

INDUSTRIES, INC.

GREER ENGINEERING

8477 Veterans Memorial Hwy. • Masontown, WV 26542  
(304) 864-5411  
www.greerindustries.com

May 2, 2016



Director  
WVDEP  
Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

RE: Request for Permit Determination  
Greer Industries, Inc. dba Buckeye Stone Company  
Morgantown, Monongalia County, West Virginia  
Plant ID No. 061-00009

Dear Director:

We are submitting the attached Request for Permit Determination application package for the proposed installation and operation of a stone wash plant at our Buckeye Stone Company facility near Morgantown, West Virginia.

If you have any questions or require additional information, please call me at (304) 567-2141 or (304) 864-5411.

Sincerely,  
Greer Industries, Inc.

Scott R. Kisner  
Environmental Compliance Manager

C: Permit Determination Package

**REQUEST FOR PERMIT DETERMINATION**

**(45 CSR 13)**

**West Virginia Department of Environmental Protection**

**Division of Air Quality**



**Greer Industries, Inc. dba Buckeye Stone Company**

**Morgantown Facility**

**Morgantown, Monongalia County, West Virginia**

**Plant ID No. 061-00009**

**May 2016**

**GREER ENGINEERING**

8477 Veterans Memorial Highway

Masontown, West Virginia 26542

(304) 864-5411

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

**PERMIT DETERMINATION FORM  
(PDF)**

FOR AGENCY USE ONLY: PLANT I.D. # \_\_\_\_\_  
PDF # \_\_\_\_\_ PERMIT WRITER: \_\_\_\_\_

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):  
**Greer Industries, Inc. dba Buckeye Stone Company**

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):  
**Morgantown Facility**

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:  
**212312**

4A. MAILING ADDRESS:  
**8477 Veterans Memorial Hwy., Masontown, WV 26542**

4B. PHYSICAL ADDRESS:  
**442 Blaney Hollow Road (Route 857), Morgantown, WV 26508**

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): **Heading east from Morgantown, take I-68 to Exit 10 (Rt. 43). Travel on WV Rt. 43 for 0.7 miles to Exit 1 (Fairchance Road/Cheat Lake/Rt. 857). At the end of the ramp, turn left on to Bowers Lane, then take next left to Fairchance Road/Rt. 857. Travel 2.9 miles to Blaney Hollow Rd.. Turn right on Blaney Hollow Road then travel 1 mile to facility.**

5B. NEAREST ROAD:  
**Blaney Hollow Road**

5C. NEAREST CITY OR TOWN:  
**Morgantown**

5D. COUNTY:  
**Monongalia**

5E. UTM NORTHING (KM):  
**4,395.2**

5F. UTM EASTING (KM):  
**603.8**

5G. UTM ZONE:  
**17**

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:  
**Scott R. Kisner**

6B. TITLE:  
**Env. Compliance Mgr.**

6C. TELEPHONE:  
**304-864-5411**

6D. FAX:  
**304-864-5458**

6E. E-MAIL:  
**skisner@greerindustries.com**

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):  
**061 — 00009**

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):  
**R13-2238, R13-2276B and G40-C060**

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:  
**No**

8A. TYPE OF EMISSION SOURCE (CHECK ONE):  
 NEW SOURCE     ADMINISTRATIVE UPDATE  
 MODIFICATION     OTHER (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?  
 YES     NO

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED?     YES     NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:  
**June 10, 2016**

10B. DATE OF ANTICIPATED START-UP:  
**July 1, 2016**

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

**13A. REGULATED AIR POLLUTANT EMISSIONS:**

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM	1.16	5.08
PM <sub>10</sub>	0.56	2.45
VOCs	0	0
CO	0	0
NO <sub>x</sub>	0	0
SO <sub>2</sub>	0	0
Pb	0	0
HAPs (AGGREGATE AMOUNT)	0	0
TAPs (INDIVIDUALLY)*	0	0
OTHER (INDIVIDUALLY)*	0	0

\* ATTACH ADDITIONAL PAGES AS NEEDED

**13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.**

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

**14. CERTIFICATION OF DATA**

I, J. ROBERT GWYNNE (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A RESPONSIBLE OFFICIAL\*\* (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: \_\_\_\_\_



TITLE: EXECUTIVE VICE PRESIDENT

DATE: 4 / 29 / 16

\*\*THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

**NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:**

ATTACHMENT A     ATTACHMENT B     ATTACHMENT C     ATTACHMENT D     ATTACHMENT E

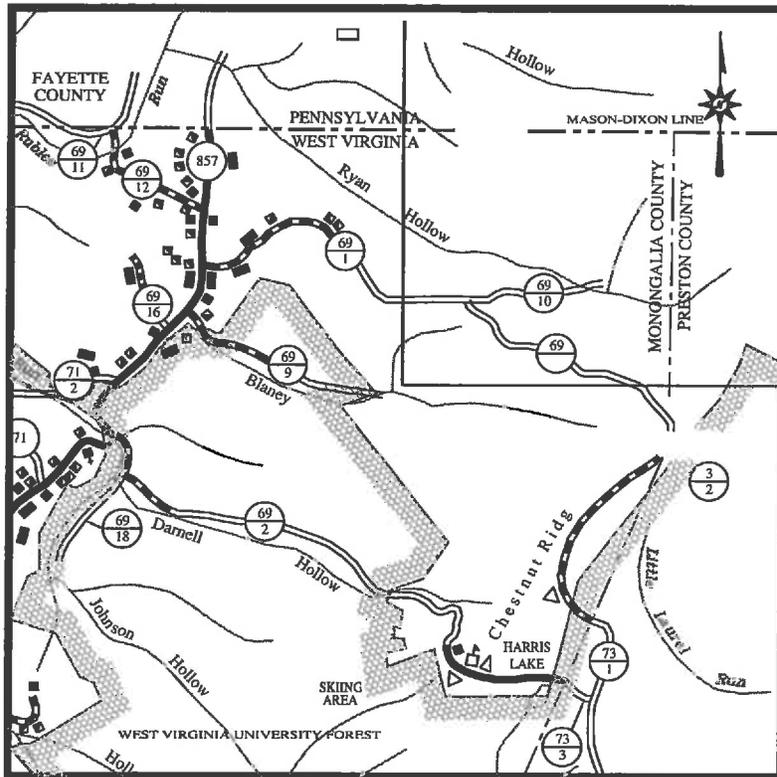
RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

[www.dep.wv.gov/daq](http://www.dep.wv.gov/daq)

**Attachment A – Area Map**

GREER INDUSTRIES, INC.  
dba BUCKEYE STONE COMPANY



Approx.  
Location of  
Buckeye Stone

UNION DISTRICT, MONONGALIA COUNTY WV

LOCATION MAP - SCALE: 1" = 1 MILE

Lake Lynn Quad

UTM Coordinates: 603.8 km E; 4395.2 km N

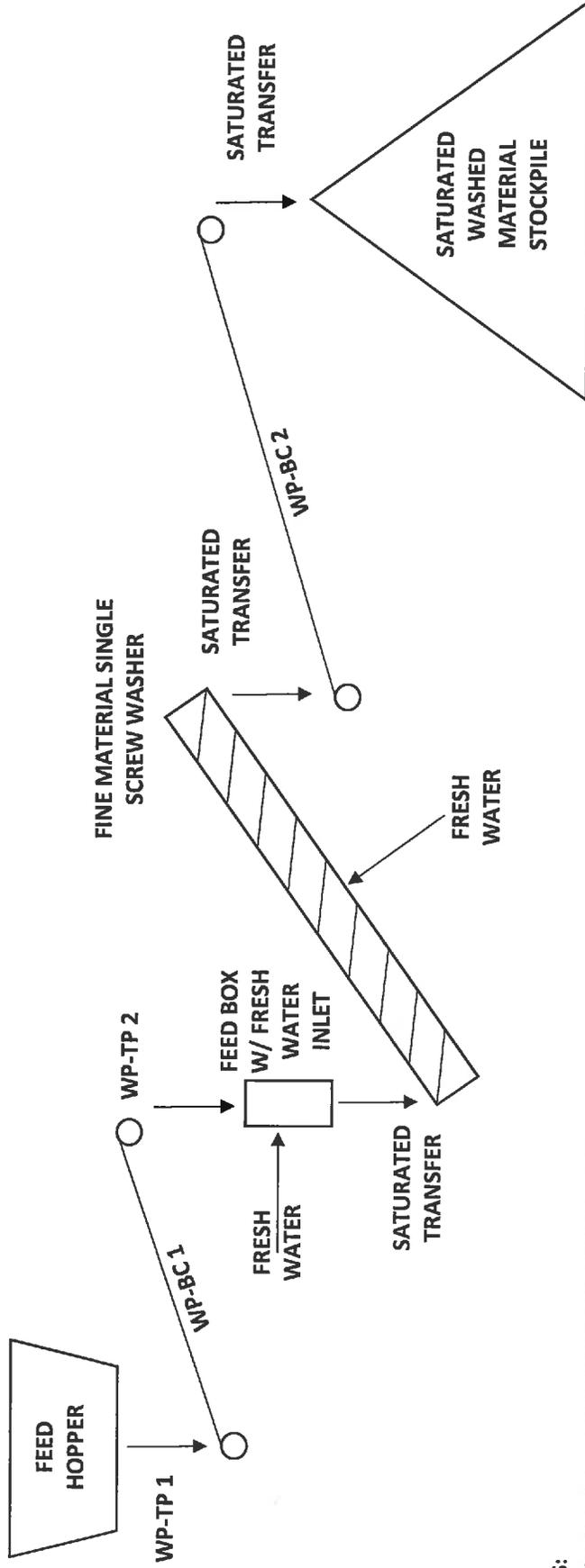
Elevation: 1480 ft

## **Attachment B – Process Flow Diagram**

GREER INDUSTRIES, INC. DBA BUCKEYE STONE COMPANY  
 MORGANTOWN FACILITY  
 PLANT ID NO. 061-00009

REQUEST FOR PERMIT DETERMINATION FOR INSTALLATION AND OPERATION OF A SATURATED WASH PLANT (WP)

ENDLOADER FROM  
 PERMITTED NO. 8'S  
 OPEN STOCKPILE SP-4



NOTES:

1. WASH PLANT FEED STOCKPILE AND VEHICULAR TRAFFIC IS PERMITTED BY R13-2276B.
2. R13-2276B WAS ISSUED ON MARCH 16, 2011 AND INCORPORATES SUBPART 000 REQUIREMENTS (POST APRIL 2009) BY REFERENCE.
3. ONLY CONVEYOR BELT WP-BC 1 IS SUBJECT TO SUBPART 000.
4. WET SCREENING OPERATIONS ARE EXEMPT FROM SUBPART 000. THE EXEMPTION BEGINS AT THE WASH SCREW AND EXTENDS THROUGH SUBSEQUENT EQUIPMENT IN THE PRODUCTION LINE PROCESSING/TRANSFERRING SATURATED MATERIAL.
5. THE ONLY PM EMITTING POINTS ARE TRANSFERS WP-TP 1 (ENDLOADER THROUGH HOPPER TO BELT) AND WP-TP 2 (BELT TO FRESH WATER FEED BOX).
6. PTE IS LESS THAN 6 LBS/HR AND 10 TONS/YR. SEE CALCULATIONS IN ATTACHMENT E.

## **Attachment C – Process Description**

**ATTCHMENT C**  
**PROCESS DESCRIPTION**

Greer Industries, Inc dba Buckeye Stone Company, located near Morgantown, Monongalia County, West Virginia, proposes to add a saturated wash plant to the existing site. The purpose of the wash plant is to remove fines from processed, finished stone products to meet stringent fine content specifications for some customers.

The wash plant will consist of a feed hopper, two conveyor belts, stone/water feed box, single screw washer, and a washed material stockpile (see Attachment B – Process Flow Diagram). Only the feed hopper and a single conveyor belt (WP-BC 1) will be in contact with typical, unwashed but processed stone. The remaining equipment described above and shown on the Process Flow Diagram, are part of the wet screening operation and therefore exempt from the requirements of Subpart OOO (§60.671). Due to the saturated condition of the stone from the washer feed box through the washed material stockpile, there are no particulate matter emissions expected to be generated at these points. The only particulate matter generated by the wash plant process will occur at the head and tail of conveyor belt WP-BC 1. Potential, uncontrolled emissions have been calculated to be 1.16 lbs/hr and 5.08 tons/yr TSP, and 0.56 lbs/hr and 2.45 tons/yr PM<sub>10</sub>. Potential emissions are based on the single screw washer's hourly design rate of 175 tons/hr (from Mellott Company Quote #W43215) and an annual rate determined at 8,760 hrs/yr.

It is Greer Industries, Inc.'s belief that an air quality permit is not necessary to install and operate the proposed wash plant based on the following:

1. Wet screening operations are exempt from the provisions of Subpart OOO promulgated April 28, 2009. The exemption includes the wet screening operation (single wash screw) and subsequent equipment transferring saturated material.
2. The open storage of stone at the Buckeye Stone Company site is permitted by R13-2276B.
3. Vehicular activity at the Buckeye Stone Company site is permitted by R13-2276B.
4. Air permit R13-2276B was issued on March 16, 2011 and incorporates the new conditions of Subpart OOO (promulgated on April 28, 2009) by Condition 4.1.8. Therefore, conveyor belt WP-BC 1 can be added to the site without a permit amendment/modification.
5. The hopper and belt conveyor ahead of the wash screw are the only particulate emitting units. Potential emissions have been calculated to be less than 6 lbs/hr and 10 tons/yr.
6. There are no particulate matter emissions from the wash screw through the stacker conveyor transfer to stockpile due to saturated material conditions.

**Attachment D – Safety Data Sheet**

## GREER INDUSTRIES, INC. SAFETY DATA SHEET (SDS)

### Section I – Product and Company Identification

Product Identification	Manufacturer	24-Hour Emergency Contact No.	Recommended Use
Limestone; Crushed Stone; Aggregate; Limestone Sand; Calcium Carbonate; CaCO <sub>3</sub>  CAS No: 1317-65-3	Greer Industries, Inc. 8477 Veterans Memorial Highway Masontown, WV 26542	(800) 773-0412 or (304) 296-2549	Construction, aggregate, chemical feedstock, soil conditioner, flue gas desulfurization, etc.

### Section II – Hazards Identification

<b>Health Hazards</b>	Skin Irritation (Category 3) Eye Irritation (Category 2B) Carcinogenicity (Category 1) Specific Target Organ Toxicity Single Exposure: Respiratory System (Cat 3) Specific Target Organ Toxicity Repeated Exposure: Respiratory System (Cat 1)
<b>Pictograms</b>	
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	Causes mild skin irritation. Causes eye irritation. May cause respiratory irritation. May cause cancer through inhalation. Causes damage to lungs through prolonged/repeated exposure by inhalation.
<b>Precautionary Statements</b>	Keep out of reach of children. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wear protective gloves, eye protection, and respiratory protection. Wash exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Dispose of contents or containers in accordance with applicable regulations.  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  IF INHALED: Remove person to fresh air and keep at rest and comfortable.  If skin or eye irritation occurs: Get medical advice.  If exposed and concerned: Get medical advice.  Call a doctor or emergency medical provider if you feel unwell.

<b>Other Hazards not covered by GHS</b>	None
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### Section III – Composition / Information on Ingredients

<b>INGREDIENTS (Specific Chemical Identity; Common Names)</b>	<b>CAS REGISTRY NO.</b>	<b>% By Weight (Approx)</b>
Calcium Carbonate (CaCO <sub>3</sub> )	471-34-1	>70
Magnesium Carbonate (MgCO <sub>3</sub> )	546-93-0	<5
Silicon Dioxide (SiO <sub>2</sub> ), Amorphous	7631-86-9	<40
Silica (Si), Crystalline Quartz	14808-60-7	>1
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	1344-28-1	<5
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	1309-37-1	<3

### Section IV – First Aid Measures

<b>Inhalation</b>	Move to fresh air. Contact a physician.
<b>Ingestion</b>	Drink large quantities of water. Contact a physician.
<b>Skin Contact</b>	Wash with soap and water
<b>Eye Contact</b>	Immediately flush eyes with large amounts of water. Contact a physician.

### Section V – Firefighting Measures

<b>Extinguishing Method</b>	Not flammable
<b>Special Firefighting Equipment and Precautions</b>	No unusual fire or explosion hazards noted. Not a combustible dust.
<b>Specific Hazards in Case of Fire</b>	None known.

### Section VI – Accidental Release Measures

<b>Initial Actions to Be Taken</b>	Ventilate the area around the accidental release and remove all unnecessary personnel.
<b>Cleaning Methods</b>	Normal clean-up procedures. Care should be taken to avoid causing dust to become airborne. Vacuum cleaning systems recommended.

### Section VII – Handling and Storage

<b>Waste Disposal Method</b>	Dispose of product in accordance with Federal, State, and Local regulations.
<b>Precautions to be Taken during Handling/Storage</b>	Store away from incompatible chemicals and acids.

### Section VIII – Exposure Controls / Personal Protection

<b>Respiratory Protection</b>	NIOSH approved dust filter mask as minimal protection	
<b>Ventilation</b>	Local Exhaust	To maintain TLV and PEL
	Mechanical	To maintain TLV and PEL
	Special	None
	Other	None
<b>Protective Gloves</b>	Gloves discretionary	
<b>Eye Protection</b>	Shielded glasses or fitted goggles to reduce the chance of eye injury	
<b>Other Protective Clothing</b>	None	

<b>Work / Hygienic Practices</b>	Maintain dust exposure limits below TLV and PEL. If not possible, use respiratory protection. Avoid contact with eyes and skin.
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INGREDIENTS	OSHA PEL <sup>(1)</sup>	ACGIH TLV <sup>(2)</sup>
Calcium Carbonate (CaCO <sub>3</sub> )	(T) 15 mg/m <sup>3</sup>	(T) 10 mg/m <sup>3</sup>
Magnesium Carbonate (MgCO <sub>3</sub> )	(T) 15 mg/m <sup>3</sup>	(T) 10 mg/m <sup>3</sup>
Silicon Dioxide (SiO <sub>2</sub> ), Amorphous	(T) [80 mg/m <sup>3</sup> / (%SiO <sub>2</sub> )]	(I) 10 mg/m <sup>3</sup> (R) 3 mg/m <sup>3</sup>
Silica (Si), Crystalline Quartz	(T) [30 mg/m <sup>3</sup> / (SiO <sub>2</sub> + 2)] (R) [10 mg/m <sup>3</sup> / (SiO <sub>2</sub> + 2)]	(R) 0.05 mg/m <sup>3</sup>
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	(T) 15 mg/m <sup>3</sup> (R) 5 mg/m <sup>3</sup>	(T) 10 mg/m <sup>3</sup>
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	(T) 10 mg/m <sup>3</sup>	(T) 5 mg/m <sup>3</sup>

(T): Total; (R): Respirable; (I): Inhalable

- (1) OSHA PEL: Occupational Safety and Health Administration, Permissible Exposure Limit is the time weighted average exposure for an 8-hr work shift of a 40-hr workweek.  
 (2) ACGIH TLV: American Conference of Governmental Industrial Hygienists, Threshold Limit Value is the time weighted average recommended concentration for an 8-hr work shift of a 40-hr workweek.

### Section IX – Physical and Chemical Properties

<b>Appearance</b>	Light to dark gray solid
<b>Odor and Threshold</b>	None
<b>pH</b>	9.2 to 9.4 in saturated water solution at 25 °C
<b>Melting Point</b>	Decomposes at 1,750 °F (loses CO <sub>2</sub> )
<b>Initial Boiling Point</b>	5,162 °F
<b>Flash Point</b>	N/A
<b>Evaporation Rate</b>	N/A
<b>Flammability</b>	Product not flammable
<b>Explosive Limits</b>	No data available
<b>Vapor Pressure</b>	0.0 mm Hg
<b>Vapor Density</b>	N/A
<b>Relative Density</b>	2.7 - 2.8
<b>Solubility</b>	Negligible
<b>Partition Coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	1,750 °F

### Section X – Stability and Reactivity

<b>Stability</b>	Chemically stable.
<b>Incompatibility – Conditions to Avoid</b>	Acids, Fluorine
<b>Hazardous Decomposition Products</b>	Calcium oxide and carbon dioxide.
<b>Hazardous Polymerization</b>	None

### Section XI – Toxicological Information

<b>Acute Effects</b>	Skin Contact: May cause irritation Eye Contact: May cause irritation Inhalation: May cause lung irritation
<b>Chronic Effects</b>	Limestone is not found to be toxic. It is not listed by MSHA, OSHA, or IARC as a carcinogen. This product may contain Crystalline Silica which has been classified as carcinogenic to humans when inhaled in the form of Quartz, Crystobalite, and/or Tridymite. Long-term exposure to crystalline silica may result in silicosis, lung cancer, or other respiratory diseases
<b>Acute Toxicity</b>	LD50 Oral – Rat 6,450 mg/kg IDLH – Humans 25 mg/m <sup>3</sup> (Crystobalite and Tridymite), 50 mg/m <sup>3</sup> (Quartz and Tripoli)

### Section XII – Ecological Information

<b>Ecotoxicity</b>	Due to the elevated pH of the product, upon exposure to specific aquatic organisms and aquatic systems, it may be cause some ecotoxicity in high concentrations.
<b>Persistence and Degradability</b>	No data available
<b>Bioaccumulative Potential</b>	This material shows no bioaccumulation potential.
<b>Mobility in Soil</b>	No data available
<b>Other Adverse Effects</b>	Due to the material's alkalinity, if released into water or moist soil will cause an increase in pH.

### Section XIII – Disposal Considerations

Dispose of unused material in accordance with the Federal, State, and Local disposal requirements.
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### Section XIV – Transport Information

Limestone is not classified as a hazardous material by the Department of Transportation (DOT).
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### Section XV – Regulatory Information

EPA, RCRA Hazardous Waste Classification (40CFR261)	Not Listed
EPA, RCRA Hazardous Waste Number (40CFR261.33)	Not Listed
EPA, CERCLA Hazardous Substance (40CFR261)	Not Listed
EPA, CERCLA Reportable Quantity (RQ)	Not Listed
EPA, SARA 311/312 Codes	Not Listed
EPA, SARA Toxic Chemical (40CFR372.65)	Not Listed
EPA, SARA EHS (Extremely Hazardous Substance (40CFR355)	Not Listed
EPA Threshold Planning Quantity (TPQ)	Not Listed
EPA, TSCA Inventory List	All Components Listed
OSHA, Air Contaminant (29CFR1910.1000, Table Z-1)	Listed
OSHA, Specifically Regulated Substance (29CFR1910)	Not Listed
MSHA	Not Listed
State Regulations – Consult state and local authorities for guidance	See Note
Canadian Environmental Protection Act, Domestic Substances List	Listed

**Section XVI – Other Information**

<b>HMIS III Safety Rating</b>	Health – 1; Flammability – 0; Physical Hazard – 0; Protective Equipment - A
<b>Revision Information</b>	This SDS was revised on 7/1/15. All previous versions are obsolete
<b>WARNING</b>	This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
<b>CANADA - WHMIS</b>	Classification D2A (Toxic)
<b>Disclaimer</b>	The technical data presented herein is given as information only and is assumed to be reliable. Greer Industries, Inc. assumes no responsibility for any inaccuracies or for any damage or injury that may occur during the use of this information.

## **Attachment E – Supporting Emission Calculations**

**PM Emissions from Unsaturated Transfer Points Associated with Proposed Wash Plant  
Uncontrolled Potential To Emit (PTE)**

AP-42, 13.2.4 Aggregate Handling and Storage Piles (11/06)

E = Emission factor

$$E = k(0.0032) \left(\frac{U}{5}\right)^{1.3} \left(\frac{M}{Z}\right)^{1.4} \text{ lb/ton}$$

Equation (1)

<b>Parameters</b>				
k= particle size multiplier	PM-10	0.35		AP-42, 13.2.4-4
	PM-TSP	0.74		AP-42, 13.2.4-4
U=mean wind speed, mph		10	mph	Avg. wind speed
M= material moisture content (%)		3.0	%	Avg. moisture content of product

<b>Calculated Emission Factor</b>			
	PM-10	0.0016	lb/ton
	PM-TSP	0.0033	lb/ton

Potential Hourly Rate (tph) = 175      Design capacity of the wash plant is 175 tph per Mellott Company Quote #W43215, dated April 22, 2016.

Potential Annual Rate (tpy) = 1,533,000      175 tph x 8,760 hrs/year

Uncontrolled		PM-10 (lb/hr)	PM-TSP (lb/hr)	PM-10 (ton/yr)	PM-TSP (ton/yr)
Transfer Point ID	Description				
WP-TP 1	Endloader to WP-BC 1	0.28	0.58	1.23	2.54
WP-TP 2	WP-BC 1 to Water Feed Box	0.28	0.58	1.23	2.54
Uncontrolled Totals		0.56	1.16	2.45	5.08