Facility Name: Lehigh Cement Co. LLC **CCB Tonnage Report - 2021**

B. Applicability. **If you or your company meets the definition of a generator of CCBs as defined above, you must provide the information as required below.** For the purposes of this report, "you" shall hereinafter refer to the generator defined above. Please note that COMAR 26.04.10.08 requires generators of CCBs to submit an annual report to the Department concerning the disposition of the CCBs that they generated the previous year. **THIS INCLUDES CCBS THAT WERE NOT SEPARATELY COLLECTED BUT WERE PRODUCED BY THE BURNING OF COAL AND WERE DIRECTLY CONTRIBUTED TO A PRODUCT, such as cement.** Where the amount cannot be directly measured, estimates based on the amount of coal burned can be used. The method of determining the volume of CCBs produced must be described.

III. Required Information. The following information must be provided to the Department by March 1, 2022.

A. Contact information:

Facility Name: Lehigh Cement Company LLC

Name of Permit Holder: No Permit Required

Facility Address: 675 Quaker Hill Road
Street

Facility Address: Union Bridge MD 21791
City State Zip

County: Carroll

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 410-386-1210 Facility Fax No.: 410-386-1296

Contact Name: Kurt Deery

Contact Title: Environmental Engineer

Contact Address: Same
Street

Contact Address: Same
City State Zip

Contact Email: Kurt.Deery@lehighhanson.com

Contact Telephone No.: 410-386-1229 Contact Fax No.: same

For questions on how to complete this form, please contact the Solid Waste Program at 410-537-3315

Facility Name: Lehigh Cement Co. LLC **CCB Tonnage Report - 2021**

B. A description of the process that generates the CCBs, including the type of coal or other raw material that generates the CCBs. If the space provided is insufficient, please attach additional pages:

Lehigh generates coal ash by burning coal to fire the cement kiln. All coal ash is incorporated into the clinker produced inside of the kiln. The coal ash during production of clinker is converted to calcium silicates.

C. The volume and weight of CCBs generated during calendar year 2017, including an identification of the different types of CCBs generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format. If converting from volume to weight or weight to volume, please provide your calculations and assumptions.

Table I: Volume and Weight of CCBs Generated for Calendar Year 2021 Please note that this table includes both the volume and weight of the types of CCBs your facility produces.

Volume and Weight of CCBs Generated for Calendar Year 2021			
Coal Ash consumed in mfg process From Lehigh burning coal in cement kiln	Gypsum consumed in mfg process	Delivered Fly Ash Consumed by Lehigh in mfg. process	Delivered Bottom Ash consumed by Lehigh in mfg process
Type of CCB	Type of CCB	Type of CCB	Type of CCB
	251,145	29,363	374,477
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
90,141.0	169,523.0	17,838.0	353,881.0
Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons

Additional notes:

Lehigh burned 310,830 short tons of coal with an ash content of approximately 29%.

D. Descriptions of any modeling or risk assessments, or both, conducted relating to the CCBs or their use that were performed by you or your company during the reporting year. Please attach this information to the report.

E. Copies of all laboratory reports of all chemical characterizations of the CCBs. Please attach this information to the report.

F. A description of how you disposed of or used your CCBs in calendar year 2017, identifying:

(a) The types and volume of CCBs disposed of or used (if different than described in Paragraph C above) including any CCBs stored during the previous calendar year, the location of disposal, mine reclamation and use sites, and the type and volume of CCBs disposed of or used at each site:

Lehigh utilizes fly ash and bottom ash along with synthetic gypsum in the clinker and cement manufacturing process. See Attachments.

and (b) The different uses by type and volume of CCBs:

Beneficial use within the clinker and cement manufacturing process. See Attachments.

If the space provided is insufficient, please attach additional pages in a similar format.

G. A description of how you intend to dispose of or use CCBs in the next 5 years, identifying:

(a) The types and volume of CCBs intended to be disposed of or used, the location of intended disposal, mine reclamation and use sites, and the type and volume of CCBs intended to be disposed of or used at each site:

NA

and (b) The different intended uses by type and volume of CCBs.

See attached

If the space provided is insufficient, please attach additional pages in a similar format.

Facility Name: Lehigh Cement Co. LLC **CCB Tonnage Report - 2021**

IV. Signature and Certification. An authorized official of the generator must sign the annual report, and certify as to the accuracy and completeness of the information contained in the annual report:

This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.		
Signature	KURT W. DEERY, REM Kurt W. Deery, REM Environmental Engineer, 410-386-1229 Name, Title, & Telephone No. (Print or Type) kurt.deery@lehighhanson.com Your Email Address	01/27/2022 Date

V: Attachments (please list):

_____Manufacturing Description
Quantities of ash and synthetic gypsum beneficially used in 2020___.

Calculations sheet

Attachment 1
Year 2021 CCB Reporting

Table 1: Fly Ash Totals

Fly Ash Suppplier	Supplier Location	Total Short Tons Delivered to Lehigh	Cubic Feet of Material*	Yards of Material
Raven Power	Baltimore, MD	2,535.00	112,667	4,173
RFI	Conemaugh	13,421.00	596,489	22,092
Talen	York Haven, PA	1,882.00	83,644	3,098
Total		**17,838.00**	**792,800**	**29,362.96**

***Note: Fly ash = 45 lbs/cu. Ft as measured by Lehigh Lab**

Table 2: Ponded Ash Totals

Bottom Ash Suppplier	Supplier Location	Total Short Tons Delivered to Lehigh	Cubic Feet of Material*	Yards of Material
Paul Blum	Dickerson	164,852.00	4,710,057	174,447
Pual Blum	West Virginia	37,468.00	1,070,514	39,649
PPL	York Haven	151,561.00	4,330,314	160,382
Total		**353,881.00**	**10,110,886**	**374,477.25**

***Note: Ponded Ash = 70 lbs/cu. Ft as measured by lehigh Lab**

Table 3: Synthetic Gypsum

Gypsum Suppplier	Supplier Location	Total Short Tons Delivered to Lehigh	Cubic Feet of Material*	Yards of Material
MERG	Mount Storm-WV	104,203.00	4,168,120	154,375
MERG	Dickerson, MD	0.00	0	0
RFI	Conemaugh	29,436.00	1,177,440	43,609
PB Company	Morgantown	1,670.00	66,800	2,474
PPL	Various Locals	34,214.00	1,368,560	50,687
Total		**169,523.00**	**6,780,920**	**251,145.19**

***Note: Synthetic Gypsum = 50 lbs/cu. Ft as measured by Lehigh Lab**

Attachment 1

Total short tons of CCBs used Year 2021 = 541,242.00

Total Yards of CCBs used Year 2021 = 20,046.0

Calculations

(Tons * 2000 lb/ton / lbs/cu ft) = cubic feet of material

Cubic Feet of material * (1 yard/ 3ft)^3 = yards of material

LEHIGH
HEIDELBERGCEMENT Group

Lehigh Cement Company LLC
Process Description
Title V #: 24-013-00012

Raw materials containing oxides of calcium, silicon, aluminum and iron are chemically combined through a 5-stage pyro-porcessing system creating clinker. Subsequently, the clinker is finish-ground with gypsum and other additives to form cement products.

Pyro-processing is a process in which materials are subjected to high temperatures (typically over 800°C) in order to bring about a chemical or physical change. The Union Bridge plant's pyroprocessing system consists of a 5-stage pre-heater tower and rotary kiln. The preheater tower contains secondary firing and a rotary kiln. Fuel used in the system may consist of coal, dried biosloids and fuel oil. Energy, in the form of fan-power, is required to draw the kiln combustion gases through the string of cyclones. It is also normal to use the warm exhaust gas to dry the raw materials in the raw-mill and operate the coal mill. The air volume will eventually pass through a dust collector vented to the atmosphere.

Environmental controls installed in the pyro-processing line are SNCR for nitrous oxide reduction, Activated Carbon injection for mercury reduction and a fabric filter dust collector for particulate control.

Clinker is the product produced from the pyro-processing system. Clinker is lumps or nodules, usually 3–25 mm in diameter, produced by sintering limestone and alumino-silicate (clay) during the cement kiln stage. Clinker consists of various calcium silicates, including tricalcium silicate (Ca_3SiO_5, also written $CaO{\cdot}Ca_2SiO_4$) and dicalcium silicate (Ca_2SiO_4). Tricalcium aluminate and calcium aluminoferrite are other common components. Clinker is made by heating in the pyroprocessing system at high temperature a homogeneous mixture of raw materials. The products of the chemical reaction aggregate together as molten minerals at the sintering temperature. The sintering temperature for modern cements is about 1450 °C.

Clinker will exit the kiln into a clinker cooler. The cooler utilizes fans to force ambient air through the hot clinker bed to cool the clinker. A portion of this air also provides combustion air required in the kiln, known as secondary air. The remaining air is passed through a dust collector and into the atmosphere. The cooled clinker is conveyed to an enclosed clinker storage structure.

The reclaimed clinker from the storage vessel is conveyed by a covered belt into the crane hall where it will be fed to the finish mills. The clinker is ground into cement with other additives by one vertical finish mills and two ball mills. The ground clinker and additives (now cement) is pneumatically transferred from the finish mills to storage silos located in the shipping area.

Figure 1 presents the general process layout of the Union Bridge Plant. The process includes quarried limestone, raw material grinding and storage, kiln feed preparation, pyroprocessing, clinker cooling and storage, clinker grinding and finish product shipping.

The Plant Manager is the responsible official for the Lehigh Cement Plant located at 675 Quaker Hill Road, Union Bridge MD. Currently, the Plant Manager is Kent D. Martin. The Plant Manager can be reached at 410-386-1210.

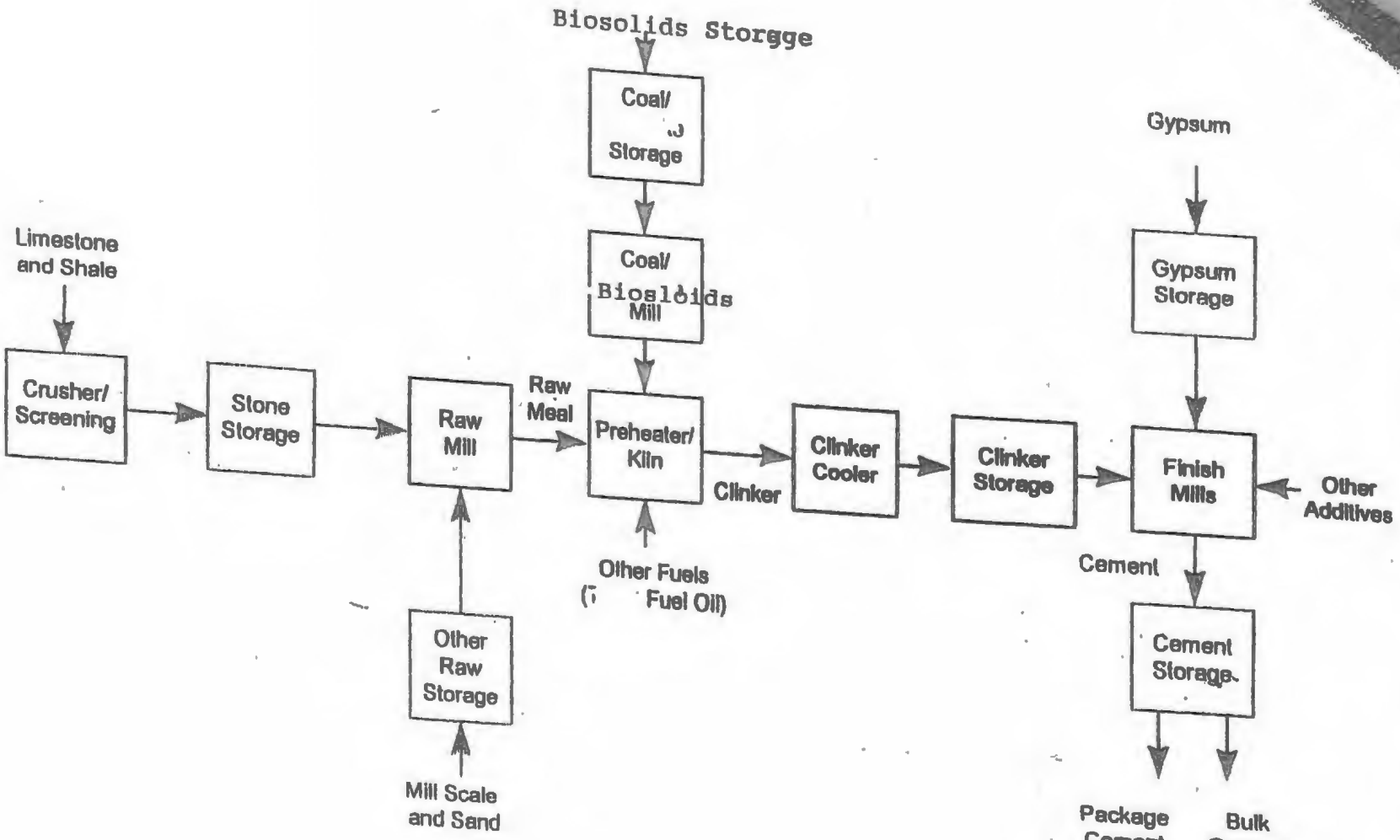

Figure 1. Union Bridge Plant general process flow diagram