modification (Month/Year) <sup>2</sup>	Type of Material Handled <sup>3</sup>	Size of Material Handled <sup>4</sup>	Maximum Material Transfer Rate <sup>5</sup>		Average Moisture Content (%) <sup>6</sup>	Control Device <sup>7</sup>
				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 ¾ hoop), FE - Full Enclosure, N - None

## STORAGE ACTIVITY AFFECTED SOURCE SHEET

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

**STORAGE ACTIVITY AFFECTED SOURCE SHEET CON'T**

Source Identification Number <sup>1</sup>	SP4	SP5	SP5A	SP6	SP7	SP8
Type of Material Stored <sup>2</sup>	Main Surge Pile	Washed #8/#9/Sand	Washed #8	Various	Dry Ballast	Various
Average Moisture Content (%) <sup>3</sup>	1.5	1.5	1.5	1.5	1.5	1.5
Maximum Yearly Storage Throughput (tons) <sup>4</sup>	6,000,000	750,000		5,000,000	250,000	20,000
Maximum Storage Capacity (tons) <sup>5</sup>	20,000	130,000	700	23,000	120,000	2,000
Maximum Base Area (ft <sup>2</sup> ) <sup>6</sup>	70,000	350,000	9,000	33,000	237,000	18,000
Maximum Pile Height (ft) <sup>7</sup>	40	40	40	40	40	40
Method of Material Load-in <sup>8</sup>	RS	SS	SS	FE	RS	FE
Load-in Control Device Identification Number <sup>9</sup>	MC	MC	MC	MC	MC	MC
Storage Control Device Identification Number <sup>9</sup>	N	N	N	N	N	N
Method of Material Load-out <sup>8</sup>	UC	FE	FE	FE	FE	FE
Load-out Control Device Identification Number <sup>9</sup>	FE-MC	MD	MD	MD	MD	MD

- 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
- Describe the type of material stored or stockpiled. (e.g. sized material, raw material, refuse, etc).
- Enter the average percent moisture content of the stored material.
- Enter the maximum yearly storage throughput for each storage activity.
- Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
- For stockpiles, enter the maximum stockpile base area.
- For stockpiles, enter the maximum stockpile height.
- 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
- 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 <sup>1</sup>	SP9	SP10	SP11	SP12	SP13	SP14
Type of Material Stored <sup>2</sup>	Washed #8/#7	Various	Various	Various	67/57	Dry #10
Average Moisture Content (%) <sup>3</sup>	1.5	1.5	1.5	1.5	1.5	1.5
Maximum Yearly Storage Throughput (tons) <sup>4</sup>	1,500,000	300,000	20,000	200,000	3,500,000	
Maximum Storage Capacity (tons) <sup>5</sup>	80,000	100,000	3,000	10,000	250,000	250,000
Maximum Base Area (ft <sup>2</sup> ) <sup>6</sup>	97,000	219,000	50,000	83,000	277,000	222,000
Maximum Pile Height (ft) <sup>7</sup>	40	40	40	40	40	40
Method of Material Load-in <sup>8</sup>	RS	TD/FE	TD/FE	TD/FE	RS	RS
Load-in Control Device Identification Number <sup>9</sup>	MC	MD	MD	MD	MC	MC
Storage Control Device Identification Number <sup>9</sup>	N	N	N	N	N	N
Method of Material Load-out <sup>8</sup>	FE	FE	FE	FE	FE	FE
Load-out Control Device Identification Number <sup>9</sup>	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 <sup>1</sup>	SP15	SP16	SP17	SP18		
Type of Material Stored <sup>2</sup>	Various	Various	Various	Various		
Average Moisture Content (%) <sup>3</sup>	1.5	1.5	1.5	1.5		
Maximum Yearly Storage Throughput (tons) <sup>4</sup>	60,000	30,000	30,000	30,000		
Maximum Storage Capacity (tons) <sup>5</sup>	20,000	10,000	30,000	10,000		
Maximum Base Area (ft <sup>2</sup> ) <sup>6</sup>	128,000	85,000	129,000	61,000		
Maximum Pile Height (ft) <sup>7</sup>	40	40	40	40		
Method of Material Load-in <sup>8</sup>	TD/FE	TD/FE	TD/FE	TD/FE		
Load-in Control Device Identification Number <sup>9</sup>	MD	MD	MD	MD		
Storage Control Device Identification Number <sup>9</sup>	N	N	N	N		
Method of Material Load-out <sup>8</sup>	FE	FE	FE	FE		
Load-out Control Device Identification Number <sup>9</sup>	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<sup>2</sup>
7. Operating air to cloth ratio: \_\_\_\_\_ ft/min
8. Filter media type:
9. Stabilized static pressure drop across baghouse: \_\_\_\_\_ inches H<sub>2</sub>O
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: <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Packed Bed</td> <td><input type="checkbox"/> Venturi</td> </tr> <tr> <td><input type="checkbox"/> Spray Tower</td> <td><input type="checkbox"/> Cyclone</td> </tr> <tr> <td><input type="checkbox"/> Mechanical</td> <td><input type="checkbox"/> Orifice</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Other, specify</td> </tr> </table>	<input type="checkbox"/> Packed Bed	<input type="checkbox"/> Venturi	<input type="checkbox"/> Spray Tower	<input type="checkbox"/> Cyclone	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Orifice	<input type="checkbox"/> Other, specify	
<input type="checkbox"/> Packed Bed	<input type="checkbox"/> Venturi								
<input type="checkbox"/> Spray Tower	<input type="checkbox"/> Cyclone								
<input type="checkbox"/> Mechanical	<input type="checkbox"/> Orifice								
<input type="checkbox"/> 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:								
in.	Diameter of blade:								
Also supply a fan curve for each fan to be used.									
9. Estimated gas pressure drop at maximum flow rate: _____ inches H <sub>2</sub> O									

**Scrubbing Liquor Characteristics**

10. Scrubbing Liquor <table style="width:100%; border: none;"> <thead> <tr> <th style="width:50%; text-align: center;">Composition</th> <th style="width:50%; text-align: center;">Weight %</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td></td></tr> <tr><td style="text-align: center;">2</td><td></td></tr> <tr><td style="text-align: center;">3</td><td></td></tr> <tr><td style="text-align: center;">4</td><td></td></tr> </tbody> </table>	Composition	Weight %	1		2		3		4		11. Scrubbing liquor losses (evaporation, etc.): gal/1000 ACF gas
Composition	Weight %										
1											
2											
3											
4											
	12. Liquor pressure to scrubber: _____ PSIA										
	13. Pressure drop through scrubber: _____ in. H <sub>2</sub> O										
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:  Throat Dimensions: (Specify Units)  Throat Velocity: <span style="float: right;">ft/sec</span>	20. Data for Packed Towers:  Type of Packing:  Superficial Gas Velocity through Bed:
---	--

**Gas Stream Characteristics**

21. Gas flow into the collector:  <p style="text-align: center;">ACF @                      °F and                      PSIA</p>	22. Gas stream temperature:  <p style="text-align: center;">Inlet:                      °F</p>
--	--

23. Gas flow rate:  Design Maximum:                      ACFM  Average Expected:                      ACFM	24. Particulate Grain Loading in grains/scf:  Inlet:  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<sub>x</sub>                       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.

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



**ENGINE DATA SHEET NOT APPLICABLE**

Source Identification Number <sup>1</sup>							
Engine Manufacturer and Model							
Manufacturer's Rated bhp/rpm							
Source Status <sup>2</sup>							
Date Installed/Modified/Removed (Month/Year) <sup>3</sup>							
Engine Manufactured/Reconstruction Date <sup>4</sup>							
Is this a Certified Stationary Compression Ignition Engine according to 40CFR60 Subpart IIII? (Yes or No) <sup>5</sup>							
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart JJJJ? (Yes or No) <sup>6</sup>							
Engine, Fuel and Combustion Data	Engine Type <sup>7</sup>						
	APCD Type <sup>8</sup>						
	Fuel Type <sup>9</sup>						
	H <sub>2</sub> S (gr/100 scf)						
	Operating bhp/rpm						
	BSFC (Btu/bhp-hr)						
	Fuel throughput (ft <sup>3</sup> /hr)						
	Fuel throughput (MMft <sup>3</sup> /yr)						
	Operation (hrs/yr)						
Reference <sup>10</sup>	Potential Emissions <sup>11</sup>	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
	NO <sub>x</sub>						
	CO						
	VOC						
	SO <sub>2</sub>						
	PM <sub>10</sub>						
	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 |



**STORAGE TANK DATA SHEET NOT APPLICABLE**

Source ID # <sup>1</sup>	Status <sup>2</sup>	Content <sup>3</sup>	Volume <sup>4</sup>	Dia <sup>5</sup>	Throughput <sup>6</sup>	Orientation <sup>7</sup>	Liquid Height <sup>8</sup>

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: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

This project is for replacement of a crusher. There is no change to the potential to emit. The replaced crusher is shown in red on page I6 of I8.

**Proposed Facility Emissions**

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

**Point Sources**

Transfer Points	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	351.19	476.83	92.44	119.10
PM10	167.23	227.06	44.02	56.71
PM2.5	25.09	34.06	6.60	8.51

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 Point Source	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	505.55	806.54	115.81	170.67
PM10	240.74	384.06	55.14	81.27
PM2.5	36.11	57.61	8.27	12.19

By: ADM  
Date: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**Proposed Facility Emissions**

**Fugitive Sources**

Stockpiles	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	2.98	13.07	2.98	13.07
PM10	1.42	6.22	1.42	6.22
PM2.5	0.21	0.93	0.21	0.93

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 Fugitive Source	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	581.90	918.86	147.72	239.52
PM10	172.61	274.02	44.22	73.17
PM2.5	17.41	27.68	4.51	7.62



By: ADM  
Date: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**Transfer Points**

$$E(\text{lbs/ton}) = k * (0.0032) * [(U/5)^{1.3}] / [(M/2)^{1.4}]$$

Where:

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

Transfer Point ID Number	Material Throughput (tph)	Material Throughput (tpy)	Control Device	Control Efficiency (%)	PM		PM	
					Uncontrolled (lb/hr)	(tpy)	Controlled (lb/hr)	(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	0.6
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: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**Transfer Points**

$$E(\text{lbs/ton}) = k \cdot (0.0032) \cdot [(U/5)^{1.3}] / [(M/2)^{1.4}]$$

Where:

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

Transfer Point ID Number	Material Throughput (tph)	Material Throughput (tpy)	Control Device	Control Efficiency (%)	PM		PM	
					Uncontrolled (lb/hr)	(tpy)	Controlled (lb/hr)	(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					351.19	476.83	92.44	119.10
Total PM10					167.23	227.06	44.02	56.71
Total PM2.5					25.09	34.06	6.60	8.51

MS3, 4 Recycle      100%

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: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**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)

		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 Type	Control Efficiency (%)	Uncontrolled		Controlled	
		(ton/hr)	(tons/yr)			(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
Jaw Crusher	3600.311-JC01	600	3,000,000	FE	80	1.2	3	0.24	0.60
7 Crusher	3600.321-CZ01	700	4,000,000	FE	80	3.78	10.8	0.76	2.16
Hazemag Crusher replaced by HP6	3600.331-HI01 3600.331-CZ03	800	2,500,000	FE	80	4.32	2.5	0.86	0.50
HP500	3600.331-CZ01	1,000	2,000,000	FE	80	5.4	2	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	1.6	1.94
					PM2.5	1.2	1.45	0.24	0.29

**Screen Emissions (3)**

Screen Identification	ID	Throughput		Control Type	Control Efficiency (%)	Uncontrolled		Controlled	
		(ton/hr)	(tons/yr)			(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
PS1	3600.311-VS01	1,200	6,000,000	PE-MC	80	30.00	75	6.00	15.00
MS1	3600.331-VS01	1,000	6,000,000	PE-MC	80	25.00	75	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
Conversion Factor	0.74	0.35	0.053
		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: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**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		Controlled Emissions		
					lb/hr	tpy	lb/hr	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	0.1	0.43	0.1	0.43	
SP4	Main Surge Pile	1.6	N	0	0.09	0.41	0.09	0.41	
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	0.2	0.05	0.2	
SP7	Dry Ballast	5.4	N	0	0.31	1.37	0.31	1.37	
SP8	Various	0.4	N	0	0.02	0.1	0.02	0.1	
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	0.3	1.3	0.3	1.3	
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:	2.98	13.07	2.98	13.07
					PM10:	1.42	6.22	1.42	6.22
					PM2.5	0.21	0.93	0.21	0.93

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: 06/14/2016

Checked By: PEW  
Date: 06/14/2016

**Vehicular Traffic (VT)**

**Unpaved Haulroads**

PM

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor <sup>(1)</sup> (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
<b>Total</b>					<b>578.92</b>	<b>905.79</b>			<b>144.74</b>	<b>226.45</b>

PM10

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor <sup>(1)</sup> (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	26.1	25.92
Endloaders	50	300,000	0.02	3.32	3.32	9.96	RWMW	75	0.83	2.49
<b>Total</b>					<b>171.19</b>	<b>267.80</b>			<b>42.80</b>	<b>66.95</b>

PM2.5

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor <sup>(1)</sup> (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
<b>Total</b>					<b>17.20</b>	<b>26.75</b>			<b>4.30</b>	<b>6.69</b>

Emission Factors <sup>(1)</sup>

	PM	PM10	PM2.5	
k =	4.9	1.5	0.15	dimensionless, particle size multiplier
s =	10	10	10	% surface material silt content
W <sub>raw</sub> =	81	81	81	tons, mean vehicle weight
W <sub>product</sub> =	25	25	25	
W <sub>endloader</sub> =	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
Total Hauled (tpy) =	Raw 6,000,000	Product 2,000,000	Endloaders 6,000,000	
Load Weight (tons) =	65	19	20	
Vehicles Per Year =	92,308	105,264	300,000	(1) Emission Equation AP-42 Section 13.2.2, Unpaved Roads (12/03), where:
Total Hauled (tph) =	1,200	1,000	1,000	$e = k [(s/12)^3 (W/3)^3] [(365-p)/365]$
Load Weight (tons) =	65	19	20	e = Emission factor, pounds per vehicle-mile-traveled, (lb/VMT)
Vehicles Per Hour =	19	53	50	k, a & b = Constants for equation given in AP-42 Table 13.2.2-2 (dimensionless)
Empty Vehicle Weight (tons) =	48	15	70	s = Silt content of road surface material (%)
Loaded Vehicle Weight (tons) =	113	34	90	W = Mean vehicle weight, ton
Average Vehicle Weight (tons) =	81	25	80	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-C003E for Millville Quarry to replace a tertiary crusher. 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 potential to discharge will not change as a result of replacing the crusher.

The facility is operational. The replacement tertiary crusher will be installed in July 2016. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57<sup>th</sup> 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 June, 2016.

By: Bardon, Inc.  
Josep Maset  
Bardon, Inc.  
6401 Golden Triangle Drive  
Greenbelt, Maryland 20770

**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	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**

<b>EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS</b>												
												Registration Number <small>(Agency Use)</small> <b>G40-C</b>
Source ID No.	Potential Emissions (lbs/hr)						Potential Emissions (tons/yr)					
	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>		NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	
Transfer Points					44.02						56.71	
Crushing					1.60						1.94	
Screening					9.52						22.62	
Stockpiles					1.42						6.22	
Haul Roads					42.80						66.95	
<b>Total</b>					<b>99.36</b>						<b>154.44</b>	

