

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT**

**DOCKET #03-22
Initial and Supplement**

COMPANY: Vulcan Construction Materials, LLC – Havre de Grace Quarry

LOCATION: 938 Quarry Road
Havre de Grace, MD 21078

APPLICATION: Addition of a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Notice of Application and Informational Meeting
2	Permit to Construct Application Forms
3	Zoning Certification

**DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

NOTICE OF APPLICATION AND INFORMATIONAL MEETING

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from Vulcan Construction Materials, LLC – Havre de Grace Quarry on December 29, 2021 for the addition of a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry. The proposed installation will be located at 938 Quarry Road, Havre de Grace, MD 21078.

An Informational Meeting will be held on March 10, 2022 at 5:30 p.m. at the Havre de Grace Library at 120 N. Union Ave, Havre de Grace, MD 21078.

Pursuant to the Environment Article, Section 1-603, Annotated Code of Maryland, the Informational Meeting has been scheduled so that citizens can discuss the application and the permit review process with the applicant and the Department.

The application and other supporting documents are available for public inspection on the Department's website. Look for Docket #03-22 at the following link

<https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx>

The Department will provide an interpreter for deaf and hearing impaired persons provided that a request is made for such service at least ten (10) days prior to the meeting.

Further information may be obtained by calling Ms. Shannon Heafey at 410-537-4433.

George S. Aburn, Jr., Director
Air and Radiation Administration



December 15, 2021

Suna Yi Sariscak, Manager
Air Quality Permits Program
Maryland Department of the Environment
Air & Radiation Management Administration
1800 Washington Blvd., Suite 720
Baltimore, MD 21230

Re: Vulcan Construction Materials, LLC-Havre de Grace Quarry (#025-00120) –
Proposed Modular Diesel-Powered Portable Plants - Permit Modification

Dear Suna:

Thank you for working with us to frame various projects in terms of required Permit-to-Construct requirements. Please find enclosed a completed AMA-5 Application Form and supporting documentation requesting MDE authorization to construct and operate various Diesel-Powered Portable Plant Modules at our Havre de Grace Quarry. This would all be future new and/or rental equipment units as needed within the scope and framework described, to be used to supplement or augment the existing capacity and product limitations of the existing permitted fixed plant.

Several parameters have been crucial in planning this project, selecting equipment, and preparing the application materials. We have strived to keep NOx emissions (as well as other potential pollutants) below critical thresholds by proposing only Tier 4 diesels, using only ULSD diesel fuel, and limiting operating hours and equipment capacities to reasonable expectations, while maintaining the operational flexibility we need. One important consideration is our desire that any equipment listed with specific name/brand/model number have an allowance for us to operate equivalent size/hp/tph units from other manufacturers, whether owned or rented, as long as we stay within emissions limits and other parameters. This is the nature of the portable equipment business with respect to what is available for rent or purchase when it comes time to setting up a portable plant in varying equipment arrangements to quickly and efficiently meet changing customer stone requirements.

This section describes the 4 Modules we wish to permit, for either independent and/or concurrent operation. Concurrent operation of more than 2 of these modules at the same time is unlikely, but there could be a need or overlap due to short-term market demands:

MODULE A (Crushing & Screening Base Material in Quarry, remove rock from overburden/toprock, removing dirt from rock) (Like toprock portable plant):
 Only get 500 tons per hour, 2,000 hours, 250 days, 8 hours/day, 960,000 tons/year; 9 engines, 1488 combined horsepower, 120,000 gals./yr fuel.

Powerscreen 600 Jaw Crusher
 Powerscreen 1300 Cone Crusher
 Powerscreen Warrior 2100 5' x 16' 2-deck screen
 Powerscreen Chieftain 2100X 5' x 20' 3-deck screen
 Powerscreen CT 65 Conv 1
 Powerscreen CT 65 Conv 2
 Powerscreen CT 65 Conv 3
 Telestak TC 624R Conv
 Telestak HF 521 Conv

MODULE B (Recrushing/Screening Module) (Similar to Mellott Circuit):
 Cone, screen, feed hopper/conveyor, and enough portable stacking conveyors
 300 tph, 3,000 hours, 300 days, 10 hrs/day (to match finishing plant), 900,000 tons/year; 9 engines, 1,051 combined horsepower, 135,000 gals./yr fuel.

Powerscreen 1300 Cone Crusher
 Powerscreen Chieftain 2100X 5' x 20' 3-deck screen
 Telestak HF 521 Conv
 Powerscreen CT 65 Conv 1
 Powerscreen CT 65 Conv 2
 Powerscreen CT 65 Conv 3
 Powerscreen CT 65 Conv 4
 Telestak TC 624R Conv 1
 Telestak TC 624R Conv 2

MODULE C: (Rescreening contaminated material, screening specialty products, feed material into various spots of plant, etc.)
 Feed hopper/conveyor, portable screen (maximum 3-deck), and portable stacking conveyors.
 300 tph, 2,000 hours, 250 days, 8 hours/day, 600,000 tons/yr; 7 engines, 575 combined horsepower, 54,000 gals./yr fuel.

Powerscreen Chieftain 2100X 5' x 20' 3-deck screen
 Telestak HF 521 Conv
 Powerscreen CT 65 Conv 1
 Powerscreen CT 65 Conv 2
 Powerscreen CT 65 Conv 3
 Telestak TC 624R Conv
 Telestak HF 521 Conv 2

MODULE D: (Manufacture some rip rap or remove rock from dirt/overburden)

Track Trommel module with some stackers

500 tph, 2,000 hours, 250 days, 8 hours/day; 5 engines, 430 combined horsepower, 43,200 gals./yr fuel.

MDS M515 Track Trommel

Telestak HF 521 Conv

Powerscreen CT 65 Conv 1

Powerscreen CT 65 Conv 2

Telestak TC 624R Conv

The attached application and supplemental materials reflect the operating parameters listed for each module. Wet dust suppression will be maintained where extant and added as necessary. Please note that the primary crusher feed for the existing fixed, permitted crushing and screening plant remains at the permitted 2,000 tons per hour, 3,000 hours per year, and 6,000,000 tons per year.

The supporting information in our application package is arranged by module. Each module has 1 equipment list showing engine sizes, capacities, and fuel consumption, 1 diesel emissions spreadsheet, 1 aggregates emissions spreadsheet, and 1 plan view of a typical equipment arrangement for the equipment in that module. The capacities and emissions roll up to a single Summary spreadsheet, with a table of all of the emissions, and keeping the diesel emissions separate from the aggregates fugitive emissions for proper entry onto the AMA-5 Form. Emissions are estimated using EPA Method AP-42.


Existing permitted aggregate fugitive PM-10 emissions (including the Screen #6 PTC project) are 15.056 annual tons. The proposed Portable Modules (if all operated to capacity at the same time) would add 6.592 tons of PM-10, for a total of 21.648 tons of PM-10 for all aggregate processing equipment on the premises. Similar sums have been calculated for both PM and PM-2.5 at the bottom of the Summary spreadsheet, including pounds per day numbers. Thereafter, the numbers have been entered onto form AMA-5 as appropriate.

3 spreadsheets using the MDE Compliance Demonstration Method for Crystalline Silica Emissions show the C-S PM-10 for the existing permitted fixed plant to date, the proposed Portable Modules, and the sum representing the total of existing plus proposed. The net increase is 26.4 additional lbs. C-S PM-10 per year. Adding this to the C-S PM-10 for the existing permitted fixed plant of 60.2 lbs. C-S PM-10 (this number was derived in the supporting information for the PTC application for the pending Screen Tower #6 Upgrade Project) with a total for the entire plant of 86.6 lbs. C-S PM-10. This demonstrates compliance by a wide margin, as both the proposed additional C-S and total C-S is well less than the 365 lbs. (1 lb./day) required for modeling and detailed review.

Manufacturer literature (typically PowerScreen or Telestack) is also provided on an enclosed thumb-drive that includes digital copies of the other application attachments as well. A marked-up aerial photo map shows the typical proposed locations on the premises of the various portable plant modules. The modules used for separating dirt from rock, or processing brown rock, or making rip rap are located in the pit, stripping, and overburden areas. The modules that recrush or rescreen are typically located in the existing fixed plant area. As you know, Havre de Grace Quarry has very large buffers separating the quarry from neighboring properties. Any NSPS notification/ Visible Emissions requirements for crushers, screens, and conveyors will be conducted according to 40CFR60 Subpart OOO.

Please contact me at 410-746-8723 or johnssonj@vmcmail.com with any questions. If you wish to sit down and review our application or meet on site, we offer our willingness to do so and you might find it helpful in reviewing and understanding all these aspects of our request.

Sincerely,



Johnny Johnsson
Environmental Manager

Enclosures

cc: Justin Burrage – HDG Plant Manager, Robert Wloczewski-Asst. Mgr.,
Josh Heckler-Area Manager
Matthew Hafner - MDE air permitting



AIR QUALITY PERMIT TO CONSTRUCT APPLICATION CHECKLIST

OWNER OF EQUIPMENT/PROCESS	
COMPANY NAME:	
COMPANY ADDRESS:	
LOCATION OF EQUIPMENT/PROCESS	
PREMISES NAME:	
PREMISES ADDRESS:	
CONTACT INFORMATION FOR THIS PERMIT APPLICATION	
CONTACT NAME:	
JOB TITLE:	
PHONE NUMBER:	
EMAIL ADDRESS:	
DESCRIPTION OF EQUIPMENT OR PROCESS	

Application is hereby made to the Department of the Environment for a Permit to Construct for the following equipment or process as required by the State of Maryland Air Quality Regulation, COMAR 26.11.02.09.

Check each item that you have submitted as part of your application package.

- Application package cover letter describing the proposed project
- Complete application forms (Note the number of forms included or NA if not applicable.)

No. _____ Form 5	No. _____ Form 11
No. _____ Form 5T	No. _____ Form 41
No. _____ Form 5EP	No. _____ Form 42
No. _____ Form 6	No. _____ Form 44
No. _____ Form 10	
- Vendor/manufacturer specifications/guarantees
- Evidence of Workman's Compensation Insurance
- Process flow diagrams with emission points
- Site plan including the location of the proposed source and property boundary
- Material balance data and all emissions calculations
- Material Safety Data Sheets (MSDS) or equivalent information for materials processed and manufactured.
- Certificate of Public Convenience and Necessity (CPCN) waiver documentation from the Public Service Commission ⁽¹⁾
- Documentation that the proposed installation complies with local zoning and land use requirements ⁽²⁾

(1) Required for emergency and non-emergency generators installed on or after October 1, 2001 and rated at 2001 kW or more.

(2) Required for applications subject to Expanded Public Participation Requirements.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd • Baltimore, Maryland 21230
(410) 537-3230 • 1-800-633-6101 • www.mde.state.md.us

Air and Radiation Management Administration • Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct Registration Update Initial Registration

1A. Owner of Equipment/Company Name

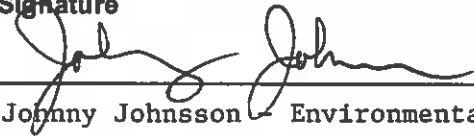
Vulcan Construction Materials, LLC

Mailing Address

875 Oxford Avenue
Street Address
Hanover, PA 17331
City State Zip

Telephone Number e-mail: johnssonj@vmcmail.com
(410) 746-8723

Signature



Johnny Johnsson Environmental Manager

Print Name and Title

DO NOT WRITE IN THIS BLOCK

2. REGISTRATION NUMBER

County No.

Premises No.

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1-2

3-6

Registration Class

Equipment No.

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7

8-11

Data Year

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12-13

Application Date

12/15/21
Date

1B. Equipment Location and Telephone Number (if different from above)

Havre de Grace Quarry 938 Quarry Road
Street Number and Street Name

Havre de Grace, MD 21078 (410) 575-6587
City/Town State Zip Telephone Number

Havre de Grace Quarry
Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
A 15	0 4 2 2 16-19	0 4 2 2 20-23	7 8 20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Portable diesel (Tier 4)-powered stone crushing & screening plant equipment comprised of 4 modular arrangements able to be operated concurrently, independently, and/or combined.

5. Workmen's Compensation Coverage MWC 312015-21 01/01/22

Company Old Republic Insurance Company Binder/Policy Number Expiration Date

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time various

6B. Number of Stack/Emission Points Associated with this Equipment see attachments

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name _____ Title _____

Company _____

Mailing Address/Street _____

City/Town _____ State _____ Telephone (____) _____

8. Major Activity, Product or Service of Company at this Location

Crushed stone quarry.

9. Control Devices Associated with this Equipment

None

24-0

Simple/Multiple Cyclone

24-1

Spray/Adsorb Tower

24-2

Venturi Scrubber

24-3

Carbon Adsorber

24-4

Electrostatic Precipitator

24-5

Baghouse

24-6

Thermal/Catalytic Afterburner

24-7

Dry Scrubber

24-8

Other

Describe Tier 4 (typically DEF Selective Catalytic Reduction (SCR) emissions control) for diesel-powered portable plant equipment.

10. Annual Fuel Consumption for this Equipment

OIL-1000 GALLONS

26-31

SULFUR % GRADE

32-33

34

NATURAL GAS-1000 FT³

35-41

LP GAS-100 GALLONS

42-45

COAL- TONS

46-52

SULFUR %

53-55

ASH%

56-58

WOOD-TONS

59-63

MOISTURE %

64-65

OTHER FUELS

ANNUAL AMOUNT CONSUMED

(Specify Type)

66-1

(Specify Units of Measure)

OTHER FUEL

ANNUAL AMOUNT CONSUMED

(Specify Type)

66-2

(Specify Units of Measure)

1=Coke 2=COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

various 2,000-3,000 hrs/yr depending on module

Continuous Operation Batch Process Hours per Batch Batch per Week Hours per Day Days Per Week Days per Year

67-1

67-2

68-69

70-71

72

73-75

Seasonal Variation in Operation:

No Variation

76

Winter Percent

77-78

Spring Percent

79-80

Summer Percent

81-82

Fall Percent

83-84

(Total Seasons= 100%)

*see attachments

12. Equivalent Stack Information- is Exhaust through Doors, Windows, etc. Only? (Y/N)

N/A

85

If not, then

Height Above Ground (FT)

Inside Diameter at Top

Exit Temperature (°F)

Exit Velocity (FT/SEC)

86-88

89-91

92-95

96-98

NOTE:

* see attachments

Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)

Is any of this data to be considered confidential? N (Y or N)

Portable stone crushing & screening equipment Modules

INPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	INPUT RATE		
			UNITS	PER YEAR	UNITS
1. Module A		500	tons	960,000	tons
2. Module B		300	tons	900,000	tons
3. Module C		300	tons	600,000	tons
4. Module D		500	tons	960,000	tons
5. all various sizes of crushed stone quarry materials					
6. modular arrangements able to be operated concurrently, independently, and/or combined.					
7.					
8.					
9.					

TOTAL

14. Output Materials (for this equipment)

Process/Product Stream

OUTPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	OUTPUT RATE		
			UNITS	PER YEAR	UNITS
1. All outputs same as inputs					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

TOTAL

15. Waste Streams - Solid and Liquid

OUTPUT RATE

NAME	CAS NO. (IF APPLICABLE)	PER HOUR	OUTPUT RATE		
			UNITS	PER YEAR	UNITS
1. N/A - none					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

TOTAL



16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

*up to 30 Tier 4 diesel engines

Oxides of Nitrogen see spreadsheets

Particulate Matter

		0	.8	5	2
--	--	---	----	---	---

99-104

Oxides of Sulfur

		0	.3	1	33
--	--	---	----	---	----

105-110

Oxides of Nitrogen

	1	7.	0	3	9
--	---	----	---	---	---

111-116

Carbon Monoxide

2	1	0.	4	0	4
---	---	----	---	---	---

177-122

Volatile Organic Compounds

		8.	5	1	9
--	--	----	---	---	---

123-128

PM-10

		0	.7	0	0
--	--	---	----	---	---

129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

* Stone crushing & screening portable equipment

*see attached spreadsheets

Particulate Matter

		1	2	5	.5
--	--	---	---	---	----

135-139

Oxides of Sulfur

--	--	--	--	--	--

140-144

Oxides of Nitrogen

--	--	--	--	--	--

145-149

Carbon Monoxide

--	--	--	--	--	--

150-154

Volatile Organic Compounds

--	--	--	--	--	--

155-159

PM-10

			5	0	.5
--	--	--	---	---	----

160-164

Method Used to Determine Emissions

(1= Estimate 2= Emission Factor 3= Stack Test 4= Other)

*see attached Emissions spreadsheets based on AP-42.

TSP

2

165

SOX

2

166

NOX

2

167

CO

2

168

VOC

2

169

PM10

2

170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local

Date Rec'd. State

Return to Local Jurisdiction

Date _____ By _____

Reviewed by Local Jurisdiction

Date _____ By _____

Reviewed by State

Date _____ By _____

19. Inventory Date

Month/Year

Equipment Code

SCC Code

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171-174

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175-177

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178-185

20. Annual

Operating Rate

Maximum Design

Hourly Rate

Permit to Operate

Month

Transaction Date

(MM/DD/YR)

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186-192

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193-199

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200-201

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202-207

Staff Code

--	--	--

208-210

VOC Code

--	--

211 212

SIP Code

--	--

213 214

Regulation Code

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215-218

Confidentiality

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219

Point Description

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220-238

Action

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A: Add
C: Change

239



MEMORANDUM OF INSURANCE**DATE**

22-Jan-2021

This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via <https://marshdigital.marsh.com/marshconnect/viewMOI.action?clientId=632529479>. The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.

PRODUCER Marsh USA Inc. ("Marsh")	COMPANIES AFFORDING COVERAGE
	Co. A Old Republic Ins Co (NAIC#24147)
INSURED Vulcan Materials Company PO Box 385014 Birmingham Alabama 35238-5014 United States	Co. B
	Co. C
	Co. D
	Co. E
	Co. F

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS MEMORANDUM MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE	LIMITS	
					LIMITS IN USD UNLESS OTHERWISE INDICATED	
A	GENERAL LIABILITY Commercial General Liability Occurrence	MWZY312014- 21	01-Jan- 2021	01-Jan-2022	GENERAL AGGREGATE	3,000,000
					PRODUCTS - COMP/OP AGG	3,000,000
					PERSONAL AND ADV INJURY	3,000,000
					EACH OCCURRENCE	3,000,000
					FIRE DAMAGE (ANY ONE FIRE)	INCLUDED
					MED EXP (ANY ONE PERSON)	EXCLUDED

A	AUTOMOBILE LIABILITY Any Auto	MWTB312011-21	01-Jan-2021	01-Jan-2022	COMBINED SINGLE LIMIT	3,000,000
					BODILY INJURY (PER PERSON)	
					BODILY INJURY (PER ACCIDENT)	
					PROPERTY DAMAGE	
	EXCESS LIABILITY				EACH OCCURENCE	
					AGGREGATE	
A	WORKERS COMPENSATION / EMPLOYERS LIABILITY THE PROPRIETOR / PARTNERS / EXECUTIVE OFFICERS ARE Included	MWC312015-21	01-Jan-2021	01-Jan-2022	WORKERS COMP LIMITS	Statutory
					EL EACH ACCIDENT	1,000,000
					EL DISEASE - POLICY LIMIT	1,000,000
					EL DISEASE - EACH EMPLOYEE	1,000,000
A	Excess WC	MWXS312016-21	01-Jan-2021	01-Jan-2022	WC-Statutory	EL \$1M/\$1M/\$1M
A	Excess WC	MWFEX312010-21	01-Jan-2021	01-Jan-2022	WC-Statutory	EL \$1M/\$1M/\$1M

The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications hereto are not authorized.

MEMORANDUM OF INSURANCE	DATE 22-Jan-2021
<p>This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via https://marshdigital.marsh.com/marshconnect/viewMOI.action?clientId=632529479. The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.</p>	
PRODUCER Marsh USA Inc.	INSURED Vulcan Materials Company

("Marsh")

PO Box 385014
Birmingham
Alabama 35238-5014
United States

ADDITIONAL INFORMATION

Excess WC policies have \$1,000,000 Self-Insured Retention for all covered states except TN and \$500,000 SIR for TN Only.

General Liability is subject to \$50,000 Self-Insured Retention and includes Contractual Liability

Named Insured includes:

Vulcan Construction Materials, LLC
Florida Rock Industries, Inc., its subsidiaries and affiliates
RECO Transportation, LLC
Azusa Rock, LLC
Triangle Rock Products, LLC
Calmat Co. DBA Vulcan Materials Company, Western Division
Statewide Transport, LLC
Southeast Division Logistics, LLC
Southern Gulf Coast Division Logistics, LLC d/b/a SGC Logistics
Mountain West Logistics, LLC
Mideast Division Logistics, LLC
Vulcan Logistics, LLC
Calmat Co. DBA Shamrock Materials
Aggregates USA, LLC

GENERAL LIABILITY - ADDITIONAL INSURED

Any party with which the named insured is contractually required to include as additional insured is automatically granted such. However, coverage under the policy only applies to the extent of the coverage required by such contractual requirement and for the limits of liability specified in such contractual requirement, but in no event for insurance not afforded by the policy nor for limits of liability in excess of the applicable limits of liability of the policy. Any insurance afforded to any such additional insured only applies to the extent permitted by law.

AUTOMOBILE LIABILITY - ADDITIONAL INSURED

Any party with which the named insured is contractually required to include as additional insured is automatically granted such. However, coverage under the policy only applies to the extent of the coverage required by such contractual requirement and for the limits of liability specified in such

contractual requirement, but in no event for insurance not afforded by the policy nor for limits of liability in excess of the applicable limits of liability of the policy.

GENERAL LIABILITY AND AUTOMOBILE LIABILITY - PRIMARY & NON-CONTRIBUTORY

This insurance is primary and non-contributory where required by written contract.

The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications hereto are not authorized.

[Click here](#) for a printer-friendly version of this document.



I-95

SUSQUEHANNA RIVER

BUFFER

MODULE A

OVERBURDEN AREAS

MODULES D, A

QUARRY PIT

MODULE D

MODULES B, C

FIXED PLANT

RT. 155

BUFFER

BUFFER

BUFFER

**VULCAN - HAVRE DE GRACE QUARRY
TYPICAL PORTABLE PLANT MODULES
LOCATION MAP - JJ 11-15-21**

ENTRANCE

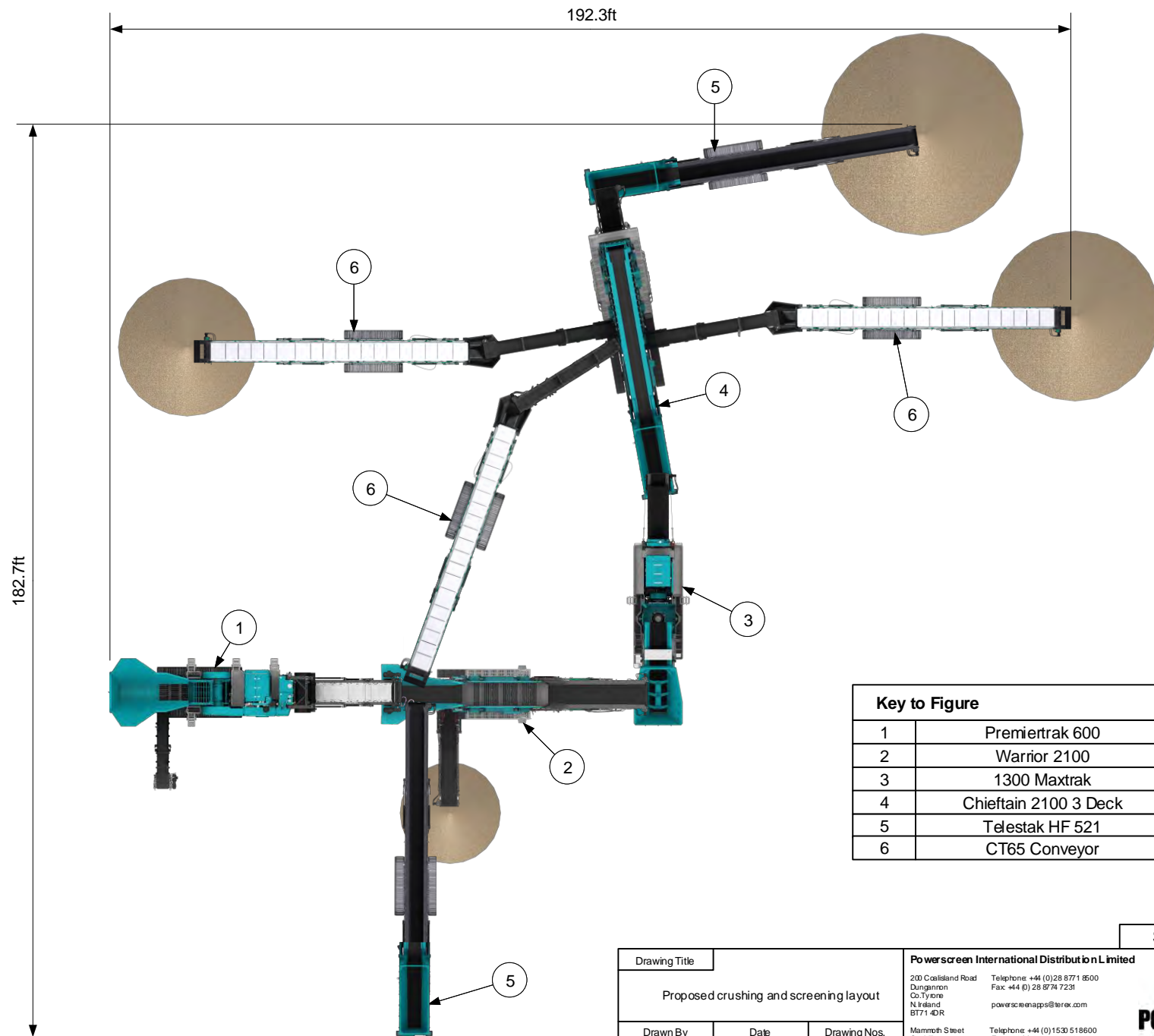
© 2020 Google

Google Earth

lat 39.571409° lon -76.104256° elev 5 ft eye alt 9815 ft

1995

A.



Key to Figure	
1	Premiertrak 600
2	Warrior 2100
3	1300 Maxtrak
4	Chieftain 2100 3 Deck
5	Telestak HF 521
6	CT65 Conveyor

SCALE: 1:350

ALL DIMS ARE APPROX

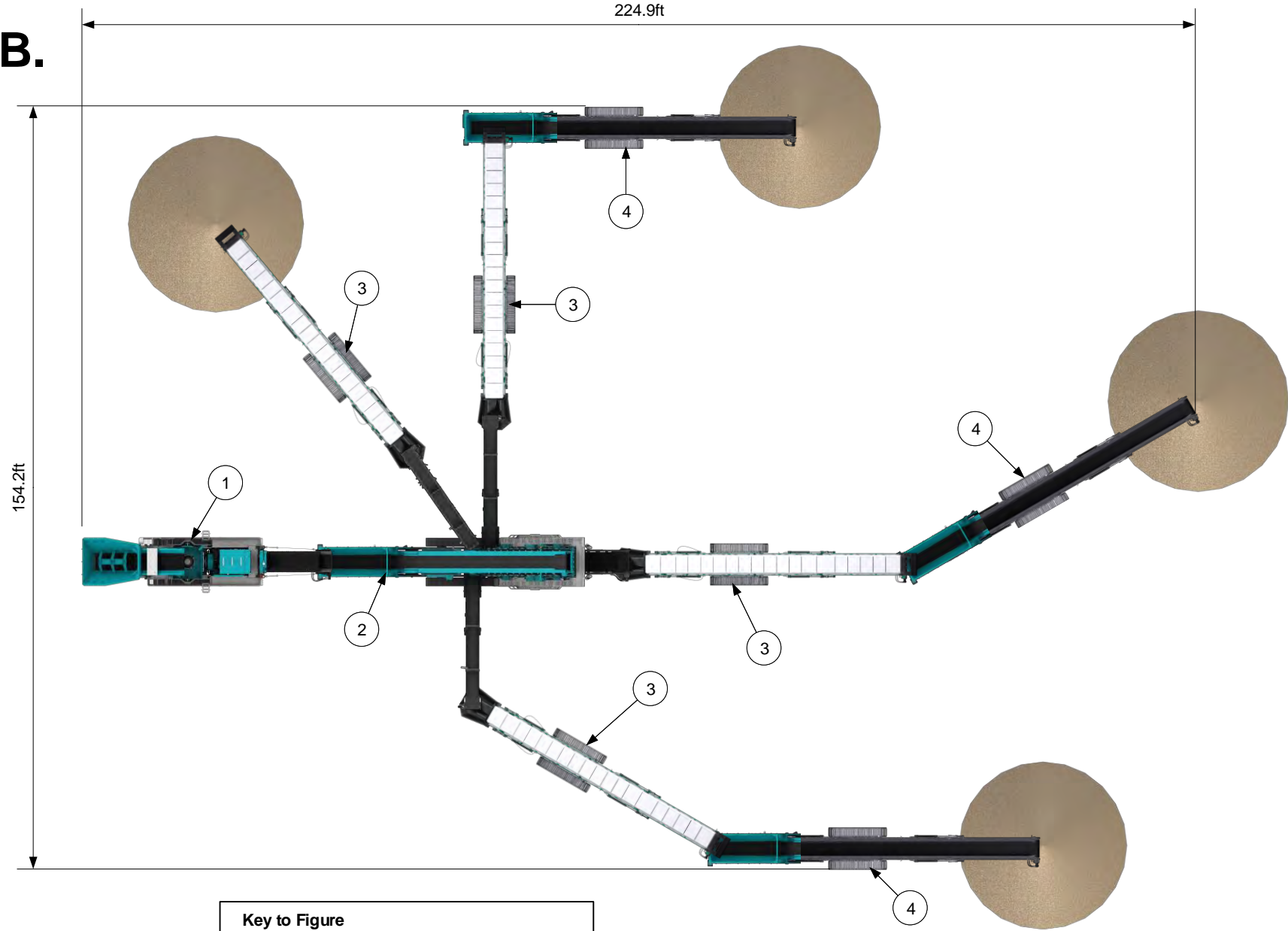
Drawing Title		
Proposed crushing and screening layout		
Drawn By	Date	Drawing Nos.
L McIvenna	04/10/2021	PX12798

Powerscreen International Distribution Limited
 200 Coalsland Road Telephone: +44 (0)28 8771 8500
 Dungannon Fax: +44 (0) 28 8774 7231
 Co. Tyrone
 N. Ireland
 BT71 4DR
 powerscreenapps@terex.com

Mammoth Street Telephone: +44 (0)1530 518600
 Coalville Fax: +44 (0) 1530 518 684
 Leicestershire
 LE67 3GN



B.



ALL DIMS ARE APPROX

Key to Figure	
1	1300 Maxtrak
2	Chieftain 2100 3 deck
3	65ft Track Conveyor
4	TC624R

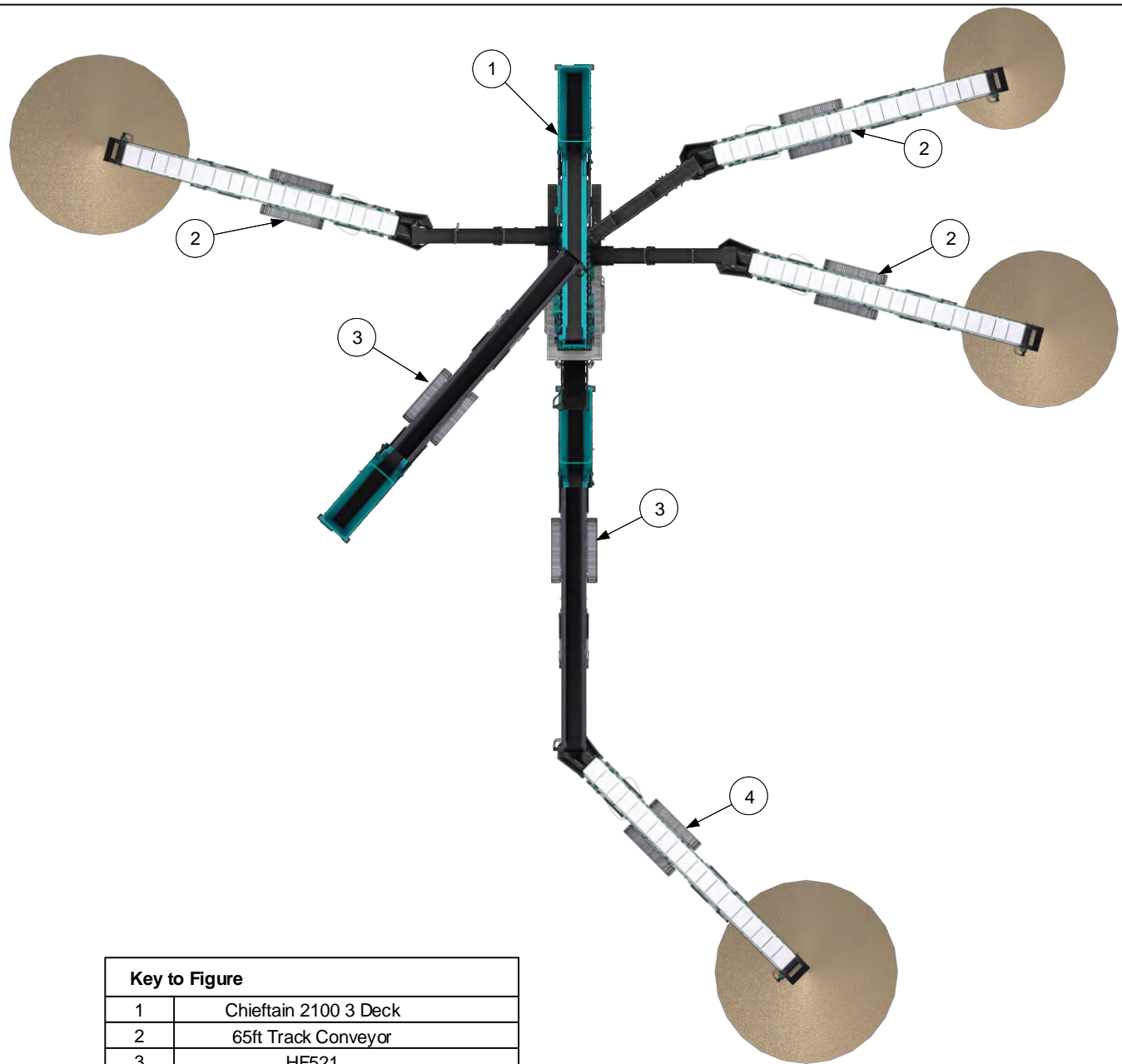
Drawing Title		
Proposed crushing and screening layout		
Drawn By	Date	Drawing Nos.
L McIvenna	04/10/2021	PX12798

Powerscreen International Distribution Limited
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 Leicestershire
 LE67 3GN

SCALE: 1:350



C.



Key to Figure	
1	Chieftain 2100 3 Deck
2	65ft Track Conveyor
3	HF521
4	TC624R

ALL DIMS ARE APPROX

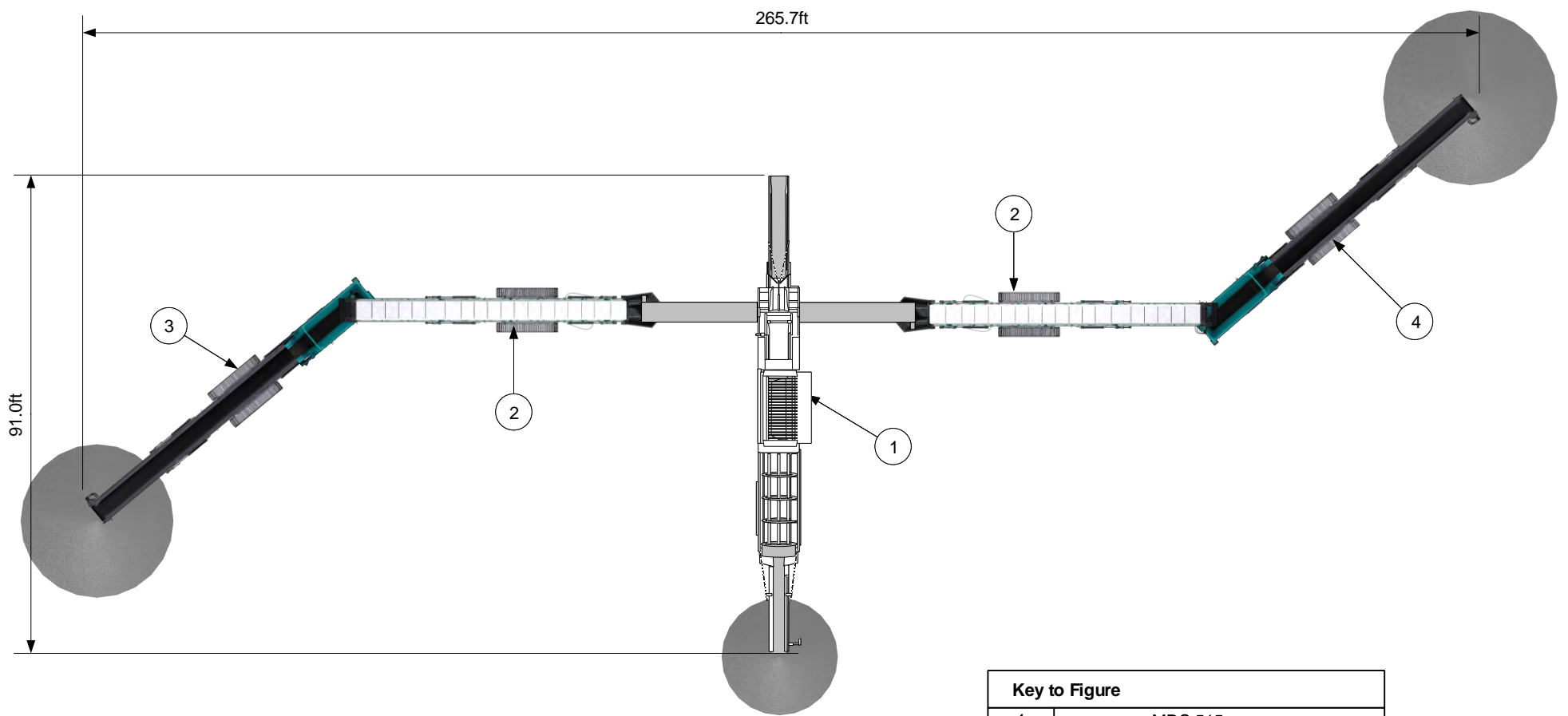
SCALE: 1:350

Drawing Title		
Proposed crushing and screening layout		
Drawn By	Date	Drawing Nos.
L McIvenna	04/10/2021	PX12798

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D.



Key to Figure	
1	MDS 515
2	65ft Track Conveyor
3	HF521
4	TC624R

ALL DIMS ARE APPROX

SCALE: 1:350

Drawing Title		
Proposed crushing and screening layout		
Drawn By	Date	Drawing Nos.
L McIvenna	04/10/2021	PX12798

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CHIEFTAIN 2100X BIVITEC

The Powerscreen® Chieftain 2100X is available with a 2 deck version of the Binder+Co BIVITEC screen for applications where the feed contains damp, fibrous or matted materials that clog the screen openings of conventional machines. The Chieftain 2100X BIVITEC has 3 movements taking place providing the powerful screening actions required for these difficult materials. The entire screenbox moves in the same circular motion as other Powerscreen® incline screens whilst each of the 2 individual screens resonate causing the flexible polyurethane screen mats to continually tension and un-tension. This powerful screening action eliminates ‘blinding’ and makes screening effective in all weather conditions.

Features & Benefits

- Powerful screening action keeps the screen openings clear
- Suitable for screening damp, fibrous or matted materials
- Suitable for sizing materials ranging between 0.5mm–80mm
- Vibration parameters are individually adjustable for each screening deck
- Single drive screen mechanism, low energy consumption
- Quick to change screen mats
- Screen walkway and access ladder
- Hydraulic folding conveyors with excellent stockpiling capacity

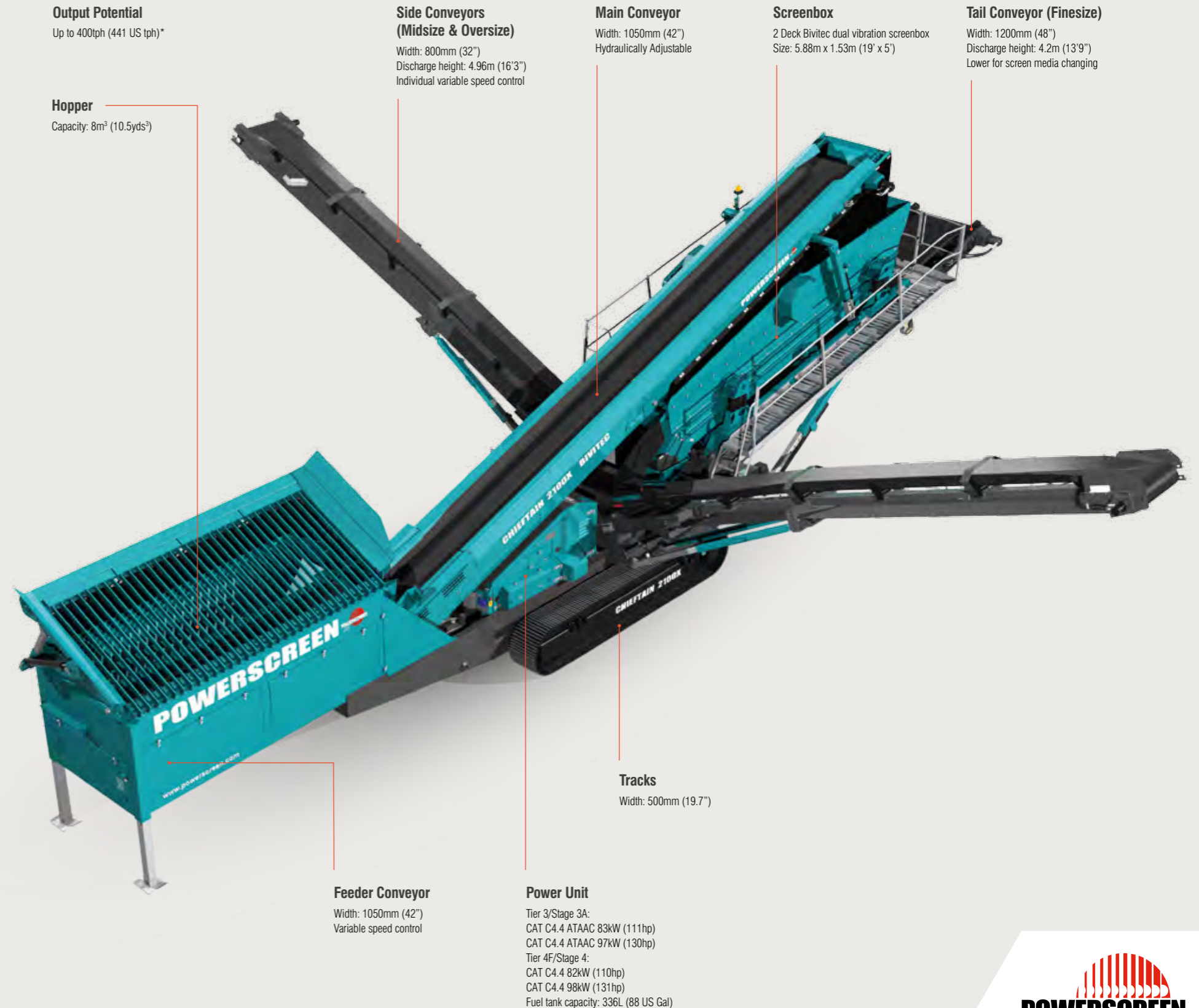
Options

- Radio controlled tracking
- Roll-in bogie prepared
- Roll-in bogie equipped
- Dual Power (additional electric hydraulic drive)
- Dust suppression
- Auto lubrication system
- Vibrating grizzly
- Anti roll-back



CHIEFTAIN 2100X BIVITEC	TRACK
Weight (Est)	35,500kg (78,264lbs)
Transport width	3m (9'10")
Transport length	18.23m (59'10")
Transport height	3.47m (11'5")
Working width	18.3m (60')
Working length	19.5m (63'11")
Working height	5.88m (19' x 5')

*Output potential depends on application
Engines are available that are certified to US EPA and EU off road diesel emission standards. Talk to your dealer about possible certification options (i.e. Tier 3/Stage 3A, Tier 4/Stage 3B, Tier 4F/Stage 4).



POWERSCREEN® CONVEYOR RANGE



- CT65
- CT80
- CT100
- CT75R
- HL75 HIGH LEVEL FEEDER
- LL75 LOW LEVEL FEEDER

www.powerscreen.com



CT65 & CT80



Containerised shipping, Track in / Track out. No crane required.

FEATURES & BENEFITS

The Powerscreen® range of mobile conveyors are designed to work in conjunction with the entire range of Powerscreen crushing and screening equipment. Using conveyors means increased stockpile capacity and reduces on-site material handling. For convenience and to keep shipping costs low, Powerscreen conveyors can be transported in a 40ft container. The range includes 65ft and 80ft track mobile conveyors: CT65 and CT80.

TRANSPORT DIMENSIONS	CT65	CT80
Length	11.3m (37')	11.88m (38' 11")
Width	2.25m (7' 5")	2.25m (7' 5")
Height	2.53m (8' 4")	2.54m (8' 4")
Weight (Est.)	12,750kgs (28,109lbs)	16,000kgs (35,274lbs)
Containerised shipping	40' x 9'6" High Cube Container	40' x 9'6" High Cube Container

CONVEYOR DETAILS	CT65	CT80
Conveyor length	20m (65' 7")	23.5m (77')
Belt width	1,050mm (41")	1,050mm (41")
Discharge height	8.7m (28' 6") @ 24°	9.95m (32' 8") @ 24°
Max. discharge height	10m (32' 10") @ 28°	10.1m (33' 2") @ 25°
Production capacity	Up to 500+TPH (551+ US TPH)**	Up to 500+TPH (551+ US TPH)**

OPTIONS	CT65	CT80
Feed boot liners: AR 400 plate or 20mm rubber	•	•
Feed boot extension	•	•
Chevron belt	•	•
Blade scraper	•	•
Head drum guards	•	•
Under guards	•	•
Dust covers	•	•
Dust suppression water spray at head drum	•	•
Conveyor drive - direct electric	•	•
Full length skirting	•	•

*Varies dependent on conveyor length. See detailed specification for each conveyor.
 **Output potential dependant on feed material and settings. June 2018.



Steel lined feedboot as standard providing extended wear life. Feedboot extensions and rubber lined options also available

Compact folding mechanism allows containerised shipping as one unit

Hydraulic angle adjustment from 0° to 28° for easy plant integration*

Hydraulic adjustment for variable feed height reduces impact and provides optimal material transfer

Fully protected power unit with easy access for service and maintenance
 Tier 3 (Stage 3A)
 Deutz D2011 L04I - 36.4kW (49HP)
 Tier 4F (Stage 4) - US Only:
 Deutz TD2.9 L4 - 41kW (56HP)

Dual-speed tracks for quick and controlled deployment

CT100

FEATURES & BENEFITS

The Powerscreen CT100 Stockpiler, builds on the hugely successful Powerscreen CT65 & CT80 Conveyors. The extra length of conveyor, and increase power, allows for Maximum mobility and flexibility, reducing or eliminating the use of wheeled loaders on site. The Conveyor can cope with all applications, from light duty screened material, through to Jaw Applications. Although the conveyor is 100ft long, it still retains the ability to be transported worldwide in a 40ft container.

Steel lined feedboot as standard providing extended wear life. Feedboot extensions and rubber lined options also available

Hydraulic adjustment for variable feed height reduces impact and provides optimal material transfer

Fully protected power unit with easy access for service and maintenance
 Tier 3: Stage 3A CAT 4.4 - 4 cylinder diesel engine developing 83kW (111HP) @1800rpm
 Tier 4: Tier 4F / Stage IV - Caterpillar C4.4 - 4 cylinder diesel engine developing 82kW (110HP) @ 1800RPM
 Fuel tank volume: 220 litres

Dual-speed tracks for quick and controlled deployment

TRANSPORT DIMENSIONS	CT100
Length	19.5m (63' 11")
Width	2.84m (9' 4")
Height	3m (9' 9")
Weight (Est.)	24,000kg (52,910lbs)
Containerised shipping	40' x 9'6" High Cube Container

CONVEYOR DETAILS	CT100
Conveyor length	30m (98' 5")
Belt width	1050mm (41")
Discharge height	10.5m (34' 5") @ 18°
Max. discharge height	13.1m (42'11") @ 25°
Production capacity	Up to 600TPH (661 US TPH)**

OPTIONS
6mm removable wearplate liners
20mm rubber wear feedboot liners
Feedboot extension complete with steel liners
Feedboot extension complete with 20mm rubber liners
Impact bed at feedboot area
Impact rollers at feedboot area
Full length side skirting along main conveyor
High spec discharge conveyor head drum scraper
Conveyor head drum guarding
Discharge conveyor underguard option length of mid section.
Dust suppression at conveyor head drum (spray bar only)
Pull cord emergency stop running length of conveyor
Canvas dust covers
Conveyor twin drive motors

CT75R

FEATURES & BENEFITS

The Powerscreen CT75R Tracked Radial Stockpiling Conveyor is the ideal solution for stockpiling after mobile crushing and screening plants. The mobility and flexibility of the Radial Stockpiling Conveyors reduces / eliminates the use of a wheel loader on site. The Conveyors ensures all applications are catered for from easiest, right through to the hardest.



Fully protected power unit with easy access for service and maintenance
 Tier 3: Stage 3A CAT 4.4 - 4 cylinder diesel engine developing 83kW (111HP) @1800rpm
 Tier 4: Tier 4F / Stage IV - Caterpillar C4.4 - 4 cylinder diesel engine developing 82kW (110HP) @ 1800RPM
 Stage V: Deutz TD 2.9 L4 45Kw Engine with Rad
 Fuel tank volume: 220 litres

TRANSPORT DIMENSIONS	CT75R
Length	15.6m (51' 3")
Width	2.25m (7' 5")
Height	3m (9'9")
Weight (Est.)	19,500kg (42,990lbs)
Containerised shipping	40' x 9'6" High Cube Container

CONVEYOR DETAILS	CT75R
Conveyor length	22.9m (75' 2")
Belt width	1050mm (41")
Discharge height	9m (29' 6") @ 18°
Max. discharge height	10.9m (35' 9") @ 23°
Production capacity	Up to 600TPH (661 US TPH)**

OPTIONS

Canvas dust covers on discharge conveyor
Canvas dust covers complete with dust hood on discharge conveyor
Full length side skirting along discharge conveyor
High spec discharge conveyor head drum scraper
Anti-roll back flaps
Discharge belt upgraded to 3ply heavy duty belt
Discharge conveyor underguard option length of mid section
Dust suppression at discharge conveyor head drum
Belt weigher option
Overband magnet at feedboot of discharge conveyor
Radio remote to start/stop feeder, raise/lower discharge conveyor
Pull cord E-stop running length of discharge conveyor
Radio remote to track machine
Feedboot lined 6mm wearplate
Manual adjusting jacking legs at tail side of feeder to adjust tail height
Hopper lined 6mm wearplate
Hopper flares lined 6mm wearplate
Mild steel liners bolted into hopper

HL75 HIGH LEVEL FEEDER

FEATURES & BENEFITS

The Powerscreen HL75 High Level Feeder Conveyor, combines the highly versatile Chieftain Feeder system and Stockpiling conveyor, allowing the operator to directly discharge from wheel loaders to eliminate the double handling of material on site. The fully mobile units can be used for a 'metered or controlled' feed of material into any Powerscreen Products or other machines.



Tier 3: Stage 3A CAT 4.4 - 4 cylinder diesel engine developing 83kW (111HP) @1800rpm
 Tier 4: Tier 4F / Stage IV - Caterpillar C4.4 - 4 cylinder diesel engine developing 82kW (110HP) @ 1800RPM
 Fuel tank volume: 325 litres

TRANSPORT DIMENSIONS	HIGH LEVEL FEEDER
Length	19.5m (63' 11")
Width	2.75m (9')
Height	3.12m (10' 2")
Weight (Est.)	25,000kg (55,115lbs)
Containerised shipping	40' x 9'6" 2 x High Cube Containers

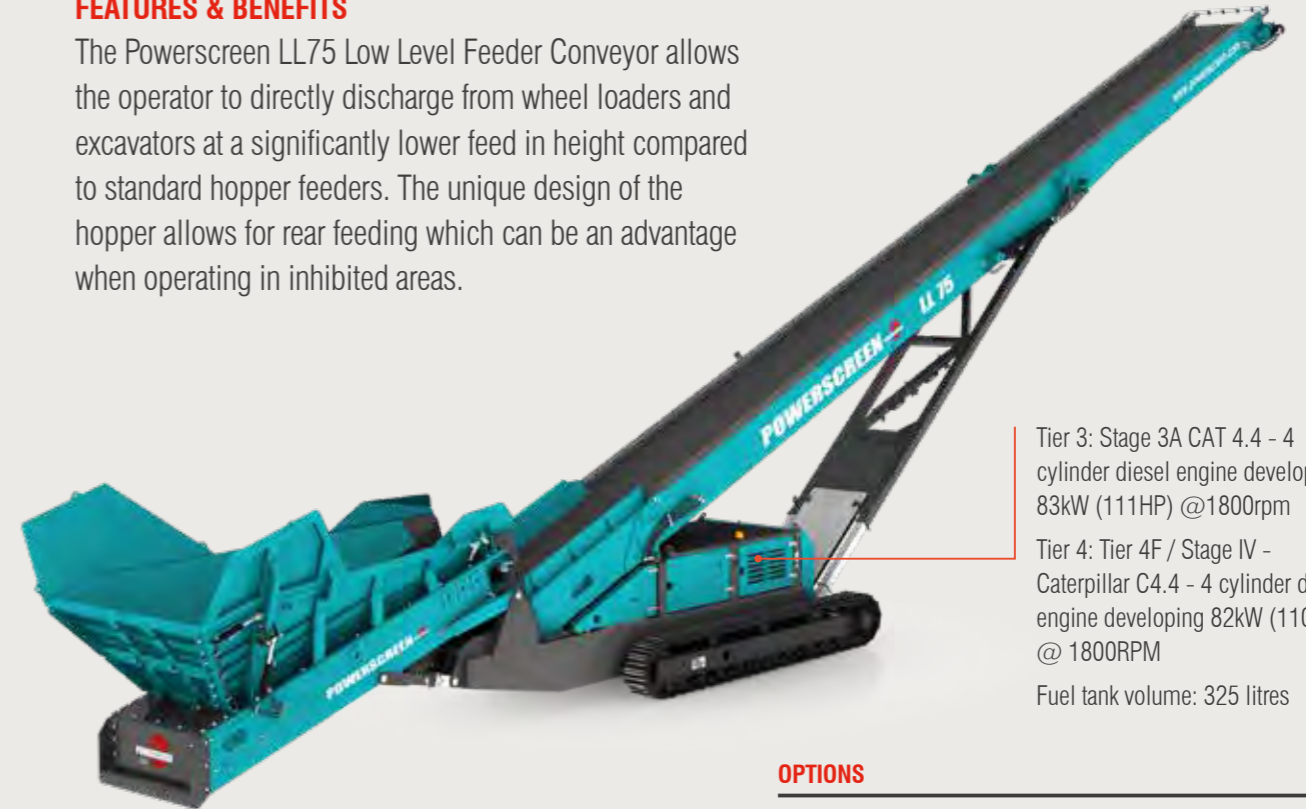
CONVEYOR DETAILS	HIGH LEVEL FEEDER
Conveyor length	22.6m (74' 2")
Belt width	1200mm (42")
Discharge height	8m (26' 3") @ 18°
Max. discharge height	9.8m (32' 2") @ 24°
Production capacity	Up to 600+TPH (661 US TPH)**

OPTIONS
Canvas dust covers on discharge conveyor
Canvas dust covers complete with dust hood on discharge conveyor
Twin drive discharge conveyor
Full length side skirting along discharge conveyor
High spec discharge conveyor head drum scraper
Anti-roll back flaps
Discharge belt upgraded to 3ply heavy duty belt
Discharge conveyor drive drum upgraded to ceramic lagging
Discharge conveyor underguard option length of mid section
Dust suppression at discharge conveyor head drum
Belt weigher option
Overband magnet at feedboot of discharge conveyor
Radio remote to start / stop feeder, raise / lower discharge
Pull Cord E-stop running length of discharge Conveyor
Radio remote to Track machine
Feedboot lined 6mm wearplate
Twin drive feed conveyor
4" or 6" tipping grid fitted to feed conveyor

LL75 LOW LEVEL FEEDER

FEATURES & BENEFITS

The Powerscreen LL75 Low Level Feeder Conveyor allows the operator to directly discharge from wheel loaders and excavators at a significantly lower feed in height compared to standard hopper feeders. The unique design of the hopper allows for rear feeding which can be an advantage when operating in inhibited areas.



Tier 3: Stage 3A CAT 4.4 - 4 cylinder diesel engine developing 83kW (111HP) @1800rpm
 Tier 4: Tier 4F / Stage IV - Caterpillar C4.4 - 4 cylinder diesel engine developing 82kW (110HP) @ 1800RPM
 Fuel tank volume: 325 litres

TRANSPORT DIMENSIONS	LOW LEVEL FEEDER
Length	19.6m (64' 4")
Width	2.75m (9')
Height	3m (10')
Weight (Est.)	24,000kg (52,910lbs)
Containerised shipping	40' x 9'6" 2 x High Cube Containers

CONVEYOR DETAILS	LOW LEVEL FEEDER
Conveyor length	22.6m (74' 2")
Belt width	1200mm (42")
Discharge height	8m (26' 3") @ 18°
Max. discharge height	9.8m (32' 2") @ 24°
Production capacity	Up to 600+TPH (661 US TPH)**

OPTIONS
Canvas dust covers on discharge conveyor
Canvas dust covers complete with dust hood on discharge conveyor
Twin drive discharge conveyor
Full length side skirting along discharge conveyor
High spec discharge conveyor head drum scraper
Anti-roll back flaps
Discharge belt upgraded to 3ply heavy duty belt
Discharge conveyor drive drum upgraded to ceramic lagging
Discharge conveyor underguard option length of mid section
Dust suppression at discharge conveyor head drum
Belt weigher option
Overband magnet at feedboot of discharge conveyor
Radio remote to start / stop feeder, raise / lower discharge conveyor
Pull Cord E-stop running length of discharge Conveyor
Radio remote to Track machine
Feedboot lined 6mm wearplate
Manual adjusting jacking legs at tail side of feeder to adjust tail height
Feed conveyor drive drum upgraded to ceramic lagging
Hopper lined 6mm wearplate
Hopper flares lined 6mm wearplate
Mild steel liners bolted into hopper

POWERSCREEN CONTACT DETAILS

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Images are for illustrative purposes only, some or all of the machines in the illustrations may be fitted with optional extras. Please check with your Dealer for details on optional extras.

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MDS

[mds-int.net](http://www.mds-int.net)

M515 TRACK TROMMEL

<http://www.mds-int.net>



MDS-INT
Drummond
Carrickmacross
Co. Monaghan, IRELAND

TEL: +353 42 966 7899
EMAIL: info@mds-int.net
WEB: www.mds-int.net

The M515 Track Trommel is perfect for cleaning dirty material and can handle rocks up to 800 mm (32") in size. It comes complete with fold out stockpiling conveyors and is ideal for moving around the quarry and from one site to the next.



TECHNICAL SPECIFICATIONS

TRANSPORT DIMENSIONS



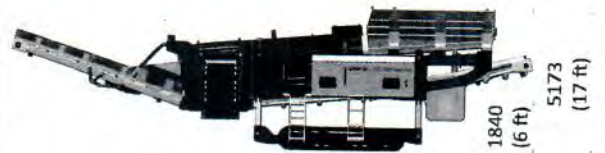
16203 (53 ft 2")

WORKING DIMENSIONS

7617 (25 ft)
3163 (10 ft 5")



19063
(62 ft 7")



3723
(12 ft 3")

CHANGEABLE
SCREENS

HYDRAULIC
PUSH FEEDER

ALSO AVAILABLE:
OPTIONAL RADIAL
TAIL CONVEYOR

CAT 4.4
ENGINE

MAX ROCK SIZE:
800 mm (32")

IDEAL FOR CLEANING
DIRTY MATERIAL

RAPID SET UP




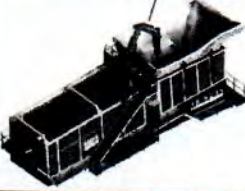


ADJUSTABLE
HEIGHT

MACHINE SPECIFICATIONS

Weight :	50 tons
Approx Tons per Hour :	350 to 500 tons
Drum Diameter :	1.5 m (4 ft 11")
Drum Length :	5.5 m (18 ft 1")
Number of Outputs :	3 off (70-120 mm (2.5"-5"), 120-250 mm (5"-10") + oversize)
Max Rock Size :	800 mm (32")
Hopper Capacity :	30 tons
Feed Mechanisms :	Hydraulic Push Feeder
Engine and Controls :	Cat 4.4 / Electronic Control System



MDS TROMMEL RANGE

MODEL	Tons per Hour	Drum Diameter	Drum Length	Number of Outputs	Screen Openings	Hopper Capacity	Feed Mechanism	Engine and Controls
MDS M515 TROMMEL Mobile track machine for use with primary blast, dirty material or rip rap								
	350 to 500 tons	1.5 m (4 ft 11")	5 m (16 ft 5")	4 off	16 mm to 250 mm (0.5" to 10")	30 tons	Hydraulic Push Feeder	Cat 4.4 / Electronic Control System
MDS M615 STATIC TROMMEL Semi mobile machine which can be moved from site to site and can be loaded by an excavator or dump truck								
	350 to 500 tons	1.5 m (4 ft 11")	6 m (19 ft 8")	4 off	16 mm to 500 mm (0.5" to 20")	30 tons	Hydraulic Push Feeder	Cat 4.4 / Electronic Control System
MDS M820 TROMMEL A large heavy duty static rock trommel ideal for cleaning dirty rock or screening blasted material								
	750 tons	2 m (6 ft 7")	8 m (26 ft 3")	3 or 4 off	16 mm to 500 mm (0.5" to 20")	70 tons	Hydraulic Push Feeder	CAT 6.6 / Electronic Control System
MDS M825 TROMMEL A super sized heavy duty static trommel for maximum output. It can be set up on concrete walls or a metal chutes structure								
	1000 tons	2.5 m (8 ft 2")	8 m (26 ft 3")	3 off	70 mm to 500 mm (3" to 20")	100 tons	Hydraulic Push Feeder	Cat 6.6 / Electronic Control System
MDS M520R TROMMEL A static trommel ideal for compost or light recycling								
	15 tons	2 m (6 ft 7")	5 m (16 ft 5")	2 off	5 mm to 50 mm (0.2" to 2")	X	X	2 off 3 kW Motors (4 HP)
MDS M820R TROMMEL A tough static machine built for recycling concrete and demolition or any heavy duty recycling								
	50 tons	2 m (6 ft 7")	8 m (26 ft 3")	2 or 3 off	10 mm to 250 mm (0.4" to 10")	X	X	2 off 15 kW Motors (20 HP)
MDS APRON FEEDERS Manufactured to your requirements								

QUARRY FEEDER



MINING FEEDER



NEW INDUSTRIAL

C4.4 ACERT™

[< Back](#)

REQUEST A QUOTE

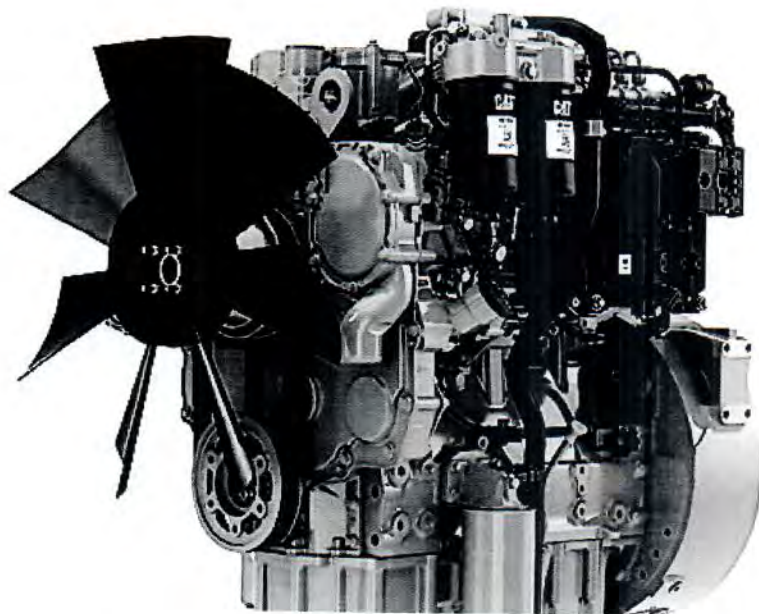
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See our Current Offers

TECHNICAL INFORMATION

FIND YOUR DEALER

COMPARE MODELS





C4.4 ACERT LRC Diesel Engines - Lesser Regulated & Non-Regulated

PHOTO 360 VIEW



SPECIFICATIONS

BENEFITS & FEATURES

EQUIPMENT

OVERVIEW

Cat[®] C4.4 ACERT Industrial Diesel Engines offer the perfect balance of durability, fuel efficiency and low emissions. Extensively tested on the job, these engines use a range of Common Rail fuel systems and advanced control systems to deliver maximum uptime in the harshest environment. They have proven they can handle the toughest applications and deliver superior performance that exceeds the expectations of the most demanding users. Industries and applications powered by C4.4 ACERT engines include: Agriculture, Aerial Lifts, Aircraft Ground Support, Bore/Drill Rigs, Chippers/Grinders, Compactors/Rollers, Compressors, Construction, Cranes, Crushers, Feller Bunchers, Forestry, Forklifts, General Industrial, Harvesters, Hydraulic Power Units, Irrigation Equipment, Loaders/Forwarders, Material Handling, Mining, Mobile Earthmoving Equipment, Mobile Sweepers, Paving Equipment, Pumps, Skidders, Specialty Ag Equipment, Sprayers, Trenchers, Turf and Landscaping and Underground Mining Equipment. C4.4 ACERT engines, with ratings: 61.5-106 bkW (82.5-142 bhp) @ 2200 rpm, meet EPA Tier 3 equivalent, EU Stage IIIA equivalent emission standards. They are available using U.S. EPA and EU Flexibility, and for other regulated and non-regulated areas.

POWER RATING

UNITS: **US** **METRIC**

Minimum Power	82.5 bhp
Maximum Power	142.0 bhp
Rated Speed	2200 rpm

EMISSION STANDARDS

Emissions	China Nonroad III, U.S. EPA Tier 3 Equivalent, EU Stage IIIA Equivalent
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GENERAL

Engine Configuration	Inline 4, 4-Stroke-Cycle Diesel
Bore	105 mm (4.13 in)
Stroke	127 mm (5.0 in)
Displacement	4.4 L (269 in ³)
Aspiration	Turbocharged (T) or Turbocharged Aftercooled (TA)
Compression Ratio	16.2:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Lube System (refill)	11 L (11.6 qt)

ENGINE DIMENSIONS (APPROXIMATE. FINAL DIMENSIONS DEPENDENT ON SELECTED OPTIONS)

Length	631 mm (24.8 in)
Width	626 mm (24.65 in)
Height	823.5 mm (32.4 in)

Weight, Net Dry (Basic Operating Engine Without Optional Attachments)	360 kg (793.7 lb)
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C4.4 ACERT™ Industrial Engine

Tier 4 Interim/Stage IIIB
61.5-129.4 kW/82.5-173.5 bhp @ 2200 rpm

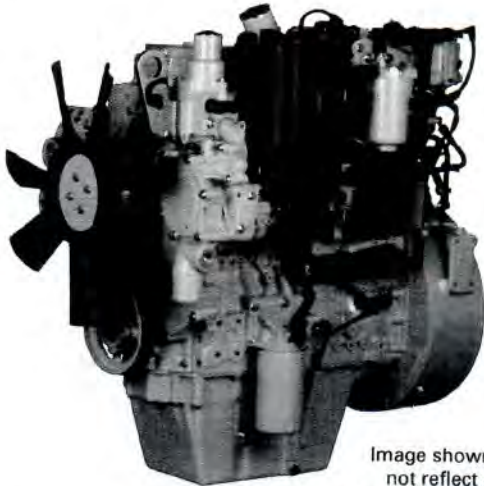


Image shown may not reflect actual engine configuration

CAT® ENGINE SPECIFICATIONS

I-4, 4-Stroke-Cycle Diesel

Bore	105 mm (4.13 in)
Stroke	127 mm (5.00 in)
Displacement	4.4 L (268.5 in ³)
Aspiration	Turbocharged-Aftercooled (TA) or Series Turbocharged-Aftercooled (TTA)
Compression Ratio	16.5:1
Combustion System	Direct Injection
Rotation (from flywheel end) ...	Counterclockwise
Capacity for Liquids	
Cooling System	10.8 L (11.4 U.S. qts)
Lube System (refill) sump dependent	5.2-13.5 L (5.5-14.27 U.S. qts)
Engine Weight, Net Dry (approximate)	
TA	400 kg (926 lbs)
TTA	420 kg (881.8 lbs)

FEATURES

Emissions

Designed to meet 2012 EPA (U.S.) Tier 4 Interim, EU Stage IIIB and Japanese MLIT emissions requirements.

Reliable, Quiet, and Durable Power

World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life.

High Performance

Series turbocharging with smart wastegate available on specific ratings for fast response, high power, and increased torque.

Fuel Efficiency

Fuel consumption optimized to match operating cycles of a wide range of equipment and applications. No additional fluids or additives are required, which lowers operating costs.

Fuel & Oil

Tier 4 Interim/Stage IIIB engines require Ultra Low Sulfur Diesel (ULSD) fuel containing a maximum of 15 ppm sulfur, and new oil formulations to support the new technology. Cat® engines are designed to accommodate B20 biofuel. Your Cat dealer can provide more information regarding fuel and oil.

Broad Application Range

Industry leading range of factory configurable ratings and options for agricultural, materials-handling, construction, mining, aircraft ground support, and other industrial applications.

Package Size

Ideal for equipment with narrow engine compartments. Multiple installation options minimize total package size.

Low-Cost Maintenance

Worldwide service delivers ease of maintenance and simplifies the servicing routine. Hydraulic tappets, multi-vee belts, "no ash service" aftertreatment, and 500-hour oil change intervals enable low-cost maintenance. Many service items have a choice of location on either side of the engine to enable choice of service access. The S•O•SSM program is available from your Cat dealer to determine oil change intervals and provide optimal performance.

Quality

Every Cat engine is manufactured to stringent standards in order to assure customer satisfaction.

World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including S•O•SSM sample
- Customer Support Agreements (CSA)
- Cat Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

Web Site: For additional information on all your power requirements, visit www.cat-industrial.com.



C4.4 ACERT™ Industrial Engine

Tier 4 Interim/Stage IIIB
61.5-129.4 bkW/82.5-173.5 bhp @ 2200 rpm

STANDARD ENGINE EQUIPMENT

Air Inlet

Standard air cleaners

Control System

Full electronic control system, all connectors and wiring looms waterproof and designed to withstand harsh off-highway environments, flexible and configurable software features and well supported SAE J1939 CAN bus enables highly integrated machines

Cooling System

Top tank temperature 108°C (226°F) as standard to minimize cooling pack size, 50:50 water glycol mix, detailed guidance on cooling system design and validation available to ensure machine reliability

Exhaust System

Diesel particulate filter supplied with a range of inlet and outlet options, no ash service requirement, passive regeneration

Flywheels and Flywheel Housing

Wide choice of drivetrain interfaces, including but not limited to SAE2 and SAE3 configurations

Fuel System

Electronic high pressure common rail, ACERT™ Technology, innovative filter design to ensure maximum protection of the engine.

Lube System

Choice of sumps for different applications

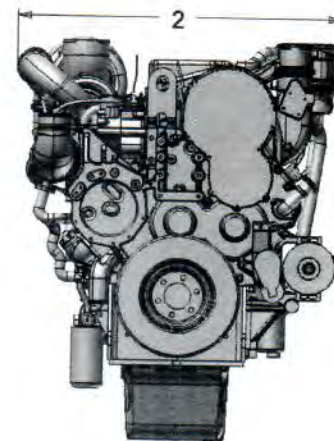
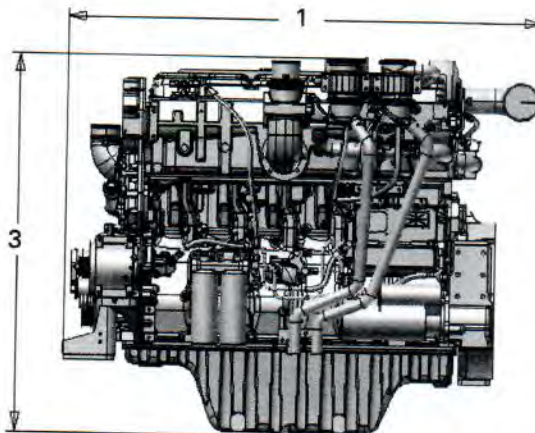
Power Take Off

SAE A or SAE B flanges on left-hand side, additional SAE A flange available on LHS, engine power can also be taken from the front of the engine on some applications, factory fitted compressors are also available

General

Available with or without a balancer

DIMENSIONS



(1) Length

TA, TTA: 845.1 mm (33.3 in)

(2) Width

TA: 772.4 mm (30.4 in)
TTA: 741.6 mm (29.1 in)

(3) Height

TA: 848.2 mm (33.4 in)
TTA: 867.6 mm (34.1 in)

Note: Final dimensions dependent on selected options

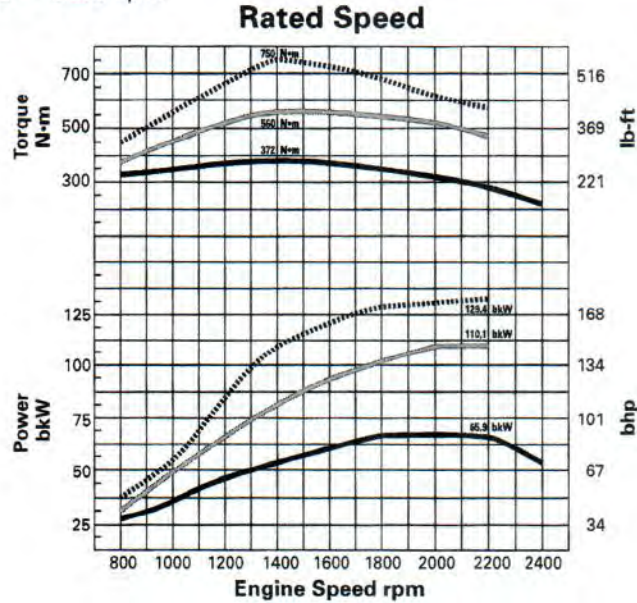


C4.4 ACERT™ Industrial Engine

Tier 4 Interim/Stage IIIB
61.5-129.4 bkW/82.5-173.5 bhp @ 2200 rpm

PERFORMANCE DATA — PRELIMINARY

Turbocharged-Aftercooled — 2200 rpm



Speed Range

Rating	Speed rpm	Peak Power bkW	Peak Power bhp	Speed rpm	Peak Torque N-m	Peak Torque lb-ft
B	2200	61.5	82.5	1400	347	255.9
B*	2200	65.9	88.4	1400	370	272.9
B	2200	70.0	93.9	1400	400	295.0
C	2200	74.5	100.0	1400	450	331.9
C	2200	82.0	110.0	1400	450	331.9
B	2200	85.9	115.2	1400	480	354.0
B	2200	91.0	122.0	1400	500	368.8
B	2200	92.5	124.0	1400	530	390.9
C	2200	98.0	131.4	1400	500	368.8
C	2200	102.1	137.0	1400	560	413.0
C	2200	106.0	142.1	1400	560	413.0
C*	2200	110.1	147.6	1400	560	413.0
B	2200	105.1	141.0	1400	650	479.4
C	2200	117.0	157.0	1400	683	503.8
C*	2200	129.4	173.5	1400	750	553.2

*Curve shown

RATING DEFINITIONS AND CONDITIONS

IND-B for service where power and/or speed are cyclic (time at full load not to exceed 80%).

IND-C (Intermittent) is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Additional ratings are available for specific customer requirements. Consult your Cat dealer.

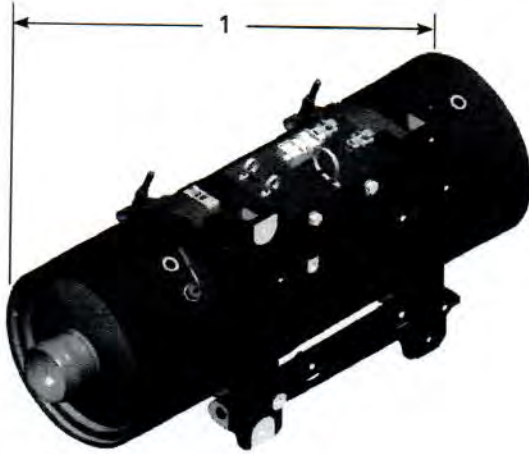
Rating Conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance is measured using fuel to EPA specifications in 40 CFR Part 1065 and EU specifications in Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).



C4.4 ACERT™ Industrial Engine

Tier 4 Interim/Stage IIIB
61.5-129.4 kW/82.5-173.5 bhp @ 2200 rpm

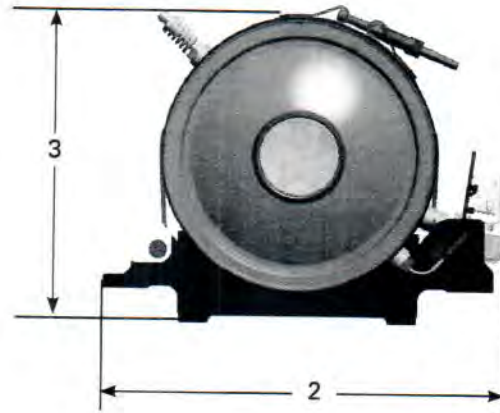
AFTERTREATMENT CONFIGURATION



Less than or equal to 82 kW (110 bhp)
**244.9 mm (9.6 in) DIAMETER BASE
CONFIGURATION**

Approximate Size and Weight

- (1) Length — 802.5 mm (31.6 in)
 - (2) Width — 365 mm (14.3 in)
 - (3) Height — 279 mm (11 in)
- Weight — 34 kg (75 lbs)



Greater than 82 kW (110 bhp)
**270.3 mm (10.6 in) DIAMETER BASE
CONFIGURATION**

Approximate Size and Weight

- (1) Length — 828 mm (32.6 in)
 - (2) Width — 365 mm (14.3 in)
 - (3) Height — 300.5 mm (11.8 in)
- Weight — 37 kg (81.6 lbs)

AFTERTREATMENT FEATURES

Regeneration: Passive regeneration completely transparent to the operator

Mounting: Extensive range of inlets and outlets, as well as remote and on-engine installations, provide flexibility for many installations.

Service: Service-free DPF for the emissions life of the engine

Available in 12V or 24V systems

STANDARD EMISSIONS CONTROL EQUIPMENT

DOC: Diesel Oxidation Catalyst

DPF: Diesel Particulate Filter

3" flex pipe connection kit with straight, 45°, and 90° options for flexibility

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ACERT, S-O-S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

1300 MAXTRAK

The Powerscreen® 1300 Maxtrak is a medium to large sized track mobile cone crusher which is ideally suited to secondary applications such as taking an all in feed from a primary crusher. Based around the 1300 Automax® cone crusher, the plant excels in the production of sub-base or aggregates, providing excellent cubicity, throughput and reduction ratios.

Features & Benefits

- Renowned Automax® crusher technology
- Accepts clean all in feed
- Excellent product shape
- High reduction ratio
- Cone feed box level control to maintain choke feeding
- Hydraulic crusher setting
- Cone overload protection
- Heavy duty chassis and track frame
- Metal detector
- Dust suppression system
- Economical to operate with a highly fuel efficient direct drive system

Options

- Concave: medium coarse, Autosand®
- Feed hopper extension plates
- Product conveyor belt weigher
- Electric refuelling pump
- Hydraulic water pump
- Urea refuelling pump
- Radio remote control

Applications

- Sand & gravel
- Blasted rock
- River rock
- C & D waste
- Foundry waste
- Processed ores

Output Potential

Up to 350tph (386 US tph)*

Product Conveyor

Width: 1000mm (39")
 Discharge height: 3.4m (11'2")
 Dust suppression

Crusher

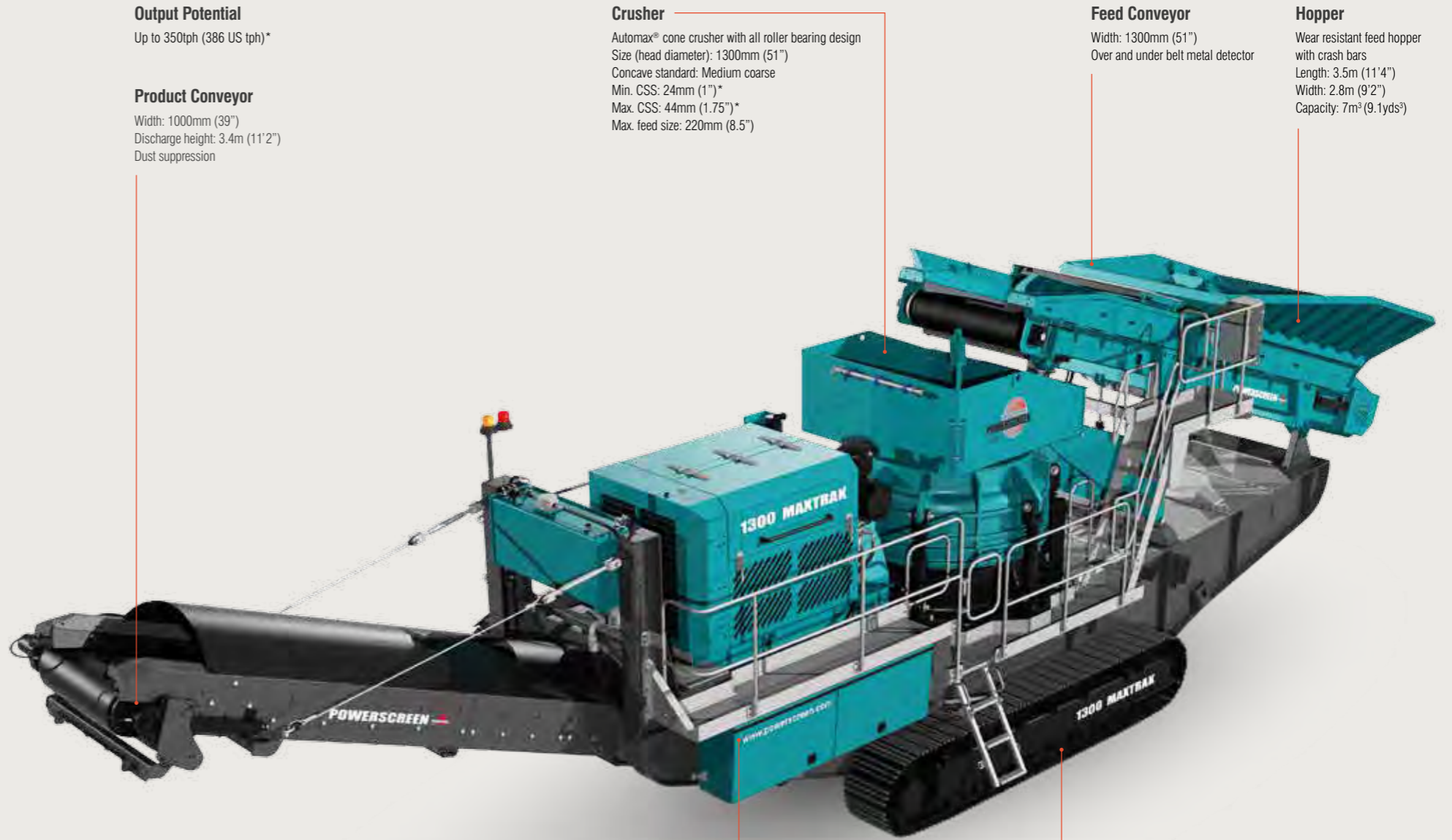
Automax® cone crusher with all roller bearing design
 Size (head diameter): 1300mm (51")
 Concave standard: Medium coarse
 Min. CSS: 24mm (1")*
 Max. CSS: 44mm (1.75")*
 Max. feed size: 220mm (8.5")

Feed Conveyor

Width: 1300mm (51")
 Over and under belt metal detector

Hopper

Wear resistant feed hopper with crash bars
 Length: 3.5m (11'4")
 Width: 2.8m (9'2")
 Capacity: 7m³ (9.1yds³)



Power Unit

Tier 3/Stage 3A:
 CAT C13 ACERT 328kW (440hp)
 Tier 4F/Stage 4:
 Scania DC13 84A 331kW (450hp)
 Fuel tank capacity: 1000 L (264 US Gal)

Tracks

Width: 500mm (19.7")

1300 MAXTRAK

Weight (Est)	47,965kg (105,745lbs)
Transport width	3m (9'10")
Transport length	15.3m (50'2")
Transport height	3.85m (12'8")
Working width	3.85m (12'8")
Working length	15.5m (50'10")
Working height	4.7m (15'5")



*Depends on application
 Engines are available that are certified to US EPA and EU off road diesel emission standards. Talk to your dealer about possible certification options (i.e. Tier 3/Stage 3A, Tier 4/Stage 3B, Tier 4F / Stage 4).



WARRIOR 2100

The Warrior 2100 is engineered to include the proven Triple Shaft technology which is unique to Powerscreen heavy duty mobile screens. The triple shaft design ensures that the 16' x 5' screenbox is highly efficient while maintaining exceptional throughput productivity. The extreme screening acceleration offers the Warrior 2100 improved capabilities over its class rivals, especially in sticky scalping applications.

It is designed with economy in mind, with reduced fuel consumption being achieved through a lower engine running speed of 1800rpm and enhanced hydraulics. A variety of media solutions mean that the Warrior 2100 is extremely efficient in scalping, screening and recycling applications and it can process mixed demolition waste including greenwaste, soil, concrete, wood and asphalt.

Features & Benefits

- Heavy duty, 2 deck screenbox featuring Triple Shaft technology with adjustable screen timing, amplitude and frequency
- Rigid one-piece hopper
- Low engine running speed to improve fuel consumption
- Heavy duty, incline belt feeder
- Jack up screen facility to aid mesh changes
- Screen walkway and access steps
- Hydraulic folding conveyors with excellent stockpiling capacity
- Rapid set-up and shutdown time
- Two speed tracks
- Reversible side conveyors
- Collection conveyor raise feature

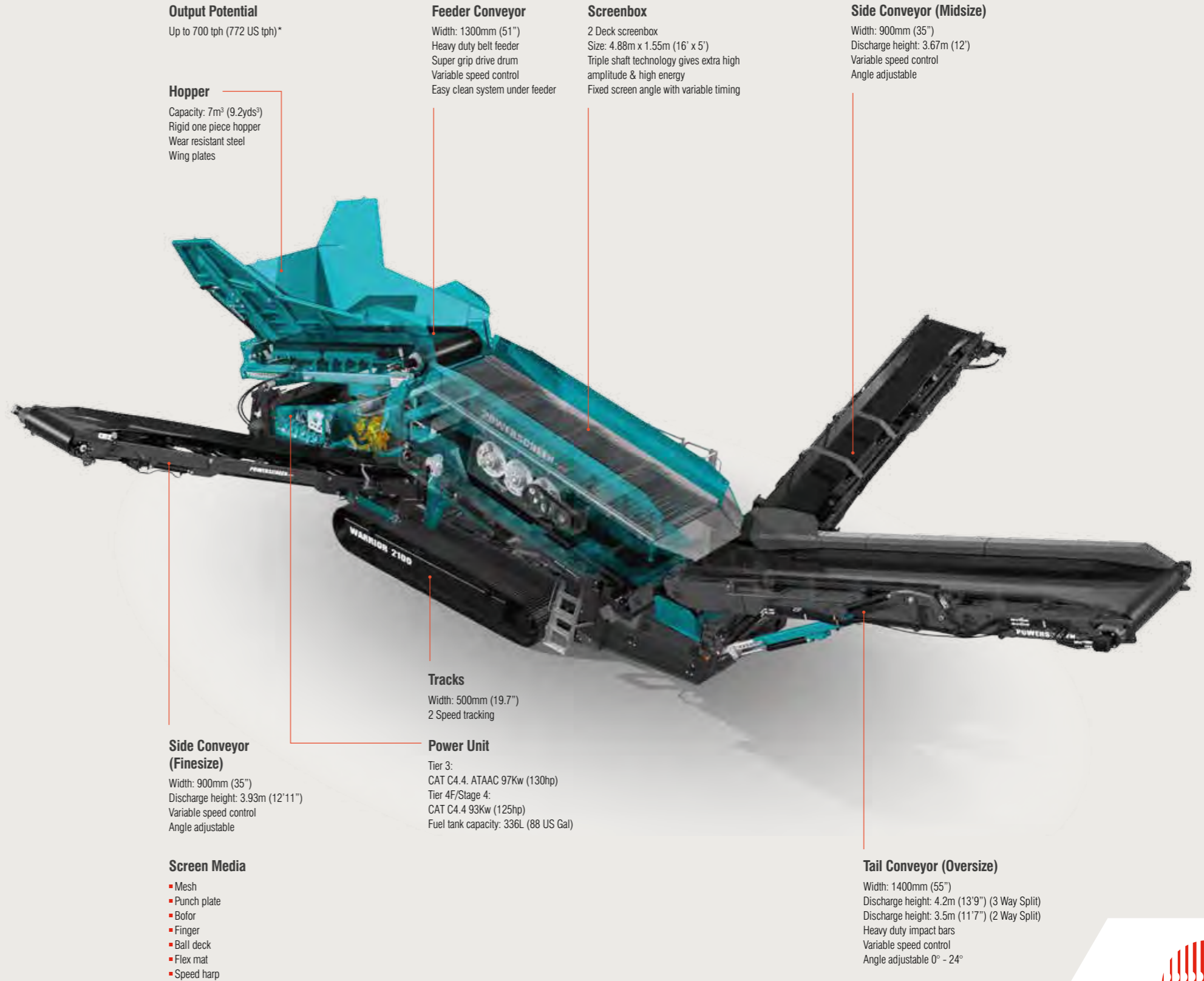
Options

- Radio controlled tracking
- 200mm (8") Chassis riser
- Telescopic side conveyors
- Hydraulically folding hopper extensions
- High capacity incline apron feeder
- Quick release screen wedge tensioning
- Wide range of screen media
- Dust suppression
- Auto lubrication system
- Dual Power (additional electric hydraulic drive)
- 2 or 3 way split configuration



WARRIOR 2100	3 WAY SPLIT
Weight (Est)	34,800kg (76,720lbs)
Transport width	3m (9'10")
Transport length	16.02m (52'7")
Transport height	3.4m (11'2")
Working width	13.6m (44'7")
Working length	16.3m (53'5")
Working height	4.5m (14'9")

*Output potential depends on application
Engines are available that are certified to US EPA and EU off road diesel emission standards. Talk to your dealer about possible certification options (i.e. Tier 3/Stage 3A, Tier 4/Stage 3B, Tier 4F/Stage 4).



PREMIERTRAK 600/600E

The Powerscreen® Premiertrak 600 range of high performance primary jaw crushing plants are designed for large and medium scale operators in quarrying, demolition, recycling & mining applications. The range includes the Premiertrak 600 & Premiertrak 600E both equipped with the advanced high performance 1200mm x 820mm Terex chamber. Built for the toughest of applications, the robust construction and modern design of the Premiertrak 600 ensures optimum performance, reliability and efficiency.

The Premiertrak 600E comes complete with an on-board diesel generator. The machine can be powered from this, or from an external power supply. There is sufficient excess power available to run a second machine such as a screener. This versatility along with the electrically driven crusher and conveyors makes the Premiertrak 600E highly efficient, economical and environmentally friendly.

Features & Benefits

- Ground level quick set-up with hydraulic folding feed hopper with hydraulic locking system
- Heavy duty wear resistant feed hopper
- Stepped self-cleaning grizzly feeder with under feeder screen
- Wide bypass chute to optimise material flow
- Aggressive crushing action with high swing jaw encouraging material entry into crushing chamber
- Fully hydraulic crusher setting adjustment
- Excellent under crusher access for removal of wire with hydraulic raise lower product conveyor
- Angle adjustable product conveyor, lowers for access & transport
- Low fuel consumption due to highly efficient direct drive system and low engine RPM
- Easily accessed power-unit canopy
- Modern & user-friendly PLC control system with auto start facility
- Remote control via umbilical
- Dust suppression system
- Fitted with Powerscreen Pulse Telematics system

Options

- Pre-screen system
- Wire mesh for underscreen (standard)
- Quarry tooth, pyramid tooth or heavy duty fixed jaw plates
- Deflector plate under crusher
- Side conveyor
- Single pole overband magnetic separator
- Twin pole overband magnetic separator
- Belt weigher
- Electric refuelling pump
- Electric urea pump
- Hydraulic water pump
- Radio remote control
- Stockpiler drive (Tier 4 machines only)

Applications

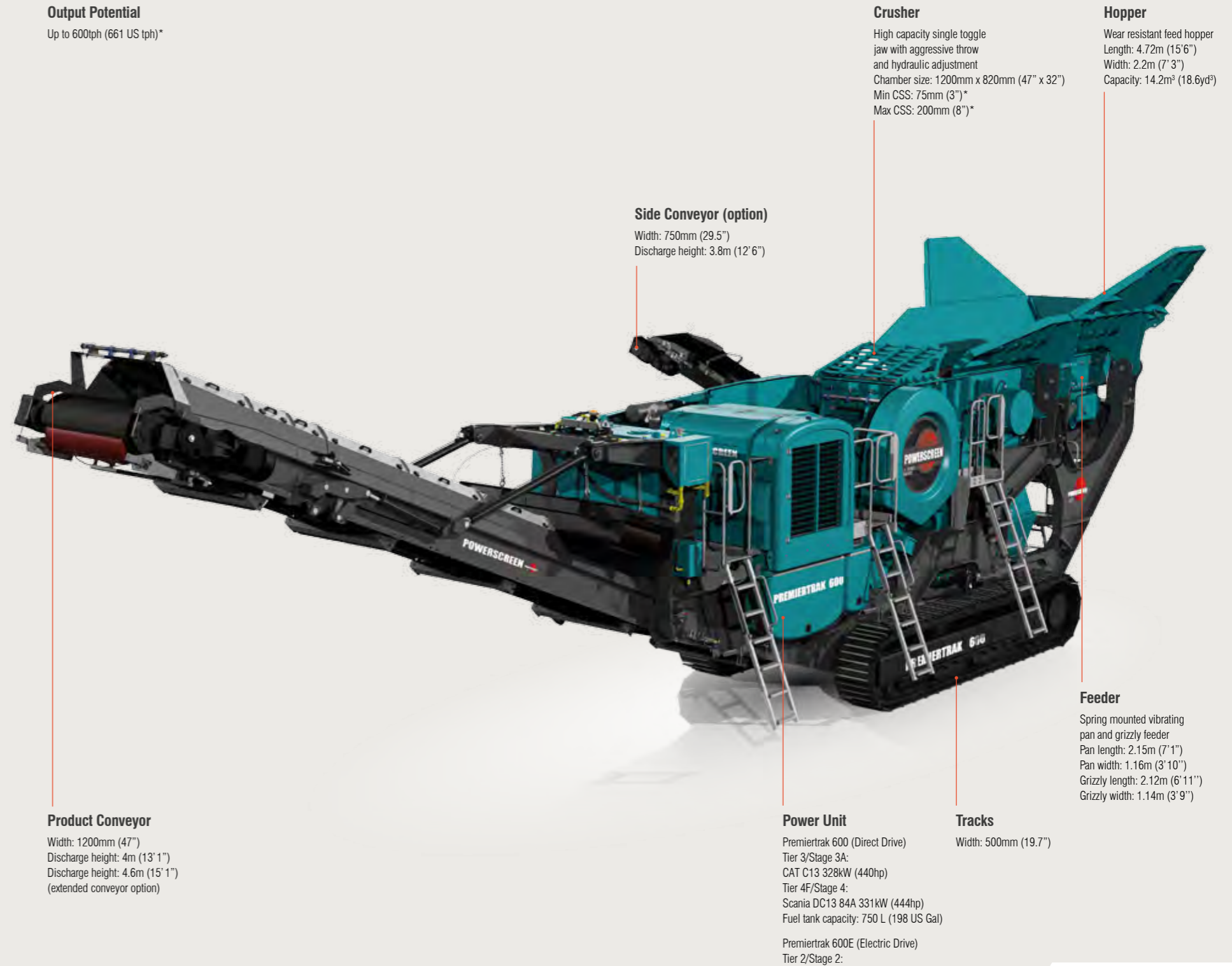
- Sand & gravel
- Blasted rock
- River rock
- C & D waste
- Overburden
- Foundry waste
- Processed ores
- Processed minerals

PREMIERTRAK	600	600E
Weight (est.) with side conveyor & magnet	68,875kg (151,843lbs)	72,725kg (162,535lbs)
Transport width	3m (9' 10")	3.12m (10' 3")
Transport length	17.1m (56' 1")	17.1m (56' 1")
Transport height	3.8m (12' 5")	3.8m (12' 5")
Working width with side conveyor	8.09m (26' 5")	8.09m (26' 7")
Working length	16.63m (54' 7")	16.63m (54' 7")
Working height	4.49m (14' 9")	4.49m (14' 9")



Output Potential

Up to 600tph (661 US tph)*



Side Conveyor (option)

Width: 750mm (29.5")
Discharge height: 3.8m (12' 6")

Crusher

High capacity single toggle jaw with aggressive throw and hydraulic adjustment
Chamber size: 1200mm x 820mm (47" x 32")
Min CSS: 75mm (3")*
Max CSS: 200mm (8")*

Hopper

Wear resistant feed hopper
Length: 4.72m (15' 6")
Width: 2.2m (7' 3")
Capacity: 14.2m³ (18.6yd³)

Product Conveyor

Width: 1200mm (47")
Discharge height: 4m (13' 1")
Discharge height: 4.6m (15' 1") (extended conveyor option)

Feeder

Spring mounted vibrating pan and grizzly feeder
Pan length: 2.15m (7' 1")
Pan width: 1.16m (3' 10")
Grizzly length: 2.12m (6' 11")
Grizzly width: 1.14m (3' 9")

Power Unit

Premiertrak 600 (Direct Drive)
Tier 3/Stage 3A:
CAT C13 328kW (440hp)
Tier 4F/Stage 4:
Scania DC13 84A 331kW (444hp)
Fuel tank capacity: 750 L (198 US Gal)

Premiertrak 600E (Electric Drive)
Tier 2/Stage 2:
Scania DC13 74A 331kW (444hp)
Tier 4F/Stage 4:
Scania DC13 85A 331kW (444hp)
Fuel tank capacity: 750 L (198 US Gal)

Tracks

Width: 500mm (19.7")

*Depends on application
Engines are available that are certified to US EPA and EU off road diesel emission standards. Talk to your dealer about possible certification options (i.e. Tier 3/Stage 3A, Tier 4/Stage 3B, Tier 4F / Stage 4).





TRACK CONVEYORS





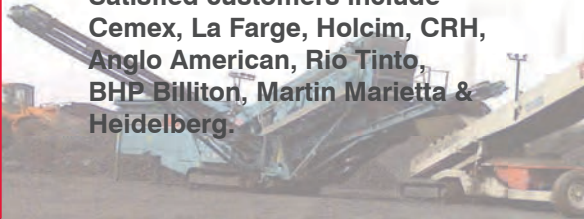
CONTENTS

- 04.** BENEFITS OF TELESTACK TRACKED CONVEYORS
- 05.** TRACKED CONVEYOR - X RANGE
- 06.** TRACKED CONVEYOR - STANDARD
- 07.** RADIAL TRACKED CONVEYOR
- 08.** NEW PRODUCT - TCL 100
- 09.** TRACKED CONVEYOR - LATTICE & TRACKED TELESCOPIC CONVEYOR
- 10.** STANDARD OPTIONS
- 11.** TRANSPORTATION & CONTAINERISATION



Telestack equipment has a proven record of performance and reliability, operating in all types of applications and climates around the world.

Satisfied customers include Cemex, La Farge, Holcim, CRH, Anglo American, Rio Tinto, BHP Billiton, Martin Marietta & Heidelberg.



**STOCKPILING RECIRCULATING
LINKING TRUCK LOADING
SHIPLOADING RAIL LOADING**

- Eliminate double handling of material with wheel loaders
- Stockpiling rates from 100 - 1500 TPH*
- Stockpiling 0 - 300 mm (12 inch down) material
- Environmental benefits – reduced noise, dust and emissions
- Safety benefits - less site traffic movement
- Discharge heights up to 14 metres (45ft 6")
- Conical stockpile up to 6,940 tonnes – 4,338m³ (5,675 yds³ – 7,650 ton)
- Radial stockpile up to 15,123 tonnes – 9,452m³ (12,362 yds³ – 16,670 ton)

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)



**ELIMINATE / REDUCE THE USE OF
WHEEL LOADERS / TRUCKS!**



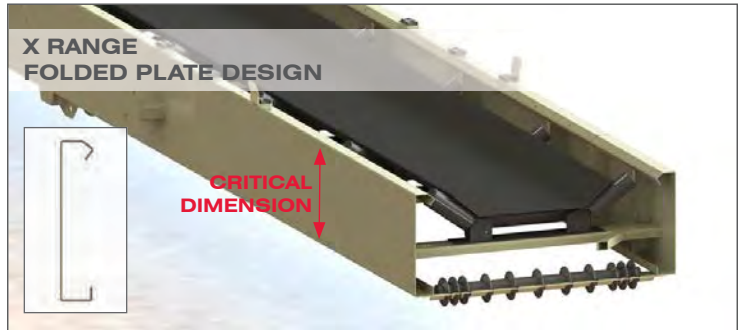
**AGGREGATES SAND / GRAVEL
IRON ORE COAL FERTILISER
GRAIN WOODCHIPS**



X RANGE

The X-Range would be considered the Telestack value range and is renowned for its functionality and performance

- Lengths from 18m to 24m (60ft - 80ft)
- Typically working after mobile screens
- Up to 400 TPH
- Folded plate design



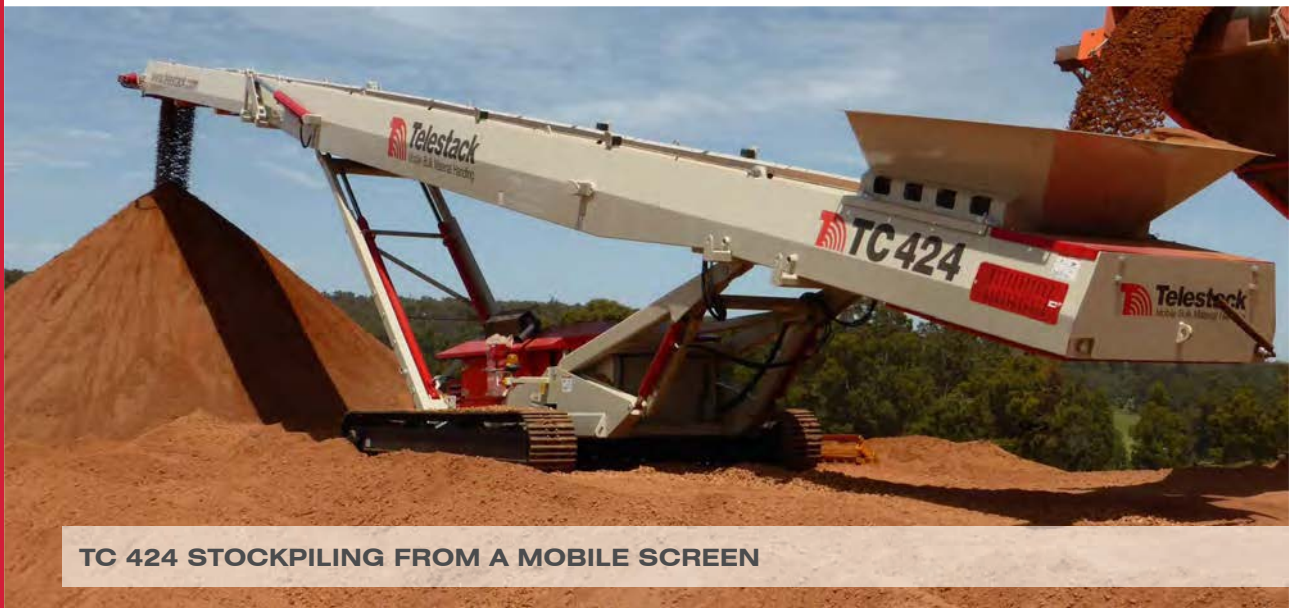
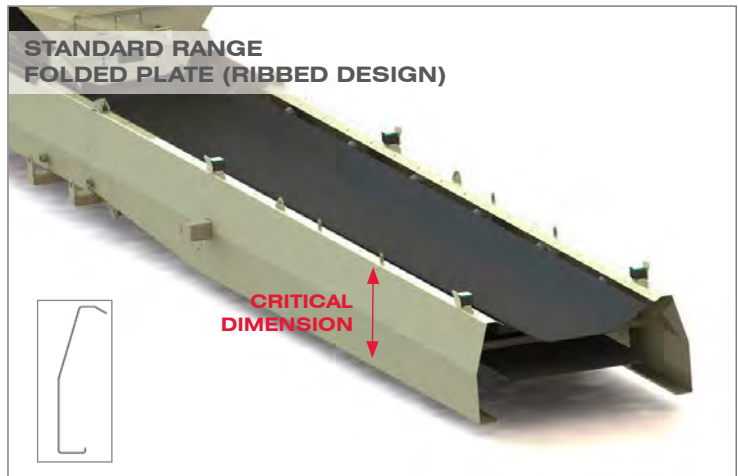
TRACKED STOCKPILING CONVEYORS - X RANGE (UP TO 400 TPH)*

Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume	Stockpile Mass @ @ 1.6t/m ³
TC 418X	18 m (60 ft)	7.92 m (25 ft 9")	800 mm (32")	770 m ³ (1,010 yd ³)	1,235 Tonnes (1,360 Ton)
TC 420X	20 m (66 ft)	9.31 m (30 ft 3")	1050 mm (42")	1,400 m ³ (1,830 yd ³)	2,240 Tonnes (2,470 Ton)
TC 424X	24 m (78 ft)	10.8 m (35 ft 2")	1050 mm (42")	2,085 m ³ (2,730 yd ³)	3,340 Tonnes (3,680 Ton)
Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume (180 degrees)	Stockpile Mass @ 1.6t/m ³ (180 degrees)
TC 420XR	20 m (66 ft)	8.24 m (26 ft 9")	1050 mm (42")	6,427 m ³ (8,406 yd ³)	10,283 Tonnes (11,311 Ton)
TC 424XR	24 m (78 ft)	9.37 m (30 ft 5")	1050 mm (42")	8,435 m ³ (11,030 yd ³)	13,490 Tonnes (14,870 Ton)

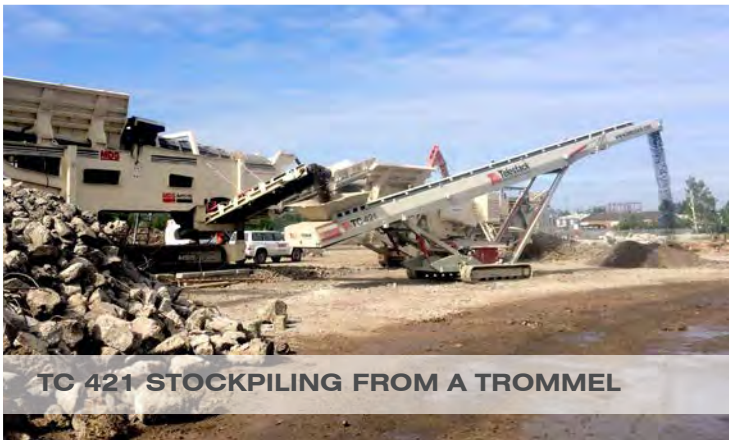
*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)

The Telestack standard tracked stockpiling range is renowned in the industry for its strength and reliability

- Designed with a deeper mid section for extra strength and rigidity
- Better suited for higher tonnage / larger surges/ larger lump size
- Ribbed boom design in tail, mid & head section for added strength



TC 424 STOCKPILING FROM A MOBILE SCREEN



TC 421 STOCKPILING FROM A TROMMEL



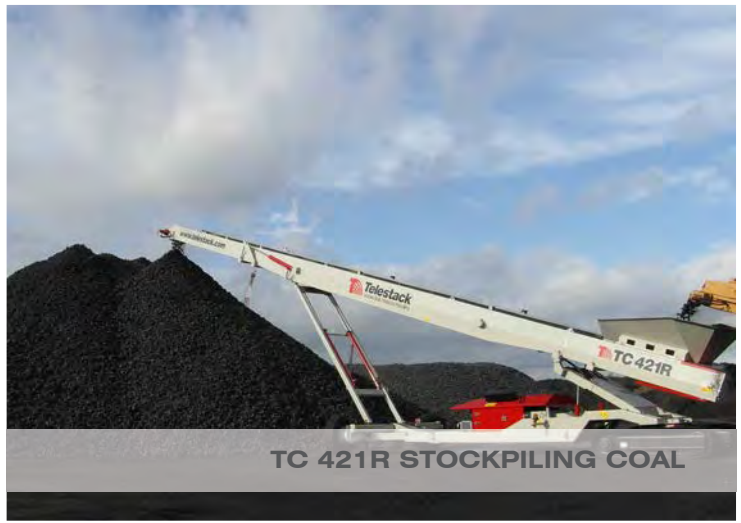
TC 621 STOCKPILING FROM A PRIMARY JAW (0-200 MM/ 600TPH)

TRACKED STOCKPILING CONVEYORS - STANDARD RANGE (UP TO 600 TPH)*

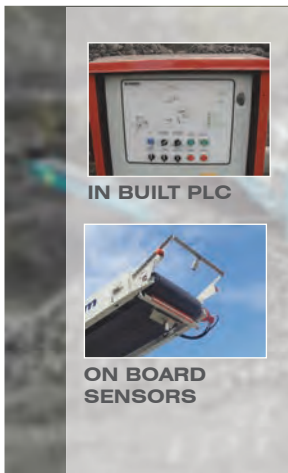
Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume	Stockpile Mass @ @ 1.6t/m ³
TC 421	21.8 m (71 ft)	10.02 m (32 ft 7")	1050 mm (42")	1,555 m ³ (2,035 yd ³)	2,500 Tonnes (2,750 Ton)
TC 621	21.8 m (71 ft)	10.02 m (32 ft 7")	1050 mm (42")	1,555 m ³ (2,035 yd ³)	2,500 Tonnes (2,750 Ton)
TC 424	24 m (78 ft)	10.8 m (35 ft 2")	1050 mm (42")	2,085 m ³ (2,730 yd ³)	3,340 Tonnes (3,680 Ton)
TC 624	24 m (78 ft)	10.8 m (35 ft 2")	1050 mm (42")	2,085 m ³ (2,730 yd ³)	3,340 Tonnes (3,680 Ton)

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)

RADIAL RANGE- STANDARD

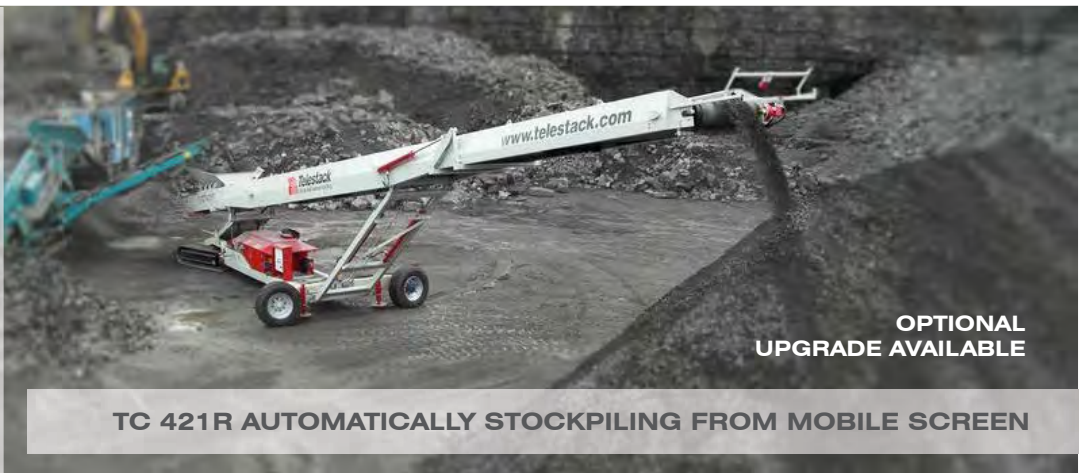


TC 421R STOCKPILING COAL



IN BUILT PLC

ON BOARD SENSORS



OPTIONAL UPGRADE AVAILABLE

TC 421R AUTOMATICALLY STOCKPILING FROM MOBILE SCREEN



TC 621R STOCKPILING FROM MOBILE SCREEN

TRACKED STOCKPILING CONVEYORS - STANDARD RANGE (UP TO 600 TPH)*

Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume (180 degrees)	Stockpile Mass @ 1.6t/m ³ (180 degrees)
TC 421R	21.8 m (71 ft)	8.68 m (28 ft 2")	1050 mm (42")	6,430 m ³ (8,410 yd ³)	10,290 Tonnes (11,340 Ton)
TC 621R	21.8 m (71 ft)	8.68 m (28 ft 2")	1050 mm (42")	6,430 m ³ (8,410 yd ³)	10,290 Tonnes (11,340 Ton)
TC 424R	24 m (78 ft)	9.37 m (30 ft 5")	1050 mm (42")	8,435 m ³ (11,030 yd ³)	13,490 Tonnes (14,870 Ton)
TC 624R	24 m (78 ft)	9.37 m (30 ft 5")	1050 mm (42")	8,435 m ³ (11,030 yd ³)	13,490 Tonnes (14,870 Ton)

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)

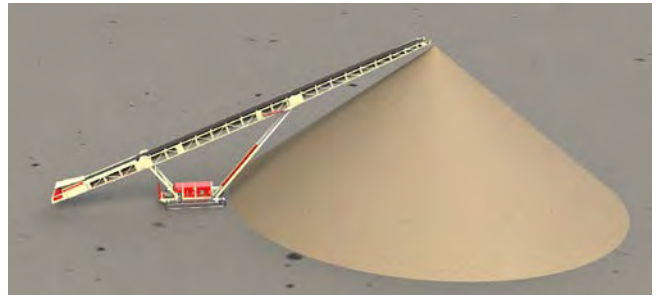


NEW PRODUCT - TCL 100

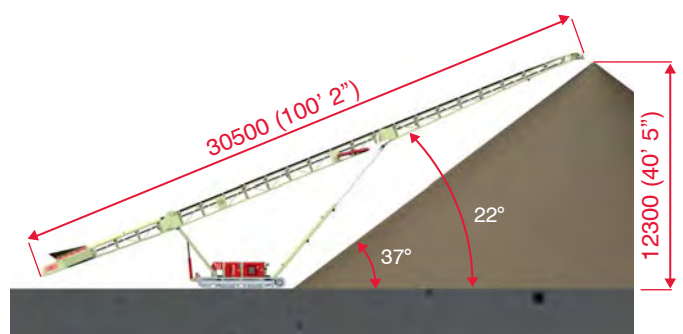
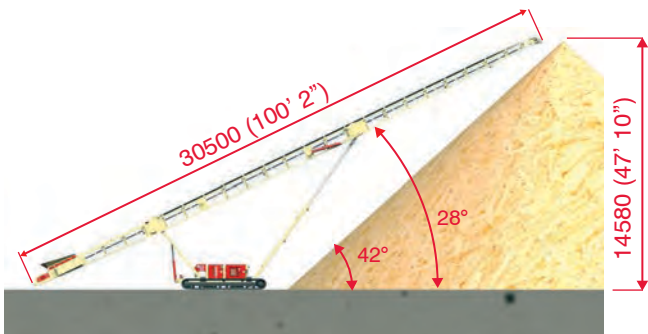
The TCL 100 is a track mounted lattice frame conveyor. The New TCL 100 can stockpile up to a working angle of 28 degrees which provides a much larger stockpile capacity for light bulky materials and at the same time improves plant mobility by removing material from the processing equipment.



28° - MULCH/ WOODCHIPS/ BIOMASS



22° - AGGREGATES/ SAND



TCL100 TRACKED STOCKPILING CONVEYOR - LATTICE (UP TO 1500 TPH)*

Angle of Conveyor Belt (Degrees)	Stockpile Height		Stockpile Capacity (Volume)		Stockpile Capacity (Mass)	
	(m)	(ft)	(m3)	(yd3)	(Tonnes)	(Ton)
28°	14.58	47' 10"	4,010	5,240	6,410	7,060
22°	12.3	40' 5"	3,440	4,490	5,500	6,060
18°	10.82	35' 6"	2,340	3,060	3,740	4,120

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)

LATTICE RANGE - HEAVY DUTY



The Telestack heavy duty lattice frame is renowned for its extra strength

- Used for 400 - 1500 TPH applications
- Typically used for lengths 24m (80ft) and above
- More strength from less steel

TRACKED STOCKPILING CONVEYORS - LATTICE (UP TO 1500 TPH)*

Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume	Stockpile Mass @ @ 1.6t/m ³
TCL 824 - 1024	24 m (78 ft)	10.8 m (35 ft 2")	1050 mm (42")	2,085 m ³ (2,730 yd ³)	3,340 Tonnes (3,680 Ton)
TCL 431- 631- 831	31 m (101 ft)	12.7 m (41 ft 2")	1050 mm (42")	3,150 m ³ (4117 yd ³)	5,030 Tonnes (5,544 Ton)
TCL 1031	31 m (101 ft)	12.7 m (41 ft 2")	1200 mm (48")	3,150 m ³ (4117 yd ³)	5,030 Tonnes (5,544 Ton)

Machine	Conveyor Length	Discharge Height (20 degrees)	Belt Width	Stockpile Volume (180 degrees)	Stockpile Mass @ 1.6t/m ³ (180 degrees)
TCL 824 - 1024R	24 m (78 ft)	10.8 m (35 ft 2")	1050 mm (42")	8,435 m ³ (11,030 yd ³)	13,490 Tonnes 14,870 Ton
TCL 431- 631- 831R	31 m (101 ft)	12.7 m (41 ft 2")	1050 mm (42")	19,050 m ³ (24,910 yd ³)	30,470 Tonnes (33,590 Ton)
TCL 1031 - 1531R	31 m (101 ft)	12.7 m (41 ft 2")	1200 mm (48")	19,050 m ³ (24,910 yd ³)	30,470 Tonnes (33,590 Ton)

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft)

TRACKED TELESCOPIC CONVEYOR



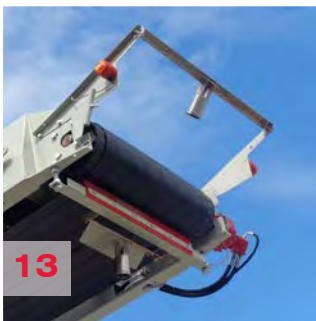
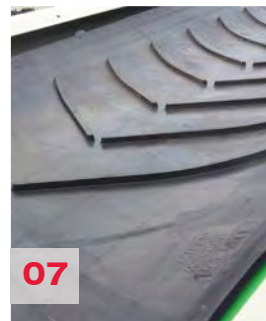
TRACKED TELESCOPIC CONVEYORS - LATTICE (UP TO 1500 TPH)*

Machine	Conveyor Length	Discharge Height (23 degrees)	Belt Width	Stockpile Volume	Stockpile Mass @ @ 1.6t/m ³
TS 624	23 m (74 ft 1")	8.8 m (28 ft 8")	1200 mm (48")	1,345 m ³ (1,760 yd ³)	2,150 Tonnes (2,370 Ton)
TS 1024	23 m (74 ft 1")	8.8 m (28 ft 8")	1200 mm (48")	1,345 m ³ (1,760 yd ³)	2,150 Tonnes (2,370 Ton)
TS 1524	23 m (74 ft 1")	8.8 m (28 ft 8")	1200 mm (48")	1,345 m ³ (1,760 yd ³)	2,150 Tonnes (2,370 Ton)

*Based on bulk density of 1.6 t/m³(100lbs / per cubic ft) - *Other Lengths, TPH, etc are available on request.



STANDARD OPTIONS





- 01 Hydraulic folding tail section
- 02 All electrical conveyor (Diesel Engine for tracking and hydraulic functions)
- 03 Dual power (Electric & Diesel)
- 04 Hardened Steel Liners
- 05 Anti roll back measures
- 06 Side Skirting
- 07 Belt Upgrades (Heavy Duty) / Chevron to suit material
- 08 Overband Magnets
- 09 Feed-boot extensions
- 10 Dust covers
- 11 Dust Suppression
- 12 Radio remote control
- 13 On board sensors for Automatic Stockpiling
- 14 Parallel / Revolution travel tracks
- 15 Tier 4 (Euro 3B) Engine

TRANSPORTATION & CONTAINERISATION

The ease of transport makes it very easy and cost efficient for transporting these units globally. Each unit can be transported on a low loader trailer to move easily from site to site. Set up time on site is 15 minutes. Each unit can be packed into 40ft containers and shipped anywhere in the world.



*METHOD OF TRANSPORT DEPENDENT ON MODEL

- X Range - Tracks directly in - out of container
- TC Standard Range - Tracks need to be fitted on site
- TC Radial Range- Tracks & Conveyor need to be fitted on site



LOADED INTO 1 X EUROLINER



LOW LOADER - RO - RO TRANSPORT



LOADED INTO 1 X 40FT CONTAINER

Telestack Limited
Bankmore Way East
Omagh, Co. Tyrone
Northern Ireland
BT79 0NZ

+44 (0) 28 8225 1100
sales@telestack.com
www.telestack.com



THE
POWER
TO MOVE
MATERIALS

SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2

PROCESS DEFINITIONS:

MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:

- 0. - No Change.
- 1. - for increase in throughput limit.
- 2. - for physical change in emissions unit (Project or modification).
- 3. - for like-for-like replacement emissions unit(s) (Replacement)
- 4. - for new emissions unit(s).

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE MODULE A - PORTABLE BASE PLANT		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON	DATE:	10/25/2021
COMMENTS:	500 TPH PORTABLE BASE PLANT EMISSIONS; 960,000 tons		

Input Data Below

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR		
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
PRIMARY CRUSHER	P-CR-1	PROCESS ID #															
Manf.	POWERSCREEN	Actual Processed (t/yr)															
Model #	PremierTrak 600 Jaw	Rated Capacity (t/hr)															
Mod. Code	4	Allowable (t/yr)															
			1	NSPS?													
				Dry	0.000732	0.000716	0.000043										
			1	Wet	0.000037	0.000036	0.0000021										
				Bag	0.000007	0.000007	0.0000004	0.018	0.017	0.001	0.018	0.018	0.001	1.603	1.568	0.094	1.568 0.094
PRIMARY CRUSHER		PROCESS ID #		NSPS?													
Manf.		Actual Processed (t/yr)		Dry	0.000732	0.000716	0.000043										
Model #		Rated Capacity (t/hr)		Wet	0.000037	0.000036	0.000002										
Mod. Code		Allowable (t/yr)		Bag	0.000007	0.000007	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER	P-CR-2	PROCESS ID #	1	NSPS?													
Manf.	POWERSCREEN	Actual Processed (t/yr)		Dry	0.005400	0.002400	0.000140										
Model #	MaxTrak 1300 Cone	Rated Capacity (t/hr)		Wet	0.001200	0.000540	0.000100										
Mod. Code	4	Allowable (t/yr)		Bag	0.000054	0.000024	0.000001	0.576	0.259	0.048	0.600	0.270	0.050	11.826	5.256	0.307	5.256 0.307
SECONDARY CRUSHER		PROCESS ID #		NSPS?													
Manf.		Actual Processed (t/yr)		Dry	0.005400	0.002400	0.000140										
Model #		Rated Capacity (t/hr)		Wet	0.001200	0.000540	0.000100										
Mod. Code		Allowable (t/yr)		Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER		PROCESS ID #		NSPS?													
Manf.		Actual Processed (t/yr)		Dry	0.005400	0.002400	0.000140										
Model #		Rated Capacity (t/hr)		Wet	0.001200	0.000540	0.000100										
Mod. Code		Allowable (t/yr)		Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER		PROCESS ID #		NSPS?													
Manf.		Actual Processed (t/yr)		Dry	0.005400	0.002400	0.000140										
Model #		Rated Capacity (t/hr)		Wet	0.001200	0.000540	0.000100										
Mod. Code		Allowable (t/yr)		Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER		PROCESS ID #		NSPS?													
Manf.		Actual Processed (t/yr)		Dry	0.005400	0.002400	0.000140										
Model #		Rated Capacity (t/hr)		Wet	0.001200	0.000540	0.000100										
Mod. Code		Allowable (t/yr)		Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	P-SCR-1	PROCESS ID #													
Manf.	960000	Actual Processed (t/yr)													
Model #	Warrior 2100	Rated Capacity (t/hr)													
Mod. Code	4	Allowable (t/yr)													
SCREENING (P,S OR T)	P-SCR-2	PROCESS ID #													
Manf.	960000	Actual Processed (t/yr)													
Model #	Grizzly Feeder (jaw)	Rated Capacity (t/hr)													
Mod. Code	4	Allowable (t/yr)													
SCREENING (P,S OR T)	P-SCR-3	PROCESS ID #													
Manf.	960000	Actual Processed (t/yr)													
Model #	Chieftain 2100x	Rated Capacity (t/hr)													
Mod. Code	4	Allowable (t/yr)													
SCREENING (P,S OR T)		PROCESS ID #													
Manf.		Actual Processed (t/yr)													
Model #		Rated Capacity (t/hr)													
Mod. Code		Allowable (t/yr)													

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR		
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
CONVEYOR	P-C-4	PROCESS ID #	1	NSPS?												
Manf.	TELESTACK	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	HF-521 hopper belt feeder	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.067	0.022	0.006	0.070	0.023	0.007	6.570	2.409	0.713	2.409 0.713
CONVEYOR	P-C-5	PROCESS ID #	1	NSPS?												
Manf.	TELESTACK	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	HF-521 70' conveyor	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.067	0.022	0.006	0.070	0.023	0.007	6.570	2.409	0.713	2.409 0.713
CONVEYOR	P-C-6	PROCESS ID #	1	NSPS?												
Manf.	POWERSCREEN	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	CT-65 (3)	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.067	0.022	0.006	0.070	0.023	0.007	6.570	2.409	0.713	2.409 0.713
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
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Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
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Model #	Rated Capacity (t/hr)														
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Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
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Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
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Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
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Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
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Manf.	Actual Processed (t/yr)														
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Mod. Code	Allowable (t/yr)														
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Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
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Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
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Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR		
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
SURGE BIN	P-FH-1	PROCESS ID #	1	NSPS?												
Manf.	POWERSCREEN	Actual Processed (t/yr)	960000	Dry	0.006000	0.002200	0.000651									
Model #	Screen Feed Hopper	Rated Capacity (t/hr)	500	1	0.000280	0.000092	0.000026									
Mod. Code	4	960000	Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.134	0.044	0.012	0.140	0.046	0.013	13.140	4.818	1.426
SURGE BIN	P-FH-2	PROCESS ID #	1	NSPS?												
Manf.	POWERSCREEN	Actual Processed (t/yr)	960000	Dry	0.006000	0.002200	0.000651									
Model #	Cone Feed Hopper	Rated Capacity (t/hr)	500	1	0.000280	0.000092	0.000026									
Mod. Code	4	960000	Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.134	0.044	0.012	0.140	0.046	0.013	13.140	4.818	1.426
SURGE BIN		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651									
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026									
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651									
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026									
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #		NSPS?												
Manf.	240000	Actual Processed (t/yr)		Dry	0.330000	0.156000	0.023623									
Model #	4	500	Rated Capacity (t/hr)	1	0.016500	0.007800	0.001181	1.980	0.936	0.142	0.452	0.214	0.032	39.600	18.720	2.835
Mod. Code		240000	Allowable (t/yr)													
CEMENT/FILLER SILO		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.730000	0.470000	0.138235									
Model #		Rated Capacity (t/hr)		Bag	0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mod. Code			Allowable (t/yr)													
LOADOUT EMISSIONS		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.060000	0.030000	0.004543									
Model #		Rated Capacity (t/hr)		Wet	0.003000	0.001500	0.000227									
Mod. Code			Allowable (t/yr)	Bag	0.000600	0.000300	0.000045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.000032	0.000016	0.000006									
Model #		Rated Capacity (t/hr)		Wet	0.000002	0.000001	0.0000003									
Mod. Code			Allowable (t/yr)	Bag	0.000002	0.000001	0.0000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EMISSION SUMMARY											NEW EMISSION UNITS	
PROCESS TYPE	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- UNCONTROLLED- 8760 HR/YR		
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
PRIMARY CRUSHING	0.018	0.017	0.001	0.018	0.018	0.001	1.603	1.568	0.094	1.568	0.094	
SECONDARY CRUSHING	0.576	0.259	0.048	0.600	0.270	0.050	11.826	5.256	0.307	5.256	0.307	
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S. OR T)	3.168	1.066	0.072	3.300	1.110	0.075	164.250	57.159	16.811	57.159	16.811	
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
CONVEYORS	0.403	0.132	0.037	0.420	0.138	0.039	39.420	14.454	4.277	14.454	4.277	
SURGE BINS	0.269	0.088	0.025	0.280	0.092	0.026	26.280	9.636	2.851	9.636	2.851	
STOCKPILE EMISSIONS	1.980	0.936	0.142	0.452	0.214	0.032	39.600	18.720	2.835	18.720	2.835	
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LOADOUT EMISSIONS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
FACILITY GRAND TOTAL	6.414	2.499	0.325	5.070	1.842	0.223	282.979	106.793	27.176	106.793	27.176	

NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.

NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8760 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.

NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the attached document.

NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.

NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.

NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.

NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.

NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. This spreadsheet is continually being revised and updated.
 It is your responsibility to be aware of the most current information available. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET September 2018 VERSION 5.2	
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PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (modification).
 3. - for like-for-like replacement emissions unit(s).
 4. - for new emissions unit(s).

COMPANY NAME:			
PLANT REGISTRATION #:			
PLANT NAME:			
PLANT STREET ADDRESS:			
COUNTY/CITY:		ZIP CODE:	
COMPLETED BY:		DATE:	
COMMENTS:			

Input Data on Stone Processing Tab

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED- 8760 HR/YR		
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
PRIMARY CRUSHER	<u>P-CR-1</u> PROCESS ID #	<u>1</u> NSPS?															
Manf.	<u>POWERSCREEN</u> <u>4380000</u> Actual Processed (t/yr)	<u>1</u> Dry	0.00073	0.00072	0.000043												
Model #	<u>PremierTrak 600 Jaw</u> <u>500</u> Rated Capacity (t/hr)	<u>1</u> Wet	0.00004	0.00004	0.000002												
Mod. Code	<u>4</u> Allowable (t/yr)	<u>1</u> Bag	0.00001	0.00001	0.000000	0.080	0.078	0.005	0.018	0.018	0.001	1.603	1.568	0.094	0.078	0.005	
PRIMARY CRUSHER	<u>0</u> PROCESS ID #	<u>0</u> NSPS?															
Manf.	<u>0</u> <u>0</u> Actual Processed (t/yr)	<u>0</u> Dry	0.00073	0.00072	0.000043												
Model #	<u>0</u> <u>0</u> Rated Capacity (t/hr)	<u>0</u> Wet	0.00004	0.00004	0.000002												
Mod. Code	<u>0</u> Allowable (t/yr)	<u>0</u> Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SECONDARY CRUSHER	<u>P-CR-2</u> PROCESS ID #	<u>1</u> NSPS?															
Manf.	<u>POWERSCREEN</u> <u>4380000</u> Actual Processed (t/yr)	<u>1</u> Dry	0.00540	0.00240	0.000140												
Model #	<u>MaxTrak 1300 Cone</u> <u>500</u> Rated Capacity (t/hr)	<u>1</u> Wet	0.00120	0.00054	0.000100												
Mod. Code	<u>4</u> Allowable (t/yr)	<u>1</u> Bag	0.00005	0.00002	0.000001	2.628	1.183	0.219	0.600	0.270	0.050	11.826	5.256	0.307	1.183	0.219	
SECONDARY CRUSHER	<u>0</u> PROCESS ID #	<u>0</u> NSPS?															
Manf.	<u>0</u> <u>0</u> Actual Processed (t/yr)	<u>0</u> Dry	0.00540	0.00240	0.000140												
Model #	<u>0</u> <u>0</u> Rated Capacity (t/hr)	<u>0</u> Wet	0.00120	0.00054	0.000100												
Mod. Code	<u>0</u> Allowable (t/yr)	<u>0</u> Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SECONDARY CRUSHER	<u>0</u> PROCESS ID #	<u>0</u> NSPS?															
Manf.	<u>0</u> <u>0</u> Actual Processed (t/yr)	<u>0</u> Dry	0.00540	0.00240	0.000140												
Model #	<u>0</u> <u>0</u> Rated Capacity (t/hr)	<u>0</u> Wet	0.00120	0.00054	0.000100												
Mod. Code	<u>0</u> Allowable (t/yr)	<u>0</u> Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SECONDARY CRUSHER	<u>0</u> PROCESS ID #	<u>0</u> NSPS?															
Manf.	<u>0</u> <u>0</u> Actual Processed (t/yr)	<u>0</u> Dry	0.00540	0.00240	0.000140												
Model #	<u>0</u> <u>0</u> Rated Capacity (t/hr)	<u>0</u> Wet	0.00120	0.00054	0.000100												
Mod. Code	<u>0</u> Allowable (t/yr)	<u>0</u> Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SECONDARY CRUSHER	<u>0</u> PROCESS ID #	<u>0</u> NSPS?															
Manf.	<u>0</u> <u>0</u> Actual Processed (t/yr)	<u>0</u> Dry	0.00540	0.00240	0.000140												
Model #	<u>0</u> <u>0</u> Rated Capacity (t/hr)	<u>0</u> Wet	0.00120	0.00054	0.000100												
Mod. Code	<u>0</u> Allowable (t/yr)	<u>0</u> Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.0053											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	P-SCR-1 PROCESS ID #															
Manf.	POWERSCREEN 4380000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	Warrior 2100 500 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	4.818	1.621	0.110	1.100	0.370	0.025	54.750	19.053	5.604	1.621	0.110
SCREENING (P.S OR T)	P-SCR-2 PROCESS ID #															
Manf.	POWERSCREEN 4380000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	Grizzly Feeder (jaw) 500 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	4.818	1.621	0.110	1.100	0.370	0.025	54.750	19.053	5.604	1.621	0.110
SCREENING (P.S OR T)	P-SCR-3 PROCESS ID #															
Manf.	POWERSCREEN 4380000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	Chieftain 2100x 500 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	4.818	1.621	0.110	1.100	0.370	0.025	54.750	19.053	5.604	1.621	0.110
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
CONVEYOR	P-C-1	0	PROCESS ID #													
Manf.	POWERSCREEN	4380000	Actual Processed (t/yr)													
Model #	CT-65 (1)	500	Rated Capacity (t/hr)													
Mod. Code	4		Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101 0.028
CONVEYOR	P-C-2	0	PROCESS ID #													
Manf.	POWERSCREEN	4380000	Actual Processed (t/yr)													
Model #	CT-65 (2)	500	Rated Capacity (t/hr)													
Mod. Code	4		Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101 0.028
CONVEYOR	P-C-3	0	PROCESS ID #													
Manf.	TELESTACK	4380000	Actual Processed (t/yr)													
Model #	TC-624R 80' stacker	500	Rated Capacity (t/hr)													
Mod. Code	4		Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101 0.028

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	P-C-4	PROCESS ID #														
Manf.	TELESTACK	4380000														
Model #	HF-521 hopper belt feeder	500														
Mod. Code	4	Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	P-C-5	PROCESS ID #														
Manf.	TELESTACK	4380000														
Model #	HF-521 70' conveyor	500														
Mod. Code	4	Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	P-C-6	PROCESS ID #														
Manf.	POWERSCREEN	4380000														
Model #	CT-65 (3)	500														
Mod. Code	4	Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SURGE BIN	P-FH-1	PROCESS ID #														
Manf.	POWERSCREEN	4380000														
Model #	Screen Feed Hopper	500														
Mod. Code	4	Allowable (t/yr)				0.613	0.201	0.057	0.140	0.046	0.013	13.140	4.818	1.426	0.201	0.057
SURGE BIN	P-FH-2	PROCESS ID #														
Manf.	POWERSCREEN	4380000														
Model #	Cone Feed Hopper	500														
Mod. Code	4	Allowable (t/yr)				0.613	0.201	0.057	0.140	0.046	0.013	13.140	4.818	1.426	0.201	0.057
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #														
Manf.	1533000	Actual Processed (t/yr)				12.647	5.979	0.905	2.888	1.365	0.207	252.945	119.574	18.107	5.979	0.905
Model #	4	500														
Mod. Code	0	Allowable (t/yr)														
CEMENT/FILLER SILO	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CEMENT/FILLER SILO	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EMISSION SUMMARY												NEW EMISSION UNITS	
PROCESS TYPE	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- CONTROLLED- 8760 HR/YR			
	PM	PM10	PM2.5	PM	PM10	PM2.5	PM	PM10	PM2.5	PM10	PM2.5		
	TONS/YR	TONS/YR	TONS/YR	LBS/HR	LBS/HR	LBS/HR	TONS/YR	TONS/YR	TONS/YR	TONS/YR	TONS/YR		
PRIMARY CRUSHING	0.080	0.078	0.005	0.018	0.018	0.001	1.603	1.568	0.094	0.078	0.005		
SECONDARY CRUSHING	2.628	1.183	0.219	0.600	0.270	0.050	11.826	5.256	0.307	1.183	0.219		
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SCREENING (P.S. OR T)	14.454	4.862	0.329	3.300	1.110	0.075	164.250	57.159	16.811	4.862	0.329		
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYORS	1.840	0.604	0.171	0.420	0.138	0.039	39.420	14.454	4.277	0.604	0.171		
SURGE BINS	1.226	0.403	0.114	0.280	0.092	0.026	26.280	9.636	2.851	0.403	0.114		
STOCKPILE EMISSIONS - NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		5.979	0.905		1.365	0.207	252.945	119.574	18.107	5.979	0.905		
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
LOADOUT EMISSIONS -NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		0.000	0.000							0.000	0.000		
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
FACILITY GRAND TOTAL	20.228	13.109	1.742	4.618	2.993	0.398	496.324	207.647	42.448	13.109	1.742		

- NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.
- NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8/60 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.
- NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the at
- NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.
- NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.
- NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.
- NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.
- NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.
- NOTE 9: Fugitive emissions from stockpiles, front-end-loaders, and haulroads do not count towards PSD applicability. NSPS enclosed truck loadouts emissions are not fugitive.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. It is your responsibility to be aware of the most current information available. This spreadsheet is continually being revised and updated. DEQ is not responsible for errors or omissions that may be contained herein.

Address all comments to: DEQ, Valley Regional Office
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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET September 2018 VERSION 5.2			
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PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (Project or modification).
 3. - for like-for-like replacement emissions unit(s) (Replacement)
 4. - for new emissions unit(s).

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE MODULE B - PORTABLE RECRUSH PLANT		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON	DATE:	10/27/2021
COMMENTS:	300 TPH PORTABLE RECRUSH PLANT EMISSIONS: 900,000 tons		

Input Data Below		---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS				NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
PROCESS TYPE	DESCRIPTION	Flags	PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	1 Wet	0.000037	0.000036	0.0000021											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.0000004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	Wet	0.000037	0.000036	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	1 Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	1 Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.540	0.243	0.045	0.360	0.162	0.030	7.096	3.154	0.184	3.154	0.184
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR		
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
CONVEYOR	P-C-4	PROCESS ID #	1	NSPS?												
Manf.	TELESTACK	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	HF-521 hopper belt feeder	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.063	0.021	0.006	0.042	0.014	0.004	3.942	1.445	0.428
CONVEYOR	P-C-5	PROCESS ID #	1	NSPS?												
Manf.	TELESTACK	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	HF-521 70' conveyor	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.063	0.021	0.006	0.042	0.014	0.004	3.942	1.445	0.428
CONVEYOR	P-C-6	PROCESS ID #	1	NSPS?												
Manf.	POWERSCREEN	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	CT-65 (3)	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.063	0.021	0.006	0.042	0.014	0.004	3.942	1.445	0.428
CONVEYOR	P-C-7	PROCESS ID #	1	NSPS?												
Manf.	POWERSCREEN	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	CT-65 (4)	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.063	0.021	0.006	0.042	0.014	0.004	3.942	1.445	0.428
CONVEYOR	P-C-8	PROCESS ID #	1	NSPS?												
Manf.	TELESTACK	Actual Processed (t/yr)	Dry	0.003300	0.001100	0.000326										
Model #	TC-624R 80' stacker (2)	Rated Capacity (t/hr)	1	Wet	0.000140	0.000046	0.000013									
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000030	0.000011	0.000003	0.063	0.021	0.006	0.042	0.014	0.004	3.942	1.445	0.428
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #		NSPS?												
Manf.		Actual Processed (t/yr)		Dry	0.003300	0.001100	0.000326									
Model #		Rated Capacity (t/hr)		Wet	0.000140	0.000046	0.000013									
Mod. Code		Allowable (t/yr)		Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR				
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR			
SURGE BIN	P-FH-1	PROCESS ID #	1	NSPS?														
Manf.	POWERSCREEN	Actual Processed (t/yr)	900000	Dry	0.006000	0.002200	0.000651											
Model #	Screen Feed Hopper	Rated Capacity (t/hr)	300	1	0.000280	0.000092	0.000026											
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.126	0.041	0.012	0.084	0.028	0.008	7.884	2.891	0.855	2.891	0.855
SURGE BIN	P-FH-2	PROCESS ID #	1	NSPS?														
Manf.	POWERSCREEN	Actual Processed (t/yr)	900000	Dry	0.006000	0.002200	0.000651											
Model #	Cone Feed Hopper	Rated Capacity (t/hr)	300	1	0.000280	0.000092	0.000026											
Mod. Code	4	900000	Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.126	0.041	0.012	0.084	0.028	0.008	7.884	2.891	0.855	2.891	0.855
SURGE BIN		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026											
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026											
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026											
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026											
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		Wet	0.000280	0.000092	0.000026											
Mod. Code			Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #		NSPS?														
Mod. Code	225000	Actual Processed (t/yr)	4	1	Dry	0.330000	0.156000	0.023623										
	300	Rated Capacity (t/hr)		Wet	0.016500	0.007800	0.001181	1.856	0.878	0.133	0.424	0.200	0.030	37.125	17.550	2.658	17.550	2.658
	225000	Allowable (t/yr)																
CEMENT/FILLER SILO		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.730000	0.470000	0.138235											
Model #		Rated Capacity (t/hr)		Bag	0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mod. Code		Allowable (t/yr)																
CEMENT/FILLER SILO		PROCESS ID #		NSPS?														
Manf.		Actual Processed (t/yr)		Dry	0.730000	0.470000	0.138235											
Model #		Rated Capacity (t/hr)		Bag	0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mod. Code		Allowable (t/yr)																
LOADOUT EMISSIONS		PROCESS ID #		NSPS?														
Mod. Code		Actual Processed (t/yr)		Dry	0.060000	0.030000	0.004543											
		Rated Capacity (t/hr)		Wet	0.003000	0.001500	0.000227											
		Allowable (t/yr)		Bag	0.000600	0.000300	0.000045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING		PROCESS ID #		NSPS?														
Mod. Code		Actual Processed (t/yr)		Dry	0.000032	0.000016	0.000006											
		Rated Capacity (t/hr)		Wet	0.000002	0.000001	0.0000003											
		Allowable (t/yr)		Bag	0.000002	0.000001	0.0000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EMISSION SUMMARY											
PROCESS TYPE										NEW EMISSION UNITS	
	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- UNCONTROLLED- 8760 HR/YR	
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHING	0.540	0.243	0.045	0.360	0.162	0.030	7.096	3.154	0.184	3.154	0.184
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S. OR T)	0.990	0.333	0.023	0.660	0.222	0.015	32.850	11.432	3.362	11.432	3.362
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYORS	0.504	0.166	0.047	0.336	0.110	0.031	31.536	11.563	3.422	11.563	3.422
SURGE BINS	0.252	0.083	0.023	0.168	0.055	0.016	15.768	5.782	1.711	5.782	1.711
STOCKPILE EMISSIONS	1.856	0.878	0.133	0.424	0.200	0.030	37.125	17.550	2.658	17.550	2.658
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FACILITY GRAND TOTAL	4.142	1.702	0.271	1.948	0.750	0.122	124.375	49.480	11.336	49.480	11.336

NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.

NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8760 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.

NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the attached document.

NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.

NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.

NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.

NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.

NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. This spreadsheet is continually being revised and updated.
 It is your responsibility to be aware of the most current information available. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2

PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (modification).
 3. - for like-for-like replacement emissions unit(s).
 4. - for new emissions unit(s).

COMPANY NAME:			
PLANT REGISTRATION #:			
PLANT NAME:			
PLANT STREET ADDRESS:			
COUNTY/CITY:		ZIP CODE:	
COMPLETED BY:		DATE:	
COMMENTS:			

Input Data on Stone Processing Tab

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED- 8760 HR/YR		
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
PRIMARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043												
Model #	Rated Capacity (t/hr)	1 Wet	0.00004	0.00004	0.000002												
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
PRIMARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043												
Model #	Rated Capacity (t/hr)	Wet	0.00004	0.00004	0.000002												
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SECONDARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	P-CR-2 2628000 Actual Processed (t/yr)	1 Dry	0.00540	0.00240	0.000140												
Model #	MaxTrak 1300 Cone 300 Rated Capacity (t/hr)	1 Wet	0.00120	0.00054	0.000100												
Mod. Code	4 Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	1.577	0.710	0.131	0.360	0.162	0.030	7.096	3.154	0.184	0.710	0.131	
SECONDARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140												
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100												
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SECONDARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140												
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100												
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SECONDARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140												
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100												
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SECONDARY CRUSHER	PROCESS ID #	NSPS?															
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140												
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100												
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.0053											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	P-SCR-3 PROCESS ID #															
Manf.	POWERSCREEN 2628000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	Chieftain 2100x 300 Rated Capacity (t/hr)	1	0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	2.891	0.972	0.066	0.660	0.222	0.015	32.850	11.432	3.362	0.972	0.066
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P.S OR T)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0	0	PROCESS ID #													
Manf.	0	0	Actual Processed (t/yr)													
Model #	0	0	Rated Capacity (t/hr)													
Mod. Code	0	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
CONVEYOR	P-C-1	1	PROCESS ID #													
Manf.	POWERSCREEN	2628000	Actual Processed (t/yr)													
Model #	CT-65 (1)	300	Rated Capacity (t/hr)													
Mod. Code	4	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060 0.017

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	P-C-4	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 hopper belt feeder	300														
Mod. Code	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-5	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 70' conveyor	300														
Mod. Code	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-6	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	CT-65 (3)	300														
Mod. Code	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-7	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	CT-65 (4)	300														
Mod. Code	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-8	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	TC-624R 80' stacker (2)	300														
Mod. Code	4	Allowable (t/yr)				0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SURGE BIN	P-FH-1	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	Screen Feed Hopper	300														
Mod. Code	4	Allowable (t/yr)				0.368	0.121	0.034	0.084	0.028	0.008	7.884	2.891	0.855	0.121	0.034
SURGE BIN	P-FH-2	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	Cone Feed Hopper	300														
Mod. Code	4	Allowable (t/yr)				0.368	0.121	0.034	0.084	0.028	0.008	7.884	2.891	0.855	0.121	0.034
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #														
Manf.	0	919800														
Model #	4	300														
Mod. Code	0	Allowable (t/yr)				7.588	3.587	0.543	1.733	0.819	0.124	151.767	71.744	10.864	3.587	0.543
CEMENT/FILLER SILO	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CEMENT/FILLER SILO	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
LOADOUT EMISSIONS	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	Allowable (t/yr)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

EMISSION SUMMARY											
PROCESS TYPE										NEW EMISSION UNITS	
	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- CONTROLLED- 8760 HR/YR	
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHING	1.577	0.710	0.131	0.360	0.162	0.030	7.096	3.154	0.184	0.710	0.131
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S. OR T)	2.891	0.972	0.066	0.660	0.222	0.015	32.850	11.432	3.362	0.972	0.066
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYORS	1.472	0.484	0.137	0.336	0.110	0.031	31.536	11.563	3.422	0.484	0.137
SURGE BINS	0.736	0.242	0.068	0.168	0.055	0.016	15.768	5.782	1.711	0.242	0.068
STOCKPILE EMISSIONS - NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		3.587	0.543		0.819	0.124	151.767	71.744	10.864	3.587	0.543
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS -NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		0.000	0.000		0.000	0.000				0.000	0.000
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FACILITY GRAND TOTAL	6.675	5.994	0.945	1.524	1.369	0.216	239.017	103.675	19.543	5.994	0.945

- NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.
- NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8/60 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.
- NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the at
- NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.
- NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.
- NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.
- NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.
- NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.
- NOTE 9: Fugitive emissions from stockpiles, front-end-loaders, and haulroads do not count towards PSD applicability. NSPS enclosed truck loadouts emissions are not fugitive.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. It is your responsibility to be aware of the most current information available. This spreadsheet is continually being revised and updated. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2

PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (Project or modification).
 3. - for like-for-like replacement emissions unit(s) (Replacement)
 4. - for new emissions unit(s).

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE MODULE C - PORTABLE RESCREENING PLANT		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON		DATE: 10/27/2021
COMMENTS:	300 TPH PORTABLE RESCREENING PLANT EMISSIONS; 600,000 tons		

NEW EMISSION UNITS
 - UNCONTROLLED-
 8760 HR/YR

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS		NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR		
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	1 Wet	0.000037	0.000036	0.0000021											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.0000004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	Wet	0.000037	0.000036	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (FINE)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)	P-C-1													
Model #	Rated Capacity (t/hr)	POWERSCREEN	600000	300											
Mod. Code	Allowable (t/yr)	CT-65 (1)	4	600000											
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)	P-C-2													
Model #	Rated Capacity (t/hr)	POWERSCREEN	600000	300											
Mod. Code	Allowable (t/yr)	CT-65 (2)	4	600000											
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)	P-C-3													
Model #	Rated Capacity (t/hr)	TELESTACK	600000	300											
Mod. Code	Allowable (t/yr)	TC-624R 80' stacker	4	600000											

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR							
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR						
CONVEYOR	P-C-4																				
Manf.	TELESTACK	600000			1	NSPS?	Dry	0.003000	0.001100	0.000326											
Model #	HF-521 hopper belt feeder	300			1	NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code	4	600000				NSPS?	Bag	0.000030	0.000011	0.000003	0.042	0.014	0.004	0.042	0.014	0.004	3.942	1.445	0.428	1.445	0.428
CONVEYOR	P-C-5																				
Manf.	TELESTACK	600000			1	NSPS?	Dry	0.003000	0.001100	0.000326											
Model #	HF-521 70' conveyor	300			1	NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code	4	600000				NSPS?	Bag	0.000030	0.000011	0.000003	0.042	0.014	0.004	0.042	0.014	0.004	3.942	1.445	0.428	1.445	0.428
CONVEYOR	P-C-6																				
Manf.	POWERSCREEN	600000			1	NSPS?	Dry	0.003000	0.001100	0.000326											
Model #	CT-65 (3)	300			1	NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code	4	600000				NSPS?	Bag	0.000030	0.000011	0.000003	0.042	0.014	0.004	0.042	0.014	0.004	3.942	1.445	0.428	1.445	0.428
CONVEYOR	P-C-7																				
Manf.	TELESTACK	600000			1	NSPS?	Dry	0.003000	0.001100	0.000326											
Model #	HF-521 hopper belt feeder	300			1	NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code	4	600000				NSPS?	Bag	0.000030	0.000011	0.000003	0.042	0.014	0.004	0.042	0.014	0.004	3.942	1.445	0.428	1.445	0.428
CONVEYOR	P-C-8																				
Manf.	TELESTACK	600000			1	NSPS?	Dry	0.003000	0.001100	0.000326											
Model #	HF-521 hopper belt feeder	300			1	NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code	4	600000				NSPS?	Bag	0.000030	0.000011	0.000003	0.042	0.014	0.004	0.042	0.014	0.004	3.942	1.445	0.428	1.445	0.428
CONVEYOR																					
Manf.						NSPS?	Dry	0.003000	0.001100	0.000326											
Model #						NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code						NSPS?	Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR																					
Manf.						NSPS?	Dry	0.003000	0.001100	0.000326											
Model #						NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code						NSPS?	Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR																					
Manf.						NSPS?	Dry	0.003000	0.001100	0.000326											
Model #						NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code						NSPS?	Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR																					
Manf.						NSPS?	Dry	0.003000	0.001100	0.000326											
Model #						NSPS?	Wet	0.000140	0.000046	0.000013											
Mod. Code						NSPS?	Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	PROCESS ID #	NSPS?	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
				PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SURGE BIN	P-FH-1	PROCESS ID #	1														
Manf.	POWERSCREEN	Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #	Screen Feed Hopper	Rated Capacity (t/hr)	1	0.000280	0.000092	0.000026											
Mod. Code	4	Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.084	0.028	0.008	0.084	0.028	0.008	7.884	2.891	0.855	2.891	0.855
SURGE BIN		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		0.000280	0.000092	0.000026											
Mod. Code		Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		0.000280	0.000092	0.000026											
Mod. Code		Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		0.000280	0.000092	0.000026											
Mod. Code		Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		0.000280	0.000092	0.000026											
Mod. Code		Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.006000	0.002200	0.000651											
Model #		Rated Capacity (t/hr)		0.000280	0.000092	0.000026											
Mod. Code		Allowable (t/yr)	Bag	0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #															
Manf.	150000	Actual Processed (t/yr)	Dry	0.330000	0.156000	0.023623											
Model #	4	Rated Capacity (t/hr)	1	0.016500	0.007800	0.001181	1.238	0.585	0.089	0.283	0.134	0.020	24.750	11.700	1.772	11.700	1.772
Mod. Code		Allowable (t/yr)															
CEMENT/FILLER SILO		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.730000	0.470000	0.138235											
Model #		Rated Capacity (t/hr)		0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Mod. Code		Allowable (t/yr)	Bag														
CEMENT/FILLER SILO		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.730000	0.470000	0.138235											
Model #		Rated Capacity (t/hr)		0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Mod. Code		Allowable (t/yr)	Bag														
LOADOUT EMISSIONS		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.060000	0.030000	0.004543											
Model #		Rated Capacity (t/hr)		0.003000	0.001500	0.000227											
Mod. Code		Allowable (t/yr)	Bag	0.000600	0.000300	0.000045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
TRUCK UNLOADING		PROCESS ID #															
Manf.		Actual Processed (t/yr)	Dry	0.000032	0.000016	0.000006											
Model #		Rated Capacity (t/hr)		0.000002	0.000001	0.0000003											
Mod. Code		Allowable (t/yr)	Bag	0.000002	0.000001	0.0000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

EMISSION SUMMARY											
PROCESS TYPE										NEW EMISSION UNITS	
	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- UNCONTROLLED- 8760 HR/YR	
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S. OR T)	0.660	0.222	0.015	0.660	0.222	0.015	32.850	11.432	3.362	11.432	3.362
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYORS	0.336	0.110	0.031	0.336	0.110	0.031	31.536	11.563	3.422	11.563	3.422
SURGE BINS	0.084	0.028	0.008	0.084	0.028	0.008	7.884	2.891	0.855	2.891	0.855
STOCKPILE EMISSIONS	1.238	0.585	0.089	0.283	0.134	0.020	24.750	11.700	1.772	11.700	1.772
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FACILITY GRAND TOTAL	2.318	0.945	0.143	1.363	0.494	0.074	97.020	37.586	9.411	37.586	9.411

NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.

NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8760 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.

NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the attached document.

NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.

NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.

NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.

NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.

NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. This spreadsheet is continually being revised and updated.
 It is your responsibility to be aware of the most current information available. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET September 2018 VERSION 5.2	
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PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (modification).
 3. - for like-for-like replacement emissions unit(s).
 4. - for new emissions unit(s).

COMPANY NAME:			
PLANT REGISTRATION #:			
PLANT NAME:			
PLANT STREET ADDRESS:			
COUNTY/CITY:		ZIP CODE:	
COMPLETED BY:		DATE:	
COMMENTS:			

Input Data on Stone Processing Tab

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED- 8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043											
Model #	Rated Capacity (t/hr)	1 Wet	0.00004	0.00004	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043											
Model #	Rated Capacity (t/hr)	Wet	0.00004	0.00004	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.0053											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	P-SCR-3 PROCESS ID #															
Manf.	POWERSCREEN 2628000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	Chieftain 2100x 300 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	2.891	0.972	0.066	0.660	0.222	0.015	32.850	11.432	3.362	0.972	0.066
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
CONVEYOR	P-C-1 PROCESS ID #															
Manf.	POWERSCREEN 2628000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	CT-65 (1) 300 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-2 PROCESS ID #															
Manf.	POWERSCREEN 2628000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	CT-65 (2) 300 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-3 PROCESS ID #															
Manf.	TELESTACK 2628000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	TC-624R 80' stacker 300 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	P-C-4	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 hopper belt feeder	300														
Mod. Code	4	Allowable (t/yr)														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-5	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 70' conveyor	300														
Mod. Code	4	Allowable (t/yr)														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-6	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	CF-65 (3)	300														
Mod. Code	4	Allowable (t/yr)														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-7	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 hopper belt feeder	300														
Mod. Code	4	Allowable (t/yr)														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	P-C-8	PROCESS ID #														
Manf.	TELESTACK	2628000														
Model #	HF-521 hopper belt feeder	300														
Mod. Code	4	Allowable (t/yr)														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.184	0.060	0.017	0.042	0.014	0.004	3.942	1.445	0.428	0.060	0.017
CONVEYOR	0	PROCESS ID #														
Manf.	0	0														
Model #	0	0														
Mod. Code	0	0														
		Actual Processed (t/yr)	0.00300	0.00110	0.000326											
		Rated Capacity (t/hr)	0.00014	0.00005	0.000013											
		Allowable (t/yr)	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SURGE BIN	P.FH-1	PROCESS ID #														
Manf.	POWERSCREEN	2628000														
Model #	Screen Feed Hopper	300														
Mod. Code	4	Allowable (t/yr)				0.368	0.121	0.034	0.084	0.028	0.008	7.884	2.891	0.855	0.121	0.034
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SURGE BIN		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #														
Manf.	0	919800														
Model #	4	300														
Mod. Code	0	Allowable (t/yr)				7.588	3.587	0.543	1.733	0.819	0.124	151.767	71.744	10.864	3.587	0.543
CEMENT/FILLER SILO		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CEMENT/FILLER SILO		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
LOADOUT EMISSIONS		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

EMISSION SUMMARY												NEW EMISSION UNITS	
PROCESS TYPE	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- CONTROLLED- 8760 HR/YR			
	PM	PM10	PM2.5	PM	PM10	PM2.5	PM	PM10	PM2.5	PM10	PM2.5		
	TONS/YR	TONS/YR	TONS/YR	LBS/HR	LBS/HR	LBS/HR	TONS/YR	TONS/YR	TONS/YR	TONS/YR	TONS/YR		
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SECONDARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
SCREENING (P.S. OR T)	2.891	0.972	0.066	0.660	0.222	0.015	32.850	11.432	3.362	0.972	0.066		
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
CONVEYORS	1.472	0.484	0.137	0.336	0.110	0.031	31.536	11.563	3.422	0.484	0.137		
SURGE BINS	0.368	0.121	0.034	0.084	0.028	0.008	7.884	2.891	0.855	0.121	0.034		
STOCKPILE EMISSIONS - NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		3.587	0.543		0.819	0.124	151.767	71.744	10.864	3.587	0.543		
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
LOADOUT EMISSIONS -NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		0.000	0.000							0.000	0.000		
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
FACILITY GRAND TOTAL	4.730	5.164	0.780	1.080	1.179	0.178	224.037	97.630	18.504	5.164	0.780		

- NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.
- NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8/60 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.
- NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the at
- NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.
- NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.
- NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.
- NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.
- NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.
- NOTE 9: Fugitive emissions from stockpiles, front-end-loaders, and haulroads do not count towards PSD applicability. NSPS enclosed truck loadouts emissions are not fugitive.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. It is your responsibility to be aware of the most current information available. This spreadsheet is continually being revised and updated. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2

PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (Project or modification).
 3. - for like-for-like replacement emissions unit(s) (Replacement)
 4. - for new emissions unit(s).

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE MODULE D - PORTABLE RIPRAP OVERBURDEN SCREENING PLANT		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON		DATE: 10/27/2021
COMMENTS:	500 TPH PORTABLE RIPRAP OVERBURDEN SSCREENING PLANT EMISSIONS; 960,000 tons		

Input Data Below

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS				
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	1 Wet	0.000037	0.000036	0.0000021											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.0000004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.000732	0.000716	0.000043											
Model #	Rated Capacity (t/hr)	Wet	0.000037	0.000036	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.000007	0.000007	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	Actual Processed (t/yr)	Dry	0.005400	0.002400	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.001200	0.000540	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.000054	0.000024	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
TERTIARY CRUSHER	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
FINES CRUSHING	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
SCREENING (P,S OR T)	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P,S OR T)															
Manf.															
Model #															
Mod. Code															
	PROCESS ID #														
	Actual Processed (t/yr)														
	Rated Capacity (t/hr)														
	Allowable (t/yr)														
SCREENING (FINE)															
Manf.															
Model #															
Mod. Code															
	PROCESS ID #														
	Actual Processed (t/yr)														
	Rated Capacity (t/hr)														
	Allowable (t/yr)														
CONVEYOR															
Manf.															
Model #															
Mod. Code															
	PROCESS ID #														
	Actual Processed (t/yr)														
	Rated Capacity (t/hr)														
	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR		
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
CONVEYOR	P-C-4															
Manf.	TELESTACK		960000													
Model #	HF-521 hopper belt feeder		500													
Mod. Code	4		960000													
	PROCESS ID #				1											
	Actual Processed (t/yr)				Dry	0.0033000	0.001100	0.000326								
	Rated Capacity (t/hr)				Wet	0.000140	0.000046	0.000013								
	Allowable (t/yr)				Bag	0.000030	0.000011	0.000003	0.067	0.022	0.006	0.070	0.023	0.007	6.570	2.409
															0.713	2.409
																0.713
CONVEYOR	P-C-5															
Manf.	TELESTACK		960000													
Model #	HF-521 70' conveyor		500													
Mod. Code	4		960000													
	PROCESS ID #				1											
	Actual Processed (t/yr)				Dry	0.0033000	0.001100	0.000326								
	Rated Capacity (t/hr)				Wet	0.000140	0.000046	0.000013								
	Allowable (t/yr)				Bag	0.000030	0.000011	0.000003	0.067	0.022	0.006	0.070	0.023	0.007	6.570	2.409
															0.713	2.409
																0.713
CONVEYOR																
Manf.																
Model #																
Mod. Code																
	PROCESS ID #															
	Actual Processed (t/yr)				Dry	0.0033000	0.001100	0.000326								
	Rated Capacity (t/hr)				Wet	0.000140	0.000046	0.000013								
	Allowable (t/yr)				Bag	0.000030	0.000011	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED- 8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR	
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														
CONVEYOR	PROCESS ID #														
Manf.	Actual Processed (t/yr)														
Model #	Rated Capacity (t/hr)														
Mod. Code	Allowable (t/yr)														

PROCESS TYPE	DESCRIPTION	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			-UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - UNCONTROLLED-8760 HR/YR			
		PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR		
SURGE BIN	P-FH-1 Actual Processed (t/yr)																
Manf.	MDS Rated Capacity (t/hr)																
Model #	Trommel Feed Hopper Allowable (t/yr)																
Mod. Code	4 960000																
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.134	0.044	0.012	0.140	0.046	0.013	13.140	4.818	1.426	4.818 1.426
SURGE BIN																	
Manf.																	
Model #																	
Mod. Code																	
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN																	
Manf.																	
Model #																	
Mod. Code																	
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN																	
Manf.																	
Model #																	
Mod. Code																	
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN																	
Manf.																	
Model #																	
Mod. Code																	
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURGE BIN																	
Manf.																	
Model #																	
Mod. Code																	
					0.000600	0.002200	0.000651										
					0.000280	0.000092	0.000026										
					0.000060	0.000022	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
STOCKPILE EMISSIONS	Stockpiles Actual Processed (t/yr)																
Mod. Code	4 Rated Capacity (t/hr)																
	240000 Allowable (t/yr)																
					0.330000	0.156000	0.023623										
					0.016500	0.007800	0.001181	1.980	0.936	0.142	0.452	0.214	0.032	39.600	18.720	2.835	18.720 2.835
CEMENT/FILLER SILO																	
Manf.																	
Model #																	
Mod. Code																	
					0.730000	0.470000	0.138235										
					0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CEMENT/FILLER SILO																	
Manf.																	
Model #																	
Mod. Code																	
					0.730000	0.470000	0.138235										
					0.000990	0.000340	0.000100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS																	
Mod. Code																	
					0.060000	0.030000	0.004543										
					0.003000	0.001500	0.000227										
					0.000600	0.000300	0.000045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING																	
Mod. Code																	
					0.000032	0.000016	0.000006										
					0.000002	0.000001	0.0000003										
					0.000002	0.000001	0.0000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

EMISSION SUMMARY											
PROCESS TYPE										NEW EMISSION UNITS	
	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- UNCONTROLLED- 8760 HR/YR	
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S. OR T)	1.056	0.355	0.024	1.100	0.370	0.025	54.750	19.053	5.604	19.053	5.604
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYORS	0.336	0.110	0.031	0.350	0.115	0.033	32.850	12.045	3.564	12.045	3.564
SURGE BINS	0.134	0.044	0.012	0.140	0.046	0.013	13.140	4.818	1.426	4.818	1.426
STOCKPILE EMISSIONS	1.980	0.936	0.142	0.452	0.214	0.032	39.600	18.720	2.835	18.720	2.835
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FACILITY GRAND TOTAL	3.506	1.446	0.209	2.042	0.745	0.103	140.340	54.636	13.429	54.636	13.429

NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.

NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8760 hours/yr at rated capacity for purposes of Title V. Title V potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.

NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the attached document.

NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.

NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.

NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.

NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.

NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. This spreadsheet is continually being revised and updated.
 It is your responsibility to be aware of the most current information available. DEQ is not responsible for errors or omissions that may be contained herein.

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SPREADSHEET FOR AGGREGATE PROCESSING EMISSION CALCULATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AGGREGATE PROCESSING EMISSION CALCULATION SPREADSHEET September 2018 VERSION 5.2	
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PROCESS DEFINITIONS:
 MANF. = Equipment Manufacturer's Name
 MODEL # = Manufacturer's Model Number

MODIFICATION CODES - Choose a code and insert:
 0. - No Change.
 1. - for increase in throughput limit.
 2. - for physical change in emissions unit (modification).
 3. - for like-for-like replacement emissions unit(s).
 4. - for new emissions unit(s).

COMPANY NAME:			
PLANT REGISTRATION #:			
PLANT NAME:			
PLANT STREET ADDRESS:			
COUNTY/CITY:		ZIP CODE:	
COMPLETED BY:		DATE:	
COMMENTS:			

NEW EMISSION UNITS

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED- 8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
Input Data on Stone Processing Tab																
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043											
Model #	Rated Capacity (t/hr)	1 Wet	0.00004	0.00004	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIMARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00073	0.00072	0.000043											
Model #	Rated Capacity (t/hr)	Wet	0.00004	0.00004	0.000002											
Mod. Code	Allowable (t/yr)	Bag	0.00001	0.00001	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHER	PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00540	0.00240	0.000140											
Model #	Rated Capacity (t/hr)	Wet	0.00120	0.00054	0.000100											
Mod. Code	Allowable (t/yr)	Bag	0.00005	0.00002	0.000001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHER	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.00540	0.00240	0.000706											
Model #	0 Rated Capacity (t/hr)		0.00120	0.00054	0.000100											
Mod. Code	0 Allowable (t/yr)		0.00005	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.0053											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.03900	0.01500	0.005294											
Model #	0 Rated Capacity (t/hr)		0.00300	0.00120	0.000070											
Mod. Code	0 Allowable (t/yr)		0.00039	0.00015	0.000053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S OR T)	P-SCR-1 PROCESS ID #															
Manf.	MDS 4380000 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	M515 Track Trommel 500 Rated Capacity (t/hr)	1	0.00220	0.00074	0.000050											
Mod. Code	4 Allowable (t/yr)		0.00025	0.00009	0.000026	4.818	1.621	0.110	1.100	0.370	0.025	54.750	19.053	5.604	1.621	0.110
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (P.S OR T)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.02500	0.00870	0.002559											
Model #	0 Rated Capacity (t/hr)		0.00220	0.00074	0.000050											
Mod. Code	0 Allowable (t/yr)		0.00025	0.00009	0.000026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
SCREENING (FINE)	0 PROCESS ID #															
Manf.	0 Actual Processed (t/yr)		0.30000	0.07200	0.025412											
Model #	0 Rated Capacity (t/hr)		0.00360	0.00220	0.000776											
Mod. Code	0 Allowable (t/yr)		0.00300	0.00072	0.000254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
CONVEYOR	P-C-1 PROCESS ID #															
Manf.	POWERSCREEN 4380000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	CT-65 (1) 500 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	P-C-2 PROCESS ID #															
Manf.	POWERSCREEN 4380000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	CT-65 (2) 500 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	P-C-3 PROCESS ID #															
Manf.	TELESTACK 4380000 Actual Processed (t/yr)		0.00300	0.00110	0.000326											
Model #	TC-624R 80' stacker 500 Rated Capacity (t/hr)		0.00014	0.00005	0.000013											
Mod. Code	4 Allowable (t/yr)		0.00003	0.00001	0.000003	0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	P-C-4	PROCESS ID #														
Manf.	TELESTACK	4380000														
Model #	HF-521 hopper belt feeder	500														
Mod. Code	4	Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR	P-C-5	PROCESS ID #														
Manf.	TELESTACK	4380000														
Model #	HF-521 70' conveyor	500														
Mod. Code	4	Allowable (t/yr)				0.307	0.101	0.028	0.070	0.023	0.007	6.570	2.409	0.713	0.101	0.028
CONVEYOR		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR		PROCESS ID #														
Manf.		0														
Model #		0														
Mod. Code		0				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/hr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR	
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYOR	0 PROCESS ID #	NSPS?														
Manf.	0 Actual Processed (t/yr)	Dry	0.00300	0.00110	0.000326											
Model #	0 Rated Capacity (t/yr)	Wet	0.00014	0.00005	0.000013											
Mod. Code	0 Allowable (t/yr)	Bag	0.00003	0.00001	0.000003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROCESS TYPE	DESCRIPTION	Flags	---FACTORS---			-CONTROLLED-ANNUAL-EMISSIONS			-CONTROLLED-HOURLY-EMISSIONS			- UNCONTROLLED-8760 HR/YR EMISSIONS			NEW EMISSION UNITS - CONTROLLED-8760 HR/YR		
			PM LBS/TON	PM10 LBS/TON	PM2.5 LBS/TON	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 TONS/YR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	
SURGE BIN	P.FH-1	PROCESS ID #															
Manf.	MDS	4380000															
Model #	Trommel Feed Hopper	500															
Mod. Code	4																
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.613	0.201	0.057	0.140	0.046	0.013	13.140	4.818	1.426	0.201	0.057	
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #																	
Mod. Code																	
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
SURGE BIN		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00600	0.00220	0.000651												
		Rated Capacity (t/hr)	0.00028	0.00009	0.000026												
		Allowable (t/yr)	0.00006	0.00002	0.000007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
STOCKPILE EMISSIONS	Stockpiles	PROCESS ID #															
Manf.	0	1533000															
Model #	4	500															
Mod. Code	0																
		Actual Processed (t/yr)	0.33000	0.15600	0.02362	12.647	5.979	0.905	2.888	1.365	0.207	252.945	119.574	18.107	5.979	0.905	
		Rated Capacity (t/hr)	0.01650	0.00780	0.001181												
		Allowable (t/yr)															
CEMENT/FILLER SILO		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.73000	0.47000	0.138235	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
		Rated Capacity (t/hr)	0.00099	0.00034	0.000100												
		Allowable (t/yr)															
CEMENT/FILLER SILO		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.73000	0.47000	0.138235	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
		Rated Capacity (t/hr)	0.00099	0.00034	0.000100												
		Allowable (t/yr)															
LOADOUT EMISSIONS		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.06000	0.03000	0.004543	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
		Rated Capacity (t/hr)	0.00300	0.00150	0.000227												
		Allowable (t/yr)	0.00060	0.00030	0.000045												
TRUCK UNLOADING		PROCESS ID #															
Manf.		0															
Model #		0															
Mod. Code		0															
		Actual Processed (t/yr)	0.00003	0.00002	0.000006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
		Rated Capacity (t/hr)	0.0000016	0.0000008	0.0000003												
		Allowable (t/yr)	0.0000016	0.0000008	0.0000003												

EMISSION SUMMARY											
PROCESS TYPE										NEW EMISSION UNITS	
	-CONTROLLED- ANNUAL-EMISSIONS			-CONTROLLED- HOURLY-EMISSIONS			- UNCONTROLLED- 8760 HR/YR EMISSIONS			- CONTROLLED- 8760 HR/YR	
	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM LBS/HR	PM10 LBS/HR	PM2.5 LBS/HR	PM TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR	PM10 TONS/YR	PM2.5 TONS/YR
PRIMARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SECONDARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TERTIARY CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FINES CRUSHING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCREENING (P.S. OR T)	4.818	1.621	0.110	1.100	0.370	0.025	54.750	19.053	5.604	1.621	0.110
SCREENING (FINES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CONVEYORS	1.533	0.504	0.142	0.350	0.115	0.033	32.850	12.045	3.564	0.504	0.142
SURGE BINS	0.613	0.201	0.057	0.140	0.046	0.013	13.140	4.818	1.426	0.201	0.057
STOCKPILE EMISSIONS - NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		5.979	0.905		1.365	0.207	252.945	119.574	18.107	5.979	0.905
CEMENT SILOS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LOADOUT EMISSIONS -NOT INCLUDED IN PSD APPLICABILITY ^{NOTE 9}		0.000	0.000							0.000	0.000
TRUCK UNLOADING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FACILITY GRAND TOTAL	6.964	8.304	1.214	1.590	1.896	0.277	353.685	155.490	28.701	8.304	1.214

- NOTE 1: If this spreadsheet is altered, other than entering process/plant information, then it is no longer considered to be DEQ approved. Altered spreadsheets must not be distributed with the DEQ name.
- NOTE 2: If the equipment is not covered by a state air permit, (ie. having a registration statement only), then the equipment is considered to be without controls and assume operation of 8760 hours/yr at rated capacity for purposes of title v. title v. potential will be calculated using the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours/yr.
- NOTE 3: The emission factors used in this spreadsheet are mainly based on AP-42, Chapter 11.19.2, Crushed Stone Processing. Emission factors for some processes (e.g. stockpiles and loadout emissions) are DEQ derived factors. Details of the emission factors are provided in the at
- NOTE 4: The 'wet suppression' emission factors include all wet suppression (natural and manmade) and no extra control efficiency should be added.
- NOTE 5: New Emission Unit: The maximum potential will be based on the dry emission factors multiplied by the rated capacity of the equipment at 8760 hours.
- NOTE 6: Cement silo emission factors (AP42 Section 11.12, 10/2001) includes pneumatic loading and silo discharge. Spreadsheet user should only enter tons of cement in the "Actual Processed" field instead of tons of cement treated aggregate processed.
- NOTE 7: For wet processing, enter "WP" in "flags" field adjacent to "WET". For conveyors with no transfer point, enter "NTP" in "flags" field.
- NOTE 8: Uncontrolled emissions of PM2.5 emissions are based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCCs. Controlled emissions of PM2.5 are taken from AP42 Section 11.19, Table 11.19-2 (8/04) where available. Controlled factors of PM2.5 that are not available in AP42 are calculated based on the ratio of the PM2.5 percentage and PM10 percentage from the PM calculator for the respective SCC.
- NOTE 9: Fugitive emissions from stockpiles, front-end-loaders, and haulroads do not count towards PSD applicability. NSPS enclosed truck loadouts emissions are not fugitive.

DISCLAIMERS: DEQ does not guarantee the accuracy of the information contained herein. It is your responsibility to be aware of the most current information available. This spreadsheet is continually being revised and updated. DEQ is not responsible for errors or omissions that may be contained herein.

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Vulcan Construction Materials, LLC

2/14/2022

Havre de Grace Quarry

JJ

Module A - 500 tph Toprock Portable Diesel Plant - Diesel Engine Fuel estimates

Process Equipment		Engine	Diesel Fuel Usage Vulcan Frederick		Havre de Grace estimate
<u>Make</u>	<u>Model</u>	<u>Description</u>	<u>Horsepower</u>	<u>max. gph</u>	<u>gph</u>
Powerscreen	Jaw 600	Scania DC13 84A	444	7.1	14.2
Powerscreen	Cone 1300	Scania DC13 84A	444	9.2	18.4
Powerscreen	Screen Warrior 2100 5'x16' DD	Cat C4.4	125	4.5	9
Powerscreen	Screen Chieftain 2100 5'x20' TD	Cat C4.4	131	n/a	9
Powerscreen	CT 65 Conv 1	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 2	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 3	Deutz TD2.9L4	56	n/a	1.6
Telestak	TC 624R Conv.	Deutz TD L041	76	1.7	3.4
<u>Telestak</u>	<u>HF 521 Convs.</u>	<u>Cat C4.4</u>	<u>100</u>	<u>n/a</u>	<u>2</u>
Totals			1,488	24.1	60.8
9 engines				15.7 tons/gal.	13 tons/gal.
				40% load	80% load
				336 tph	500 tph
Production	Estimated Annual Max.	960,000 tons		2,000 hrs.	120,000 gallons
Operating Range:		500 tph		250 days	
		160 hrs./mo.		8 hrs/day	
		80,000 tons/mo.			
		10,000 gals./mo.			

Vulcan Construction Materials, LLC

2/14/2022

Havre de Grace Quarry

JJ

Module B - 300 tph Recrushing/Screening Portable Diesel Plant - Diesel Engine Fuel estimates

Process Equipment		Engine	Diesel Fuel Usage Vulcan Frederick		Havre de Grace estimate
<u>Make</u>	<u>Model</u>	<u>Description</u>	<u>Horsepower</u>	<u>max. gph</u>	<u>gph</u>
Powerscreen	Cone 1300	Scania DC13 84A	444	9.2	18.4
Powerscreen	Screen Chieftain 2100 5'x20' TD	Cat C4.4	131	n/a	9
Telestak	HF 521 Convs.	Cat C4.4	100	n/a	4.5
Powerscreen	CT 65 Conv 1	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 2	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 3	Deutz TD2.9L4	56	n/a	1.6
Powerscreen	CT 65 Conv 4	Deutz TD2.9L4	56	n/a	1.6
Telestak	TC 624R Conv.	Deutz TD L041	76	1.7	3.4
<u>Telestak</u>	<u>TC 624R Conv.</u>	<u>Deutz TD L041</u>	<u>76</u>	<u>1.7</u>	<u>3.4</u>
Totals			1,051	14.2	45.1
9 engines					6.7 tons/gal.
					80% load
					300 tph

Production	Estimated Annual Max.	900,000 tons	3,000 hrs.	135,000 gallons
Operating Range:		300 tph	300 days	
		250 hrs./mo.	10 hrs/day	
		75,000 tons/mo.		
		11,250 gals./mo.		

Vulcan Construction Materials, LLC

2/14/2022

Havre de Grace Quarry

JJ

Module C - 300 tph Rescreening Portable Diesel Plant - Diesel Engine Fuel estimates

Process Equipment		Engine	Diesel Fuel Usage Vulcan Frederick		Havre de Grace estimate
<u>Make</u>	<u>Model</u>	<u>Description</u>	<u>Horsepower</u>	<u>max. gph</u>	<u>gph</u>
Powerscreen	Screen Chieftain 2100 5'x20' TD	Cat C4.4	131	n/a	9
Telestak	HF 521 Conv. 1	Cat C4.4	100	n/a	4.5
Powerscreen	CT 65 Conv 1	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 2	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 3	Deutz TD2.9L4	56	n/a	1.6
Telestak	TC 624R Conv.	Deutz TD L041	76	1.7	3.4
<u>Telestak</u>	<u>HF 521 Conv. 2</u>	<u>Cat C4.4</u>	<u>100</u>	<u>n/a</u>	<u>4.5</u>
Totals			575	3.3	26.2
7 engines					11.1 tons/gal. 80% load 300 tph
Production	Estimated Annual Max.	600,000 tons	2,000 hrs.		54,000 gallons
Operating Range:		300 tph	250 days		
		160 hrs./mo.	8 hrs/day		
		50,000 tons/mo.			
		4,500 gals./mo.			

Vulcan Construction Materials, LLC

2/14/2022

Havre de Grace Quarry

JJ

Module D - 500 tph Rip Rap/Overburden Rehandle Track Trommel Portable Diesel Plant - Diesel Engine Fuel estimates

Process Equipment		Engine	Diesel Fuel Usage		Havre de Grace
<u>Make</u>	<u>Model</u>	<u>Description</u>	<u>Horsepower</u>	<u>Vulcan Frederick</u> <u>max. gph</u>	<u>estimate</u> <u>gph</u>
MDS	M515 Track Trommel	Cat C4.4	142	n/a	10
Telestak	HF 521 Conv.	Cat C4.4	100	n/a	4.5
Powerscreen	CT 65 Conv 1	Deutz TD2.9L4	56	0.8	1.6
Powerscreen	CT 65 Conv 2	Deutz TD2.9L4	56	0.8	1.6
<u>Telestak</u>	<u>TC 624R Conv.</u>	<u>Deutz TD L041</u>	<u>76</u>	<u>1.7</u>	<u>3.4</u>
		Totals	430	3.3	21.1
		5 engines			22.2 tons/gal. 80% load 500 tph
Production	Estimated Annual Max.	960,000 tons		2,000 hrs.	43,200 gallons
Operating Range:		500 tph		250 days	
		160 hrs./mo.		8 hrs/day	
		80,000 tons/mo.			
		3,600 gals./mo.			

VULCAN CONSTRUCTION MATERIALS, LLC
HAVRE DE GRACE QUARRY
MODULAR PORTABLE PLANT - MODULES A, B, C, & D - EMISSIONS CALCULATIONS SUMMARY

2/14/2022
JJ

	<u>MODULE A</u>	<u>MODULE B</u>	<u>MODULE C</u>	<u>MODULE D</u>	<u>TOTAL MODULES</u>
CAPACITY (tons/hr)	500	300	300	500	300-1,600 tph, 1 to 4 running
HOURS (hrs/yr)	2,000	3,000	2,000	2,000	2000-3000 hours (range)
DAYS (days/yr)	250	300	250	250	250-300 days (range)
PRODUCTION (tons/yr)	960,000	900,000	600,000	960,000	3,420,000 tons/yr
FUGITIVE					
AGGREGATE (dust)					
<u>EMISSIONS (from Aggregate emissions spreadsheets)</u>					
PM-10 (tons)	2.499	1.702	0.945	1.446	6.592 tons
(lbs/day)	19.992	11.347	7.560	11.568	50.467 lbs/day
PM-TOTAL (tons)	6.414	4.142	2.318	3.506	16.380 tons
(lbs/day)	51.312	27.613	18.544	28.048	125.517 lbs/day
PM-2.5 (tons)	0.325	0.271	0.143	0.209	0.948 tons
(lbs/day)	2.600	1.807	1.144	1.672	7.223 lbs/day
DIESEL					
COMBUSTION (stack)					
<u>EMISSIONS (from Diesel emissions spreadsheets)</u>					
PM-10 (tons)	0.0319	0.0358	0.0143	0.0115	0.0935 tons
(lbs/day)	0.2552	0.2387	0.1144	0.0920	0.7003 lbs/day
PM-TOTAL (tons)	0.0388	0.0436	0.0174	0.0140	0.1138 tons
(lbs/day)	0.3104	0.2907	0.1392	0.1120	0.8523 lbs/day
PM-2.5 (tons)	0.0309	0.0348	0.0139	0.0111	0.0907 tons
(lbs/day)	0.2472	0.2320	0.1112	0.0888	0.6792 lbs/day
SOx (tons)	0.0143	0.0160	0.0064	0.0051	0.0418 tons
(lbs/day)	0.1144	0.1067	0.0512	0.0408	0.3131 lbs/day
NOx (tons)	0.7752	0.8721	0.3488	0.2791	2.2752 tons
(lbs/day)	6.2016	5.8140	2.7904	2.2328	17.0388 lbs/day
CO (tons)	9.5725	10.7691	4.3076	3.4461	28.0953 tons
(lbs/day)	76.5800	71.7940	34.4608	27.5688	210.4036 lbs/day
VOC (tons)	0.3876	0.4360	0.1744	0.1395	1.1375 tons
(lbs/day)	3.1008	2.9067	1.3952	1.1160	8.5187 lbs/day
ULSD DIESEL (gals)	120,000	135,000	54,000	43,200	352,200 gallons
(gal/day)	480.0	450.0	216.0	172.8	1,318.8 gal/day

INFO used on AMA Form 5, pages 2-4 of 4

Module Descriptions:

Module A	500 tph Toprock Portable Diesel Plant
Module B	300 tph Recrushing/Screening Portable Diesel Plant
Module C	300 tph Rescreening Portable Diesel Plant
Module D	500 tph Rip Rap/Overburden Rehandle Track Trommel Portable Diesel Plant

<u>Existing Havre de Grace Quarry Permitted Emissions (incl. Screen 6 upgrade):</u>	<u>Portable Modules</u>	<u>TOTAL FUTURE EMISSIONS Existing + Modules</u>
PM-10 (tons)	15.056	6.5920
(lbs/day)	100.373	50.4667
PM-TOTAL (tons)	43.079	16.3800
(lbs/day)	287.193	125.5173
PM-2.5 (tons)	1.745	0.9480
(lbs/day)	11.633	7.2227
		2.6930 tons
		18.8557 lbs/day

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE - PORTABLE MODULE A (toprock setup)		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHANSSON	DATE:	10/22/2021
COMMENTS:	Estimated Annual Emissions-EPA Tier 4 Diesel Engine fact		

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 STATIONARY DIESEL ENGINE EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2 Tier 4 Factors & ULSD JJ 12-9-19

Notes to users:

Cells with yellow background and blue numbers are required to be completed by the user. This spreadsheet will accept either fuel consumption (gallons) or operating schedule (hours). Cells with light blue background and red numbers are the expected annual emissions (tons/yr). The emission factors may be changed by the user to represent actual engine emissions. If vendor supplied factors are used, attach a copy to the spreadsheet. Tier 4 JJ 12-9-19 Average fuel sulfur content: 0.3%-0.5% for #2 oil, over-the-road diesel 0.0015%. Diesel engines may be subject to federal standards.

Diesel generator	
1488 Max. rated engine capacity (horsepower)	9 cumulative engines
1 Gal. fuel (1) or hours/year (2)	
60.0 Max. expected hourly consump. (gal/hr)	60.0 Est. gal/hr
120000 Max. expected annual consump. (gal/yr)	
2000 Max. expected annual operation (hrs/yr)	2000 hrs/yr
0.0015 Fuel Sulfur Content (%)	ULSD

Activity	UNCONTROLLED 8760 HR/YR			CONTROLLED ACTUAL		
	Diesel-Electric Generator SCC 20200401			Diesel-Electric Generator SCC 20200401		
Pollutant	lb/1000 gal	(lb/hr)	8760 hr/yr (ton/yr)	Note 1 (%)	Note 2 (ton/yr)	
PM	0.645999	0.04	0.2	0	0.0388	PM
PM-10	0.531011	0.03	0.1	0	0.0319	PM-10
PM-2.5	0.515313	0.03	0.1	0	0.0309	PM-2.5
SOx	0.237551	0.01	0.1	0	0.0143	SOx
NOx	12.91997	0.78	3.4	0	0.7752	NOx
CO	159.5421	9.57	41.9	0	9.5725	CO
VOC	6.459986	0.39	1.7	0	0.3876	VOC

Note 1: most diesel engines do not have add on controls for emissions control
 Note 2: red shaded number represent actual annual emissions

HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS CALCULATIONS

Pollutant	Diesel generator		
	Em. Fact. lbs/10E6 Btu	Hourly Lb/hr	Annual Ton/yr
formaldehyde	7.89E-05	6.5E-04	6.5E-04
POM	2.12E-04	1.7E-03	1.7E-03
Total HAPs	1.57E-03	1.3E-02	1.3E-02

Annual Factors from AP-42(5th ed.) Large Bore Diesel engines, Section 3.4

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 Attn: Jeremy Funkhouser
 4411 Early Road (Mail: P.O. Box 3000)
 Harrisonburg, VA 22801
 Phone: (540)-574-7820
 FAX: (540) 574-7878
 E-Mail: Jeremy.Funkhouser@deq.virginia.gov

CRITERIA EMISSION FACTORS

250 DAYS

	Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401	
	137,030 Btus/gal (lb/1000 gal)	137,030 Btus/gal (lb/hp-hr)	
PM	0.6 lb/1000 gal	0.000033 lb/hp-hr	PM = 0.310079 lbs./day
PM-10	0.5 lb/1000 gal	2.71E-05 lb/hp-hr	PM-10 = 0.254885 lbs./day
PM-2.5	0.5 lb/1000 gal	2.63E-05 lb/hp-hr	PM-2.5 = 0.247350 lbs./day
SOx	158.4 %S lbs/1000 gal	0.00809 %S lb/hp-hr	SOx = 0.114025 lbs./day
NOx	12.9 lb/1000 gal	0.00066 lb/hp-hr	NOx = 6.201586 lbs./day
CO	159.5 lb/1000 gal	0.00815 lb/hp-hr	CO = 76.580194 lbs./day
VOC	6.5 lb/1000 gal	0.00033 lb/hp-hr	VOC = 3.100793 lbs./day

HAPS EMISSION FACTORS

	Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401
	137,030 Btus/gal lbs/10E6 Btu	137,030 Btus/gal (lb/hp-hr)
	7.89E-05 lbs/10E6 Btu	5.52E-07 lbs/hp-hr
	2.12E-04 lbs/10E6 Btu	1.48E-06 lbs/hp-hr
	1.57E-03 lbs/10E6 Btu	1.10E-05 lbs/hp-hr

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE - PORTABLE MODULE B (recrush/scr		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON	DATE:	10/22/2021
COMMENTS:	Estimated Annual Emissions-EPA Tier 4 Diesel Engine facto		

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 STATIONARY DIESEL ENGINE EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2 Tier 4 Factors & ULSD JJ 12-9-19

Notes to users:

Cells with yellow background and blue numbers are required to be completed by the user. This spreadsheet will accept either fuel consumption (gallons) or operating schedule (hours). Cells with light blue background and red numbers are the expected annual emissions (tons/yr).

The emission factors may be changed by the user to represent actual engine emissions. If vendor supplied factors are used, attach a copy to the spreadsheet. Tier 4 JJ 12-9-19

Average fuel sulfur content: 0.3%-0.5% for #2 oil, over-the-road diesel 0.0015%. Diesel engines may be subject to federal standards.

Diesel generator		
1051 Max. rated engine capacity (horsepower)	9	cumulative engines
1 Gal. fuel (1) or hours/year (2)		
45.0 Max. expected hourly consump. (gal/hr)	45.0	Est. gal/hr
135000 Max. expected annual consump. (gal/yr)		
3000 Max. expected annual operation (hrs/yr)	3000	hrs/yr
0.0015 Fuel Sulfur Content (%)		ULSD

Activity	UNCONTROLLED 8760 HR/YR			CONTROLLED ACTUAL		
	Diesel-Electric Generator SCC 20200401			Diesel-Electric Generator SCC 20200401		
			8760 hr/yr	Note 1		Note 2
Pollutant	lb/1000 gal	(lb/hr)	(ton/yr)	(%)	(lb/hr)	(ton/yr)
PM	0.646	0.03	0.1	0	0.03	0.0436
PM-10	0.53101	0.02	0.1	0	0.02	0.0358
PM-2.5	0.51531	0.02	0.1	0	0.02	0.0348
SOx	0.23755	0.01	0.0	0	0.01	0.0160
NOx	12.92	0.58	2.5	0	0.58	0.8721
CO	159.542	7.18	31.4	0	7.18	10.7691
VOC	6.45999	0.29	1.3	0	0.29	0.4360

Note 1: most diesel engines do not have add on controls for emissions control
 Note 2: red shaded number represent actual annual emissions

HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS CALCULATIONS			
Pollutant	Diesel generator		
	Em. Fact. lbs/10E6 Btu	Hourly Lb/hr	Annual Ton/yr
formaldehyde	7.89E-05	4.9E-04	7.3E-04
POM	2.12E-04	1.3E-03	2.0E-03
Total HAPs	1.57E-03	9.7E-03	1.5E-02

Annual Factors from AP-42(5th ed.) Large Bore Diesel engines, Section 3.4

CRITERIA EMISSION FACTORS		300 DAYS
Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401	
137,030 Btus/gal (lb/1000 gal)	137,030 Btus/gal (lb/hp-hr)	
0.6 lb/1000 gal	0.000033 lb/hp-hr	PM = 0.290699 lbs./day
0.5 lb/1000 gal	2.71E-05 lb/hp-hr	PM-10 = 0.238955 lbs./day
0.5 lb/1000 gal	2.63E-05 lb/hp-hr	PM-2.5 = 0.231891 lbs./day
158.4 %S lbs/1000 gal	0.00809 %S lb/hp-hr	SOx = 0.106898 lbs./day
12.9 lb/1000 gal	0.00066 lb/hp-hr	NOx = 5.813987 lbs./day
159.5 lb/1000 gal	0.00815 lb/hp-hr	CO = 71.793932 lbs./day
6.5 lb/1000 gal	0.00033 lb/hp-hr	VOC = 2.906994 lbs./day

HAPS EMISSION FACTORS	
Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401
137,030 Btus/gal lbs/10E6 Btu	137,030 Btus/gal (lb/hp-hr)
7.89E-05 lbs/10E6 Btu	5.52E-07 lbs/hp-hr
2.12E-04 lbs/10E6 Btu	1.48E-06 lbs/hp-hr
1.57E-03 lbs/10E6 Btu	1.10E-05 lbs/hp-hr

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 FAX: (540) 574-7878
 E-Mail: Jeremy.Funkhouser@deq.virginia.gov

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE - PORTABLE MODULE C (rescreening)		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON	DATE:	10/22/2021
COMMENTS:	Estimated Annual Emissions-EPA Tier 4 Diesel Engine fact		

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 STATIONARY DIESEL ENGINE EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2 Tier 4 Factors & ULSD JJ 12-9-19

Notes to users:

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 The emission factors may be changed by the user to represent actual engine emissions. If vendor supplied factors are used, attach a copy to the spreadsheet. Tier 4 JJ 12-9-19
 Average fuel sulfur content: 0.3%-0.5% for #2 oil, over-the-road diesel 0.0015%.
 Diesel engines may be subject to federal standards.

Diesel generator	
575 Max. rated engine capacity (horsepower)	7 cumulative engines
1 Gal. fuel (1) or hours/year (2)	
27.0 Max. expected hourly consump. (gal/hr)	27.0 Est. gal/hr
54000 Max. expected annual consump. (gal/yr)	
2000 Max. expected annual operation (hrs/yr)	2000 hrs/yr
0.0015 Fuel Sulfur Content (%)	ULSD

Activity	UNCONTROLLED 8760 HR/YR			CONTROLLED ACTUAL		
	Diesel-Electric Generator SCC 20200401			Diesel-Electric Generator SCC 20200401		
			8760 hr/yr	Note 1		Note 2
Pollutant	lb/1000 gal	(lb/hr)	(ton/yr)	(%)	(lb/hr)	(ton/yr)
PM	0.646	0.02	0.1	0	0.02	0.0174
PM-10	0.53101	0.01	0.1	0	0.01	0.0143
PM-2.5	0.51531	0.01	0.1	0	0.01	0.0139
SOx	0.23755	0.01	0.0	0	0.01	0.0064
NOx	12.92	0.35	1.5	0	0.35	0.3488
CO	159.542	4.31	18.9	0	4.31	4.3076
VOC	6.45999	0.17	0.8	0	0.17	0.1744

Note 1: most diesel engines do not have add on controls for emissions control
 Note 2: red shaded number represent actual annual emissions

HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS CALCULATIONS			
Pollutant	Diesel generator		
	Em. Fact. lbs/10E6 Btu	Hourly Lb/hr	Annual Ton/yr
formaldehyde	7.89E-05	2.9E-04	2.9E-04
POM	2.12E-04	7.8E-04	7.8E-04
Total HAPs	1.57E-03	5.8E-03	5.8E-03

Annual Factors from AP-42(5th ed.) Large Bore Diesel engines, Section 3.4

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CRITERIA EMISSION FACTORS		250 DAYS
Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401	
137,030 Btus/gal (lb/1000 gal)	137,030 Btus/gal (lb/hp-hr)	
0.6 lb/1000 gal	0.000033 lb/hp-hr	PM = 0.139536 lbs./day
0.5 lb/1000 gal	2.71E-05 lb/hp-hr	PM-10 = 0.114698 lbs./day
0.5 lb/1000 gal	2.63E-05 lb/hp-hr	PM-2.5 = 0.111308 lbs./day
158.4 %S lbs/1000 gal	0.00809 %S lb/hp-hr	SOx = 0.051311 lbs./day
12.9 lb/1000 gal	0.00066 lb/hp-hr	NOx = 2.790714 lbs./day
159.5 lb/1000 gal	0.00815 lb/hp-hr	CO = 34.461087 lbs./day
6.5 lb/1000 gal	0.00033 lb/hp-hr	VOC = 1.395357 lbs./day

HAPS EMISSION FACTORS	
Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401
137,030 Btus/gal lbs/10E6 Btu	137,030 Btus/gal (lb/hp-hr)
7.89E-05 lbs/10E6 Btu	5.52E-07 lbs/hp-hr
2.12E-04 lbs/10E6 Btu	1.48E-06 lbs/hp-hr
1.57E-03 lbs/10E6 Btu	1.10E-05 lbs/hp-hr

COMPANY NAME:	VULCAN CONSTRUCTION MATERIALS		
PLANT REGISTRATION #:	025-00120		
PLANT NAME:	HAVRE DE GRACE - PORTABLE MODULE D (riprap/overb		
PLANT STREET ADDRESS:	938 QUARRY ROAD		
COUNTY/CITY:	HARFORD	HAVRE DE GRACE	ZIP CODE: 21078
COMPLETED BY:	J. JOHNSON	DATE:	10/22/2021
COMMENTS:	Estimated Annual Emissions-EPA Tier 4 Diesel Engine facto		

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
 STATIONARY DIESEL ENGINE EMISSION CALCULATION SPREADSHEET
 September 2018
 VERSION 5.2 Tier 4 Factors & ULSD JJ 12-9-19

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The emission factors may be changed by the user to represent actual engine emissions. If vendor supplied factors are used, attach a copy to the spreadsheet. Tier 4 JJ 12-9-19
 Average fuel sulfur content: 0.3%-0.5% for #2 oil, over-the-road diesel 0.0015%.
 Diesel engines may be subject to federal standards.

Diesel generator	
430 Max. rated engine capacity (horsepower)	5 cumulative engines
1 Gal. fuel (1) or hours/year (2)	
21.6 Max. expected hourly consump. (gal/hr)	21.6 Est. gal/hr
43200 Max. expected annual consump. (gal/yr)	
2000 Max. expected annual operation (hrs/yr)	2000 hrs/yr
0.0015 Fuel Sulfur Content (%)	ULSD

UNCONTROLLED 8760 HR/YR

CONTROLLED ACTUAL

Activity	Diesel-Electric Generator SCC 20200401			Diesel-Electric Generator SCC 20200401		
	lb/1000 gal	(lb/hr)	8760 hr/yr (ton/yr)	Note 1 (%)	(lb/hr)	Note 2 (ton/yr)
PM	0.646	0.01	0.1	0	0.01	0.0140
PM-10	0.53101	0.01	0.1	0	0.01	0.0115
PM-2.5	0.51531	0.01	0.0	0	0.01	0.0111
SOx	0.23755	0.01	0.0	0	0.01	0.0051
NOx	12.92	0.28	1.2	0	0.28	0.2791
CO	159.542	3.45	15.1	0	3.45	3.4461
VOC	6.45999	0.14	0.6	0	0.14	0.1395

Note 1: most diesel engines do not have add on controls for emissions control

Note 2: red shaded number represent actual annual emissions

HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS CALCULATIONS

Pollutant	Diesel generator		
	Em. Fact. lbs/10E6 Btu	Hourly Lb/hr	Annual Ton/yr
formaldehyde	7.89E-05	2.3E-04	2.3E-04
POM	2.12E-04	6.3E-04	6.3E-04
Total HAPs	1.57E-03	4.6E-03	4.6E-03

Annual Factors from AP-42(5th ed.) Large Bore Diesel engines, Section 3.4

CRITERIA EMISSION FACTORS

250 DAYS

Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401
137,030 Btus/gal (lb/1000 gal)	137,030 Btus/gal (lb/hp-hr)
0.6 lb/1000 gal	0.000033 lb/hp-hr
0.5 lb/1000 gal	2.71E-05 lb/hp-hr
0.5 lb/1000 gal	2.63E-05 lb/hp-hr
158.4 %S lbs/1000 gal	0.00809 %S lb/hp-hr
12.9 lb/1000 gal	0.00066 lb/hp-hr
159.5 lb/1000 gal	0.00815 lb/hp-hr
6.5 lb/1000 gal	0.00033 lb/hp-hr

PM = 0.111629 lbs./day
 PM-10 = 0.091759 lbs./day
 PM-2.5 = 0.089046 lbs./day
 SOx = 0.041049 lbs./day
 NOx = 2.232571 lbs./day
 CO = 27.568870 lbs./day
 VOC = 1.116286 lbs./day

HAPS EMISSION FACTORS

Diesel-Gal/(hr&yr) EIS SCC 20200401	Diesel-hours EIS SCC 20200401
137,030 Btus/gal lbs/10E6 Btu	137,030 Btus/gal (lb/hp-hr)
7.89E-05 lbs/10E6 Btu	5.52E-07 lbs/hp-hr
2.12E-04 lbs/10E6 Btu	1.48E-06 lbs/hp-hr
1.57E-03 lbs/10E6 Btu	1.10E-05 lbs/hp-hr

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ARUNDEL COMPANY, LLC (VULCAN CONSTRUCTION MATERIALS, LLC)

***2 Compliance Demonstration - Crystalline Silica Emissions**

Location:
Description:
Prepared by: Johnny Johnsson 14-Feb-22

1. Total Annual PM-10 Emissions
Calculated from spreadsheet = tons

2. CS = Percent by weight of total
crystalline silica in material = *1
(expressed as a decimal)

3. 0.01 = One percent of the material with a 10 micron
aerodynamic diameter will be respirable

4. Crystalline Silica Annual Emissions Formula
Annual Emissions = 0.01 x (CS x Total Annual PM-10 Emissions)

5. Annual Crystalline Silica Emissions = tons

6. **Annual Crystalline Silica Emissions = lbs.**
Proposed Modular Portable Plant additional emissions

7. If the annual emissions are less than 365 pounds, then the crushing & screening
plant complies with COMAR 26.11.15.06.

8. If the annual emissions are greater than 365 pounds, then mathematical modeling
must be performed in order to demonstrate compliance with COMAR 26.11.15.06.

*1 Conservative bulk crystalline silica number is based on chemical analyses from RJ Lee of respirable quartz measured during industrial hygiene testing. PM-10 analyses indicate that actual percentages are significantly lower.

*2 Reference: Maryland Department of the Environment, Air and Radiation Management Administration, Air Quality Permits Program, Compliance Demonstration Crystalline Silica Emissions (MDE example attached)

ARUNDEL COMPANY, LLC (VULCAN CONSTRUCTION MATERIALS, LLC)

***2 Compliance Demonstration - Crystalline Silica Emissions**

Location:
Description:
Prepared by: Johnny Johnsson 14-Feb-22

1. Total Annual PM-10 Emissions
Calculated from spreadsheet = tons

2. CS = Percent by weight of total
crystalline silica in material = *1
(expressed as a decimal)

3. 0.01 = One percent of the material with a 10 micron
aerodynamic diameter will be respirable

4. Crystalline Silica Annual Emissions Formula
Annual Emissions = 0.01 x (CS x Total Annual PM-10 Emissions)

5. Annual Crystalline Silica Emissions = tons

6. Annual Crystalline Silica Emissions = lbs.
Total Plant Emissions including Proposed Screen Tower #6 upgrade

7. If the annual emissions are less than 365 pounds, then the crushing & screening
plant complies with COMAR 26.11.15.06.

8. If the annual emissions are greater than 365 pounds, then mathematical modeling
must be performed in order to demonstrate compliance with COMAR 26.11.15.06.

*1 Conservative bulk crystalline silica number is based on chemical analyses from RJ Lee of respirable quartz measured during industrial hygiene testing. PM-10 analyses indicate that actual percentages are significantly lower.

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ARUNDEL COMPANY, LLC (VULCAN CONSTRUCTION MATERIALS, LLC)

***2 Compliance Demonstration - Crystalline Silica Emissions**

Location:
Description:
Prepared by: Johnny Johnsson 14-Feb-22

1. Total Annual PM-10 Emissions
Calculated from spreadsheet = tons

2. CS = Percent by weight of total
crystalline silica in material = *1
(expressed as a decimal)

3. 0.01 = One percent of the material with a 10 micron
aerodynamic diameter will be respirable

4. Crystalline Silica Annual Emissions Formula
Annual Emissions = 0.01 x (CS x Total Annual PM-10 Emissions)

5. Annual Crystalline Silica Emissions = tons

6. **Annual Crystalline Silica Emissions = lbs.**
Total Plant Emissions incl. Proposed Modular Portable Plant

7. If the annual emissions are less than 365 pounds, then the crushing & screening
plant complies with COMAR 26.11.15.06.

8. If the annual emissions are greater than 365 pounds, then mathematical modeling
must be performed in order to demonstrate compliance with COMAR 26.11.15.06.

*1 Conservative bulk crystalline silica number is based on chemical analyses from RJ Lee of respirable quartz measured during industrial hygiene testing. PM-10 analyses indicate that actual percentages are significantly lower.

*2 Reference: Maryland Department of the Environment, Air and Radiation Management Administration, Air Quality Permits Program, Compliance Demonstration Crystalline Silica Emissions (MDE example attached)

MARYLAND DEPARTMENT OF THE ENVIRONMENT
 AIR AND RADIATION MANAGEMENT ADMINISTRATION
 AIR QUALITY PERMITS PROGRAM

Example

Compliance Demonstration - Crystalline Silica Emissions

Equipment	Emission Factor (lb/ton)	Number of Pieces of Equipment	Total Emission Factor (lb/ton)
Crusher with wet suppression (WS)	0.00059	4	0.00236
Screen with WS	0.00084	6	0.00504
Conveyor Transfer Points with WS	4.8×10^{-5}	10	0.0048
Truck Unloading	1.6×10^{-5}	—	1.6×10^{-5}
Truck Loading	0.0001	—	0.0001
Storage Piles ⁽¹⁾	0.0016	—	0.0016
TOTAL EMISSION FACTOR	—	—	0.0167

(1) From AP-42, Section 13.2.2 - Assuming a moisture content of 2.1%, a mean wind speed of 6.9 miles per hour, and the number of tons processed is equal to the number of tons handled.

PROCEDURES

- Complete the table above by inserting the number of pieces of each equipment in column 3 (ex. If plant has two crushers, use 2 in column 3 for the number of crushers).
- Calculate the total emission factor (column 4) for each type of equipment by multiplying the number in column 2 by the number in column 3.
- Find the total emission factor for the plant by adding the values in column 4.
- Use the following formula to calculate the annual emissions of respirable crystalline silica.

$$\text{Annual Emissions} = 0.01 \text{ (CS)} \times (0.0167) \text{ (TEF)} \times (1,000,000) \text{ (TPY)}$$

Where: $= 5.01 < 365$

0.01 = One percent of the material with a 10 micron aerodynamic diameter will be respirable

CS = Percent by weight of total crystalline silica in material (expressed as a decimal) (3%)

TEF = Total emission factor in pounds per ton (from the table above) (0.0167)

TPY = Projected production of the plant in tons per year (1,000,000)

5. If the annual emissions are less than 365 pounds, then the crushing and screening plant complies with COMAR 26.11.15.06.

6. If the annual emissions are greater than 365 pounds, then mathematical modeling must be performed in order to demonstrate compliance with COMAR 26.11.15.06.



October 6, 2021

Mr. Moe Davenport
Chief, Development Review Section
Harford County Planning & Zoning
220 South Main Street
Bel Air, MD 21014

Dear Moe:

Enclosed is the Certificate of Compliance (2021) for Vulcan Materials Company's Havre de Grace Quarry. The Certificate consists of the following:

- A narrative
- One set of maps (C1 Rev. 1/26/18, Harford SCD approval 3/26/18) on a Flash-Drive. The maps illustrate the following:
 - Existing conditions
 - Property lines
 - Topo Survey of top of stockpile 9/28/21 (Case #5806)

If any further information is required, please contact me at 410-746-8723.

Sincerely,

A handwritten signature in black ink that reads "Johnny Johnsson". The signature is fluid and cursive, with a long horizontal line extending to the right.

Johnny Johnsson
Environmental Manager-MD/PA/DE-Hanover
Vulcan Materials Company

CC: J. Heckler, J. Burrage, R. Wloczewski, L. Schaffer-FWA

**2021 HARFORD COUNTY
CERTIFICATE OF COMPLIANCE
VULCAN CONSTRUCTION MATERIALS, LLC
HAVRE DE GRACE QUARRY**

CERTIFICATION:

"I certify that the Vulcan Havre de Grace Quarry is in compliance with the following Board of Appeals decision and conditions:

CASE NO. 409 – Arundel Corp. – October 9, 1959

1. That the appellant maintain the 100 acre buffer zone as shown on its plans submitted with the application, the limits of which buffer zone shall be at least 1500 feet from the properties in Meadowvale Subdivision and other properties adjoining the former Silver property on the south side. The use of this property shall be restricted only to such uses as may be authorized in an R-1 zone except of course any further quarry operation, and also that no road be opened across this buffer zone providing access to the quarry and crusher operations.
 - See Case 3303 for a detailed description of the modification of and compliance with this condition.
2. That appellant maintain a screen of trees along the northern edge of the buffer zone described above to be composed of evergreen trees to be at least one foot high when planted and to maintain the trees so that they will continue to grow and plant them in accordance with the recommendations of the State Department of Forest pertaining to screening.
 - See Case 3303 for a detailed description of the modification of and compliance with this condition.
3. That the crusher operation be of the type described as a "wet process crusher" and when operated as a "dry crusher" it must employ a dust suppressing system; that it be operated only in the 11 acre tract as shown on the plan with the application and during daylight hours only or between 8:00 A.M. and 5:00 P.M., whichever is longer.
 - See Case 4103 for a detailed description of the modification of and compliance with this condition.
4. That all access roads be kept in a dust free condition.
 - Paved roads.
 - Dedicated water truck with a back-up water truck available also.
 - Monitored and cleaned as required by hand or with sweeper truck.
5. That appellant use the millisecond delay blasting procedures and that blasting be conducted on week days only between the hours of 8:00 A.M. and 5:00 P.m.
 - Utilized procedures.
 - Record all shots; then submit record to MDE Minerals, Oil and Gas monthly per State Surface Mining Permit.

6. That appellant maintain fencing around the quarry opening to provide for the safety of children in the neighborhood and others.
 - See Case 3303 for a detailed description of the modification of and compliance with this condition.
7. That any explosives kept on the premises be stored in a safe and satisfactory place which is also tamper-proof.
 - Explosives utilized in accordance with Federal and State regulations.
8. That appellant give adequate warning before all blasting, primarily to water traffic in the Susquehanna River.
 - Quarry follows blast warning procedure approved by State Surface Mining Department. Siren blast prior to and after each shot.
9. That appellant maintain no smoke producing power plant but use only smoke-free sources of power.
 - Only diesel and electric power utilized.
10. That the quarrying operation and removal of material be conducted initially along the side of the property nearest the west bank of the Susquehanna River.
 - Mined per State Mining Permit, which agrees with above.
11. That appellant come no closer than 5 feet to any adjoining property line and in all cases where the quarry face is composed of dirt and not stone, that appellant backfill the quarry face to a 2:1 slope as provided for in the Ordinance.
 - Mined per State Mining Permit, which agrees with above.
12. That appellant enter into an agreement with the County Commissioners or such other body as the County Commissioners may designate: (a) this agreement shall incorporate the foregoing conditions and restrictions and which shall be recorded among the land records of Harford County at appellant's expense so as to give notice to the rest of the world and in particular to any successors in title to appellant corporation that the property is subject to the foregoing conditions and restrictions; (b) the agreement shall state that it is for the benefit of the citizens of Harford County in particular and the owners or occupants of neighboring properties in particular, said agreement to be enforceable by the adjacent property owners, their successors, heirs, personal representatives and assigns, or the then occupants of such adjacent properties, in addition to the parties thereto.
 - Recorded November 1959.
13. That appellant furnish such bond or other guarantee as may be satisfactory to the County Commissioners to assure compliance with the foregoing restrictions and conditions.
 - Posted November 1958.

CASE NO. 529 – C.J. Langenfelder and Son Inc., John A. Savin – January 24, 1961

1. That any explosives kept on the premises must be kept in a tamper proof magazine to be surrounded by a fence, if necessary.
 - Explosives utilized in accordance with Federal and State regulations.
2. That no blasting be done on Sundays and only between the hours of 8 A.M. and 5 P.M., or daylight hours whichever is longest.
 - Record all shots, then submit record to MDE Minerals, Oil and Gas monthly per State Surface Mining Permit.
3. That no smoke producing equipment or machinery be used on the premises.
 - Only diesel and electric power utilized.
4. That in the event of any highway or bridge construction on any property nearby, whether it be appellants' property or not, operations be conducted so as not to endanger the bridge or highway.
 - Interstate Highway I-95 and Millard E. Tydings Memorial Bridge were built in 1963.
 - Mined per State Mining Permit, which agrees with above.
5. Wherever excavations leave a face or bank of earth rather than rock, then appellant on termination of operations shall backfill this face to a 2:1 slope for the prevention of slides and erosion.
 - Mined per State Mining Permit, which agrees with above.
6. That all power operated or power producing machinery be kept at least two hundred feet from adjoining properties except those properties on which quarrying operations are also being conducted.
 - Mined per State Mining Permit, which agrees with above.
7. In the event of complaints to the Zoning Inspector about dust, such complaint shall be referred to the Board of Appeals to determine if dust controls should be imposed, and the Board retains continuing jurisdiction for this purpose.
 - N/A.
8. On termination of operations, the property shall be left in a safe and useable condition by leveling any piles of material, filling in holes, by grading, and draining, and appellant shall file such bond or other guarantee as may be satisfactory to the County Commissioner to ensure compliance with these conditions.
 - To be reclaimed per State Mining Permit, which includes an approved Reclamation Plan.
 - With reference to letter to Mr. Dennis Sigler, dated September 8, 1989, and lack of response thereof; a reclamation bond in the amount of \$1,250.00 per acre was posted with State Surface Mining in November 1992. Numerous revisions to permit application delayed issuance of Mining Permit. Even though the first application was submitted in

December, 1989; posting of mining and reclamation bond was delayed until issuance of the Mining Permit in November, 1992.

9. That the Zoning Inspector issue a permit only after being furnished with evidence that such bond or guarantee has been filed with the County Commissioners.
 - Zoning Certificate No. 8273 was issued on January 24, 1961.

Zoning Appeal Case No. 3303 – Arundel Sand & Gravel Company June 9, 1986

Hearing Examiner:

With respect to Conditions 1 & 2 of Case No. 409: That the overburden pile be reduced to a maximum height of 40 feet and that the slope of the pile be a minimum of 1 to 1, that the overburden pile be hydro-seeded and randomly planted with trees to minimize its visual impact, and to reduce the dust problem created by the overburden pile. If additional overburden is placed in the buffer area, a 1,000 foot minimum setback shall be maintained. The additional overburden shall be located in such a way as to provide an earthen barrier around Arundel's operation. It shall not exceed 40 feet in height, shall be sloped at a 2 to 1 ration, and shall be hydro-seeded as the stockpiling takes place.

This operation shall commence within thirty days from the date this decision becomes final, and shall be completed within two (2) years of the date the decision becomes final. The Applicant shall be allowed to operate as late as 10:00 p.m. during that two (2) year period. After that time, the Applicant shall terminate operations on the overburden pile not later than sunset each evening.

- Modifications to Case 409:
 - Within the 1,500 ft. buffer, overburden storage is permitted within the 500 ft. adjacent to the quarry. The remaining 1000 ft. is to remain as provided in Case 409.
 - A 40 foot height restriction was established in the 500 foot overburden storage area.
 - Harford County inspection and Bond release August, 1989.
 - Verification of compliance with 40 foot height restriction provided by Robert Wilson and Associates' survey dated January 21, 1998.
 - 1:1 slope on existing pile and 2:1 slope on future piles.
 - Harford County inspection and Bond release August, 1989.
 - Verification of compliance with slope requirements provided by letter to Richard Mattingly, from Harford Co., dated April 1998.
 - Trees for screening.
 - Planted May, 1991.
 - Harford County inspected and approved, December, 1991.
 - Harford County inspected and approved, February 1992.

With respect to Condition 4 of Case No. 409: That Arundel must take additional steps to insure that the road is kept in a dust-free condition. These steps shall include requiring each load leaving the quarry to be covered so that dust and other material will not fall from the vehicles, patching the potholes and/or paving the road, if necessary, as well as periodically using a brush machine to clean the roads, in addition to watering operation.

The Applicant shall implement a plan within thirty (30) days of the date of this decision becomes final to make necessary road repairs which shall be completed within six (6) months of the date the decision is final.

- Paved and upgraded roads.
- Dedicated water truck and road sweeper.
- Monitored and cleaned as required.

With respect to Condition 6 of Case No. 409: The Applicant now proposes a three (3) strand wire fence with a dense planting of multiflora rose. It is the finding of the Hearing Examiner that if the Applicant constructs a fence pursuant to the plan submitted by Kidde Consultants, Inc., the wire fence and multiflora rose will satisfy the requirements of Condition No. 6 of Board of Appeals Case NO. 409.

That the fencing and multiflora rose planting required by Condition No. 6 of Board of Appeals Case No. 409 be implemented within thirty (30) days from the date this decision becomes final.

- See Final Decision of the Harford County Council/Board of Appeals, December 16, 1986.

Final Decision of the Harford County Council/Board of Appeals (December 16, 1986):

1. That all references to the use of multiflora rose, as a buffer, shall be stricken from the Hearing Examiner's decision of June 9, 1986.
2. That Arundel Sand & Gravel Company shall install a seven (7) foot chain link fence to completely enclose the quarry face.
 - Fence installed on property line December 1987.
 - Fence relocated on property line offset September 1997.
 - Harford County inspected and approved the above.
3. That Arundel Sand & Gravel Company shall decrease the berm to a maximum height of forty (40) feet above ground level within two (2) years from the date this decision becomes final. Should the height reduction of the berm not be completed within that time period, all production at the quarry shall cease.
 - Harford County inspection and Bond release August 1989.
 - Verification of compliance with 40 foot height restriction provided by Robert Wilson and Associates' survey dated January 21, 1998.
4. That Arundel Sand & Gravel Company bring Quarry Road and Graceview Drive out to Maryland Route 155 up to County Standards.
 - Paved road April, 1987.
5. That Arundel Sand & Gravel Company shall furnish a Two Hundred Fifty Thousand Dollar (\$250,000.00) bond, satisfactory to Harford County, to insure compliance of the terms and conditions contained herein.
 - Posted August, 1988.
 - Released August, 1989.

6. All other terms and conditions of the decision in Board of Appeals Case No. 409 and the Hearing Examiner's decision in Case No. 3303 of June 9, 1986 are hereby incorporated by reference and shall remain in force and effect unless specifically amended herein.

Zoning Appeal Case No. 4103 – Arundel Sand & Gravel Company – January 24, 1991

Hearing Examiner:

Special Exception to permit a private road in an Agricultural District:

It is the recommendation of the Hearing Examiner that the Special Exception to relocate the access road as proposed be granted.

Modification of Condition No. 3, in Board of Appeals Case No. 409, to relocate the crusher operation to the different 11 acre tract from the tract designated in Case No. 409:

It is the recommendation of the Hearing Examiner that Condition No. 3 in Board of Appeals Case No. 409 be modified to allow the Applicant to locate crushing operation within the purple area, as shown on Petitioner's Exhibit No. 13.

The Special Exception to relocate the entry and exit road and modification of Condition No. 3 in Board of appeals Case No. 409 shall be subject to the following conditions:

1. That the Applicant resurface the existing shoulder of MD Route 155 to conform to the existing paving and stripe for an acceleration/deceleration lane.
 - Completed October, 1992.
2. A detailed site plan for the relocation of the office and scale house operations be submitted to the Department of Planning and Zoning for review and approval. Said review shall include the Development Advisory Committee.
 - Plan submitted and approved October, 1991.
 - Relocation of scale house completed October, 1992.
 - Offices not relocated.
3. A detailed site plan for the relocation of the crushing operation to be submitted to the Department of Planning and Zoning for review and approval. Said review shall include the Development Advisory Committee.
 - Plan submitted and approved October, 1991.
4. The crushing operation shall be located in the area outlined in purple in Petitioner's Exhibit No. 13, as far as possible, from Nena Avenue.
 - Plan submitted and approved October, 1991.
 - Crushing operation not relocated.
5. The Applicant has agreed to provide additional screening along the Bauer and Green properties as follows:

Bauer Property – The Applicant will plant three (3) rows of four (4) foot evergreen trees on the east side of Langenfelder Road. The planting shall begin approximately 700 feet north of the intersection of Langenfelder Road and MD Route 155 and shall be planted for a distance of

approximately 400 feet, or in other words, from the woven fence on Langenfelder Road north to the first stream which crosses Langenfelder Road. The Applicant will plant the trees beginning on March 15, 1991, or, if this zoning decision is not final by March 15, 1991, then on March 15 of the year after this zoning decision becomes final.

- Planted June, 1991.

Green Property – The Applicant will plant three (3) rows of four (4) foot evergreen trees on the Green Property as it adjoins the new access road to the west. The planting shall begin approximately 50 feet north of the intersection of the new access road and MD Route 155 for a distance of approximately 700 feet to the northeasterly boundary of the Green Property. The Applicant will begin planting the trees on March 15 of the year after it receives written notice from the Greens that they wish to have the trees planted. If this zoning decision is not final on March 15, 1991, then the first year the Greens may request that the planting of the trees begin shall be March 15 of the year after the zoning decision becomes final or, in the alternative, if the Applicant purchases from the Greens a portion of their property necessary for the planting of the three (3) rows of trees, the Applicant will begin planting the trees in the same configuration as described above on the March 15 after the date of the purchase of the property from the Greens.

- Planted October, 1991.
- Applicant purchased the Green property March 1998.
- Applicant began to systematically replace the trees in Fall 2018 according to a landscaping plan reviewed and approved by the County. Three (3) new rows of trees were planted and are being managed and maintained. Original older rows of trees will systematically be removed as necessary.

6. The Applicant shall obtain all required permits.

- In compliance.

7. All other conditions in Board of Appeals Case No. 409 and Board of Appeals Case No. 3303, not specifically herein modified, shall remain in force and effect, including Condition No. 3 in Board of Appeals Case No. 409, with the exception that the crushing operation may be located within the area outlined in purple on Petitioner's Exhibit No. 13.

CASE NO. 5429 – Florida Rock Industries, Inc. and The Arundel Corporation – August 22, 2006 (See following CASE NO. 5806 as replacement for CASE NO. 5429, differing only with respect to Conditions 3, 9, 10, 16, and 19 which were completed as part of CASE 5429 and are no longer are in force).

1. The proposed stockpile shall be located a minimum of 1,000 feet from Lapidum Road and a minimum of 500 feet from Maryland Route 155.

- In compliance.

2. The height of the Stockpile shall not exceed 70 feet above ground level at any location and for any reason.

- In compliance.

3. The height of the stockpile shall be certified by a licensed surveyor every three (3) months during construction, with this certification provided to Harford County Department of Planning and Zoning. Certification shall be made available to the public.
 - In compliance.
 - Certified: 2/1/07; 4/18/07; 7/6/07; 10/11/07; 2/5/08; 5/19/08; 8/4/08; 11/21/08; 2/8/09; 4/19/09; 8/26/09; 1/28/10; 8/9/10 – Final Certification during stockpile construction.

4. Arundel shall cause to be prepared and regularly updated a Forest Stewardship Plan to maintain and improve the existing forest between Arundel and Lapidum Road and Maryland Route 155 which will constitute the buffer area. This plan shall include recommendations for increasing the diversity of trees and plantings within the buffer area, for increasing the natural screening which the forest can provide, recommendations for prevention of disease, and recommendations to minimize potential fire damage. The study shall be completed and provided to the Harford County Department of Planning and Zoning within six (6) months and updated at least annually thereafter. Arundel shall not allow the forest to be permanently damaged by fire and blight. Arundel in those instances shall take all necessary action to reforest the blighted or destroyed areas immediately, and to take actions to encourage and propagate the growth of new forest in those areas. The forest plan shall address these potential problems and shall make recommendations to be implemented in the event of their occurrence. There shall be no other activities of any nature within these buffer areas with the exception of Arundel's planned uses of the existing residential structures along Lapidum Road.
 - In compliance
 - Submitted 2-2-07.
 - Updated/Reviewed 6-27-08; 10/20/08; 4/14/09; 5/18; 5/27/10; Inspected 12/20/10; Forest Stewardship Plan updated 6/29/11 for resubmission w/ DNR Forester Frank Lopez.
 - Green Land Development Services, LLC performed a tree count and submitted a maintenance report on 8/22/11.
 - Green Land Development Services, LLC performed a tree count in December of 2012 and submitted a maintenance report on 3/7/13.
 - August 31, 2012, City of Baltimore Wildlife Biologist, Ryan Mazeska, performed a forest assessment and affects of deer populations.
 - Met with neighbors 2/1/13 to discuss possible improvement ideas to the forest buffer.
 - See Case No. 5806 Paragraph 6 for ongoing compliance -

5. Trees, grasses and shrubs will be planted on the Stockpile in a manner to promote diversity of habitat, subject to the approval of MDE.
 - In compliance
 - Grasses and trees planted, being maintained, and to be finally completed when berm is finally completed.

6. The stockpile shall be vegetated as soon after construction as possible.
 - In compliance
 - Vegetated per State Mining Permit, which agrees with above.

7. Arundel shall maintain at all times a water truck and backup water truck, in good operating condition. The water truck(s) shall be operated at all appropriate times. Specifically, dirt and overburden at all points of disturbance shall be watered; and the haul road to the new

overburden Stockpile shall be watered. All work on the Stockpile shall be immediately halted if a dust cloud develops, or if due to weather conditions watering is not sufficient to control dust.

- In compliance.
8. Arundel shall take all other appropriate and reasonable measures to control dust and to prevent dust from moving off-site. The Harford County Department of Planning and Zoning will monitor dust control measures and will act to immediately require a halt in operations if dust reduction efforts by Arundel are not sufficient at any particular time. Arundel shall comply with the request of the Harford County Department of Planning and Zoning in this regard.
 - In compliance.
 9. The properties identified on Tax Map 44, Parcels 351, 270, 275 and 99, Lots 1 and 2 shall not be used for residential purposes while the proposed Stockpile is being created.
 - In compliance; Stockpile construction ceased prior to 4/23/10 as recounted in 5/5/10 letter; Houses reoccupied thereafter in 2010 & 2011.
 10. Arundel shall undertake periodic ambient air testing to determine impacts from the Stockpile relocation. This testing shall be accomplished with the coordination of the Maryland Department of the Environment. Testing will be performed on not less than a bi-annual basis at monitoring stations recommended by the Maryland Department of the Environment. If no recommendation is made by Maryland Department of the Environment, testing will be performed at those four monitoring stations which were designed and operated by Jules Levy. Interested citizens will be provided an opportunity to provide input regarding monitoring station locations, the time of year and duration for each testing interval. Testing will be performed for PM 10, PM 2.5 and crystalline silica content. The results of such tests shall be filed with the Harford County Department of Planning and Zoning, the Harford County Department of Health, the Maryland Department of the Environment, and the Environmental Protection Agency and shall be made readily available for public inspection. Test results shall contain an analysis of compliance with all applicable Federal, and State standards.
 - In compliance
 - April-May 07, sampling completed.
 - July-August 07, sampling completed.
 - April-May 08, sampling completed.
 - July-August 08, sampling completed.
 - January-February 09, sampling completed.
 - July-August 09, sampling completed.
 - February–March 10, final sampling completed & report submitted.
 11. Variable-output, ambient-noise-sensing backup alarms shall be installed on all equipment which will be working on either the stockpiles to be removed, or the newly created Stockpile, Those vehicles shall include all haul trucks, bulldozers, backhoes, water trucks and other tractor or wheeled equipment which will have any occasion to work on the stockpiles. All equipment shall be operated with manufacturer installed noise suppression devices.
 - In compliance.

12. Vehicles and equipment used to remove overburden shall not emit noise at sound levels in excess of that tested by Mr. Staiano.
 - In compliance.
13. Arundel shall comply with all applicable State Noise Regulations.
 - In compliance.
14. Arundel may move the Stockpiles and engage in activities on the Stockpiles no earlier than 7:00 a.m., and shall cease at 5:00 p.m. Monday through Friday. There will be no work on weekends. There will be no vehicle start up on any overburden pile before 7:00 a.m. There will be no vehicles operating after 5:00 p.m. on any Stockpile. The only exception allowed will be the water trucks, which may operate for one hour before and after these times.
 - In compliance.
15. As the Stockpile increases in size a sound barrier/berm shall be created on each lift, as recommended by Mr. Staiano. All Stockpile construction shall be phased to require stabilization and vegetation during construction.
 - In compliance.
 - Vegetated per State Mining Permit, which agrees with above.
16. The Applicant shall submit to the Harford County Department of Planning and Zoning a study certified by a radio frequency engineer demonstrating the proposed overburden storage area will not interfere with any public safety communications systems.
 - In compliance.
 - Submitted 2-28-2007.
 - Final Study completed September 2010 & submitted 10/29/10.
17. All other conditions in the previous cases remain in effect unless specifically altered by this approval.
 - In compliance.
18. The Applicant shall continue to provide the required Certificate of Compliance pursuant to Code § 267 – 53E (1) (t) to the Harford County Department of Planning and Zoning.
 - In compliance.
19. The Applicant shall comply with the terms and conditions of the Tower Relocation Agreement dated June 30, 2005 by and between The Arundel Corporation and Chesapeake Broadcasting Corporation.
 - Amendment 2-29-2006.
 - In compliance; Final signal strength survey completed September 2010.

CASE NO. 5806 – Vulcan Construction Materials, LP – February 12, 2014 (Replaces CASE NO. 5429 going forward)

1. The Applicant shall obtain all applicable permits from the Army Corps of Engineers and/or The Maryland Department of the Environment for the proposed non-tidal wetland disturbance.
 - In compliance
 - MDE NTW Letter of Authorization issued 7/23/14 for proposed non-tidal wetland disturbance; Army Corps claimed "no jurisdiction;" MDE Mining Program issued Mining Permit Modification for this work 7/10/14. Phase I Mitigation design completed & accepted by MDE. Phase II Mitigation Design completed and accepted by MDE and Harford County.
2. The proposed wetland mitigation shall be completed within 3 years of the initiation of the relocation of the North Stockpile. The Applicant shall notify the Department of Planning and Zoning, in writing, when the relocation of the North Stockpile has begun.
 - In compliance – 3-year date will be January 28, 2018 per below.
 - Written notification was made upon commencement of work January 28, 2015.
 - Harford County Bond acquired 6/16.
 - Grading Permit received 8/16/16.
 - Grading started 4/4/17.
 - Grading and Stabilization completed 4/19/17.
 - As-builts prepared 5/19/17.
 - Wetlands planting started and completed 6/1/17.
 - Grading Permit bond released 7/5/17.
 - Annual Maintenance Inspections conducted 3/5/18, 3/6/19, 4/10/20, 5/11/20, and 9/15/20.
 - Wetlands Mitigation Reservation Plat recorded 5/19/21; Plat Book JJR212, page 10.
3. The stockpile shall be located a minimum of 1,000 feet from Lapidum Road and a minimum of 500 feet from Maryland Route 155.
 - In compliance.
4. The height of the Stockpile shall not exceed 70 feet above ground level at any location and for any reason.
 - In compliance.
5. The Applicant shall survey the height of the relocated stockpile not less than annually until any section of the relocated stockpile reaches 60 feet above ground level. The Applicant will certify to the Department of Planning and Zoning that the height of the relocated stockpile is less than 60 feet above ground level.
 - a. The Applicant shall use Trimble Model XH handheld GPS units or equivalent to survey the height of the relocated stockpile.
 - b. Once any section of the relocated stockpile reaches 60 feet above ground level, the Applicant shall no less than annually have a licensed surveyor confirm that no portion of the relocated stockpile exceeds 70 feet above ground level. If construction of the relocated stockpile ceases during any 12 month period, no surveying of the relocated stockpile is necessary. The Applicant will continue to provide annual certifications of compliance

regarding all conditions of approval imposed in Case 5429, as modified to the Department of Planning and Zoning and the public in general.

- In compliance – Approximately 475,000 cubic yards of dirt was relocated from the old stockpile to the new stockpile in 2015. Hand-held GPS survey showed that the relocated pile was 10 feet above ground level. Another 772,384 cubic yards of dirt was relocated during the campaign during the first half of 2016. Hand-held GPS survey showed that the highest point of the relocated pile was 46 feet above existing grade. 763,942 cubic yards of dirt was relocated between January 2nd and May 12, 2017. Hand-held GPS surveys during Summer 2017 on high points of the fill indicated it ranged from 41 feet to approximately 75 feet above the existing grade. There was no perceptible height issue visible with the pile. Subsequent measurements revealed that the top surface required regrading to align with the 70-foot requirement. Harford County Planning and Zoning was notified of the issue and kept informed of the company's progress in resolving it. FWA conducted more comprehensive surveying of the pile top surface to identify high and low spots. FWA prepared updated plans showing approximately 100,000 cubic yards of regrading work, and a contractor was selected for the project. During July and August 2018 the required earthwork was completed. The pile was seeded the first week of September for stabilization. FWA prepared a Final Topo Survey in August 2018 of the corrected stockpile that was included with the 2018 annual report. In 2019 thru 2021 limited overburden placement was conducted in lower elevations of the remaining storage lobe. A top of pile survey was conducted by FWA in September 2021 to demonstrate compliance. Limited overburden was shipped out via truck as market allowed.
6. The Applicant shall cause to be prepared and regularly updated a Forest Stewardship Plan to maintain and improve the existing forest between Vulcan and Lapidum Road and Maryland Route 155, which will constitute the buffer area. This plan shall include recommendations for increasing the diversity of trees and plantings within the buffer area for increasing the natural screening which the forest can provide, recommendations for prevention of disease, and recommendations to minimize potential fire damage. The study shall be completed and provided to the Harford County Department of Planning and Zoning within six (6) months and updated at least annually thereafter. Vulcan in those instances shall take all necessary action to reforest the blighted or destroyed areas immediately, and to take actions to encourage and propagate the growth of new forest in those areas. The forest plan shall address these potential problems and shall make recommendations to be implemented in the event of their occurrence. There shall be no other activities of any nature within these buffer areas with the exception of Arundel's planned uses of the existing residential structures along Lapidum Road.

- See Case No. 5429 Paragraph 4 for previous compliance –

- In compliance
- Met with MDE Mining Program on-site 6/3/14 regarding stockpile reforestation.
- Engaged Frederick Ward Associates 7/14 for comprehensive Forest Stewardship Plan update in light of recent zoning decision and pending work on new pile. Plan will include a mechanism and measures for annual updates.
- Winter 2015 - Trees removed in Management Unit Area 3 for relocated stockpile.
- December 2015 – DNR Triennial Forest Plan Review (Stewardship Program of the DNR Woodland Assessment Program) completed 12/23/15.
- Spring 2016 – FWA drafted update to the Forest Action Plan.
- April 2017 - Baker Road Tree Replacement plan prepared by FWA for managing screening buffer near entrance. Harford Co. Planning and Zoning and verbally approved.


- January 2018 - DNR Triennial Forest Plan Review (Stewardship Program of the DNR Woodland Assessment Program) – Compliance inspection completed and certified 1/31/18; acreage reassessed 5/21/18.
 - Fall 2018 – Planting of three (3) rows of replacement entrance road trees was completed.
 - Summer 2019 – Maintenance and management of the buffer is ongoing.
 - Sept. 2019 - FWA conducted Forest Plan Inspection and prepared updated Forest Action Plan.
 - Summer 2020 – Grapevine management to be the focus for maintenance in the Forest Buffer Area.
 - 2021 DNR Triennial Forest Plan Review delayed by COVID-19 backlog until later in 2021.
7. Trees, grasses and shrubs will be planted on the Stockpile in a manner to promote diversity of habitat, subject to the approval of Maryland Department of Environment (MDE).
- In compliance.
 - Grasses and trees planted, being maintained, and to be finally completed when berm is finally completed.
 - Met with MDE Mining Program on-site 6/3/14 regarding stockpile reforestation.
8. The stockpile shall be vegetated as soon after construction as possible.
- In compliance.
 - Vegetated per State Mining Permit, which agrees with above.
9. The Applicant shall maintain at all times a water truck and backup water truck, in good operating condition. The water truck(s) shall be operated at all appropriate times. Specifically, dirt and overburden at all points of disturbance shall be watered; and the haul road to the new overburden stockpile shall be watered. All work on the stockpile shall be immediately halted if a dust cloud develops, or if due to weather conditions watering is not sufficient to control dust.
- In compliance.
10. The Applicant shall take all other appropriate and reasonable measures to control dust and to prevent dust from moving off-site. The Harford County Department of Planning and Zoning will monitor dust control measures and will act to immediately require a halt in operations if dust reduction efforts by Vulcan are not sufficient at any particular time. Vulcan shall comply with the request of the Harford County Department of Planning and Zoning in this regard.
- In compliance.
11. Variable-output, ambient-noise-sensing backup alarms shall be installed on all equipment which will be working on either the stockpiles to be removed, or the newly created stockpile. Those vehicles shall include all haul trucks, bulldozers, backhoes, water trucks and other tractor or wheeled equipment which will have any occasion to work on the stockpiles. All equipment shall be operated with manufacturer installed noise suppression devices.
- In compliance.
12. Vehicles and equipment used to remove overburden shall not emit noise at sound levels in excess of that previously tested and established under Case No. 5429.

- In compliance.
13. The Applicant shall comply with all applicable State noise regulations.
- In compliance.
14. The Applicant may move the stockpiles and engage in activities on the stockpiles no earlier than 7:00 a.m., and shall cease at 5:00 p.m. Monday through Friday. There will be no work on weekends. There will be no vehicle start up on any overburden pile before 7:00 a.m. There will be no vehicles operating after 5:00 p.m. on any stockpile. The only exception allowed will be the water trucks, which may operate for one hour before and after these times.
- In compliance.
15. As the stockpile increases in size a sound barrier/berm shall be created on each lift. All stockpile construction shall be phased to require stabilization and vegetation during construction.
- In compliance.
 - Vegetated per State Mining Permit, which agrees with above.
16. All other conditions in the previous cases remain in effect unless specifically altered by this approval.
- In compliance.
17. The Applicant shall continue to provide the required Certificate of Compliance, pursuant to Harford County Code Section 267 – 88E (1)(f) to the Harford County Department of Planning and Zoning.
- In compliance.
18. The Applicant shall enter into a new Tower Relocation Agreement with Chesapeake Broadcasting Corporation. A copy of the agreement shall be submitted to the Department of Planning and Zoning.
- In compliance; Agreement dated 9/25/13; Copy supplied to Planning & Zoning 3/7/14.
 - Radio Tower change in ownership of tower; Vulcan acquired property Sept. 2021.

Signature:  Date: 10-6-21

Name of person signing above: Justin Burrage

Title: Plant Manager, Havre de Grace Quarry, Vulcan Construction Materials, LLC

Signature:  Date: 10/6/21

Name of person signing above: Joshua Heckler

Title: Area Operations Manager, Vulcan Construction Materials, LLC

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT**

**SUPPLEMENT TO
DOCKET #02-22**

COMPANY: Vulcan Construction Materials, LLC – Havre de Grace Quarry

LOCATION: 938 Quarry Road
Havre de Grace, MD 21078

APPLICATION: Addition of a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Notice of Tentative Determination, Opportunity to Request a Public Hearing, and Opportunity to Submit Written Comments
2	Fact Sheet and Tentative Determination
3	Draft Permit to Construct and Conditions
4	Supplemental Information
5	Privilege Log – Not Applicable

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

**NOTICE OF TENTATIVE DETERMINATION, OPPORTUNITY TO REQUEST
A PUBLIC HEARING, AND OPPORTUNITY TO SUBMIT WRITTEN COMMENTS**

FIRST NOTICE

The Department of the Environment, Air and Radiation Administration (ARA) has completed its review of an application for a Permit to Construct submitted by Vulcan Construction Materials, LLC – Havre de Grace Quarry on December 29, 2021 for the addition of a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry. The proposed installation will be located at 938 Quarry Road, Havre de Grace, MD 21078.

Pursuant to Section 1-604, of the Environment Article, Annotated Code of Maryland, the Department has made a tentative determination that the Permit to Construct can be issued and is now ready to receive public comment on the application.

Copies of the Department's tentative determination, the application, the draft permit to construct with conditions, and other supporting documents are available for public inspection on the Department's website. Look for Docket #03-22 at the following link:

<https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx>

Interested persons may request a public hearing and/or submit written comments on the tentative determination. Requests for a public hearing must be submitted in writing and must be received by the Department no later than 20 days from the date of this notice. Written comments must be received by the Department no later than 30 days from the date of this notice.

Interested persons may request an extension to the public comment period. The extension request must be submitted in writing and must be received by the Department no later than 30 days from the date of this notice or within 5 days after the hearing (if a hearing is requested), whichever is later. The public comment period may only be extended one time for a 60-day period.

All requests for a public hearing, requests for an extension to the public comment period, and all written comments should be directed to the attention of Ms. Shannon Heafey, Air Quality Permits Program, Air and Radiation Administration, 1800 Washington Boulevard, Baltimore, Maryland 21230.

Further information may be obtained by calling Ms. Shannon Heafey at 410-537-4433.

Christopher R. Hoagland, Director
Air and Radiation Administration

**MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION**

**FACT SHEET AND TENTATIVE DETERMINATION
VULCAN CONSTRUCTION MATERIALS, LLC**

**PROPOSED INSTALLATION OF A PORTABLE CRUSHING AND SCREENING PLANT,
CONSISTING OF FOUR (4) MODULES RANGING FROM 300 TPH TO 500 TPH AND
POWERED BY TIER IV DIESEL ENGINES, TO AN EXISTING QUARRY**

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from Vulcan Construction Materials, LLC on December 29, 2021 for a Permit to Construct for the installation of a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry. The proposed installation will be located at 938 Quarry Road, Havre de Grace, MD 21078.

A notice was placed in The Aegis on February 23, 2022 and March 2, 2022 announcing a scheduled informational meeting to discuss the permit to construct application. The informational meeting was held on March 10, 2022 at the Havre de Grace Library located at 120 N. Union Avenue, Havre de Grace, MD 21078.

As required by law, all public notices were also provided to elected officials in all State, county, and municipality legislative districts located within a one mile radius of the facility's property boundary.

The Department has reviewed the application and has made a tentative determination that the proposed installation is expected to comply with all applicable air quality regulations. A notice will be published to provide the public with opportunities to request a public hearing and to comment on the application, the Department's tentative determination, the draft permit conditions, and other supporting documents. The Department will not schedule a public hearing unless a legitimate request is received.

If the Department does not receive any comments that are adverse to the tentative determination, the tentative determination will automatically become a final determination. If adverse comments are received, the Department will review the comments, and will then make a final determination with regard to issuance or denial of the permit. A notice of final determination will be published in a newspaper of general circulation in the affected area. The final determination may be subject to judicial review pursuant to Section 1-601 of the Environment Article, Annotated Code of Maryland.

II. CURRENT STATUS AND PROPOSED INSTALLATION

A. Current Status

Vulcan Construction Materials (Vulcan) operates a quarry in Havre de Grace, Harford County. The quarry has a main plant for processing nonmetallic minerals. The facility has a State Permit to Operate that expires July 31, 2023.

B. Proposed Installation

Vulcan is proposing to install a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines. Unlike the main plant, all four modules are portable and may be moved around the site. The company submitted 3 locations where the units will be located at the site the majority of the time.

Module A – 500 tph crushing and screening plant consisting of:

Powerscreen 600 Jaw Crusher

Powerscreen 1300 Cone Crusher

Powerscreen Warrior 2100 5'x16' 2-deck Screen

Powerscreen Chieftain 2100X 5'x20' 3-deck Screen

Three (3) Powerscreen CT 65 Conveyors

Telestak TC 624R Conveyor

Telestak HF 521 Conveyor

Nine (9) Tier IV diesel-fired engines with a combined rating of 1488 hp

Module B – 300 tph crushing and screening plant consisting of:

Powerscreen 1300 Cone Crusher

Powerscreen Chieftain 2100X 5'x20' 3-deck Screen

Four (4) Powerscreen CT 65 Conveyors

Two (2) Telestak TC 624R Conveyors

Telestak HF 521 Conveyors

Nine (9) Tier IV diesel-fired engines with a combined rating of 1051 hp

Module C – 300 tph screening plant consisting of:

Powerscreen Chieftain 2100X 5'x20' 3-deck Screen

Three (3) Powerscreen CT 65 Conveyors

Telestak TC 624R Conveyor

Two (2) Telestak HF 521 Conveyors

Seven (7) Tier IV diesel-fired engines with a combined rating of 575 hp

Module D – 500 tph Track Trommel plant consisting of:

MDS M515 Track Trommel

Two (2) Powerscreen CT 65 Conveyors

Telestak TC 624R Conveyor

Telestak HF 521 Conveyors

Five (5) Tier IV diesel-fired engines with a combined rating of 430 hp

III. APPLICABLE REGULATIONS

The proposed installation is subject to all applicable Federal and State air quality control regulations, including, but not limited to the following:

- (a) 40 CFR 60, Subpart OOO, which establishes opacity limitations and monitoring requirements for Non-metallic Mineral Processing Plants.
- (b) COMAR 26.11.01.07C, which requires that the Permittee report to the Department occurrences of excess emissions.
- (c) COMAR 26.11.02.19C & D, which require that the Permittee submit to the Department annual certifications of emissions, and that the Permittee maintain sufficient records to support the emissions information presented in the submittals.
- (d) COMAR 26.11.06.03C and D, which requires that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.
- (e) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.
- (f) COMAR 26.11.06.12, which states that a New Source Performance Standard (NSPS) source cannot be constructed, modified or operated in such a manner that it results or will result in a violation of the provisions of 40 CFR 60.
- (g) COMAR 26.11.15.05, which requires that the Permittee implement “Best Available Control Technology for Toxics” (T – BACT) to control emissions of toxic air pollutants.
- (h) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health.

IV. GENERAL AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) for six (6) criteria pollutants, i.e., sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The primary standards were established to protect public health, and the secondary standards were developed to protect against non-health effects such as damage to property and vegetation.

The Department utilizes a statewide air monitoring network, operated in accordance with EPA

guidelines, to measure the concentrations of criteria pollutants in Maryland's ambient air. The measurements are used to project statewide ambient air quality, and currently indicate that Harford County complies with the NAAQS for sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, and lead.

Ground level ozone continues to present a problem for the entire Baltimore metropolitan area, which is classified as a non-attainment area for ozone. The primary contributors to the formation of ozone are emissions of oxides of nitrogen, primarily from combustion equipment, and emissions of Volatile Organic Compounds (VOC) such as paint solvents and gasoline vapors. Harford County is included in the non-attainment area for ozone.

With regard to toxic air pollutants (TAPs), screening levels (i.e., acceptable ambient concentrations for toxic air pollutants) are generally established at 1/100 of allowed worker exposure levels (TLVs)¹. The Department has also developed additional screening levels for carcinogenic compounds. The additional screening levels are established such that continuous exposure to the subject TAP at the screening level for a period of 70 years is expected to cause an increase in lifetime cancer risk of no more than 1 in 100,000.

V. COMPLIANCE DEMONSTRATION AND ANALYSIS

The proposed installation must comply with all State imposed emissions limitations and screening levels, as well as the NAAQS. The Department has conducted an engineering and air quality review of the application. The emissions were projected based on EPA emission factors. The conservative U.S. EPA's SCREEN3 model was used to project the maximum ground level concentrations from the proposed facility, which were then compared to the screening levels and the NAAQS.

- A. Estimated Emissions** - The maximum emissions of air pollutants of concern from the proposed installation are listed in Table I.
- B. Compliance with National Ambient Air Quality Standards** - The maximum ground level concentrations for nitrogen oxides, carbon monoxide, sulfur oxides, and particulate matter based on the emissions from the proposed installation are listed in column 2 of Table II. The combined impact of the projected contribution from the proposed installation and the ambient background concentration for each pollutant shown in column 3 of Table II is less than the NAAQS for each pollutant shown in column 4.
- C. Compliance with Air Toxics Regulations** – The toxic air pollutant of concern that would be emitted from this installation is crystalline silica and is listed in column 1 of

¹ TLVs are threshold limit values (exposure limits) established for toxic materials by the American Conference of Governmental Industrial Hygienists (ACGIH). Some TLVs are established for short-term exposure (TLV – STEL), and some are established for longer-term exposure (TLV – TWA), where TWA is an acronym for time-weight average.

Table III. The predicted maximum off-site ambient concentration of this toxic air pollutant is shown in column 4 of Table III, and in each case the maximum concentration is less than the corresponding screening level for the toxic air pollutant shown in column 2.

VI. TENTATIVE DETERMINATION

Based on the above information, the Department has concluded that the proposed installation will comply with all applicable Federal and State air quality control requirements. In accordance with the Administrative Procedure Act, Department has made a tentative determination to issue the Permit to Construct.

Enclosed with the tentative determination is a copy of the draft Permit to Construct.

**TABLE I
PROJECTED MAXIMUM EMISSIONS FROM THE PROPOSED INSTALLATION**

POLLUTANT	PROJECTED MAXIMUM EMISSIONS FROM PROPOSED INSTALLATION	
	(lbs/day)	(tons/year)
Nitrogen Dioxide (NO ₂)	54.1	8.1
Sulfur Dioxide (SO ₂)	72.7	10.9
Carbon Monoxide (CO)	256.2	38.4
Volatile Organic Compounds (VOC)	25.4	3.8
Particulate Matter (PM ₁₀)	39.6	5.9

**TABLE II
PROJECTED IMPACT OF EMISSIONS OF CRITERIA POLLUTANTS FROM THE PROPOSED INSTALLATION ON AMBIENT AIR QUALITY**

POLLUTANTS	MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS CAUSED BY EMISSIONS FROM PROPOSED PROCESS (µg/m ³)	BACKGROUND AMBIENT AIR CONCENTRATIONS (µg/m ³)*	NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) (µg/m ³)
Nitrogen Dioxide (NO ₂)	annual avg. → 11.5	annual avg. → 29.8	annual avg. → 100
Carbon Monoxide (CO)	8-hour max → 478 1-hour max → 683	8-hr max. → 1600 1-hr max. → 2060	8-hr max. → 10,000 1-hr max. → 40,000
Sulfur Dioxide (SO ₂)	24-hour max. → 77.4 annual avg. → 15.5	24-hour max. → 5.8 annual avg. → 1.0	24-hour max. → 366 annual avg. → 78.5
Particulate Matter (PM ₁₀)	24-hr max → 37.4	24-hr max. → 40	24-hr max. → 150

*Background concentrations were obtained from Maryland air monitoring stations as follows:

- CO and SO₂ → 600 Dorsey Avenue Monitoring Station in Baltimore County
- PM₁₀ → Oldtown Fire Station Monitoring Station in Baltimore City
- NO₂ → Interstate 95 South Welcome Center Monitoring Station in Howard County

**TABLE III
 PREDICTED MAXIMUM OFF-SITE AMBIENT CONCENTRATIONS FOR
 TOXIC AIR POLLUTANTS EMITTED FROM THE PROPOSED INSTALLATION**

TOXIC AIR POLLUTANTS	SCREENING LEVELS ($\mu\text{g}/\text{m}^3$)	PROJECTED WORST-CASE FACILITY-WIDE EMISSIONS (lbs/hr)	PREDICTED MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS ($\mu\text{g}/\text{m}^3$)
Crystalline Silica	1-hour→ None 8-hour→ 1.0 Annual→ None	0.028	1-hour→ None 8-hour→ 0.67 Annual→ None

The values represent maximum facility-wide emissions of crystalline silica during any 1-hour period of facility operation.

The values are based on worst-case emissions from the proposed facility and were predicted by EPA's SCREEN3 model, which provides conservative estimations concerning the impact of pollutants on ambient air quality.

DRAFT PERMIT

Larry Hogan
Governor

Ben Grumbles
Secretary

Air and Radiation Administration

1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

Construction Permit

Operating Permit

PERMIT NO.:
025-0120-6-0549

DATE ISSUED:
[TBD]

PERMIT FEE:
\$2,000.00 [PAID]

EXPIRATION DATE:
In accordance with COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Vulcan Construction Materials, LLC
875 Oxford Avenue,
Hanover, 17331-0468
Attention: Mr. Johnny Johnsson,
Environmental Manager

SITE

Vulcan Construction Materials, LLC
Havre de Grace Quarry
938 Quarry Rd
Havre de Grace, MD 21078
AI #21221

SOURCE DESCRIPTION

This permit authorizes the installation of a portable crushing and screening plant consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines.

This permit serves as a temporary permit to operate for a period 180 days after startup of the portable crushing and screening plant.

This source is subject to the conditions described on the attached pages.

Program Manager

Director, Air and Radiation Administration

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating and Monitoring Conditions
- Part E – Notifications and Testing
- Part F – Record Keeping and Reporting
- Part G – Temporary Permit-To-Operate Conditions

Part A – General Provisions

- (1) The following Air and Radiation Administration (ARA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:
 - (1) Application for Processing or Manufacturing Equipment (Form 5) received on December 29, 2021 for a portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines, to an existing quarry
 - (2) Supplemental Information: Site Map, Process Diagrams, Vendor Specifications, Emissions Calculations, Zoning Approval received on December 29, 2021.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment (“MDE” or the “Department”) and the Harford County Health Department shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee’s property and permitted to:
 - (a) inspect any construction authorized by this permit;

**VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549**

- (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) Subsequent to issuance of this permit, the Department may impose additional and modified requirements that are incorporated into a State permit-to-operate issued pursuant to COMAR 26.11.02.13.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federal air pollution control requirements including, but not limited to, the following:

All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A and OOO for Non-metallic Mineral Processing Plants.

**VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549**

All notifications required under 40 CFR 60, Subparts A and OOO shall be submitted to both of the following:

The Administrator
Compliance Program
Maryland Department of the Environment
Air and Radiation Administration
1800 Washington Boulevard, STE 715
Baltimore MD 21230

and

Director, Air Protection Division
U.S. EPA – Region 3
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103-2029

- (2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.01.07C, which requires that the Permittee report to the Department occurrences of excess emissions.
 - (b) COMAR 26.11.02.04B, which states that a permit to construct or an approval expires if, as determined by the Department:
 - (i) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (ii) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (iii) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval.
 - (c) COMAR 26.11.02.09A, which requires that the Permittee obtain a permit-to-construct if an installation is to be modified in a manner that

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

would cause changes in the quantity, nature, or characteristics of emissions from the installation as referenced in this permit.

- (d) COMAR 26.11.06.03C and D, which requires that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources and materials handling and construction operations from becoming airborne.
 - (e) COMAR 26.11.06.12, which states that a New Source Performance Standard (NSPS) source cannot be constructed, modified or operated in such a manner that it results or will result in a violation of the provisions of 40 CFR 60.
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.02.13A(16), which requires that the Permittee obtain from the Department, and maintain and renew as required, a valid State permit-to-operate.
 - (b) COMAR 26.11.02.19C & D, which require that the Permittee submit to the Department annual certifications of emissions, and that the Permittee maintain sufficient records to support the emissions information presented in such submittals.
 - (c) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.
 - (d) COMAR 26.11.15.05, which requires that the Permittee implement “Best Available Control Technology for Toxics” (T – BACT) to control emissions of toxic air pollutants.
 - (e) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions would unreasonably endanger human health.

Part C – Construction Conditions

Except as otherwise provided in this part, the following registered installations shall be constructed in accordance with specifications included in the incorporated applications:

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

- (1) Module A – 500 tph crushing and screening plant consisting of:
 - (a) Powerscreen 600 Jaw Crusher
 - (b) Powerscreen 1300 Cone Crusher
 - (c) Powerscreen Warrior 2100 5'x16' 2-deck Screen
 - (d) Powerscreen Chieftain 2100X 5'x20' 3-deck Screen
 - (e) Three (3) Powerscreen CT 65 Conveyors
 - (f) Telestak TC 624R Conveyor
 - (g) Telestak HF 521 Conveyor
 - (h) Nine (9) Tier IV diesel-fired engines with a combined rating of 1488 hp

- (2) Module B – 300 tph crushing and screening plant consisting of:
 - (a) Powerscreen 1300 Cone Crusher
 - (b) Powerscreen Chieftain 2100X 5'x20' 3-deck Screen
 - (c) Telestak HF 521 Conveyor
 - (d) Four (4) Powerscreen CT 65 Conveyors
 - (e) Two (2) Telestak TC 624R Conveyors
 - (f) Nine (9) Tier IV diesel-fired engines with a combined rating of 1051 hp

- (3) Module C – 300 tph screening plant consisting of:
 - (a) Powerscreen Chieftain 2100X 5'x20' 3-deck Screen
 - (b) Three (3) Powerscreen CT 65 Conveyors
 - (c) Telestak TC 624R Conveyor
 - (d) Two (2) Telestak HF 521 Conveyors

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

- (e) Seven (7) Tier IV diesel-fired engines with a combined rating of 575 hp
- (4) Module D – 500 tph Track Trommel plant consisting of:
 - (a) MDS M515 Track Trommel
 - (b) Two (2) Powerscreen CT 65 Conveyors
 - (c) Telestak TC 624R Conveyor
 - (d) Telestak HF 521 Conveyors
 - (e) Five (5) Tier IV diesel-fired engines with a combined rating of 430 hp

Part D – Operating and Monitoring Conditions

- (1) Except as otherwise provided in this part, the portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines shall be operated in accordance with specifications included in the application [and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.]
- (2) Wet suppression systems shall be used as needed to comply with the particulate matter requirements of COMAR 26.11.06.03C and D and the following opacity limit of 40 CFR 60, Subpart OOO for affected facilities at nonmetallic mineral processing plants constructed, modified, or reconstructed on or after April 22, 2008:
 - (a) 7 percent opacity for screening operations and transfer points on belt conveyors; and
 - (b) 12 percent opacity for crushing operations.
[Reference: 40 CFR §60.672(b) and Table 3]
- (3) Wet suppression systems shall be used whenever needed to comply with the opacity limits specified in 40 CFR, Part 60, Subpart OOO.
- (4) For affected facilities at nonmetallic mineral processing plants constructed, modified, or reconstructed on or after April 22, 2008, the Permittee shall perform

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression systems. The Permittee must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the Permittee finds that water is not flowing properly during an inspection of the water spray nozzles. **[Reference: 40 CFR §60.674(b)]**

- (5) Fugitive dust from plant roads and stockpiles shall be controlled, as necessary, by using water or approved chemical dust suppressants or a combination thereof.

Part E – Notifications and Testing

- (1) The Permittee shall submit a written or electronic notification to the Department of the actual date of initial startup of each of the (4) modules of the portable crushing and screening plant within 15 days after such date. **[Reference: 40 CFR §60.7(a)(3) and §60.676(i)]**
- (2) Within 60 days after achieving the maximum production rate at each of the (4) modules of the portable crushing and screening plant will be operated, but not later than 180 days after initial startup, the Permittee shall demonstrate compliance will all applicable opacity standards. **[Reference: 40 CFR §60.11(b) and §60.672(b)]**
- (3) The Permittee shall use Method 9 of Appendix A-4 to 40 CFR, Part 60 and the procedures in 40 CFR §60.11, with the following additions:
 - (a) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - (b) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of this part, Section 2.1) must be followed.
 - (c) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible. **[Reference: 40 CFR §60.675(c)(1)]**

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

- (4) The duration of the Method 9 (40 CFR, Part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable opacity standards must be based on the average of the five 6-minute averages.
[Reference: 40 CFR §60.675(c)(3)]
- (5) The Permittee shall submit notification of the intended date of the required Method 9 observations to the Department at least 30 days prior to that date.
[Reference: 40 CFR §60.7(a)(6) and 60.8(d)]
- (6) For performance tests involving only Method 9 (40 CFR part 60 Appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.
[Reference: 40 CFR §60.675(g)]
- (7) Within 45 days following the required Method 9 observations, the Permittee shall submit the results to the Department.

Part F – Record Keeping and Reporting

- (1) The Permittee shall maintain for at least five (5) years, and shall make available to the Department upon request, records of the following information:
 - (a) A logbook of each periodic inspection of the wet suppression system for affected facilities constructed, modified, or reconstructed on or after April 22, 2008 including dates and any corrective actions taken
[Reference: 40 CFR §60.674(b) and §60.676(b)(1)];
 - (b) All opacity observation test results; and
 - (c) The amount and type of material processed each month in each of the four (4) modules of the portable crushing and screening plant.
- (2) The Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, records necessary to support annual certifications of emissions and demonstrations of compliance for toxic air pollutants. Such records shall include, if applicable, the following:
 - (a) mass emissions rates for each regulated pollutant, and the total mass emissions rate for all regulated pollutants for each registered source of emissions;

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

- (b) accounts of the methods and assumptions used to quantify emissions;
- (c) all operating data, including operating schedules and production data, that were used in determinations of emissions;
- (d) amounts, types, and analyses of all fuels used;
- (e) any records, the maintenance of which is required by this permit or by State or federal regulations, that pertain to the operation and maintenance of continuous emissions monitors, including:
 - (i) all emissions data generated by such monitors;
 - (ii) all monitor calibration data;
 - (iii) information regarding the percentage of time each monitor was available for service; and
 - (iv) information concerning any equipment malfunctions.
- (f) information concerning operation, maintenance, and performance of air pollution control equipment and compliance monitoring equipment, including:
 - (i) identifications and descriptions of all such equipment;
 - (ii) operating schedules for each item of such equipment;
 - (iii) accounts of any significant maintenance performed;
 - (iv) accounts of all malfunctions and outages; and
 - (v) accounts of any episodes of reduced efficiency.
- (g) limitations on source operation or any work practice standards that significantly affect emissions; and
- (h) other relevant information as required by the Department.

VULCAN CONSTRUCTION MATERIALS, LLC
938 QUARRY ROAD
HAVRE DE GRACE, MARYLAND 21078
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 025-0120-6-0549

- (3) The Permittee shall submit to the Department by April 1 of each year a certification of emissions for the previous calendar year. The certifications shall be prepared in accordance with requirements, as applicable, adopted under COMAR 26.11.01.05 – 1 and COMAR 26.11.02.19D.
- (a) Certifications of emissions shall be submitted on forms obtained from the Department.
 - (b) A certification of emissions shall include mass emissions rates for each regulated pollutant, and the total mass emissions rate for all regulated pollutants for each of the facility's registered sources of emissions.
 - (c) The person responsible for a certification of emissions shall certify the submittal to the Department in the following manner:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- (4) The Permittee shall submit to the Department by April 1 of each year a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. Such analysis shall include either:
- (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or
 - (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

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- (5) The Permittee shall report, in accordance with requirements under COMAR 26.11.01.07, occurrences of excess emissions to the Compliance Program of the Air and Radiation Administration.

Part G – Temporary Permit-to-Operate Conditions

- (1) This permit-to-construct shall also serve as a temporary permit-to-operate that confers upon the Permittee authorization to operate the portable crushing and screening plant, consisting of four (4) modules ranging from 300 tph to 500 tph and powered by Tier IV diesel engines for a period of up to 180 days after initiating operation of any modules.
- (2) The Permittee shall provide the Department with written or electronic notification of the date on which operation any module of the portable crushing and screening plant is initiated. Such notification shall be provided within 10 business days of the date to be reported.
- (3) During the effective period of the temporary permit-to-operate the Permittee shall operate the new installation as required by the applicable terms and conditions of this permit-to-construct, and in accordance with operating procedures and recommendations provided by equipment vendors.
- (4) The Permittee shall submit to the Department an application for a State permit-to-operate no later than 60 days prior to expiration of the effective period of the temporary permit-to-operate.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION ADMINISTRATION

SUPPLEMENTAL INFORMATION REFERENCES

The Code of Maryland Regulations (COMAR) is searchable by COMAR citation at the following Division of State Documents website:

<http://www.dsd.state.md.us/COMAR/ComarHome.html>

The Code of Federal Regulations (CFR), including New Source Performance Standards (NSPS) at 40 CFR, Part 60 and National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR, Parts 61 and 63, is searchable by CFR citation at the following U.S. Government Publishing Office website:

<http://www.ecfr.gov>

Information on National Ambient Air Quality Standards (NAAQS) is located at the following U.S. Environmental Protection Agency (EPA) website:

<https://www.epa.gov/criteria-air-pollutants/naaqs-table>

Information on Maryland's Ambient Air Monitoring Program is located at the following Maryland Department of the Environment website:

<http://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/index.aspx>

Information on the U.S. EPA's Screen3 computer model and other EPA-approved air dispersion models is located at the following U.S. EPA website:

http://www.epa.gov/scram001/dispersion_screening.htm

Information on the U.S. EPA TANKS Emission Estimation Software is located at the following U.S. EPA website:

<http://www.epa.gov/ttn/chief/software/tanks/index.html>

Information on the U.S. EPA Emission Factors and AP-42 is located at the following U.S. EPA website:

<https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors>