



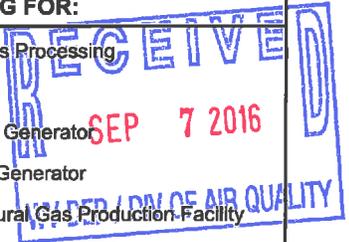
WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF AIR QUALITY
 601 57th Street, SE
 Charleston, WV 25304
 Phone: (304) 926-0475 • www.dep.wv.gov/daq

APPLICATION FOR GENERAL PERMIT REGISTRATION
 CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE
 A STATIONARY SOURCE OF AIR POLLUTANTS

- CONSTRUCTION MODIFICATION RELOCATION CLASS I ADMINISTRATIVE UPDATE
 CLASS II ADMINISTRATIVE UPDATE

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

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



SECTION I. GENERAL INFORMATION

1. Name of applicant (as registered with the WV Secretary of State's Office): Heeter Geotechnical Construction, LLC		2. Federal Employer ID No. (FEIN): 47-2016663	
3. Applicant's mailing address: 130 Meadow Ridge Rd Mt. Morris, PA 15349		4. Applicant's physical address: 130 Meadow Ridge Rd Mt. Morris, PA 15349	
5. If applicant is a subsidiary corporation, please provide the name of parent corporation:			
6. WV BUSINESS REGISTRATION. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ IF YES, provide a copy of the Certificate of Incorporation/ Organization / Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A. ⇨ IF NO, provide a copy of the Certificate of Authority / Authority of LLC / Registration (one page) including any name change amendments or other Business Certificate as Attachment A.			

SECTION II. FACILITY INFORMATION

7. Type of plant or facility (stationary source) to be constructed, modified, relocated or administratively updated (e.g., coal preparation plant, primary crusher, etc.):	8a. Standard Industrial Classification Classification (SIC) code: 2379	AND	8b. North American Industry Classification System (NAICS) code: 237990
9. DAQ Plant ID No. (for existing facilities only): _____	10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only): _____ _____		

A: PRIMARY OPERATING SITE INFORMATION

11A. Facility name of primary operating site: <u>Cacapon State Park</u>	12A. Address of primary operating site: Mailing: <u>818 Cacapon Lodge Dr</u> Physical: <u>818 Cacapon Lodge Dr</u> <u>Berkeley Springs, WV 25411</u> Berkeley Springs, WV 25411	
13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ IF YES, please explain: <u>The property is the location of the jobsite which</u> <u>is being completed for WV State Parks.</u> ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14A. ⇨ For Modifications or Administrative Updates at an existing facility, please provide directions to the present location of the facility from the nearest state road; ⇨ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a MAP as Attachment F. <u>Exit #82A from interstate 70 near Hancock, MD travel south on</u> <u>US 522 S for 17.1 miles. Turn right onto Cacapon Lodge Dr and</u> <u>travel .1 miles, the facility will be on the left.</u>		
15A. Nearest city or town: <u>Berkeley Springs, WV</u>	16A. County: <u>Morgan County</u>	17A. UTM Coordinates: Northing (KM): <u>4375.85</u> Easting (KM): <u>732.55</u> Zone: <u>17</u>
18A. Briefly describe the proposed new operation or change (s) to the facility: <u>The Pugmill will be utilized to complete the roller compacted concrete work on the job.</u>		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: <u>39.500</u> Longitude: <u>-78.295</u>

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

11B. Name of 1 st alternate operating site: _____ _____	12B. Address of 1 st alternate operating site: Mailing: _____ Physical: _____ _____	
13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <input type="checkbox"/> YES <input type="checkbox"/> NO ⇨ IF YES, please explain: _____ _____ ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		

14B. ⇨ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;
 ⇨ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP as Attachment F**.

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

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

11C. Name of 2 nd alternate operating site: _____	12C. Address of 2 nd alternate operating site: Mailing: _____ Physical: _____
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13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? YES NO
 ⇨ IF YES, please explain: _____

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

14C. ⇨ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;
 ⇨ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP as Attachment F**.

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

<p>20. Provide the date of anticipated installation or change:</p> <p><u>10 / 9 / 16</u></p> <p><input type="checkbox"/> If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: :</p> <p><u> / / </u></p>	<p>21. Date of anticipated Start-up if registration is granted:</p> <p><u>10 / 15 / 16</u></p>
<p>22. Provide maximum projected Operating Schedule of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation).</p> <p>Hours per day <u>12</u> Days per week <u>6</u> Weeks per year <u>5</u> Percentage of operation _____</p>	

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

<p>23. Include a check payable to WVDEP – Division of Air Quality with the appropriate application fee (per 45CSR22 and 45CSR13).</p>
<p>24. Include a Table of Contents as the first page of your application package.</p>
<p>All of the required forms and additional information can be found under the Permitting Section (General Permits) of DAQ's website, or requested by phone.</p>
<p>25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> ATTACHMENT A : CURRENT BUSINESS CERTIFICATE <input checked="" type="checkbox"/> ATTACHMENT B: PROCESS DESCRIPTION <input checked="" type="checkbox"/> ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS <input checked="" type="checkbox"/> ATTACHMENT D: PROCESS FLOW DIAGRAM <input checked="" type="checkbox"/> ATTACHMENT E: PLOT PLAN <input checked="" type="checkbox"/> ATTACHMENT F: AREA MAP <input checked="" type="checkbox"/> ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM <input type="checkbox"/> ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS <input checked="" type="checkbox"/> ATTACHMENT I: EMISSIONS CALCULATIONS <input checked="" type="checkbox"/> ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT <input type="checkbox"/> ATTACHMENT K: ELECTRONIC SUBMITTAL <input checked="" type="checkbox"/> ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE <input type="checkbox"/> ATTACHMENT M: SITING CRITERIA WAIVER <input checked="" type="checkbox"/> ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS) <input checked="" type="checkbox"/> ATTACHMENT O: EMISSIONS SUMMARY SHEETS <input type="checkbox"/> OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.) <p>Please mail an original and two copies of the complete General Permit Registration Application with the signature(s) to the DAQ Permitting Section, at the address shown on the front page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.</p>

SECTION IV. CERTIFICATION OF INFORMATION

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

FOR A CORPORATION (domestic or foreign)

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

FOR A PARTNERSHIP

I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

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

FOR A JOINT VENTURE

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

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

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

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

Signature

(please use blue ink)



Responsible Official

8-31-16

Date

Name & Title

(please print or type)

Scott A Kiger - President

Signature

(please use blue ink)



Authorized Representative (if applicable)

8/31/2016

Date

Applicant's Name

Heeter Geotechnical Construction, LLC Attn: Dean E Dibert

Phone & Fax

(304) 291-0175 x413

Phone

(304) 296-1569

Fax

Email

ddibert@heeterconstruction.com

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APPLICATION FOR PERMIT**

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ATTACHMENT A

CURRENT BUSINESS CERTIFICATE

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**HEETER GEOTECHNICAL CONSTRUCTION LLC
130 MEADOW RIDGE RD
MT. MORRIS, PA 15349-0000**

BUSINESS REGISTRATION ACCOUNT NUMBER: 2306-7248

This certificate is issued on: **11/10/2014**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued
This certificate shall be permanent until cessation of the business for which the certificate of registration
was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new
certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.

State of West Virginia



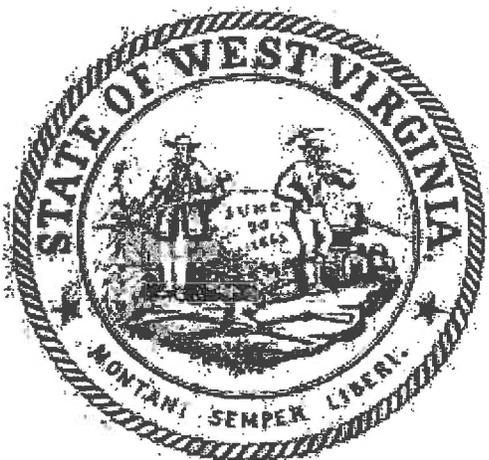
Certificate

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

Heeter Geotechnical Construction LLC

has filed the appropriate registration documents in my office according to the provisions of the West Virginia Code and hereby declare the organization listed above as duly registered with the Secretary of State's Office.

*Given under my hand and
the Great Seal of West Virginia
on this day of
October 28, 2014*



Natalie E. Tennant

Secretary of State

ATTACHMENT B

PROCESS DESCRIPTION

Pugmill Operation

The pugmill mixer is designed to be a temporary installation and to have only particulate emissions.

The incoming sand and aggregate will be stored in stockpiles onsite adjacent to the batch plant. A cat 936 (4tire) end loader will move the sand and aggregate and load into elevated storage bins in the batch plant. Cement will be supplied from a completely enclosed truck and transferred pneumatically into a storage silo equipped with a baghouse. The cement, sand, aggregate and water will be proportioned in a weight batcher which will then discharge the materials into the pug mill.

The pugmill mixer will be erected on a stone pad with graveled and asphalt roadways. Sand and aggregate will be supplied to the site by triaxle (12 tires) dump trucks from a local supplier and stored in the stockpile storage area. Cement will be delivered in fully enclosed pneumatic tankers.

The end loader will be moving at less than 3 miles per hour between the stock piles and the storage bins. The trucks will be hauling sand and aggregate to the stock pile areas as needed. All material handling operations for the pugmill mixer will be within the site. The operation will implement fugitive dust control measures for the truck traffic via water trucks or other approved suppressive methods. The moisture content of the sand and aggregate will minimize fugitive dust emissions from material handling operations.

ATTACHMENT C

DESCRIPTION OF FUGITIVE EMISSIONS

Description of Fugitive Emissions

This pugmill mixer has several sources of potential emissions of particulate matter (PM). The following sections describe each potential source of emissions and methods developed to control these emissions.

Haul Roads: The plant will be constructed on an unpaved section of the property, and the haul roads will be compacted dirt. A water truck will be employed to water the haul roads on an as-needed basis to control dust. During dry periods, the haul roads will be watered initially during the day and watered once every two hours thereafter while in use with an application rate of 0.5 gallons per square yard of haul road.

Raw Materials Delivery and Storage: Sand and gravel will be delivered by truck and deposited in uncovered stockpiles. As with the haul roads, emission from the deposition of raw materials into stockpiles and emission from wind erosion will be controlled with a water spray applied on an as-needed basis. During dry periods, 4 gallons of water will be spray applied to each bin each hour at a rate of 0.5 gallons per minute for wind erosion control and continuously at a rate of 2 gallons per minute during raw materials deposition.

Cement will be delivered via dry bulk tanker trucks. These materials will be transferred to the silos pneumatically. Emissions from filling Operations will be controlled with a silo dust collector. For this application, this dust collector is sized for 450 acfm with an efficiency of 99.99%. Dust collected will be discharged into the primary silo.

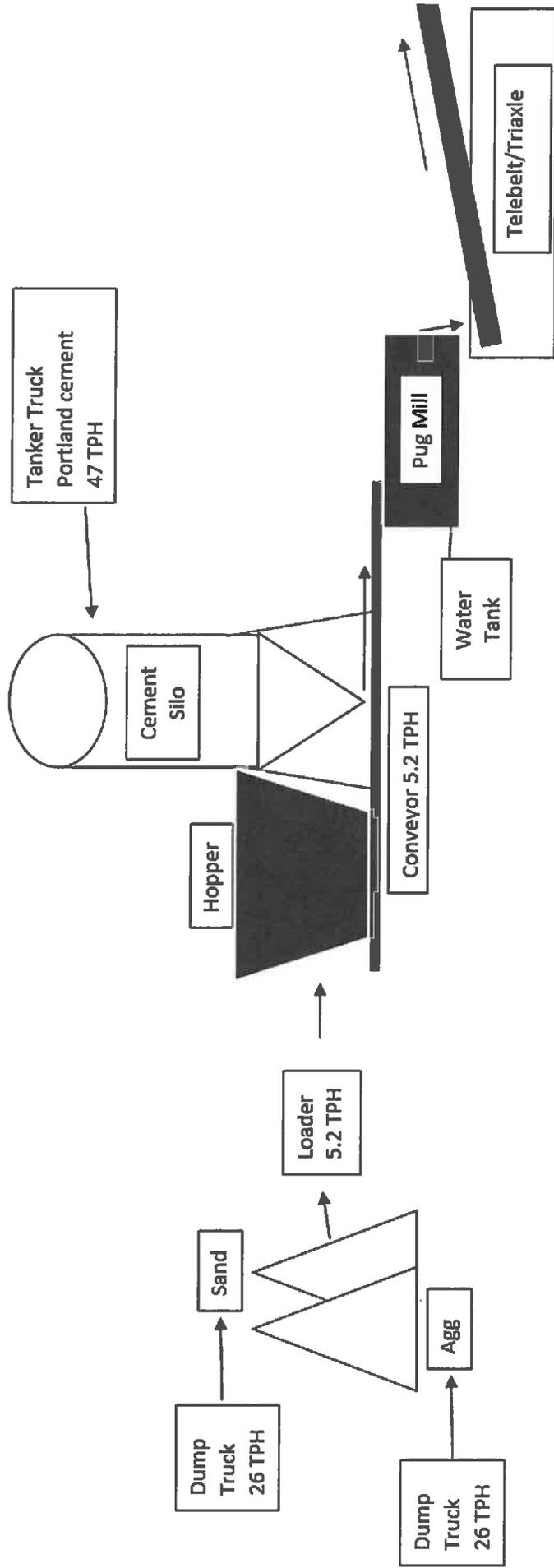
Raw Material Handling and Processing: Raw materials will be transferred from the storage bays to elevated storage bins via a wheeled loader and conveyor. The drop height from the loader to the conveyor hopper will be minimized as much as practicable, and the conveyor will be fully enclosed to minimize emissions.

The conveyor will discharge the raw materials into one of two elevated bins. These bins will be totally enclosed to manage emission. No additional emissions control devices will be applied to the elevated bins.

Raw materials from the elevated bins will feed into a pugmill where water will be introduced and the roller compacted concrete will be mixed in an enclosed twin shaft mixer. Roller compacted concrete from the pugmill will be discharged into a telebelt or a tri-axle truck via a conveyor.

ATTACHMENT D

PROCESS FLOW DIAGRAM



ATTACHMENT E

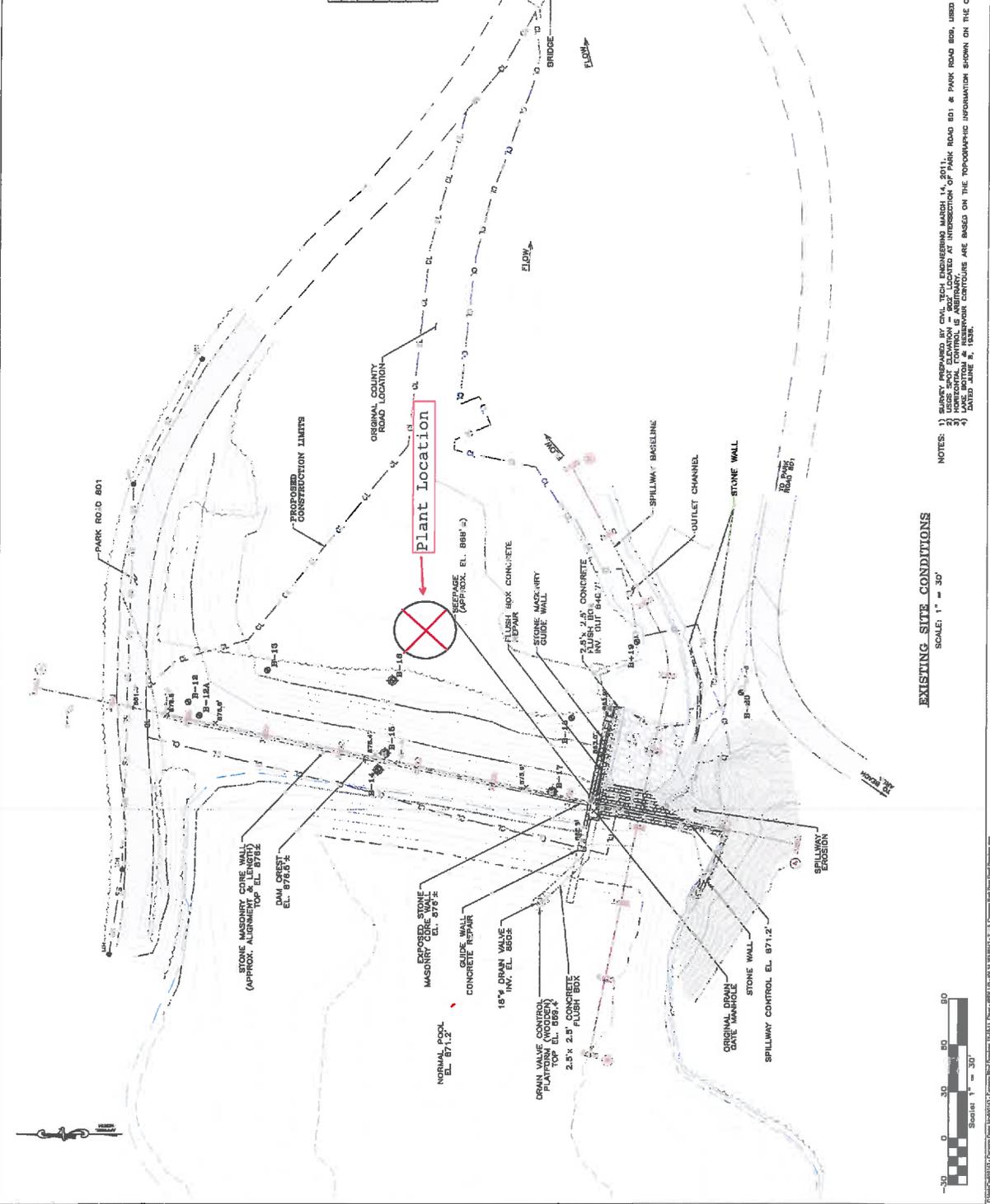
PLOT PLAN

LEGEND

- PAVED ROAD
- RIIP RAP
- STONE MASONRY
- RDRK OUTCROP
- CONCRETE
- BASILINE
- BORING LOCATION
- BORING & OBSERVATION WELL LOCATION
- TREE LINE POINT
- SPOT ELEVATION
- PROPOSED CONSTRUCTION LIMITS
- WATER SURFACE
- EXISTING CONTOUR
- ORIGINAL PLAN CONTOUR (1935)
- GOOGLE EARTH ROAD LOCATION
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- EXISTING FENCE

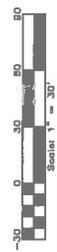
CONTROL POINT INFORMATION

POINT NUMBER	NORTHING	EASTING	ELEVATION (FT)
CP-1 (P-1) (M)	18462.8	1875.10	811.88
CP-2 (P-2) (M)	18153.30	18231.28	871.84
CP-3 (P-3) (M)	18868.37	18778.48	861.84
CP-4 (P-4) (M)	18228.41	18088.27	868.87
CP-10 (P-10) (M)	18733.27	18028.26	873.88



EXISTING SITE CONDITIONS
SCALE: 1" = 30'

NOTES: 1) SURVEY PREPARED BY CIVIL TECH ENGINEERING, MARCH 14, 2011.
 2) USGS SPOT ELEVATION = 802' LOCATED AT INTERSECTION OF PARK ROAD 801 & PARK ROAD 801. USED AS VERTICAL BENCH MARK.
 3) ALL SPOT ELEVATIONS ARE BASED ON THE TOPOGRAPHIC INFORMATION SHOWN ON THE ORIGINAL DESIGN DRAWINGS.
 4) HAVE BOTTOM & INSIDE SPAN CONTOURS ARE BASED ON THE TOPOGRAPHIC INFORMATION SHOWN ON THE ORIGINAL DESIGN DRAWINGS.
 DATED JUNE 8, 1935.



ATTACHMENT F

AREA MAP

Measurement Result
Longitude: -78.295385
Latitude: 39.500909
Filter:



ATTACHMENT G

EQUIPMENT DATA SHEETS AND REGISTRATION SECTION

CBP PRODUCTION AFFECTED SOURCE SHEET

CBP Production Information	Source Identification Number ¹	CM-1	
	Manufacturer & Model Number	TBD	
	Date of Manufacture	TBD	
	Maximum Design Production Rate ²	58	Tons / Hr
	Maximum Annual Production ¹	2,530	CY / Year
		5,600	Tons/year
	Daily Operation	8	hours/day
	Annual Operation	12	days/year
		96	hours/year
	Approximate Percentage of Operation from:	0%	Jan - Mar
		0%	April - June
		0%	July - Sept
100%		Oct - Dec	

1. Enter the appropriate Source Identification Number for each concrete batch plant production weigh hopper or central mixer. Batch plant weigh hopper should be designated WH-1, WH-2, etc. Batch plant central mixer should be designated CM-1, CM-2, etc.

2. Enter the manufacturer's Maximum Design Production Rate of the concrete batch plant production equipment. Specify units in tons/hour.

3. Enter the Maximum Annual Production of the concrete batch plant. Specify units of cubic yards per year or tons per year. To calculate Maximum Annual Production, multiply the Maximum Design Production Rate (tons/hr) by the Annual Operation (hrs/yr)

ATTACHMENT H

**AIR POLLUTION CONTROL DEVICE SHEETS
(Not Applicable)**

ATTACHMENT I

EMISSIONS CALCULATIONS

G50-B Emission Calculation Spreadsheets

For purposes of the General Permit for concrete batch plants, the following emission calculation methods will provide an adequate estimate of facility emissions from point sources and fugitive emission sources. However, where source (facility) specific tests are available, such information is preferable. Other emission factors may be acceptable provided documentation as to accuracy and appropriateness are provided by the applicant.

Completely fill out the following pages with all requested facility specific information.

Applicant Name Heeter Geotechnical Construction, LLC

Facility Name Cacapon

Please print out all pages of the completed spreadsheet and submit with Registration Application.

Revised 06/11/2007

General Permit G50-B Emission Calculation Spreadsheet G50ECALC for Concrete Batch Plants

BATCH DROP/CONTINUOUS DROP OPERATIONS

TRANSFER POINT	TRANSFER RATE TPH	TPY	TYPE OF CONTROL	CONTROL EFFICIENCY	PM lb/hour	PM-10 lb/hour	PM TPY	PM-10 TPY
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AGGREGATE TRANSFER EMISSIONS

e=	0.0069 lb/ton (PM emission factor)			e=	0.0033 lb/ton (PM-10 emission factor)			
Dump truck to stockpile loader to stockpile	26.042	2500	UL-WS	50	0.0898	0.0430	0.0043	0.0021
loader to feed hopper	26.042	2500			0.0000	0.0000	0.0000	0.0000
hopper to conveyor	26.042	2500	TC-FE	80	0.1797	0.0859	0.0086	0.0041
conveyor to bin	26.042	2500	TC-FE	80	0.0359	0.0172	0.0017	0.0008
bin to scale hopper	26.042	2500	TC-BH	99.99	0.0000	0.0000	0.0000	0.0000
conveyor to mixer truck	26.042	2500	LO-BH	99.99	0.0000	0.0000	0.0000	0.0000

TOTAL AGGREGATE TRANSFER EMISSIONS

0.3414 0.1633 0.0164 0.0078

SAND TRANSFER EMISSIONS

e=	0.0021 lb/ton (PM emission factor)			e=	0.0010 lb/ton (PM-10 emission factor)			
Dump truck to stockpile loader to stockpile	26.042	2500	UL-WS	50	0.0898	0.0430	0.0043	0.0021
loader to feed hopper	26.042	2500			0.0000	0.0000	0.0000	0.0000
hopper to conveyor	26.042	2500	TC-FE	80	0.1797	0.0859	0.0086	0.0041
conveyor to bin	26.042	2500	TC-FE	80	0.0359	0.0172	0.0017	0.0008
bin to scale hopper	26.042	2500	TC-BH	99.99	0.0000	0.0000	0.0000	0.0000
conveyor to mixer truck	26.042	2500	LO-BH	99.99	0.0000	0.0000	0.0000	0.0000

TOTAL SAND TRANSFER EMISSIONS

0.3414 0.1633 0.0164 0.0078

BATCH DROP/CONTINUOUS DROP OPERATIONS

TRANSFER POINT	TRANSFER RATE		TYPE OF CONTROL		CONTROL EFFICIENCY	PM lb/hour	PM-10 lb/hour	PM TPY	PM-10 TPY
	TPH	TPY	CONTROL	CONTROL					

CEMENT UNLOADING TO ELEVATED STORAGE SILO (PNEUMATIC)

e= 0.7200 lb/ton (PM emission factor) e= 0.4600 lb/ton (PM-10 emission factor)

truck to cement silo	5.208	500	UL-BH	99.99	0.0004	0.0002	0.0000	0.0000	0.0000
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CEMENT SUPPLEMENT UNLOADING TO ELEVATED STORAGE SILO (PNEUMATIC)

e= 3.1400 lb/ton (PM emission factor) e= 1.1000 lb/ton (PM-10 emission factor)

truck to cement silo					0.0000	0.0000	0.0000	0.0000	0.0000
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WEIGH HOPPER LOADING

e= 0.0051 lb/ton (PM emission factor) e= 0.0024 lb/ton (PM-10 emission factor)

silto to cement weigh bin	5.208	500	TC-BH	99.9	0.0037	0.0024	0.0002	0.0002	0.0001
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MIXER LOADING (CENTRAL MIX)

e= 0.5440 lb/ton (PM emission factor) e= 0.1340 lb/ton (PM-10 emission factor)

cement weigh bin to truck	5.208	500	TC-BH	99.9	0.0037	0.0024	0.0002	0.0002	0.0001
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TRUCK LOADING (TRUCK MIX)

e= 0.9950 lb/ton (PM emission factor) e= 0.2780 lb/ton (PM-10 emission factor)

cement weigh bin to truck					0.0000	0.0000	0.0000	0.0000	0.0000
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TOTAL CEMENT TRANSFER EMISSIONS

0.0079 0.0050 0.0004 0.0002

TOTAL TRANSFER EMISSIONS

0.6908 0.3316 0.0332 0.0159

UNPAVED HAULROADS - Aggregate Truck

Sand & gravel

PM EMISSIONS		PM-10 EMISSIONS	
k	4.9 particle size multiplier (assumed)	k	1.5 particle size multiplier (assumed)
s	10 silt in road surface (%)	s	10 silt in road surface (%)
a	0.7 equation constant	a	0.9 equation constant
b	0.45 equation constant	b	0.45 equation constant
S	5 mean vehicle speed (mph)	S	5 mean vehicle speed (mph)
W	32 mean vehicle weight (tons)	W	32 mean vehicle weight (tons)
w	12 mean number of wheels	w	12 mean number of wheels
p	150 days of precipitation (assumed)	p	150 days of precipitation (assumed)
e	12.5136 LB/VMT	e	3.6935 LB/VMT
TRAVEL	2.2600 VMT/HOUR	TRAVEL	2.2600 VMT/HOUR
TRAVEL	217.0000 VMT/YR	TRAVEL	217.0000 VMT/YR
CONTROLS	70 control efficiency (%)	CONTROLS	70 control efficiency (%)

EMISSIONS
EMISSIONS

2.5042 lb/hour
0.1202 TPY

PAVED HAULROADS - Aggregate Trucks

Sand & gravel

PM EMISSIONS		PM-10 EMISSIONS	
k	0.082 base emission factor for particle	k	0.016 particle size multiplier (assumed)
sL	road surface silt load. (g/m ²)	s	silt in road surface (%)
W	mean vehicle weight (tons)	W	mean vehicle weight (tons)
P	# of wet days with at least 0.01" precip	P	# of wet days with at least 0.01" precip
C	0.00047 emission factor for brake/tire wear	C	0.00047 emission factor for brake/tire wear
N	365 # of days in averaging period	N	365 # of days in averaging period
e	-0.0005 LB/VMT	e	-0.0005 LB/VMT
TRAVEL	VMT/HOUR	TRAVEL	VMT/HOUR
TRAVEL	VMT/YR	TRAVEL	VMT/YR
CONTROLS	control efficiency (%)	CONTROLS	control efficiency (%)

EMISSIONS
EMISSIONS

0.0000 lb/hour
0.0000 TPY

UNPAVED HAULROADS - Cement Tanker

PM EMISSIONS		PM-10 EMISSIONS	
k	4.9 particle size multiplier (assumed)	k	1.5 particle size multiplier (assumed)
s	10 silt in road surface (%)	s	10 silt in road surface (%)
a	0.7 equation constant	a	0.9 equation constant
b	0.45 equation constant	b	0.45 equation constant
S	5 mean vehicle speed (mph)	S	5 mean vehicle speed (mph)
W	60 mean vehicle weight (tons)	W	60 mean vehicle weight (tons)
w	18 mean number of wheels	w	18 mean number of wheels
p	150 days of precipitation (assumed)	p	150 days of precipitation (assumed)
e	16.6048 LB/VMT	e	4.9011 LB/VMT
TRAVEL	0.2300 VMT/HOUR	TRAVEL	0.2300 VMT/HOUR
TRAVEL	21.7300 VMT/YR	TRAVEL	21.7000 VMT/YR
CONTROLS	70 control efficiency (%)	CONTROLS	70 control efficiency (%)
EMISSIONS	1.1457 lb/hour	EMISSIONS	0.3382 lb/hour
EMISSIONS	0.0540 TPY	EMISSIONS	0.0160 TPY

PAVED HAULROADS - Cement Tanker

PM EMISSIONS		PM-10 EMISSIONS	
k	0.082 base emission factor for particle	k	0.016 particle size multiplier (assumed)
sL	70 road surface silt load. (g/m ²)	s	70 silt in road surface (%)
W	mean vehicle weight (tons)	W	mean vehicle weight (tons)
P	# of wet days with at least 0.01" precip	P	# of wet days with at least 0.01" precip
C	0.00047 emission factor for brake/tire wear	C	0.00047 emission factor for brake/tire wear
N	365 # of days in averaging period	N	365 # of days in averaging period
e	-0.0005 LB/VMT	e	-0.0005 LB/VMT
TRAVEL	VMT/HOUR	TRAVEL	VMT/HOUR
TRAVEL	VMT/YR	TRAVEL	VMT/YR
CONTROLS	0 control efficiency (%)	CONTROLS	0 control efficiency (%)
EMISSIONS	0.0000 lb/hour	EMISSIONS	0.0000 lb/hour
EMISSIONS	0.0000 TPY	EMISSIONS	0.0000 TPY

UNPAVED HAULROADS - Concrete Mixer

PM EMISSIONS		PM-10 EMISSIONS	
k	4.9	k	1.5
s	10	s	10
a	0.7	a	0.9
b	0.45	b	0.45
S	5	S	5
W	21	W	21
w	10	w	10
p	150	p	150
e	10.3529	e	3.0558
TRAVEL	1.3600	TRAVEL	1.3600
TRAVEL	130.0000	TRAVEL	130.0000
CONTROLS	70	CONTROLS	70

EMISSIONS	4.2240 lb/hour	EMISSIONS	1.2468 lb/hour
EMISSIONS	0.2019 TPY	EMISSIONS	0.0596 TPY

PAVED HAULROADS - Concrete Mixer

PM EMISSIONS		PM-10 EMISSIONS	
k	0.082	k	0.016
sL	70	s	70
W		W	
P		P	
C	0.00047	C	0.00047
N	365	N	365
e	-0.0005	e	-0.0005
TRAVEL		TRAVEL	
TRAVEL		TRAVEL	
CONTROLS	0	CONTROLS	0

EMISSIONS	0.0000 lb/hour	EMISSIONS	0.0000 lb/hour
EMISSIONS	0.0000 TPY	EMISSIONS	0.0000 TPY

UNPAVED HAULROADS- Endloader

PM EMISSIONS		PM-10 EMISSIONS	
k	4.9 particle size multiplier (assumed)	k	1.5 particle size multiplier (assumed)
s	10 silt in road surface (%)	s	10 silt in road surface (%)
a	0.7 equation constant	a	0.9 equation constant
b	0.45 equation constant	b	0.45 equation constant
S	4 mean vehicle speed (mph)	S	4 mean vehicle speed (mph)
W	13.93 mean vehicle weight (tons)	W	13.93 mean vehicle weight (tons)
w	4 mean number of wheels	w	4 mean number of wheels
p	150 days of precipitation (assumed)	p	150 days of precipitation (assumed)
e	8.6068 LB/VMT	e	2.5404 LB/VMT
TRAVEL	0.1400 VMT/HOUR	TRAVEL	0.1400 VMT/HOUR
TRAVEL	568.2000 VMT/YR	TRAVEL	568.2000 VMT/YR
CONTROLS	70 control efficiency (%)	CONTROLS	70 control efficiency (%)

EMISSIONS	0.3615 lb/hour	EMISSIONS	0.1067 lb/hour
EMISSIONS	0.7336 TPY	EMISSIONS	0.2165 TPY

STORAGE PILE- Sand

PM EMISSIONS		PM-10 EMISSIONS	
s	30 silt content (%)	s	30 silt content (%)
p	150 days of precipitation (assumed)	p	150 days of precipitation (assumed)
f	10 time the wind exceeds 12 mph (%)	f	10 time the wind exceeds 12 mph (%)
A	0.0184 surface area (acres)	A	0.0184 surface area (acres)
N	3 number of storage piles	N	3 number of storage piles
CONTROLS	75 %	CONTROLS	75 %

EMISSIONS 0.0119 lb/hour
EMISSIONS 0.0522 TPY

EMISSIONS 0.0056 lb/hour
EMISSIONS 0.0245 TPY

STORAGE PILE- Aggregate

PM EMISSIONS		PM-10 EMISSIONS	
s	10 silt content (%)	s	10 silt content (%)
p	150 days of precipitation (assumed)	p	150 days of precipitation (assumed)
f	10 time the wind exceeds 12 mph (%)	f	10 time the wind exceeds 12 mph (%)
A	0.0184 surface area (acres)	A	0.0184 surface area (acres)
N	3 number of storage piles	N	3 number of storage piles
CONTROLS	75 %	CONTROLS	75 %

EMISSIONS 0.0040 lb/hour
EMISSIONS 0.0174 TPY

EMISSIONS 0.0019 lb/hour
EMISSIONS 0.0082 TPY

EMISSIONS SOURCE SUMMARY

	PM EMISSIONS		PM-10 EMISSIONS	
Point Source Emissions	lb/hour	TPY	lb/hour	TPY
Transfer Point Emissions	0.69	0.03	0.33	0.02
Point Source Emissions Total	0.69	0.03	0.33	0.02
Fugitive Emissions	lb/hour	TPY	lb/hour	TPY
Unpaved Haulroad Emissions	14.22	1.40	4.20	0.41
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Stockpile Emissions	0.02	0.07	0.01	0.03
Fugitive Emissions Total	14.23	1.47	4.20	0.45
FACILITY EMISSIONS TOTAL	14.92	1.50	4.53	0.46

ATTACHMENT J

CLASS I LEGAL ADVERTISEMENT

PUBLIC NOTICE

Notice is given that Heeter Geotechnical Construction, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality for a G50-B General Permit Registration, for a Concrete Batch Facility located at 818 Cacapon Lodge Dr, Berkeley Springs, Morgan County, West Virginia. The latitude and longitude coordinates are: 39.500, -78.295. The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: 1.5 tons of Particle Matter on an annual basis. Startup of operation is planned to begin on or about the 15th day of October, 2016. Written Comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours. Date this the 31st day of August, 2016.

By: Heeter Geotechnical
Construction, LLC
Dean Dibert Division Manger
130 Meadow Ridge Rd
Mt. Morris, PA 15349.
8-31-1tm

ATTACHMENT K

ELECTRONIC SUBMITTAL (Not Applicable)

ATTACHMENT L

GENERAL PERMIT REGISTRATION APPLICATION FEE

ATTACHMNET M

SITING CRITERIA WAIVER (Not Applicable)

ATTACHMENT N
SAFETY DATA SHEETS (SDS)

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Sand and Gravel

Product Identifiers: Natural Sand, River Sand Screenings, Aggregates, Bank Sand and Gravel, Crushed Gravel, Round Gravel, Concrete Sand, Asphalt Sand, Mason Sand, Fill Sand, Golf Course Sand, Base Material, Dense Graded Aggregate, Quartz, Gravel, Crushed Rock, Crushed Stone

Manufacturer: Lafarge North America Inc.
12018 Sunrise Valley Drive, Suite 500
Reston, VA 20191

Information Telephone Number: 703-480-3600 (9am to 5pm EST)

Emergency Telephone Number: 1-800-451-8346 (3E Hotline)

Product Use: Sand and gravel are aggregates used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction applications. Sand and gravel are distributed in bags, totes and bulk shipment.

DO NOT use this product for abrasive blasting. This material safety data sheet and the information contained herein were not developed for abrasive blasting.

Note: This MSDS covers many types of sand and gravel. Individual composition of hazardous constituents will vary between sand and gravel types.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent (By Weight)	CAS Number	OSHA PEL -TWA (mg/m ³)	ACGIH TLV-TWA (mg/m ³)	LD ₅₀	LC ₅₀
Crystalline Silica (quartz)	50-99	14808-60-7	[(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T)	0.025 (R)	NA	NA
Particulate Not Otherwise Regulated	-	NA	5 (R); 15 (T)	3 (R); 10 (T)	NA	NA

Warning: Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870° C it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470° C it can change to a form of crystalline silica known as cristobalite. Crystalline silica as tridymite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz); the ACGIH TLV for crystalline silica as cristobalite is 0.025 mg/m³ (R).

Section 3: HAZARD IDENTIFICATION

	WARNING	 Respiratory Protection Eye Protection
	<p>Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p>DO NOT use for Sand Blasting.</p> <p>Use proper engineering controls, work practices, and Personal Protective Equipment (PPE) to prevent exposure to dust.</p> <p>Read MSDS for details.</p>	

Section 3: HAZARD IDENTIFICATION (continued)

Emergency Overview: Sand and gravel are a white or light grey/brown solid material and is odorless. It is not combustible or explosive. A single, short-term exposure to sand and gravel presents little or no hazard.

Potential Health Effects:

Eye Contact: Eye contact to airborne dust may cause immediate or delayed irritation or inflammation. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Skin Contact: Sand and gravel may cause dry skin, abrasions, discomfort, and irritation.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.

Inhalation (chronic): Risk of injury depends on duration and level of exposure.

Silicosis: This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.

Carcinogenicity: Crystalline silica is classified by IARC and NTP as a known human carcinogen.

Autoimmune Disease: Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys.

Tuberculosis: Silicosis increases the risk of tuberculosis.

Renal Disease: Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

Ingestion: Do not ingest sand or gravel. Although ingestion of small quantities of sand or gravel is not known to be harmful, large quantities can cause intestinal distress.

Medical Conditions Aggravated by Exposure: Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact: Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions.

Skin Contact: Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash or irritation.

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Ingestion: Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Note to Physician: The three types of silicosis include:

- Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).

Section 4: FIRST AID MEASURES (continued)

- Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Section 5: FIREFIGHTING MEASURES

Flashpoint & Method:	Non-combustible	Firefighting Equipment:	Sand and gravel poses no fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any fire.
General Hazard:	Avoid breathing dust.		
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.	Combustion Products:	None.

Section 6: ACCIDENTAL RELEASE MEASURES

General:	Place spilled material into a container. Avoid actions that cause the sand or gravel to become airborne. Avoid inhalation of dust. Wear appropriate protective equipment as described in Section 8. Do not wash sand or gravel down sewage and drainage systems or into bodies of water (e.g. streams).
Waste Disposal Method:	Dispose of sand and gravel according to Federal, State, Provincial and Local regulations.

Section 7: HANDLING AND STORAGE

General:	Stack bagged material in a secure manner to prevent falling. Bagged sand and gravel is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures. Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains sand or gravel. Sand or gravel can buildup or adhere to the walls of a confined space. The sand or gravel can release, collapse or fall unexpectedly.		
Usage:	This product is NOT to be used for abrasive blasting. Cutting, crushing or grinding hardened cement, concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.		
Housekeeping:	Avoid actions that cause the sand or gravel to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.		
Storage Temperature:	Unlimited.	Storage Pressure:	Unlimited.
Clothing:	Remove and launder clothing that is dusty before it is reused.		

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

Personal Protective Equipment (PPE):

Respiratory Protection: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust to prevent contact with eyes. Wearing contact lenses when using sand or gravel, under dusty conditions, is not recommended.

Skin Protection: Wear gloves in situations where abrasion from sand or gravel may occur. Remove clothing and protective equipment that becomes dusty and launder before reusing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Granular Solid.	Evaporation Rate:	NA.
Appearance:	White or light gray/brown.	pH (in water):	Neutral
Odor:	None.	Boiling Point:	>1000° C
Vapor Pressure:	NA.	Freezing Point:	None, solid.
Vapor Density:	NA.	Viscosity:	None, solid.
Specific Gravity:	2.7	Solubility In Water:	Insoluble

Section 10: STABILITY AND REACTIVITY

Stability: Stable. Avoid contact with incompatible materials.

Incompatibility: Sand and gravel dissolve in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

Hazardous Polymerization: None.

Hazardous Decomposition: None.

Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.

Section 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations.

Section 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section 15: REGULATORY INFORMATION

OSHA/MSHA Hazard Communication: This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.

CERCLA/SUPERFUND: This product is not listed as a CERCLA hazardous substance.

Section 15: REGULATORY INFORMATION (continued)

EPCRA SARA Title III:	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous chemical and a delayed health hazard.
EPRCA SARA Section 313:	This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
RCRA:	If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
TSCA:	Crystalline silica is exempt from reporting under the inventory update rule.
California Proposition 65:	Crystalline silica (airborne particulates of respirable size) is known by the State of California to cause cancer.
WHMIS/DSL: 	Sand and gravel may be subject to WHMIS depending on the intended use and worker exposure. Sand and gravel containing crystalline silica is classified as D2A, and are subject to WHMIS requirements.

Section 16: OTHER INFORMATION
Abbreviations:

>	Greater than	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NTP	National Toxicology Program
		OSHA	Occupational Safety and Health Administration
CFR	Code for Federal Regulations	PEL	Permissible Exposure Limit
CL	Ceiling Limit	pH	Negative log of hydrogen ion
DOT	U.S. Department of Transportation	PPE	Personal Protective Equipment
EST	Eastern Standard Time	R	Respirable Particulate
HEPA	High-Efficiency Particulate Air	RCRA	Resource Conservation and Recovery Act
HMIS	Hazardous Materials Identification System	SARA	Superfund Amendments and Reauthorization Act
		T	Total Particulate
IARC	International Agency for Research on Cancer	TDG	Transportation of Dangerous Goods
LC ₅₀	Lethal Concentration	TLV	Threshold Limit Value
LD ₅₀	Lethal Dose	TWA	Time Weighted Average (8 hour)
mg/m ³	Milligrams per cubic meter	WHMIS	Workplace Hazardous Materials Information System
MSHA	Mine Safety and Health Administration		

Section 16: OTHER INFORMATION (continued)

This MSDS (Sections 1-16) was revised on March 1, 2011.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability section.

Lafarge North America Inc. (LNA) believes the information contained herein is accurate; however, LNA makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Lafarge Portland Cement (cement)

Product Identifiers: Cement, Portland Cement, Hydraulic Cement, Oil Well Cement, Trinity® White Cement, Antique White Cement, Portland Limestone Cement, Portland Cement Type I, IA, IE, II, I/II, IIA, II L.A., III, IIIA, IV, IVA, V, VA, 10, 20, 30, 40, 50, GU, GUL, MS, MH, HE, LH, HS, OWH, OWG Cement, OW Class G HSR

Manufacturer: Lafarge North America Inc.
12018 Sunrise Valley Dr, Suite 500
Reston, VA 20191

Information Telephone Number: 703-480-3600 (9am to 5pm EST)

Emergency Telephone Number: 1-800-451-8346 (3E Hotline)

Product Use: Cement is used as a binder in concrete and mortars that are widely used in construction. Cement is distributed in bags, totes and bulk shipment.

Note: This MSDS covers many types of Portland cement. Individual composition of hazardous constituents will vary between types of Portland cement.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent (By Weight)	CAS Number	OSHA PEL -TWA (mg/m ³)	ACGIH TLV-TWA (mg/m ³)	LD ₅₀ (mouse, intraperitoneal)	LC ₅₀
Portland Cement*	100	65997-15-1	15 (T); 5 (R)	1 (R)	NA	NA
Calcium Sulfate*	2-10	13397-24-5	15 (T); 5 (R)	10 (T)	NA	NA
Calcium Carbonate*	0-15	1317-65-3	15 (T); 5 (R)	3 (R), 10 (T)	NA	NA
Calcium Oxide	0-5	1305-78-8	5 (T)	2 (T)	3059 mg/kg	NA
Magnesium Oxide	0-4	1309-48-4	15 (T)	10 (T)	NA	NA
Crystalline Silica	0-0.2	14808-60-7	[[10] / (%SiO ₂ +2)] (R); [[30] / (%SiO ₂ +2)] (T)	0.025 (R)	NA	NA

Note: Exposure limits for components noted with an * contain no asbestos and <1% crystalline silica

Cement is made from materials mined from the earth and is processed using energy provided by fuels. Trace amounts of chemicals may be detected during chemical analysis. For example, cement may contain trace amounts of calcium oxide (also known as free lime or quick lime), free magnesium oxide, potassium and sodium sulfate compounds, chromium compounds, nickel compounds, and other trace compounds.

Section 3: HAZARD IDENTIFICATION

	<p>WARNING</p> <p>Corrosive - Causes severe burns. Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product.</p> <p>Read MSDS for details.</p>	<p>Respiratory Protection</p> <p>Eye Protection</p> <p>Waterproof Gloves</p> <p>Waterproof Boots</p>
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Section 3: HAZARD IDENTIFICATION (continued)

Emergency Overview: Cement is a solid, grey, off white, or white odorless powder. It is not combustible or explosive. A single, short-term exposure to the dry powder presents little or no hazard. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns.

Potential Health Effects:

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis.

Burns: Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort.

Dermatitis: Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking.

Irritant dermatitis is caused by the physical properties of cement including alkalinity and abrasion.

Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in cement. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with cement. Others may develop allergic dermatitis after years of repeated contact with cement.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure. Inhalation of high levels of dust can cause chemical burns to the nose, throat and lungs.

Inhalation (chronic): Risk of injury depends on duration and level of exposure.

Silicosis: This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.

Carcinogenicity: Cement is not listed as a carcinogen by IARC or NTP; however, cement contains trace amounts of crystalline silica and hexavalent chromium which are classified by IARC and NTP as known human carcinogens.

Autoimmune Disease: Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys.

Tuberculosis: Silicosis increases the risk of tuberculosis.

Renal Disease: Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

Section 3: HAZARD IDENTIFICATION (continued)

Ingestion: Do not ingest cement. Although ingestion of small quantities of cement is not known to be harmful, large quantities can cause chemical burns in the mouth, throat, stomach, and digestive tract.

Medical Conditions Aggravated by Exposure: Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact: Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions and burns.

Skin Contact: Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement.

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Ingestion: Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Note to Physician: The three types of silicosis include:

- Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).
- Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Section 5: FIREFIGHTING MEASURES

Flashpoint & Method:	Non-combustible	Firefighting Equipment:	Cement poses no fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any fire.
General Hazard:	Avoid breathing dust. Wet cement is caustic.		
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.	Combustion Products:	None.

Section 6: ACCIDENTAL RELEASE MEASURES

General: Place spilled material into a container. Avoid actions that cause the cement to become airborne. Avoid inhalation of cement and contact with skin. Wear appropriate protective equipment as described in Section 8. Scrape wet cement and place in container. Allow material to dry or solidify before disposal. Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).

Waste Disposal Method: Dispose of cement according to Federal, State, Provincial and Local regulations.

Section 7: HANDLING AND STORAGE

General: Keep bulk and bagged cement dry until used. Stack bagged material in a secure manner to prevent falling. Bagged cement is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures.

Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement. Cement can buildup or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly.

Properly ground all pneumatic conveyance systems. The potential exists for static build-up and static discharge when moving cement powders through a plastic, non-conductive, or non-grounded pneumatic conveyance system. The static discharge may result in damage to equipment and injury to workers.

Usage: Cutting, crushing or grinding hardened cement, concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Housekeeping: Avoid actions that cause the cement to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.

Storage Temperature: Unlimited. **Storage Pressure:** Unlimited.

Clothing: Promptly remove and launder clothing that is dusty or wet with cement. Thoroughly wash skin after exposure to dust or wet cement.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

Personal Protective Equipment (PPE):

Respiratory Protection: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust or wet cement to prevent contact with eyes. Wearing contact lenses when using cement, under dusty conditions, is not recommended.

Section 15: REGULATORY INFORMATION (continued)

- RCRA:** If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
- TSCA:** Portland cement and crystalline silica are exempt from reporting under the inventory update rule.
- California Proposition 65:** Crystalline silica (airborne particulates of respirable size) and Chromium (hexavalent compounds) are substances known by the State of California to cause cancer.
- WHMIS/DSL:** Products containing crystalline silica and calcium carbonate are classified as D2A, E and are subject to WHMIS requirements.



Section 16: OTHER INFORMATION

Abbreviations:

>	Greater than	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NTP	National Toxicology Program
		OSHA	Occupational Safety and Health Administration
CFR	Code for Federal Regulations	PEL	Permissible Exposure Limit
CL	Ceiling Limit	pH	Negative log of hydrogen ion
DOT	U.S. Department of Transportation	PPE	Personal Protective Equipment
EST	Eastern Standard Time	R	Respirable Particulate
HEPA	High-Efficiency Particulate Air	RCRA	Resource Conservation and Recovery Act
HMIS	Hazardous Materials Identification System	SARA	Superfund Amendments and Reauthorization Act
IARC	International Agency for Research on Cancer	T	Total Particulate
		TDG	Transportation of Dangerous Goods
LC ₅₀	Lethal Concentration	TLV	Threshold Limit Value
LD ₅₀	Lethal Dose	TWA	Time Weighted Average (8 hour)
mg/m ³	Milligrams per cubic meter	WHMIS	Workplace Hazardous Materials Information System
MSHA	Mine Safety and Health Administration		

This MSDS (Sections 1-16) was revised on March 1, 2011.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability section.

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ATTACHMENT O

EMISSIONS SUMMARY SHEETS

G50-B
Concrete Batch Plants

CBP EMISSION SUMMARY SHEET				
Source	PM		PM ₁₀	
	PTE (lb/hr)	PTE (ton/yr)	PTE (lb/hr)	PTE (ton/yr)
Total Aggregate Transfer Emissions ¹	0.3414	0.0164	0.1633	0.0078
Total Sand Transfer Emissions ¹	0.3414	0.0164	0.1633	0.0078
Cement Unloading to Elevated Storage Silo (Pneumatic) ²	0.0004	0	0.0002	0
Pneumatic Cement Additive Unloading to Silo ²	0	0	0	0
Weigh Hopper Loading ³	0.0037	0.0002	0.0024	0.0001
Mixer Loading (Central) ³	0.0037	0.0002	0.0024	0.0001
Truck Mix Loading ³	0	0	0	0
Paved Haulroads ⁴	0	0	0	0
Unpaved Haulroads ⁴	14.22	1.40	4.20	0.41
Wind Erosion from Storage Piles ⁵	0.0159	0.0696	0.0075	0.0327
Total	14.92	1.50	4.53	0.46

1. Enter the potential to emit of PM and PM₁₀ associated with the transfer of sand and aggregate from stockpiles to elevated bins. Use appropriate emission factors and/OR equations from the CBP Emission Factor Sheet. Emission calculations may also be determined using spreadsheet G50ECALC.
2. Enter the potential to emit of PM and PM₁₀ associated with the pneumatic transfer of cement and cement additive to storage structures or silos.
Use appropriate emission factors and/OR equations from the CBP Emission Factor Sheet. Emission calculations may also be determined using spreadsheet G50ECALC.
3. Enter the potential to emit of PM and PM₁₀ associated with loading of weigh hopper(s), central mixer and trucks. Use appropriate emission factors and/OR equations from the CBP Emission Factor Sheet. Emission calculations may also be determined using spreadsheet G50ECALC.
4. Enter the potential to emit of PM and PM₁₀ associated with vehicle activity on paved or unpaved haulroad(s). Use appropriate emission factors and/OR equations from the CBP Emission Factor Sheet. Emission calculations may also be determined using spreadsheet G50ECALC.
5. Enter the potential to emit of PM and PM₁₀ associated with wind erosion from sand and aggregate stockpiles. Use appropriate emission factors and/OR equations from the CBP Emission Factor Sheet. Emission calculations may also be determined using spreadsheet G50ECALC.
6. Attach all potential emission calculations/spreadsheet output to this CBP Emission Summary Sheet.

END