

MAY 22 2019

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Bureau of Air Permit Section

File Organization Cover Sheet

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Follow Up Flag: Follow up
Flag Status: Flagged

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This fugitive Dust Plan has been reviewed and found to be minimally acceptable on 4/3/2019.

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Documentation is attached.

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Fugitive Dust Control Plan

Fugitive Particulate Operating Program

South Chicago Slag Grinding and Cement Distribution Terminal

2150 East 130th Street
Chicago, IL 60633



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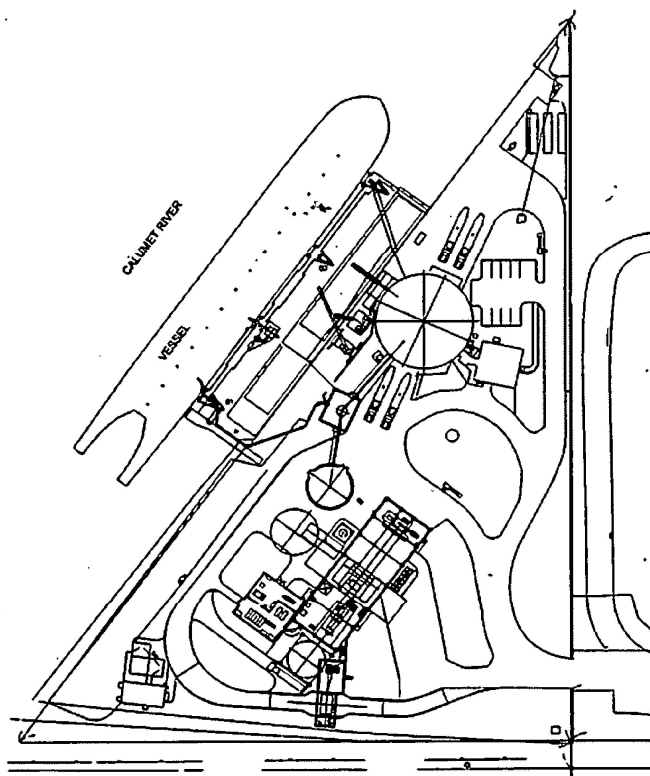
Holcim (US), Inc.
Chicago • Illinois

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Fugitive Particulate Operating Program

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Daily Street Sweeper Log (Part A) and Dust Suppressant Log (Part B)
 Daily Visible Emission Inspection and Opacity Log
 Incident Reporting Form



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HOLCIM (US) INC.

SOUTH CHICAGO SLAG GRINDING PLANT AND CEMENT DISTRIBUTION TERMINAL

1.0 PURPOSE AND SCOPE

This program has been developed in accordance with Federally Enforceable State Operating Air Permit (FESOP) requirements applicable to Holcim's South Chicago Slag Grinding and Cement Distribution Facility (ID No. 031600FHQ). Its purpose is to describe the Best Management Practices employed at the facility to control and reduce emissions of fugitive particulate matter (PM) from facility operations, processes, and outdoor activities.

Name and Address of Source

Holcim (US) Inc.
2150 East 130th Street
Chicago, Illinois 60633

Name and Address of Owner/Operator

Holcim (US) Inc.
2150 East 130th Street
Chicago, Illinois 60633

2.0 DESCRIPTION OF OPERATIONS

The facility is situated on approximately 4.75 acres in South Chicago, Illinois and bounded by an adjacent chemical storage and distribution facility (ChemTrade Logistics) to the east, 130th Street to the south, and the Calumet Shipping Canal to the west and north. The location is illustrated on Figure 1 showing the facility, key operations, and nearby features within a one mile radius. The facility is manned by approximately 15 employees and operates 24 hours per day, seven days per week. It is engaged in two distinct but related processing and distribution activities involving the grinding of pre-processed granulated slag and the distribution of cement.



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2.1 WET GRANULATED SLAG PROPERTIES AND DUSTING POTENTIAL

The South Chicago facility grinds pre-processed granulated slag received from Holcim's East Chicago facility co-located at the nearby ArcelorMittal steel mill in East Chicago into a beneficial product that is used by the construction industry as a cement additive.

Raw molten slag is initially processed at Holcim's East Chicago facility by quenching the material with water as it exits the blast furnace. This quenching process converts the otherwise dusty raw slag into a wet vitrified (glassy) granulated material. After quenching, the material is termed "granulated slag" and resembles wet sand due to its granulated nature.

Granulated slag has a particle size of ~40 microns with a moisture content of 12% to 14%. It is heavier than sand (specific gravity of 2.6) with a maximum specific gravity of 3.0 as it contains significant concentrations of various vitrified minerals such as calcium-alumina and other metal silicates. As a result, wet granulated slag has a very low propensity to generate fugitive dusts during handling and processing due to its vitrified nature (glassy outer coating), weight (specific gravity), particle size, and its inherent moisture content.

The material's inherent moisture content serves as an "equivalent control method" to control fugitive dust emissions during handling and has been approved by the Indiana Department of Environmental Management (IDEM) in conjunction with USEPA as an equivalent control method at Holcim's East Chicago, Indiana facility in its Title V Major Source Operating Permit.

Prior to grinding at South Chicago, all granulated slag is received via covered (tarped) trucks which are loaded directly into an enclosed underground hopper and conveyor system that feeds the material into a slag dryer. Process limitations and truck traffic congestion periodically results in the generation of transient granulated slag piles identified as Slag Piles 1, 2, and 3 which are discussed in detail in Section 6.0 of this program.

The three slag piles and the activities associated with manually moving the pile material are the only instances where granulated slag is exposed to the ambient outdoor environment as all other processing operations (drying, grinding, sizing, and distribution to storage silos, trucks, barges, and vessels) occur inside of totally enclosed systems that are controlled by enclosed high efficiency dust collectors.



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2.2 SLAG AND LIME PROCESSING ACTIVITIES

Upon arrival at South Chicago, the granulated slag is tipped from the delivery trucks into a ground level steel-grated hopper (See Figures 6 and 8) that feeds an underground conveyor. As the underground conveyor cannot always keep up with the rate of delivery from the trucks, slag will be tipped onto a temporary outdoor storage pile and pad (Slag Pile No. 3 – Figures 8 and 9) where the material is processed after the truck traffic subsides.

The underground conveyor transports the slag to a bucket elevator located adjacent to the main building (Mill Building). The bucket elevator feeds a roof mounted day bin (See Figure 8) that feeds an indoor conveyor belt leading to the slag dryer and ball mill (grinder). It should be noted that if the drying and grinding process is shut down for any reason, any unprocessed slag that remains on the conveyor belt or in the day bin cannot be allowed to accumulate without movement as it will start to solidify or clump together which makes it unusable for processing. To prevent this from happening, the conveyor belt is reversed to transport the unprocessed slag outside the Mill Building into a pile (Slag Pile No. 2 – Figures 8 and 9). Additionally, any excess slag inside of the day bin is emptied onto this pile. The pile is located directly underneath the day bin. When operations resume, the accumulated material from Slag Pile No. 2 is transported via a front-end loader and emptied into the ground level hopper that feeds the underground conveyor.

From the day bin, the slag is then fed via the main conveyor belt inside the mill building to an indoor rotary dryer that heats the slag to reduce excess moisture to approximately 3% before entering a ball mill where it is ground into a fine powder ranging in size from 7 to 10 microns.

A newly added process planned for construction in the Spring of 2019 will add powdered lime to the slag by introducing the material from a newly constructed 6.6 tons day bin directly into the ball mill. The lime powder will not be dried in the slag dryer. The lime will arrive at the facility via bulk powder trucks and be transferred into temporary bulk powder trailers (pigs) for transferring to the lime day bin. This new process is a temporary configuration expected to last approximately one to two years and does not present any potential for fugitive emissions as all process and handling points are enclosed and vented to dust collector units. However, fugitive dust emissions will be generated from lime delivery truck traffic and as such, this emission source is included in this plan.



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The powdered slag/lime mixture then enters a High Efficiency Separator (HES Separator) where the mixture is sized and finally transferred to a dedicated 8,000 ton storage silo (See Figure 6). The entire process is illustrated as a block flow diagram in the attached Figure 2. The process is highly automated, controlled by computers, and monitored continuously by facility personnel.

Oversized particles, clumps, or particles with excessive moisture content are rejected by the shaft dryer and are discharged inside the mill building onto the floor or into a small indoor hopper that when full, is transported outdoors and placed onto an outdoor storage pile (Storage Pile No. 1 – Figures 8 and 9). From the pile, the rejected material is either transferred offsite for disposal or reclaimed via a small portable de-lumper planned for operation in the Spring of 2019 to break up the agglomerated material and place it back into the underground loading hopper for reprocessing.

From Storage Silo No. 10, the finished product (NewCem®) can be loaded onto shipping vessels, directly from a Dense Phase Building (Figure 6). Within the Dense Phase Building, an indoor surge bin can be configured through a series of valves and interlocks to make bulk transfers from the NewCem® storage silo directly to a shipping vessel.

For barge and truck loading, the surge bin is reconfigured to transfer NewCem® from its own silo into a second 35,000 ton Main Distribution Silo (Figure 6) where it can be loaded directly into trucks located in one of two truck bays underneath the main distribution silo or transferred to barges that are docked alongside the facility. The 35,000 ton main distribution silo is compartmentalized so that certain sections can be used for approximately 15,000 tons of NewCem® storage with the main section (20,000 tons) being used for cement storage as discussed below.

As indicated previously, all granulated slag and lime processing and distribution activities occur inside of totally enclosed systems controlled by enclosed high efficiency dust collectors. As a result, fugitive dust generation and emissions from process units are virtually non-existent unless a malfunction or upset event occurs.

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2.3 CEMENT DISTRIBUTION ACTIVITIES

The South Chicago facility is also engaged in the receipt and distribution of cement. Cement that is produced at other Lafarge facilities is off-loaded from both barges and shipping vessels and transferred directly "as-is" into the facility's 35,000 ton main distribution silo (Figure 6) without any further processing. There are no storage piles for this material.

Transfers of either cement or NewCem® can be made directly from the main distribution silo via bulk transfers to barges or loaded into enclosed bulk powder truck trailers via telescopic loading chutes located in each of two semi-enclosed truck bays situated directly underneath the silo. Truck loading is the predominate distribution activity at the facility that occurs on a routine daily basis.

All cement unloading, loading, and distribution activities occur inside of totally enclosed systems controlled by enclosed high efficiency dust collectors. As a result, fugitive dust emissions are virtually non-existent unless a malfunction or upset event occurs.

3.0 FACILITY LAYOUT

Appendix A contains the following figures showing the approximate location of key operations, storage piles, loading operations, normal traffic pattern access areas, and the location of unloading and transporting operations with and without pollution control equipment.

Figure	Description
1	Facility Location And Key Features
2	Process Block Flow Diagram (Updated FESOP application with current slag piles)
2A	Process Block Flow Diagram – Delumper Operations
2B	Process Block Flow Diagram – Temporary Lime Addition
3	Dust Collector Locations
4	Dust Collector Locations Dockside
5	Site Pervious and Impervious Surfaces
6	Truck Route For Delivering And Unloading Wet Slag
7	Truck Route For Loading Cement/NewCem® From Main Silo Truck Bays
8	Slag Piles No. 1, 2, and 3
9	Fugitive Dust Sources



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4.0 SLAG | CEMENT | LIME DUST COLLECTORS

All granulated slag and lime processing is performed indoors inside of the mill building with each process being fully enclosed by shielding or by the process unit itself. The underground conveyor that transports granulated slag from the underground hopper to the bucket elevator and day bin is fully enclosed by the underground structure and the mill building. All other slag and lime processing distribution equipment and systems (bucket elevators, day bin, drop chutes, conveyors, dryer, cyclone separator, ball mill, HES Separator, storage silo, surge bin, air-slide loading spouts for barges and trucks, and pneumatic vessel, temporary lime storage trailers, and silo loading systems) used for processing, transferring or storing the processed slag and lime and the resulting mixture of the two are controlled with enclosed high-efficiency jet-pulsed fabric filter dust collectors that can achieve greater than 99.9% control efficiencies for particulate matter emissions.

All cement distribution equipment is also fully enclosed and equipped with high-efficiency jet-pulsed fabric filter dust collectors, including telescopic air slides and pneumatic loading and unloading equipment used for trucks, barges, and shipping vessels. Transfers of cement or NewCem® to trucks from the main distribution silo are performed indoors from one of two truck bays located underneath the silo with telescopic transfer chutes connected to the truck hatches for material loading and controlled by baghouses. All cement distribution equipment (storage silo, air-slide loading spouts for barges and trucks, and pneumatic vessel and barge unloading systems) used for storing and transferring cement are also controlled with enclosed high-efficiency jet-pulsed fabric filter dust collectors that can achieve greater than 99.9% control efficiencies for particulate matter emissions.

In addition to controlling particulate matter emissions for air permitting purposes, each dust collector and its operation are also included in the facility's Storm Water Pollution Prevention Plan (SWPPP) to prevent the release of particulate matter that could impact storm water runoff. The approximate location of each dust collector unit is shown on the attached Figures 3 and 4 with the specifications for each unit shown in Table 1 below:

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Table 1 – Dust Collector Specifications

Plan Figures 3 & 4 ID:	1	2	3	4
Dust Collector ID:	416DC04	416DC01	416DC03	416DC02
No. of Units:	1	1	1	1*
Process Served:	Shaft Dryer	Mill Sweep	Bucket Elevator	HES Separator
Manufacturer:	Airtrol, Inc.	Airtrol, Inc.	Airtrol, Inc.	Airtrol, Inc.
Model/Serial No.:	588BSRH144	546BSRH144	36BSRS144	B54BSRH144
Cleaning System:	Jet Air Pulse	Jet Air Pulse	Jet Air Pulse	Jet Air Pulse
Cleaning Air Pressure (PSIG):	90 - 100	90 - 100	90 - 100	90 - 100
Cleaning Air Volume (SCFM):	58.8	54.6	8.4	170.8
Cleaning Cycle (min):	6	6	6	6
No. Bags:	588	546	36	1688
Bag Type:	Polyester	Nomex	Polyester	Polyester
Bag Size (inches):	5.75 x 144.5	5.75 x 144.5	5.75 x 144.5	5.75 x 144.5
Bag Part No.:	0297-001159	0297-001296	0297-001159	0297-001159
Bag Manufacturer:	GE	GE	GE	GE
Air Volume (acfm):	54,940	41,202	3,240	129,492
Filter Area (ft ²):	11,084	10,292	679	32,196
Air to Cloth Ratio:	4.95 to 1	4.0 to 1	4.8 to 1	4.0 to 1
Pressure Drop (WG):	-	-	6"	-
Operating Pressure (WG):	-	-	- 10"	-
Design Pressure (WG):	+ 20 & - 40	+ 20 & - 40	± 20	+ 20 & - 40
Operating Temp (F):	230	230	230	181
Loading (gr/ACF):	20.5	655.5	20	153
IEPA Exhaust Limit (gr/DSCF):	0.03	0.03	0.03	0.03
Actual Exhaust (gr/ACF): *	0.006	0.006	0.006	0.006
Dust Collector Efficiency:	99.97%	99.99%	99.97%	99.99%

* Unit 416DC02 is actually two separate manufactured units joined together to form a single unit

* Dust Collector outlet emissions based on GE Data for 0.5 um PM inlet loading at 30 grains/acf with 5:1 Air to Cloth ratio.



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Table 1 (continued) – Dust Collector Specifications

Plan Figures 2 and 3 ID:	5	6	7	8
Dust Collector ID:	418DC01	570DC01	573DC01	574DC01
No. of Units:	1	1	1	1
Process Served:	NewCem® Silo 10	Dense Phase Bldg	Barge Loading	Vessel Loading
Manufacturer:	Airtrol, Inc.	Airtrol, Inc.	Airtrol, Inc.	Airtrol, Inc.
Model/Serial No.:	56BSWS144	100BSRF120	121BSWS96	196BSWS20
Cleaning System:	Jet Air Pulse	Jet Air Pulse	Jet Air Pulse	Jet Air Pulse
Cleaning Air Pressure (PSIG):	90 - 100	90 - 100	90 - 100	90 - 100
Cleaning Air Volume (SCFM):	9.8	14.0	15.4	19.6
Cleaning Cycle (min):	6	6	6	6
No. Bags:	56	100	121	196
Bag Type:	Polyester	Polyester	Polyester	Polyester
Bag Size (inches):	5.75 x 144.5	5.75 x 120	5.75 x 96.5	5.75 x 120
Bag Part No.:	0297-001159	0299-2243	0298-1413	0299-2243
Bag Manufacturer:	GE	GE	GE	GE
Air Volume (acfm):	4,710	6,280	6,000	12,000
Filter Area (ft2):	1,056	1,571	1,521	3,079
Air to Cloth Ratio:	4.5 to 1	4.0 to 1	3.9 to 1	3.9 to 1
Pressure Drop (WG):	6"	6"	6"	6"
Operating Pressure (WG):	- 10"	- 10"	- 10"	- 10"
Design Pressure (WG):	± 20	± 20	± 20	± 20
Operating Temp (F):	167	167	167	167
Loading (gr/ACF):	20	20	20	20
IEPA Exhaust Limit (gr/DSCF):	0.03	0.03	0.03	0.03
Actual Exhaust (gr/ACF): *	0.006	0.006	0.006	0.006
Dust Collector Efficiency:	99.97%	99.97%	99.97%	99.97%

* Dust Collector outlet emissions based on GE Data for 0.5 um PM inlet loading at 30 grains/acf with 5:1 Air to Cloth ratio.



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Table 1 (continued) – Dust Collector Specifications

Plan Figures 2 and 3 ID:	9	10	11
Dust Collector ID:	DC03	DC04	DC01
No. of Units:	1	1	1
Process Served:	Truck Loadout Scale 1	Truck Loadout Scale 2	Main Distribution Silo
Manufacturer:	Flex-Kleen	Flex-Kleen	MAC
Model/Serial No.:	100 BVTC - 36	100 BVTC - 36	96MCF255
Cleaning System:	Jet Air Pulse	Jet Air Pulse	Jet Air Pulse
Cleaning Air Pressure (PSIG):	75	75	90 - 100
Cleaning Air Volume (SCFM):	480	480	594
Cleaning Cycle (min):	Automatic	Automatic	Automatic
No. Bags:	36	36	255
Bag Type:	Polyester	Polyester	Polyester
Bag Size (inches):	5.75 x 100	5.75 x 100	4.625 x 96.5
Bag Part No.:	1016744	1016744	0299-4697
Bag Manufacturer:	Clear Edge	Clear Edge	BHA
Air Volume (acfm):	2,500	2,500	14,500
Filter Area (ft ²):	457	457	2,474
Air to Cloth Ratio:	5.5 to 1	5.5 to 1	5.9 to 1
Pressure Drop (WG):	8"	8"	6"
~Operating Pressure (WG):	- 10"	- 10"	- 10"
~Design Pressure (WG):	+ 20	+ 20	+ 20
~Operating Temp (F):	150	150	150
~Loading (gr/ACF):	20	20	20
IEPA Exhaust Limit (gr/DSCF):	0.03	0.03	0.03
Actual Exhaust (gr/ACF): *	0.006	0.006	0.006
Dust Collector Efficiency:	99.97%	99.99%	99.97%

* Dust Collector outlet emissions based on GE Data for 0.5 um PM inlet loading at 30 grains/acf with 5:1 Air to Cloth ratio.



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5.0 TRAFFIC AREAS | ROADWAYS | PARKING AREAS

All normal traffic pattern access areas surrounding the three granulated slag storage piles, including all normal traffic pattern roads and parking facilities are paved as shown in Figure 5 and do not typically require treatment with water, oils, or chemical dust suppressants. Figure 6 shows the truck route(s) taken within the facility for granulated slag and lime delivery. Figure 7 shows the truck route for enclosed bulk powder tanker trucks arriving at the facility to receive cement and/or NewCem® from underneath the main distribution silo. Once the trucks are loaded, the truck stops at a gangway where drivers close the trailer loading hatches and remove any excess material from the top of the trailer to comply with Department of Transportation requirements before exiting the facility.

All paved areas are cleaned on a regular basis as needed with the facility's street sweeper for facility cleanliness and to ensure fugitive particulate matter generation and emissions do not exceed 10% opacity. It is estimated that regular sweeping with the street sweeper will be performed approximately once to twice per month during the non-winter months when no snow cover is present as the presence of snow acts as natural dust suppressant. Daily visual inspections of the roadways are performed and documented in a Daily Street Sweeper Log contained in Appendix B to this program.

All street sweeping activities are documented on Part-A of the log and the use of any dust suppressants are documented on Part-B of the log. It should be noted that the historical use of dust suppressant application has been minimal and when performed, used water as the sole dust suppressant. Oil and chemical dust suppressants are not viable for use at the facility due to its proximity to water bodies and the fact that all roads are paved. It is estimated that the application of water suppressant may be required once or twice per month as needed.

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6.0 OUTDOOR SLAG PILES

Three transient slag piles No. 1, 2, and 3 periodically exist at the facility (Figures 8 & 9) and are described below. Fugitive emissions from the slag piles are discussed in Section 6.4.

6.1 SLAG PILE NO. 1 – REJECTED SLAG

Slag Pile No. 1 is located outdoors and consists of rejected slag from the shaft dryer. Rejected slag is comprised of agglomerated clumps of slag that contains too much moisture or are too large and heavy to traverse upwards into the suction feed of the slag dryer. This material falls out of the suction feed onto the floor inside of the mill building or into a small transportable hopper that is periodically used.

The indoor accumulated material is then periodically removed by a front-end loader or bobcat and transferred to outdoor Slag Pile No. 1. This pile can accumulate to a maximum volume of approximately 250 tons before the material is either sent off-site for disposal or reclaimed in the same area via the use of a small portable de-lumper and transferred back into the underground loading hopper for re-processing via a front-end loader. This is a transient pile which is not continuously present but does exist on a periodic basis.

6.2 SLAG PILE NO. 2 – DAY BIN SLAG

Slag Pile No. 2 is located outdoors underneath the day bin and is semi-protected by the day bin being located directly above the pile which acts as a roof. This pile consists of unprocessed excess granulated slag that was removed from the mill by backing up the feed conveyor and emptying the day bin. Unprocessed slag must be removed from the process equipment as its physical characteristics (weight and moisture content) will cause it to clump together and develop a brittle crust on the surface, making it unamenable for processing through the facility's equipment. This pile can accumulate to a maximum volume of approximately 1,000 tons before the material is transferred back into the underground loading hopper for re-processing via a front-end loader.

The amount of this pile varies greatly on a daily basis based on the amount of residual slag caked up within the walls of the day bin when it is emptied. As such, it typically discharges approximately 300 tons each time it is emptied.



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If incoming truck traffic delivering granulated slag into the loading hopper is light, this pile is transferred immediately in conjunction with Slag Pile No. 3 discussed below. If truck traffic is high, Pile No. 2 may sit for a few days to a week before being processed. This is a transient pile which is not continuously present but does exist on a periodic basis.

6.3 SLAG PILE NO. 3 – EXCESS TRUCK SLAG

Slag Pile No. 3 is located outdoors on the southeast side of the mill building and is semi-protected by a 7-foot tall concrete wall on two sides (south and west) that acts as a wind break.

Depending on production requirements and processing throughput speeds, the slag process within the mill building cannot always keep up with the number of trucks delivering the granulated slag. It is impracticable to keep inbound trucks in a holding pattern as no marshalling area exists and traffic is not allowed to back up onto 130th Street. As a result, trucks will tip their loads onto this temporary pile which can achieve a maximum volume of 1,000 tons. Plant personnel will then transfer the material from this pile via a front-end loader to the underground hopper for processing after truck traffic clears. This is a transient pile which is not continuously present but does exist on a periodic basis.

6.4 SLAG PILE EMISSIONS AND EQUIVALENT CONTROLS

Part 212.304 of 35 Ill. Adm. Code requires material storage piles to be protected by a cover or sprayed with a surfactant or water solution on a regular basis, as needed, or treated by an equivalent method in accordance with an operating program. Based on the information and emission calculations contained in this section below, Holcim considers the inherent moisture content of the slag and its physical characteristics (See Section 2.1) serve as “equivalent control methods” subject to IEPA approval of this Fugitive Particulate Operating Program.

According to USEPA AP-42 Chapter 12.2.5 entitled “Industrial Wind Erosion”, dust emissions may be generated by wind erosion of open aggregate storage piles and exposed areas within an industrial facility on an episodic basis which is referred to as an “erosion event”. Dust emissions attributable to erosion events are dependent on a number of factors and characterized by the finite availability of erodible material (mass/area) referred to as the “erosion potential”.



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Natural crusting of the pile's surface binds the erodible material, thereby reducing the erosion potential. Granulated slag will crust rapidly upon sitting which is the reason the slag day bin and its conveyor belt must be periodically emptied whenever the slag processing operation is not in operation as explain in Section 6.2 of this program.

Fugitive emissions generated by wind erosion are also dependent on the frequency of disturbance of the erodible surface because each time that a surface is disturbed, its erosion potential is restored. A disturbance is defined as an action that results in the exposure of fresh surface material. On a storage pile, this would occur whenever aggregate material is either added to or removed from the old surface. A disturbance of an exposed area may also result from the turning of surface material to a depth exceeding the size of the largest pieces of material present.

However, the emission estimation equations used in AP-42 Chapter 12.2.5 apply only to dry, exposed materials with limited erosion potential. The transient slag piles at the facility, although frequently disturbed, do not consist of "dry" material as the granulated slag has an average moisture content of 12% to 14% due to water quenching of the raw slag at Holcim's East Chicago facility prior to arrival at South Chicago. The granulated slag's mean moisture content of 13% is significantly higher than the 0.92% mean moisture content of raw (unquenched and un-granulated) slag as stated in Table 13.2.4-1 of AP-42 Chapter 13.2.4 for "Aggregate Handling and Storage Piles".

Based on engineering judgment, IDEM's approval of the granulated slag's inherent moisture content as an approved control measure, and based on the material's size, weight, moisture content, and vitrified nature, the granulated slag piles at South Chicago are expected to have minimal erosion potential.

Minor erosion events may occur on an infrequent basis due to sunlight drying of the pile's surface during warm weather periods but historical observations by facility personnel have shown these to be extremely infrequent. When they do occur, a "whisp" of dust may be observed during a wind gust but the amount of dust released is estimated to be minimal and when estimated on an annual basis, would only be a fraction of the 50 ton per year threshold for uncontrolled particulate emissions for which covers, spraying, and/or equivalent control methods would be required under 35 Il. Adm. Code 212.304.



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The limited potential for fugitive dust emissions from storage piles due to wind erosion can be approximated by applying AP-42 emission factors to the number of times a pile may be disturbed. To calculate this value, Holcim used the Drop Point emission factor contained in Appendix D of the facility's "Potential To Emit" documentation dated July, 2, 2009 which utilizes the emission factor equation from AP-42 Chapter 13.2.4 "Aggregate Handling & Storage Piles" that were used for fugitive emission estimates. According to this documentation, the following factors were calculated:

PM = 0.00116 lbs/ton
 PM10 = 0.00055 lbs/ton

Holcim's FESOP Permit limits annual slag processing to 965,790 tons. Dependent on the slag pile being disturbed (initial drop, loading with front-end loader, and re-dropping the load), the maximum number of times that a pile may be disturbed is three (3) times. The maximum potential dust emissions of PM and PM10 from any of the facility's slag piles can then be estimated through the use of the following equation:

PM

$0.00116 \text{ lbs/ton} \times 965,790 \text{ tons/yr} \times 3 \text{ disturbances per pile} = 3,361 \text{ lbs PM per Pile (1.68 tons)}$

PM10

$0.00055 \text{ lbs/ton} \times 965,790 \text{ tons/yr} \times 3 \text{ disturbances per pile} = 1,594 \text{ lbs PM per Pile (0.80 tons)}$

As the number of disturbances for a particular pile is a primary determining factor for pile particulate matter emissions, the above data can be used to show particulate matter emissions from wind erosion are likely to be significantly less than the 50 ton threshold contained in 35 Ill. Adm. Code 212.304 for which controls are required.

Subsequently, Holcim believes that fugitive dust emissions from its slag storage piles, including the delumping operation at Slag Pile No. 1, are adequately and appropriately controlled by the granulated slag's characteristics, namely its inherent moisture content, as stated earlier. As this Fugitive Particulate Operating Program contains provisions for daily inspections of each slag pile, delumping operations, and corrective action measures for excessive wind-blown dusts exceeding an opacity limit of 10 percent (as measured four feet from the pile surface). Any needed mitigation measures will consist of manually spraying the pile(s) with water from a water hose. This is appropriate due to the small volume and surface area of each pile and the need to only wet the uppermost inch of the pile's surface.



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Note that dust suppressants other than water, such as oil or chemicals, cannot be used as they would adversely impact slag processing operations, contribute to unnecessary pollutant emissions as the suppressant is heated in the slag dryer, result in contaminated storm water runoff, and adversely impact the finished product's quality.

Historically, these piles have not required watering. In the event dust suppression does become necessary through the spraying of water onto one of the pile's surface, it is estimated that this would be performed once to twice per year for each pile.

7.0 CONVEYOR LOADING OPERATIONS

There are no direct conveyor loading operations to granulated slag storage piles except for the following two operations:

- A small 10 to 12 foot conveyor from the portable de-lumping machine described in Section 6.1 for use on Slag Pile No. 1 with the equivalent control method being the inherent moisture content of the material and its physical characteristics as previously described.
- A telescopic chute that feeds Slag Pile No. 2 described in Section 6.2 from emptying the Day Bin and feed conveyor belt with the equivalent control method being the telescopic chute, inherent moisture content of the material, and its physical characteristics as previously described.

8.0 MATERIALS COLLECTED BY POLLUTION CONTROL EQUIPMENT

All pollution control equipment (dust collectors) described in Section 4.0 are enclosed as required by 35 Il. Adm. Code 212.307.

9.0 SPRAYING OR CHOKE-FEEDING

Emissions from the granulated slag grinding mill, screening operations (HES Separator), bucket elevators, conveyor transfer points, conveyors, storage bins and fine product truck loading operations cannot be controlled with water spray or surfactant solution under 35 Il. Adm. Code 212.308 as the application of either would cause the material to solidify similar to cement.



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As all of the above operations are controlled by enclosed pollution control equipment (dust collectors), the use of dust collectors are considered to be equivalent methods of control under 35 Il. Adm. Code 212.308. Additionally, fine product truck loading operations from the main distribution silo are performed using telescopic chutes connected directly to the truck trailer loading hatches and controlled by enclosed dust collectors.

10.0 CRUSHING AND SCREENING OPERATIONS

Conventional crushing of granulated slag is not performed except for a small portable de-lumper used to break up agglomerated wet slag from the Reject Slag Pile No. 1 described in Section 6.1 of this program. The primary method to control fugitive emissions for the de-lumper is the granulated slag's inherent moisture content and physical characteristics as described in Section 2.1 which will be supplemented by daily visual inspections to ensure any opacity emissions do not exceed 10% as required by 35 Il. Adm. Code 212.316(b). These inspections and any corrective actions will be logged on the Daily Opacity Inspection Log contained in Appendix B of this program.

Conventional screening of granulated slag/lime mixture is also not performed although the material is separated and sized in the indoor HES Separator after the material leaves the slag dryer. Emissions from the HES Separator are controlled by an indoor fully enclosed pollution control device (Dust Collector) and as such, this sizing operation does not generate uncontrolled fugitive dust emissions. Daily inspections of the mill building that houses this operation will be performed to ensure any fugitive emissions from the building do not exceed 10% opacity. The inspections will be documented on the Daily Opacity Inspection Log contained in Appendix B of this program.

11.0 EMISSION STANDARD FOR PARTICULATE COLLECTION EQUIPMENT

Holcim will ensure all particulate collection equipment (Dust Collectors) are operated to ensure emissions of particulate matter from such equipment do not exceed 68 mg/dscm (0.03 gr/dscf). This limit is stated for each unit in Table 1 in Section 4.0 of this program and dust collector data shows actual emissions from each unit to be approximately 0.006 gr/ACM.



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12.0 FUGITIVE EMISSIONS AND BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) and controls have been established and implemented to minimize the emissions of fugitive particulate matter dust from all potential sources as described in the sub-sections that follow. Each sub-section describes the Best Management Practices (BMPs) that are utilized for a particular operation or activity as engineering and administrative controls for both point-source emission units and fugitive emission sources.

Figure 9 in Appendix A provides an illustrative depiction of all activities or processes that have the potential to generate fugitive particulate matter emissions, regardless of frequency or magnitude. The three slag piles denoted in Figure 9 are shown for informational purposes only as wet granulated slag is not considered to be a significant source of fugitive emissions due to its vitrified nature (glassy outer coating), weight, particle size, and inherent moisture content as discussed previously.

Additional fugitive emission controls other than those listed will be implemented according to a separate Contingency Plan containing procedures for reducing fugitive emissions by 15% and 25% respectively during periods of declared particulate matter (PM) air pollution episodes in which the facility may be declared to be a contributor.

Best Management Practices to control fugitive emissions are also addressed as part of the facility's separate Storm Water Pollution Prevention Plan (SWPPP) since these activities also have the potential to contribute minor amounts of suspended solids into storm water runoff if not properly managed and controlled.

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12.1 BMP – MOBILE EQUIPMENT LOADING AND UNLOADING

PM Emission Type	Fugitive
Process/Activity:	• Truck unloading of granulated slag to underground hopper • Transferring rejected slag from shaft dryer to Pile No. 1 • Transferring rejected slag from Pile No. 1 to disposal truck • Portable de-Lumping slag operation from Slag Pile No. 1 • Transferring de-lumped slag to hopper via front-end loader • Transferring granulated slag from Pile No. 2 into hopper • Truck unloading of granulated slag to excess Slag Pile No. 3 • Transferring wet slag from Pile No. 3 into hopper • Truck unloading lime into portable storage trailers
Discussion:	Fugitive emissions from all of the above activities are controlled due to the weight of the material, its vitrified glassy physical characteristics, its size, and its inherent moisture content
Engineering Controls:	• Inherent moisture content and physical characteristics • Areas surveilled by closed-circuit cameras
Administrative:	• Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B • Spraying piles with water at an estimated frequency of one to two times per year • De-lumper operated and maintained to OEM specifications • Delumped slag not allowed to accumulate > 24 hours • Limited drop height from trucks and front-end loader • Certified opacity observers on-site • Trained and experienced operators



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12.2 BMP – SLAG PILE CONTROLS

PM Emission Type Fugitive

Process/Activity: Slag Pile No. 1 – Rejected Slag
Slag Pile No. 2 – Day Bin Slag
Slag Pile No. 3 – Excess Truck Slag

Discussion: Fugitive emissions from all three raw slag piles are controlled due to the weight of the material, its vitrified glassy physical characteristics, its size, and its inherent moisture content.

Engineering Controls:

- Inherent moisture content and physical characteristics
- Areas surveilled by closed-circuit cameras
- Pile No. 2 semi-protected by overhead day bin
- Pile No. 3 semi-protected by wind break walls

Administrative:

- Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B
- Spraying piles with water at an estimated frequency of one to two times per year
- Pile No. 1 used for rejected slag
- All piles are transient and processed as time permits
- Certified opacity observers on-site



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12.3 BMP – SLAG AND LIME PROCESSING EQUIPMENT

PM Emission Type	Point Source
Process/Activity:	• Day Bins (Slag and Lime) • Shaft Dryer and Mill Sweep • Bucket Elevator • HES Separator • NewCem® Storage Silo No. 10 • Dense Phase Building
Discussion:	All process equipment for drying and grinding slag is located indoors inside of the mill building with all main process units, storage silo, and dense phase building equipped with dust collectors
Engineering Controls:	• Enclosed operations controlled by dust collectors • Process controlled by computerized logic controls • Dust collectors controlled via computerized logic controls • Dust collectors have pressure drop sensors and alarms • Dust collectors equipped with automatic malfunction logic • Areas surveilled by closed-circuit cameras
Administrative:	• Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B • Standard operating procedures monitored by supervisor • Continuous process monitoring • Local malfunction emergency stop available • Dust collectors maintained according to OEM specifications • Process units maintained according to OEM specifications • Preventative maintenance program in place • Spare parts readily available • Certified opacity observers on-site • Trained and experienced operators



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12.4 BMP – CEMENT AND SLAG/LIME DISTRIBUTION EQUIPMENT

PM Emission Type Point Source

Process/Activity:

- Main Distribution Silo
- Truck Loadout Bay 1
- Truck Loadout Bay 2

Discussion: Main distribution silo equipped with duct collector. Two truck loadout bays located underneath the silo are enclosed during loading except for entry and exit doors. Actual loading accomplished with telescopic chutes attached to truck hatch and connected to dust collectors.

Engineering Controls:

- Transfer interlocks prevent distribution unless dust collectors are operational
- Enclosed operations controlled by dust collectors
- Dust collectors controlled via computerized logic controls
- Dust collectors have pressure drop sensors and alarms
- Dust collectors equipped with automatic malfunction logic
- Areas surveilled by closed-circuit cameras

Administrative:

- Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B
- Standard operating procedures monitored by supervisor
- Continuous process monitoring
- Local malfunction emergency stop available
- Dust collectors maintained according to OEM specifications
- Process units maintained according to OEM specifications
- Preventative maintenance program in place
- Spare parts readily available
- Certified opacity observers on-site
- Trained and experienced operators



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12.5 BMP – BARGE AND VESSEL LOADING AND UNLOADING

PM Emission Type	Point Source / Fugitive
Process/Activity:	• Barge Loading / Unloading • Vessel Loading / Unloading
Discussion:	Operations manned continually as required by Coast Guard, Department of Transportation and Homeland Security (DHS)
Engineering Controls:	• Choke-feeding used for barge loading spout • Barge loading spout controlled by dust collector • Vessels use interlocking pipe transfer system controlled by dockside stationary dust collector • Vessels equipped with internal dust collection system • Transfer interlocks prevent distribution unless dust collectors are operational • Dust collectors controlled via computerized logic controls • Dust collectors have pressure drop sensors and alarms • Dust collectors equipped with automatic malfunction logic • Areas surveilled by closed-circuit cameras
Administrative:	• Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B • Dock area restricted to DHS Transportation Worker Identification Credentialed (TWIC) personnel • Standard operating procedures monitored by supervisor • Continuous process monitoring and operator presence • Local malfunction emergency stop available • Units maintained according to OEM specifications • Preventative maintenance program in place • Spare parts readily available • Certified opacity observers on-site • Trained and experienced operators • Continuous radio contact with barge/vessel operator



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12.6 BMP – TRUCK TRAFFIC

PM Emission Type Fugitive

Process/Activity:

- Truck roadways and traffic paths

Discussion: All truck traffic routes (inbound and outbound) are paved and periodically swept using onsite street sweeper on an as-needed basis.

Fugitive emissions from inbound slag traffic controlled due to the weight of the material, its vitrified glassy physical characteristics, its size, and its inherent moisture content

Fugitive emissions from inbound lime traffic controlled via totally enclosed pneumatic delivery systems into trailer storage tanks

Engineering Controls:

- Inbound slag trucks tarped with automatic tarping system
- Outbound cement/slag trucks used enclosed tanker trailers
- Areas surveilled by closed-circuit cameras

Administrative:

- Street sweeper utilized as needed
- Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B
- Use of water as a dust suppressant is estimated at a frequency of one to two times per month during non-snow covered periods
- In the event the application of water for dust suppression is necessary, it will be recorded on the Daily Street Sweeper Log contained in Appendix B
- Enforced and posted speed limit of 5 miles per hour
- Truck driver safety orientation and route training
- Certified opacity observers on-site



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12.7 BMP – TRUCK HATCH GANGWAY

PM Emission Type Fugitive

Process/Activity:

- Closing of trailer loading hatches
- Removal of residual material around hatch

Discussion:

After loading inside of main distribution silo, trucks proceed out of the silo to a fixed gangway station to close loading hatches and prepare for road transportation.

Engineering Controls:

- Maintenance of loading chutes within distribution silo truck bays to ensure a good seal with the trailer hatch that minimizes excess/residual material around trailer hatch
- Low pressure air nozzle used for cleaning if needed
- Areas surveilled by closed-circuit cameras

Administrative:

- Street sweeper utilized as needed
- Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B
- Use of water as a dust suppressant is estimated at a frequency of one to two times per month during non-snow covered periods
- In the event the application of water for dust suppression is necessary, it will be recorded on the Daily Street Sweeper Log contained in Appendix B
- Sweeping excess material around loading hatch is the preferred method
- Certified opacity observers on-site



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12.8 BMP – DENSE PHASE BUILDING SURGE BIN PRESSURE RELIEF VALVE

PM Emission Type Point and Fugitive

Process/Activity: • Activation of surge bin pressure relief valve

Discussion: The surge bin is used to transfer NewCem® from the dedicated NewCem® silo directly to barges or to transfer NewCem® into the main distribution silo. Pneumatic and air-slide transfer systems interconnected with the surge bin are subject to high pressure due to the volume of material being moved.

A plug anywhere in the transfer line can lead to catastrophic equipment failure and/or pressurized release of material. To prevent plugging, logic controllers can detect potential pressure buildups in the system and adjust material flowrate accordingly. In the event flow controllers detect a line plug, computer logic will trigger automatic opening of the pressure relief valve. To mitigate emissions from these episodic events, the discharge stack is configured with a 90-degree elbow so that the release is directed to the ground with the released material being deposited into a small transient pile.

Engineering Controls:

- Logic controlled delivery and transfer system designed to prevent excessive pressure in transfer lines
- Pressure relief valve remains in closed position and only opens automatically according to logic controllers to prevent line plug
- Areas surveilled by closed-circuit cameras

Administrative:

- Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B
- Accumulations cleaned up
- Street sweeper utilized as needed
- Certified opacity observers on-site
- Trained and experienced operators



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12.9 BMP – DOCK AND WALKWAY WORK AREAS

PM Emission Type	Fugitive
Process/Activity:	• Walkway and work area on land side of barge dock • Walkway and dock for vessels
Discussion:	Dock operations are governed by Coast Guard, Department of Transportation and Homeland Security (DHS)
Engineering Controls:	• Areas surveilled by closed-circuit cameras
Administrative:	• Daily inspections for visible emissions are documented on the Daily Inspection Opacity Log contained in Appendix B • Dock area restricted to Transportation Worker Identification Credentialed (TWIC) personnel • Areas swept up and cleaned as needed • Certified opacity observers on-site • Trained and experienced operators

13.0 PROGRAM AMENDMENTS AND AGENCY REVIEWS

Holcim will amend this Fugitive Particulate Operating Program from time to time as necessary to ensure that the operating program is current and consistent with 35 Il. Adm. Code Part 212. This original program has been submitted to the Illinois Environmental Protection Agency (IEPA) for review and approval. Subsequent amendments, as needed, will also be submitted to IEPA for review and approval.

14.0 RECORDKEEPING AND REPORTING

Holcim will keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 Il. Adm. Code Part 312 and will submit an annual report to IEPA containing a summary of this information.



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The annual report shall contain the following minimum information:

- Name and address of the source, owner and/or operator
- A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways
- For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical. This information is to be recorded on the Street Sweeper Log contained in Appendix B of this program.
- For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day. This information is to be recorded on the Street Sweeper Log contained in Appendix B of this program.
- An Incident Log when control measures were not used and an explanation statement. This information is to be recorded on the Incident Log contained in Appendix B.

Copies of all records will be submitted to IEPA within ten (10) working days after a written request by the Agency and will be transmitted to IEPA by Holcim's Maintenance Manager who has the authority to release such records. All records required under this Section will be kept and maintained for at least three (3) years and be made available for inspection and copying by IEPA representatives during working hours.

A quarterly report shall be submitted to the IEPA stating the following:

- The dates any necessary control measures were not implemented.
- A listing of those control measures not implemented.
- The reasons that the control measures were not implemented.
- Corrective actions taken when control measures were not implemented.

The above quarterly information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of this Section. This report shall be submitted to IEPA thirty (30) calendar days from the end of each quarter as follows:



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Quarter 1 (ends March 31)

Due Date: April 30

Quarter 2 (ends June 30)

Due Date: July 30

Quarter 3 (ends September 30)

Due Date: October 30

Quarter 4 (ends December 31)

Due Date: January 30

END PROGRAM

Holcim (US), Inc.

South Chicago Slag Grinding Plant and Cement Distribution Terminal

2150 East 130th Street

Chicago, Illinois 60633

Attachment A:

- Figure 1 Facility Location and Key Features
- Figure 2 Process Block Flow Diagram (Updated FESOP application with current slag piles)
- Figure 2A Process Block Flow Diagram – Delumper Operations
- Figure 2B Process Block Flow Diagram – Lime Addition Process
- Figure 3 Dust Collector Locations
- Figure 4 Dust Collector Locations Dockside
- Figure 5 Site Pervious and Impervious Surfaces
- Figure 6 Truck Route for Delivering and Unloading Wet Slag
- Figure 7 Truck Route for Loading Cement/NewCem® From Main Silo Truck Bays
- Figure 8 Slag Piles No. 1, 2, and 3
- Figure 9 Fugitive Dust Sources

Attachment B:

Daily Street Sweeper Log (Part A) and Dust Suppressant Log (Part B)

Daily Visible Emission Inspection and Opacity Log

Incident Reporting Form



Fugitive Dust Control Plan

Appendix A

Appendix A Figures

- 1 Facility Location And Key Features**
- 2 Process Block Flow Diagram (Updated FESOP application with current slag piles)**
- 2A Process Block Flow – Delumper Operations**
- 2B Process Block Flow – Temporary Lime Addition Process**
- 3 Dust Collector Locations**
- 4 Dust Collector Locations Dockside**
- 5 Site Pervious and Impervious Surfaces**
- 6 Truck Route For Delivering And Unloading Wet Slag**
- 7 Truck Route For Loading Cement/NewCem® From Main Silo Truck Bays**
- 8 Slag Piles No. 1, 2, and 3**
- 9 Fugitive Dust Sources**

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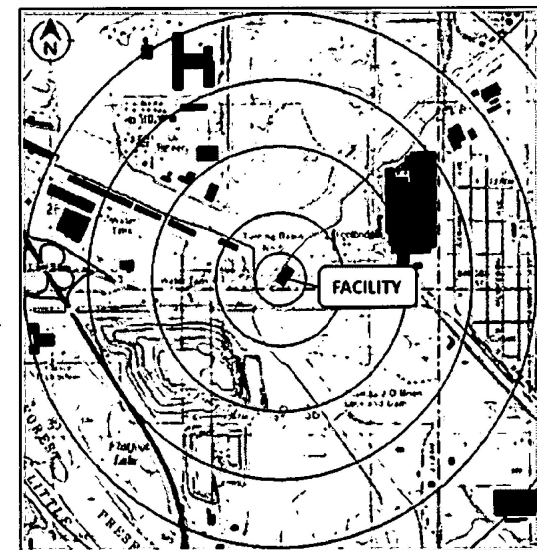
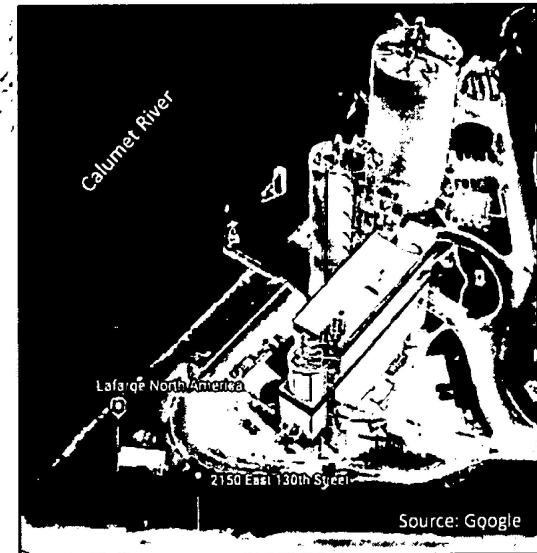
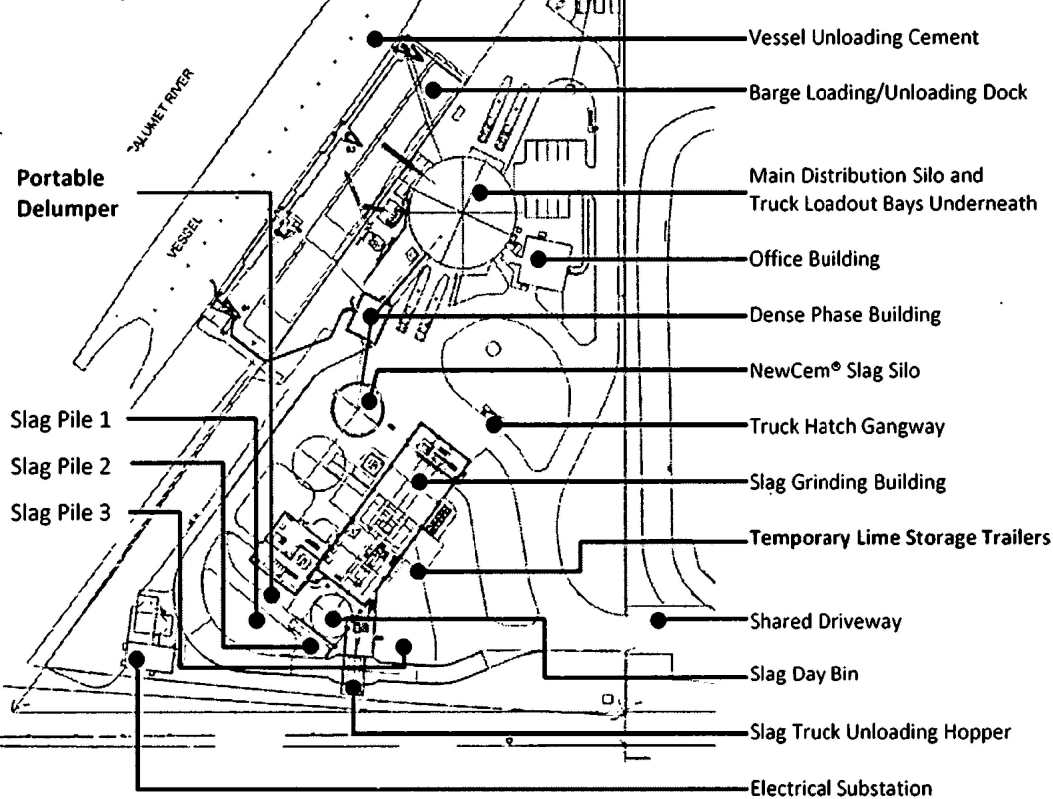
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Facility Detail



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FIGURE 1
FACILITY LOCATION AND KEY FEATURES

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MGB

Date Approved
3/22/2019

Date Drawn
3/22/2019

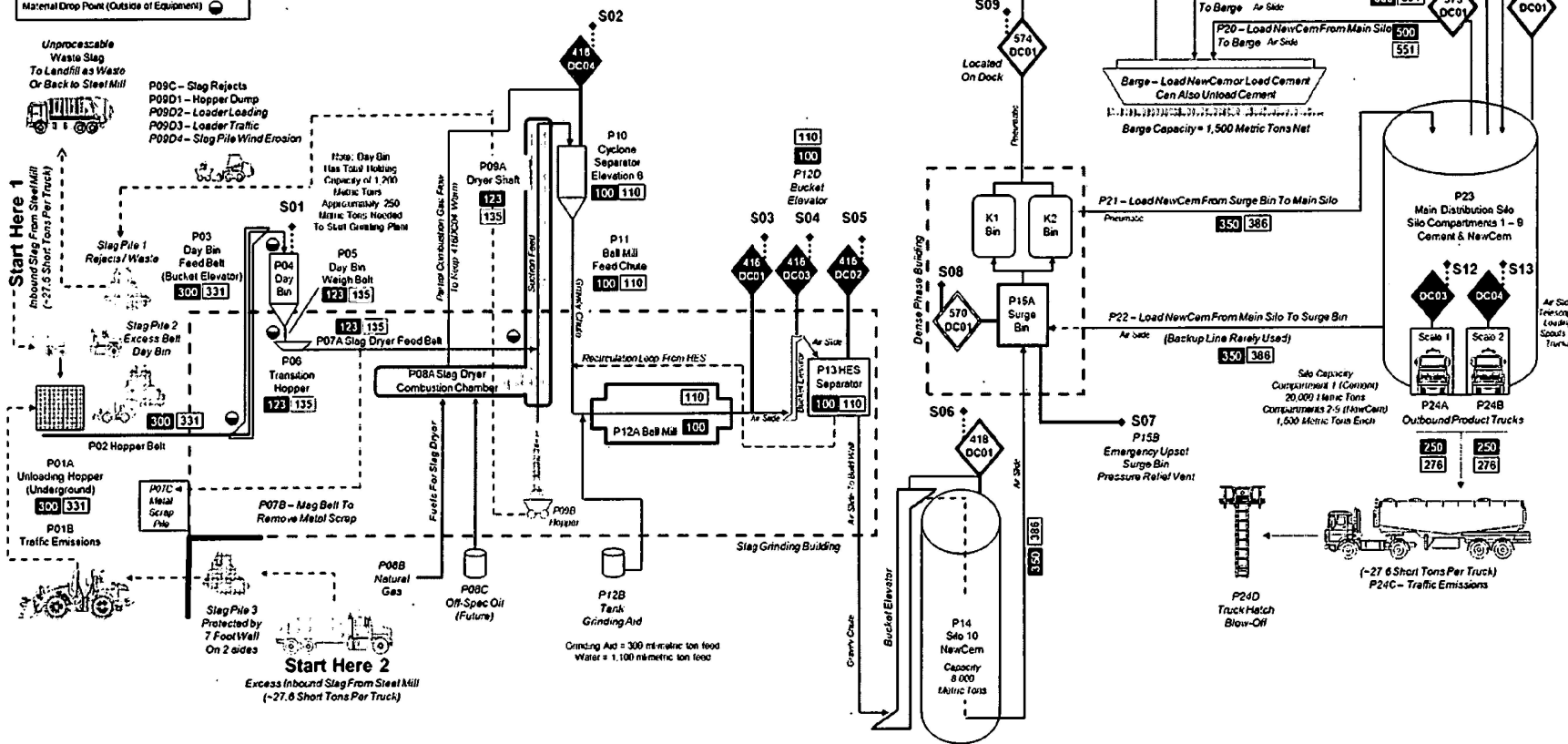
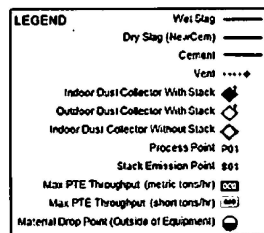
Title
Fugitive Dust Plan

Figure

1

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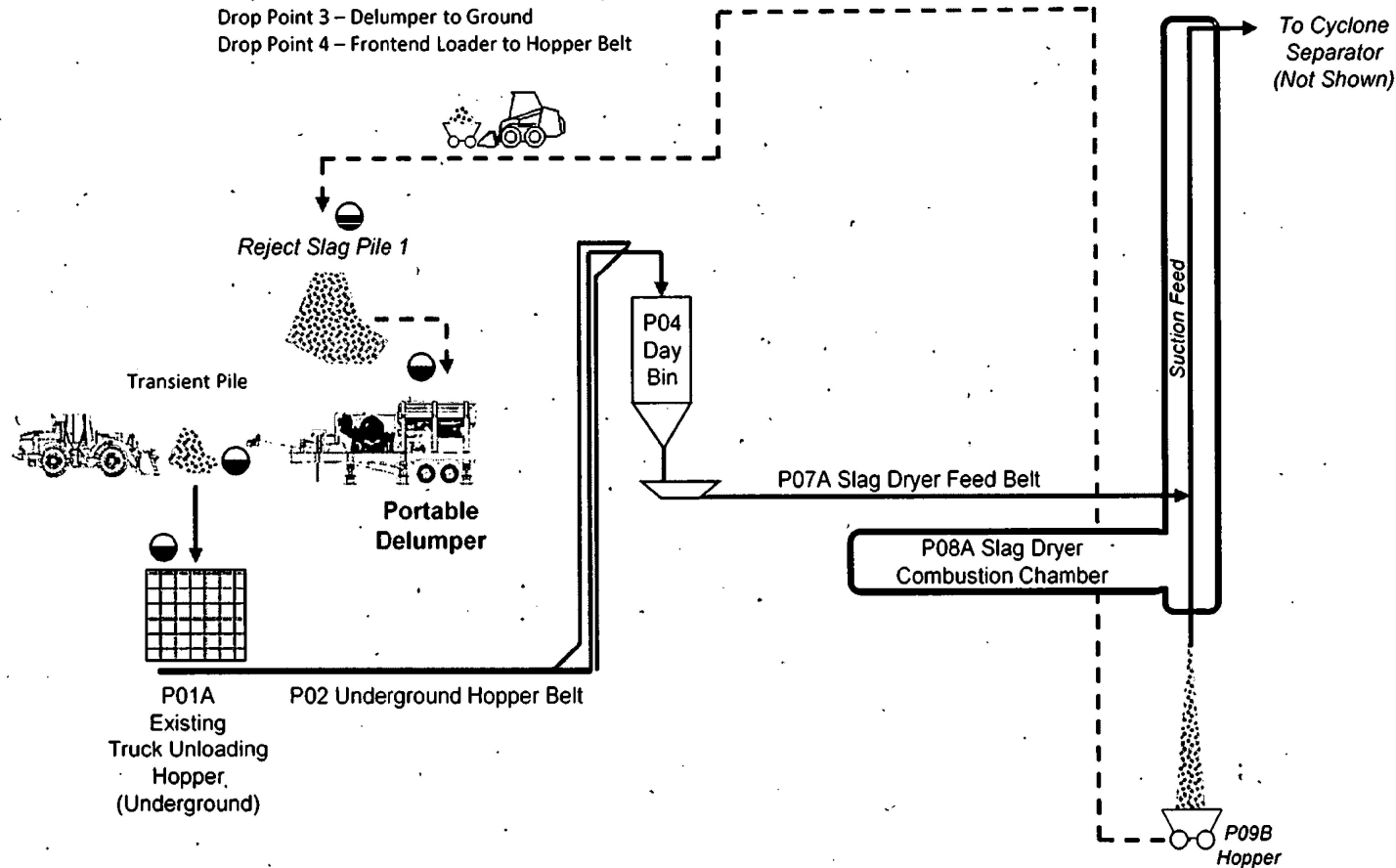


FIGURE 2
PROCESS BLOCK FLOW DIAGRAM
FESOP CONFIGURATION with SLAG PILES UPDATED

Approved By: MGB	Figure 2
Date Approved: 3/22/2019	
Date Drawn: 3/22/2019	2 of 11
Title: Fugitive Dust Plan	

R 010004

- Drop Point 1 – Bobcat to Pile
- Drop Point 2 – Frontend Loader into Delumper
- Drop Point 3 – Delumper to Ground
- Drop Point 4 – Frontend Loader to Hopper Belt



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FIGURE 2A
SIMPLIFIED PROCESS BLOCK FLOW DIAGRAM
PORTABLE DELUMPER

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MGB

Date Approved:
3/22/2019

Date Drawn:
3/22/2019

Title:
Fugitive Dust Plan

Figure

2A

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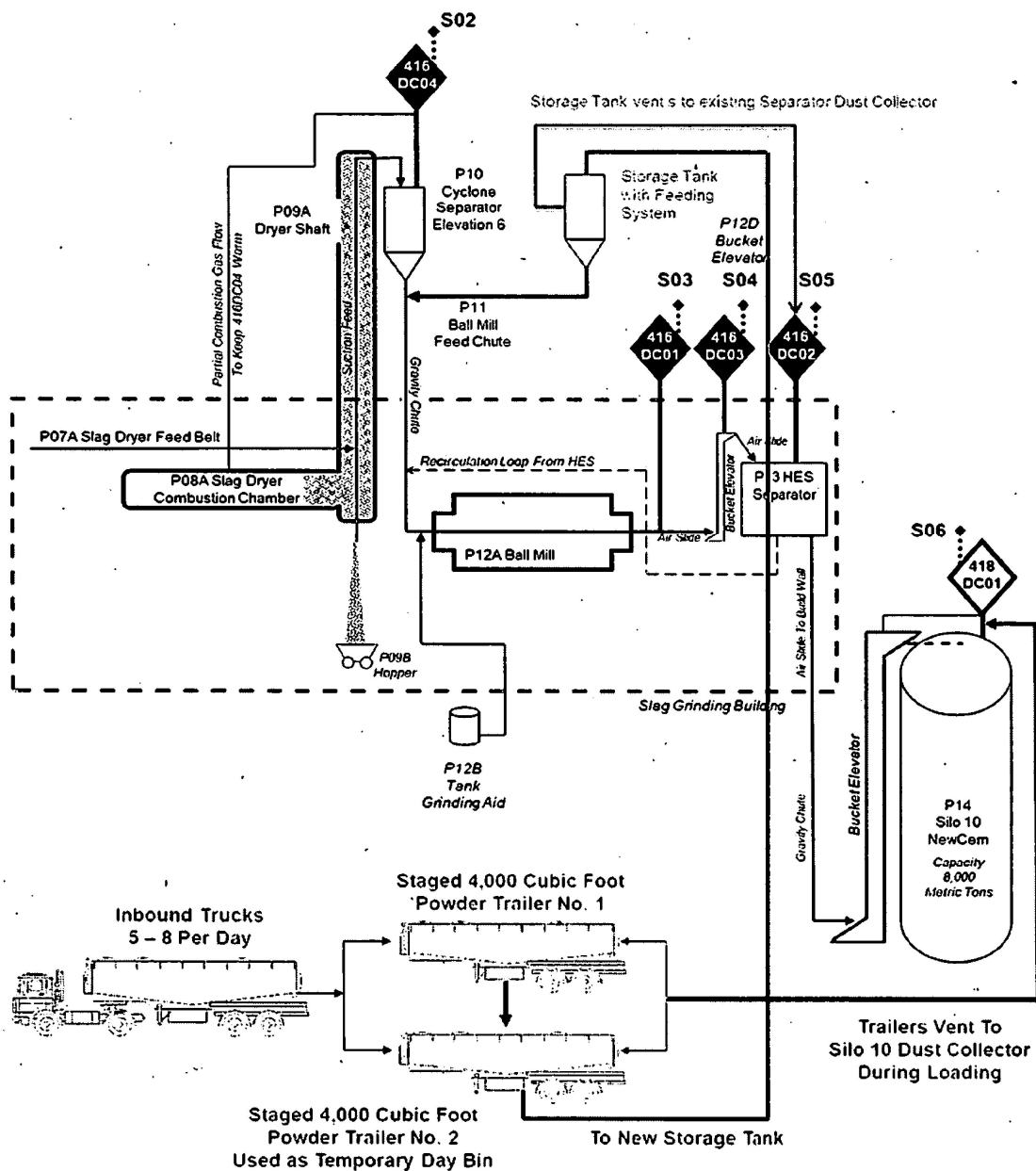
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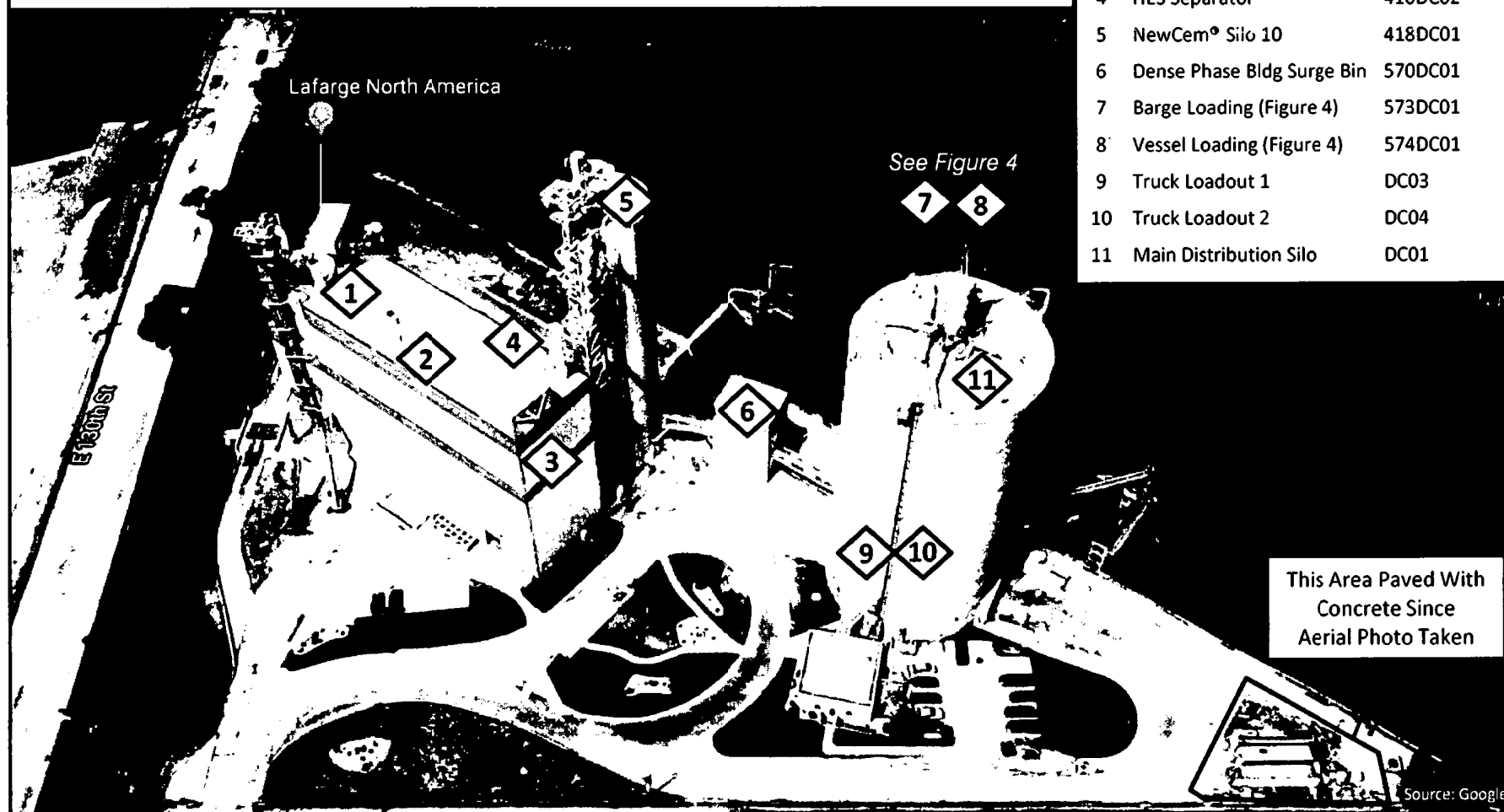
FIGURE 2B
SIMPLIFIED PROCESS BLOCK FLOW DIAGRAM
TEMPORARY LIME ADDITION PROCESS



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No.	Dust Collector	Equipment ID
1	Shaft Dryer	416DC04
2	Mill Sweep	416DC01
3	Bucket Elevator (bldg side)	416DC03
4	HES Separator	416DC02
5	NewCem® Silo 10	418DC01
6	Dense Phase Bldg Surge Bin	570DC01
7	Barge Loading (Figure 4)	573DC01
8	Vessel Loading (Figure 4)	574DC01
9	Truck Loadout 1	DC03
10	Truck Loadout 2	DC04
11	Main Distribution Silo	DC01



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FIGURE 3
DUST COLLECTOR LOCATIONS

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3/22/2019

Date Drawn
3/22/2019

Title
Fugitive Dust Plan

Figure

3

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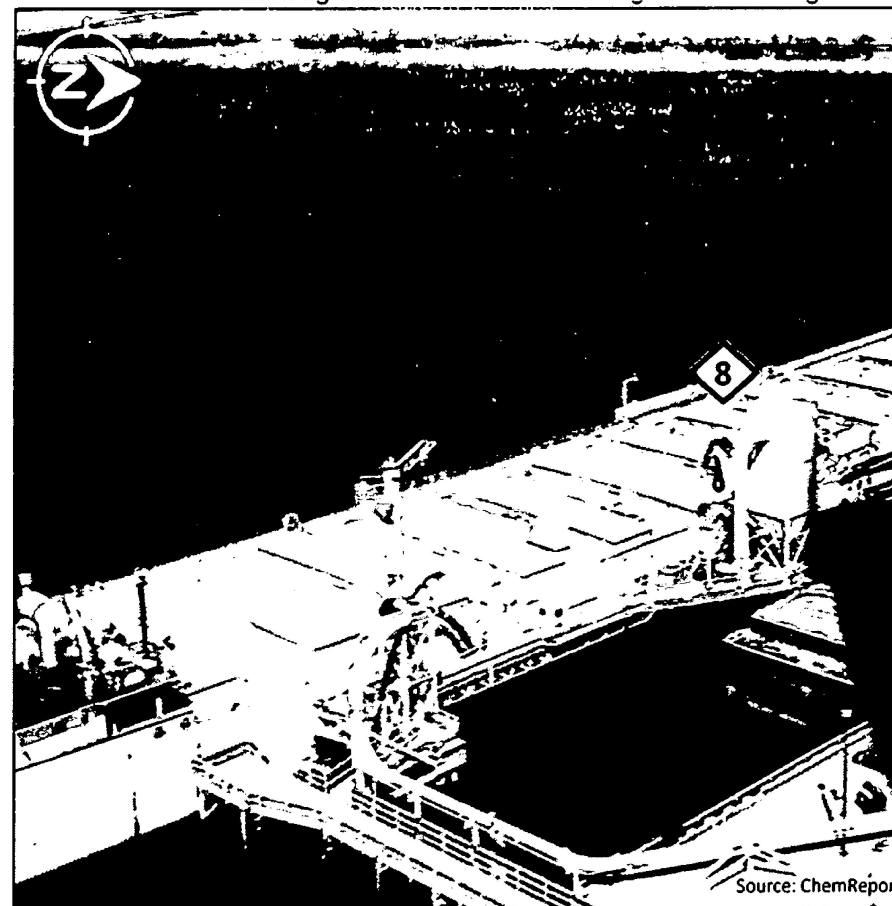
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No.	Dust Collector	Equipment ID
5	NewCem® Silo 10	418DC01
7	Barge Loading	573DC01
8	Vessel Loading	574DC01

Showing Dust Collector No. 7 During Barge Loading



Showing Dust Collector No. 8 During Vessel Loading



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FIGURE 4
DUST COLLECTOR LOCATIONS DOCKSIDE

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Date Drawn:
3/22/2019

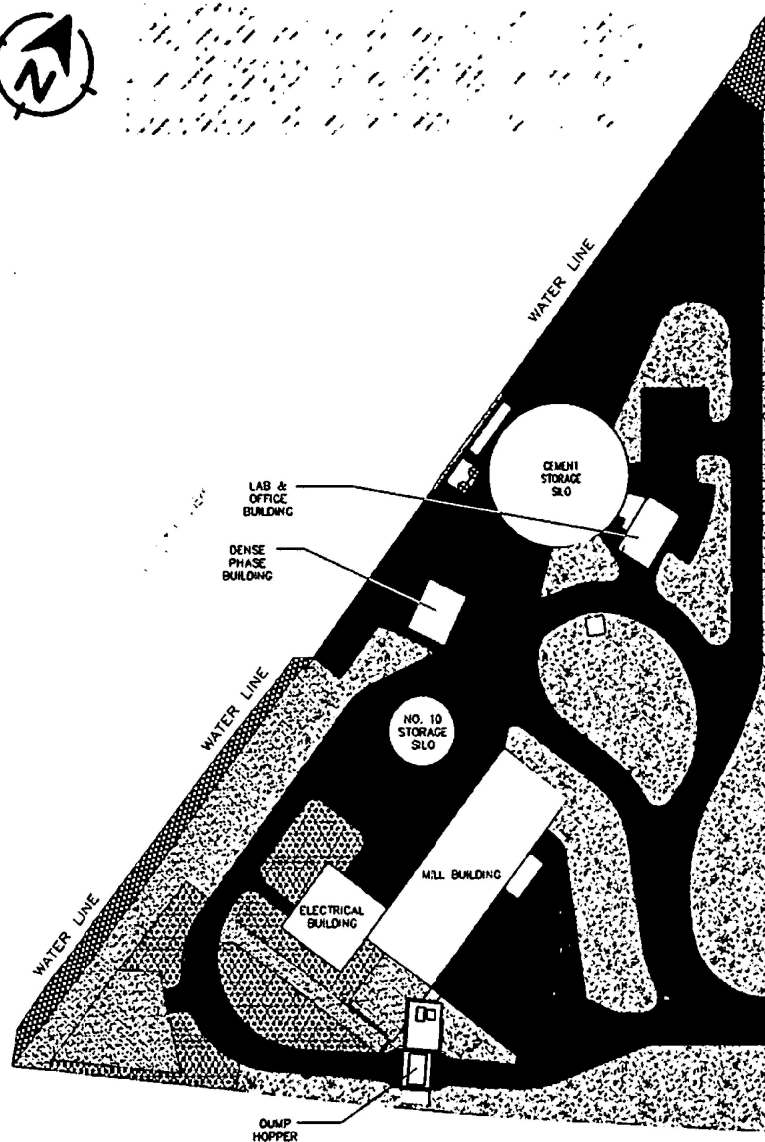
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Fugitive Dust Plan

Figure

4

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R 010008



ChemTrade
Logistics
Property & Operations

Gate

Shared Paved Driveway With
ChemTrade Logistics (East of Lafarge)
From 130th Street

LEGEND

-  GRASSED AREA
-  GRAVEL
-  RIP RAP
-  PAVED AREAS
-  SLAG COVERED AREA



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FIGURE 5
SITE PERVIOUS AND IMPERVIOUS SURFACES
(Slag Covered Areas Indicated as Ground Surface Only)

Approved By
MGB

Date Approved
3/22/2019

Date Drawn
3/22/2019

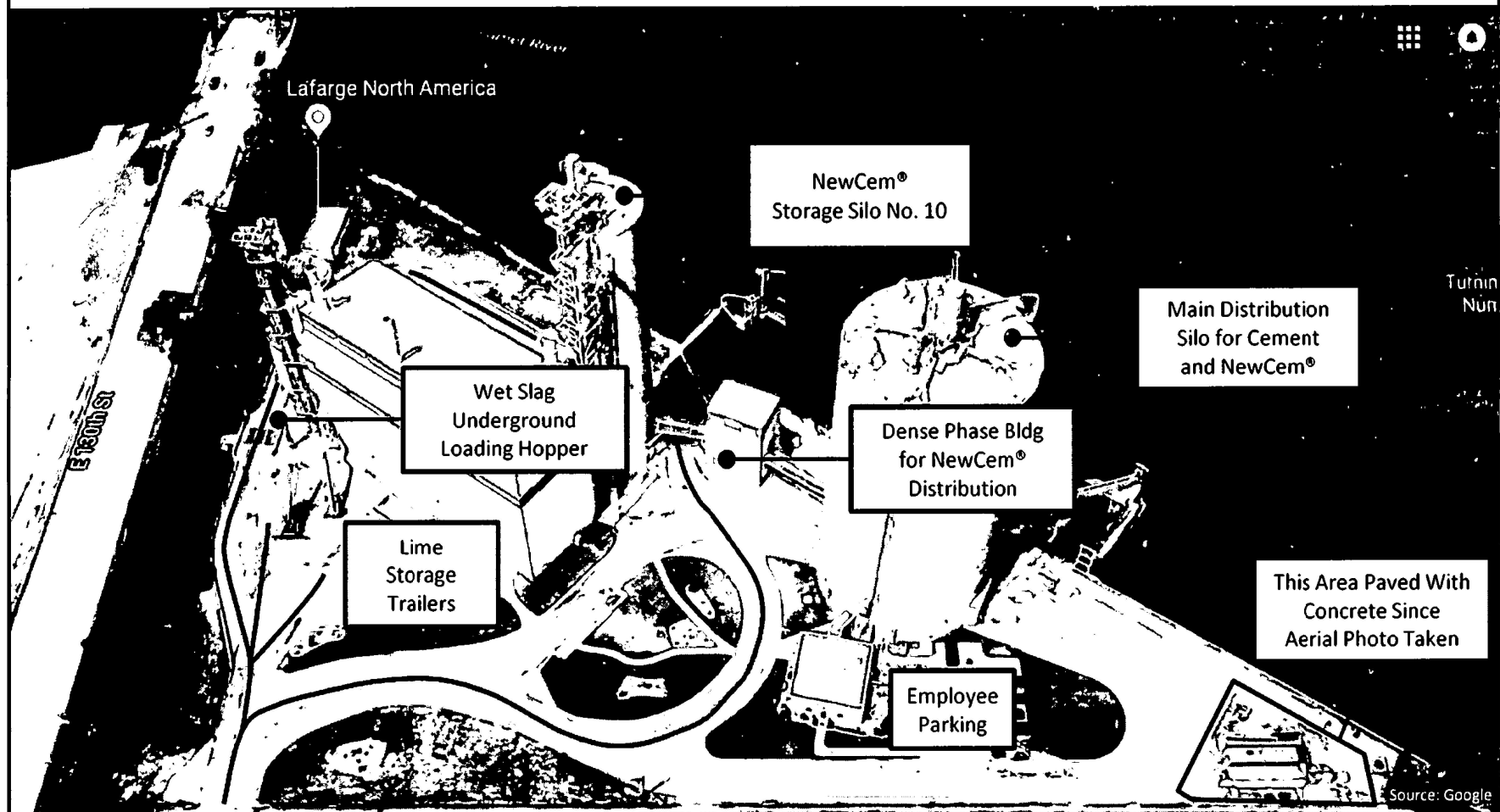
Title
Fugitive Dust Plan

Figure

5

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R 010009



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FIGURE 6
TRUCK ROUTE FOR DELIVERING
AND UNLOADING WET SLAG AND LIME

Approved By:
MGB

Date Approved:
3/22/2019

Date Drawn:
3/22/2019

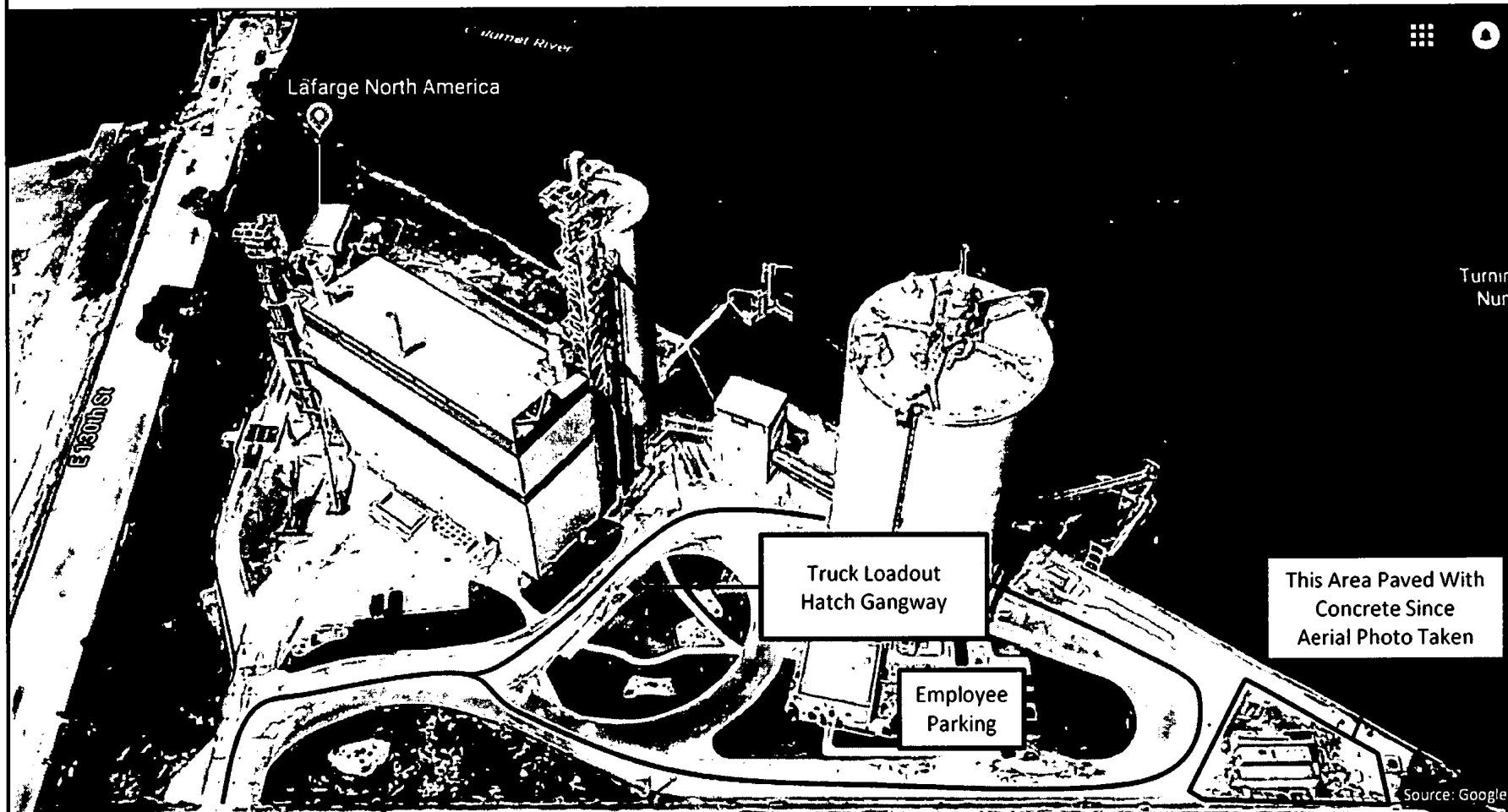
Title:
Fugitive Dust Plan

Figure

6

8 of 11

R 010010



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FIGURE 7

TRUCK ROUTE FOR LOADING CEMENT/NEWCEM®
FROM MAIN SILO TRUCK BAYS

Approved By
MGB

Date Approved:
3/22/2019

Date Drawn:
3/22/2019

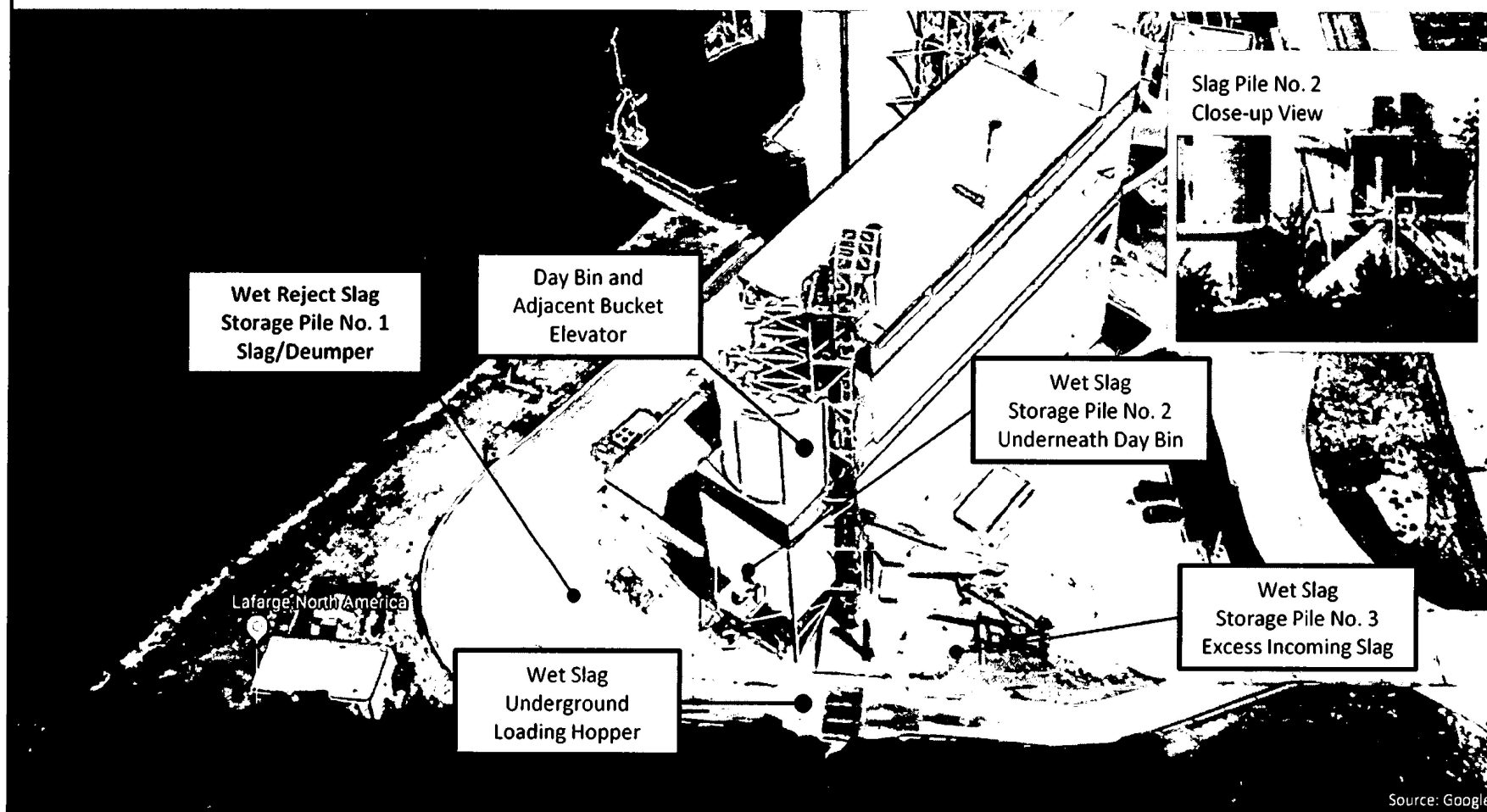
Title:
Fugitive Dust Plan

Figure

7

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R 010011



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LafargeHolcim

FIGURE 8
SLAG PILES No. 1, 2, and 3

Approved By:
MGB

Date Approved
3/22/2019

Date Drawn:
3/22/2019

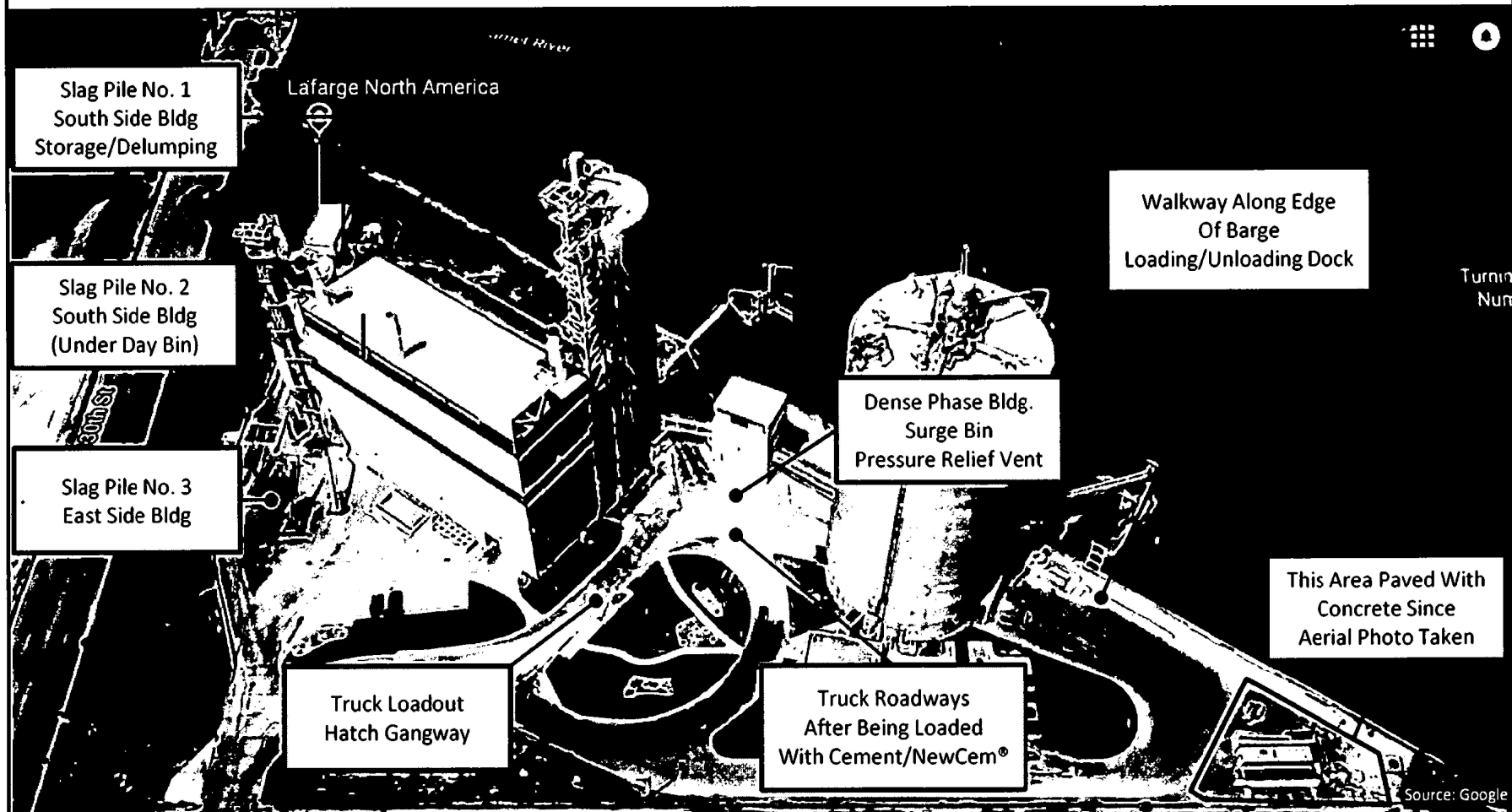
Title:
Fugitive Dust Plan

Figure

8

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R 010012



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FIGURE 9
FUGITIVE DUST SOURCES

Approved By
MGB

Date Approved
3/22/2019

Date Drawn
3/22/2019

Title
Fugitive Dust Plan

Figure

9

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R 010013



Fugitive Dust Control Plan

Appendix B

Appendix B Documents

Daily Street Sweeper Log (Part A) and Dust Suppressant Log (Part B)

Daily Visible Emission Inspection and Opacity Log

Incident Reporting Form

STREET SWEEPER LOG

Month/Year: _____

PART A – Inspection Activity Log					Weather Conditions			Sweeping Method			Total Time of Sweeping (mins)	Comments, use of water spray, reason for not sweeping, corrective measures etc.
Day	Start Time	End Time	Initials	Road Area (Indicate)	Temp (F)	Conditions (Wet, rainy, snow, dry, etc.)	Average Wind Speed (mph)	Pavement Clear of Dust Buildup? (Y/N)	Holcim Street Sweeper Unit (Y/N)	Dust Suppressant Applied (Y/N)		
<i>Example</i>	<i>7:30 AM</i>	<i>NA</i>	<i>MB</i>	<i>SCA</i>	<i>64</i>	<i>Sunny, Clear</i>	<i>8</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>0</i>	<i>Not Needed</i>
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												

- 1 - Sweeping log to be filled out daily and returned to Lab for record retention.
- 2 - Road Areas identified as SLAG/LIME Route – S / CEMENT Route – C / ALL Routes – A
- 3 - Obtain temperature and wind speed from Lab weather station unit.
- 4 - Pavement Dust Buildup: Indicate Yes if significant buildup observed on roadways or if dust clouds are observed from truck traffic.
- 5 - If dust suppressant applied (water, chemical, etc.) fill out Part B of this form.
- 6 - Comments to be filled out daily.



STREET SWEEPER LOG

Month/Year: _____

PART A – Inspection Activity Log					Weather Conditions			Sweeping Method			Total Time of Sweeping (mins)	Comments, use of water spray, reason for not sweeping, corrective measures etc.
Day	Start Time	End Time	Initials	Road Area (Indicate)	Temp (F)	Conditions (Wet, rainy, snow, dry, etc.)	Average Wind Speed (mph)	Pavement Clear of Dust Buildup? (Y/N)	Holcim Street Sweeper Unit (Y/N)	Dust Suppressant Applied (Y/N)		
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												

- 1 - Sweeping log to be filled out daily and returned to Lab for record retention.
- 2 - Road Areas identified as SLAG/LIME Route – S / CEMENT Route – C / ALL Routes – A
- 3 - Obtain temperature and wind speed from Lab weather station unit.
- 4 - Pavement Dust Buildup: Indicate Yes if significant buildup observed on roadways or if dust clouds are observed from truck traffic.
- 5 - If dust suppressant applied (water, chemical, etc.) fill out Part B of this form.
- 6 - Comments to be filled out daily.

STREET SWEEPER LOG

Month/Year: _____

PART A – Inspection Activity Log					Weather Conditions			Sweeping Method			Total Time of Sweeping (mins)	Comments, use of water spray, reason for not sweeping, corrective measures etc.
Day	Start Time	End Time	Initials	Road Area (Indicate)	Temp (F)	Conditions (Wet, rainy, snow, dry, etc.)	Average Wind Speed (mph)	Pavement Clear of Dust Buildup? (Y/N)	Holcim Street Sweeper Unit (Y/N)	Dust Suppressant Applied (Y/N)		
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

- 1 - Sweeping log to be filled out daily and returned to Lab for record retention.
- 2 - Road Areas identified as SLAG/LIME Route – S / CEMENT Route – C / ALL Routes – A
- 3 - Obtain temperature and wind speed from Lab weather station unit.
- 4 - Pavement Dust Buildup: Indicate Yes if significant buildup observed on roadways or if dust clouds are observed from truck traffic.
- 5 - If dust suppressant applied (water, chemical, etc.) fill out Part B of this form.
- 6 - Comments to be filled out daily.



STREET SWEEPER LOG

Month/Year: _____

PART B – Dust Suppressant Log												
Date	Start Time	End Time	Initials	Applicator Name	Roadway Applied	Width of Application	Truck ID No.	Gallons Water	Gal or Lbs Chemical	Chemical Concentration	Chemical Identity	SDS/Service Records
Notes:												

Attach Safety Data Sheet and Contractor Service Record to this form.

- 1 - Sweeping log to be filled out daily and returned to Lab for record retention.
- 2 - Road Areas identified as SLAG/LIME Route – S / CEMENT Route – C / ALL Routes – A
- 3 - Obtain temperature and wind speed from Lab weather station unit.
- 4 - Pavement Dust Buildup: Indicate Yes if significant buildup observed on roadways or if dust clouds are observed from truck traffic.
- 5 - If dust suppressant applied (water, chemical, etc.) fill out Part B of this form.
- 6 - Comments to be filled out daily.

DAILY INSPECTION / OPACITY LOG

Date/Time/Initials: _____

Process Unit(s)	Visible Emissions (Y/N)	Okay (OK) Not Okay (NOK)	Dust Collector Pressure Drop (Inches)	Dust Collector Proper Functioning (Y/N)	CA Taken 8 Hrs (Y/N)	EPA Method 9 Opacity 10% Limit	Comments Corrective Actions Taken
Slag - Storage Pile 1 (Reject)			NA	NA			
Slag - Storage Pile 1 De-Lumper							
Slag - Storage Pile 2 (Day Bin)			NA	NA			
Slag - Storage Pile 3 (Excess)			NA	NA			
Slag - Excess Accumulation	NA		NA	NA		NA	
Slag - Sufficient Moisture	NA		NA	NA		NA	
Slag - Piles Need Watering	NA		NA	NA		NA	
Roadway - Slag/Lime Route			NA	NA			
Roadway - Main Silo Route			NA	NA			
Facility Roadways - All Routes			NA	NA			
Truck Hatch Closing Station			NA	NA			
DC 1 - Shaft Dryer Stack							
DC 2 - Mill Sweep Stack							
DC 3 - Bucket Elevator Stack							

- 1 - If visible emissions are observed, take Method 9 observation reading over a formal 5 minute period.
- 2 - If roads need watering, sweeping, or dust suppressant application, provide details on separate Daily Street Sweeping Log.
- 3 - CA means corrective action. Must be taken within 8 hours of unsatisfactory condition.

DAILY INSPECTION / OPACITY LOG

Date/Time/Initials: _____

Process Unit(s)	Visible Emissions (Y/N)	Okay (OK) Not Okay (NOK)	Dust Collector Pressure Drop (Inches)	Dust Collector Proper Functioning (Y/N)	CA Taken 8 Hrs (Y/N)	EPA Method 9 Opacity 10% Limit	Comments Corrective Actions Taken
DC 4 - HES Separator Stack							
DC 5 - NewCem Silo Stack							
DC 6 - Dense Phase Stack							
DC 7 - Barge Loader Stack							
DC 8 - Vessel Loading Stack							
DC 9 - Truck Bay 1 Stack							
DC 10 - Truck Bay 2 Stack							
DC 11 - Main Silo Stack							
Additional Comments:							

- 1 - If visible emissions are observed, take Method 9 observation reading over a formal 5 minute period.
- 2 - If roads need watering, sweeping, or dust suppressant application, provide details on separate Daily Street Sweeping Log.
- 3 - CA means corrective action. Must be taken within 8 hours of unsatisfactory condition.



INCIDENT LOG

R 010021

Submit To IEPA With
Quarterly Reports

IEPA Facility ID: 031600FHQ
Holcim (US) Inc.
South Chicago Slag Grinding Plant and Cement Distribution Terminal
2150 East 130th Street
Chicago, Illinois 60633

To Be Filled Out By:
Maintenance Manager

Date	Initials	Process Activity Unit(s)	Control Measures Not Used	Explanation
		Slag - Storage Pile 1 (Reject)		
		Slag - Storage Pile 1 De-Lumper		
		Slag - Storage Pile 2 (Day Bin)		
		Slag - Storage Pile 3 (Excess)		
		Roadway - Slag/Lime Route		
		Roadway - Main Silo Route		
		Truck Hatch Closing Station		
		Surge Bin Pressure Relief Valve		
		Dock Walkway and Work Area		
		DC 1 - Shaft Dryer Stack		
		DC 2 - Mill Sweep Stack		
		DC 3 - Bucket Elevator Stack		
		DC 4 - HES Separator Stack		
		DC 5 - NewCem Silo Stack		
		DC 6 - Dense Phase Stack		
		DC 7 - Barge Loader Stack		
		DC 8 - Vessel Loading Stack		
		DC 9 - Truck Bay 1 Stack		
		DC 10 - Truck Bay 2 Stack		
		DC 11 - Main Silo Stack		

Attach supplemental documentation as needed.

Page 1 of 1

Form IncidentLog2019



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JOHN J. KIM, ACTING DIRECTOR

Inspection Report

GENERAL INFORMATION

Report Date:	04/03/2019	Desk Review Date:	02/14/2019; 03/14/2019 & 03/28/2019
Inspector:	Rajiv Narielwala	Last Inspection Date:	09/17/2014

SOURCE INFORMATION

LOCATION

Facility ID #:	031600FHQ
Company Name:	Holcim (US), Inc.; formerly Lafarge Midwest Inc.
Street Address:	2150 E 130th St.
City, County:	Chicago, Cook
State, Zip Code:	IL, 60633
Contact/Title:	Peter Kossis, Plant Manager Timothy Weible, Senior Environmental Manager
Contact Phone/Fax:	(219)378-1193- Ext 223/ (219)378-1191 (fax) / (312)623-1658 (cell) (567)-808-0032 (Cell)
Contact Email:	peter.kossis@lafargeholcim.com tim.weible@lafargeholcim.com

SCOPE OF INSPECTION

Conduct a review of Fugitive Particulate Operating Program (FPOP) submitted on February 4, 2019 by the facility. This review was done in the office without visiting the site.

PERMITS INFORMATION

RELEVANT OPERATING AND/OR CONSTRUCTION PERMITS FOR INSPECTION

Type	Permit #	Description	Date Received	Status
TITLE V	0910031	Distribution Terminal	10/21/2009	Under review with changes requested on February 2019
Construction	06090040	Slag Drying & Grinding		Issued on 06/01/2007
Construction	0080028	Slag Processing		Incorporated on 12/16/2002

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
412 SW Washington St., Suite D, Peoria, IL 61602 (309)671-3022
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 4-500, Chicago, IL 60601

EVALUATION # 1

Fugitive Particulate Operating Program

INSPECTION FOCUS

- Minimum Operating Program 35 Ill. Adm. Code 212.310/ 212.316 and 212.324
- FPOP is required for the facility pursuant to 35 I.A.C., Subtitle B, Part 212, Subpart K.
- Source is in Lake-Calumet area, which requires additional control requirements, emission limits and reporting requirements.
- A FPOP prepared by the owner or operator and submitted to the Agency shall be designed to significantly reduce fugitive particulate matter emissions (35 Ill. Adm. Code Section 212.309).
- The fugitive dust operating program is required to be amended from time to time by the owner or operator, so that the operating program is current, consistent with the fugitive particulate matter rules in Subpart K and needs to be submitted to the Agency for its review (35 Ill. Adm. Code Section 212.312).
- FPOP should provide the name and address of the source, owner or operator.
- A map or diagram of the source showing approximate locations of emission units and all normal traffic patterns within the source.
- Estimated frequency of application of dust suppressants by location of material.
- A detailed description of the best management practices utilized to achieve compliance with this Subpart K.
- Record keeping Requirement, keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 Ill. Adm. Code Section 212.316(g).
- Reporting Requirement, submit to the Agency an annual report containing a summary of record keeping and a quarterly report stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken.

INSPECTION FINDINGS

- Facility is a Slag Grinding and Cement Distribution facility located at 2150 East 130th Street in Chicago. It is engaged in two distinct but related processing and distribution activities involving the production of slag and the distribution of cement. Mode of transportation of material are trucks and barges.

02/14/2019- First Review

- Section 212.302: The source in Cook county. So, based on geographical location and SIC- 3295 (Older was 5032) this source requires Minimum Operating Program per Section 212.324(a)(1).
- The Fugitive Dust Control Program Submitted on 02/04/2019 was reviewed on 02/14/2019 for requirement of Section 212.304 thru 212.310
- Section 212.310: Minimum Operating Program (Section 212.310 and 212.312)
As a minimum the operating program shall include the following:
 - The name and address of the source:
 - The name was different on Fugitive Dust Control Program and that on the FESHOP permit application that they submitted in 2008. So, sent an e-mail confirming the name which they changed on both FESHOP permit application and on Fugitive Dust Control Program. A meeting was held at the Illinois EPA, Springfield to discuss changes requested in permit and the revision for Fugitive Dust Control Program on 03/14/2019.

- The name and address of the owner or operator responsible for execution of the operating program:
 - Changed with new name on 03/14/2019. The permittee then submitted revised Fugitive Dust Control Plan on 03/22/2019.
- A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source.
- Location of unloading and transporting operations with pollution control equipment:
 - The Map submitted with the Fugitive Dust Control Program indicates all emission units, other buildings with internal roads. Requested to show more information of emission control units, loading and unloading points, paved and unpaved roads on 02/14/2019
- A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized:
 - The required specifications of all emission control units were not provided in initial submitted plan. So, explained to the permittee to provide this information on 02/14/2019.
 - The permittee added all required specifications of all Dust Collectors in revised Fugitive Dust Control Program that they submitted on 03/22/2019.
- Estimated frequency of application of dust suppressants by location of materials:
 - The permittee based on information provided to them on 02/14/2019 added log in the revised Fugitive Dust Control Program that they submitted on 03/22/2019.
- Section 212.312: Amendment to Operating Program:
 - The Permittee is aware to submit the amended Fugitive Dust Control Program to the Agency to meet this condition requirement.
- The source is located in the vicinity of Lake Calumet in Cook County and so requires additional control requirements, emission limits and reporting requirements per section 212.324 (1).
- Section 212.324: Process Emission Units in Certain Areas:
 - PM-10 from any process emission unit to exceed 68.7 mg/scm (0.03 gr/scf) during any hour period.
 - Maintenance and Repair:
 - Visual Inspections of air pollution control equipment
 - Maintenance of an adequate inventory of spare parts;
 - Expeditious repairs, unless the emission unit is unknown
 - Recordkeeping of Maintenance and Repair:
 - The permittee was informed for these requirements on 02/14/2019. Later, permittee has incorporated information by providing inspection log, information on records and commitment on providing records upon written request from Illinois EPA in revised Fugitive Dust Control Program that they submitted on 03/22/2019.
- Section 212.316: Emission Limitations for Emission Units in Certain Areas:
 - This section is applicable to those operations specified in Section 212.302 and that are located in areas defined in Section 212.324(a)(1)
 - Fugitive particulate emissions generated by the crushing or screening of slag, stone, coke or coal should not exceed an opacity of 10 percent.
 - For roadways and parking lots Fugitive particulate emissions should not exceed an opacity of 10 percent.
 - Fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent to be measured four ft. from the pile surface.

- Record keeping, reporting, MAP indicating all emission units and roads, logs for application of water or suppressant to roadways with frequency and quantity, log recording incidents when control measures were not used and a statement of explanation:
 - The permittee was informed for these requirements on 02/14/2019. Later, permittee has incorporated information by providing inspection log, information on records and commitment on providing records upon written request from Illinois EPA in revised Fugitive Dust Control Program that they submitted on 03/22/2019.

02/21/2019- EJ Status checked and SIC to be verified:

- EJ status checked for the source which was found "3- EJ area, Both Minority & Low Income".
- The status was discussed with permit analysts. The outreach number is: 1460.
- Also, process was discussed with the permit analysis as the source is not just processing & handling Wet Slag but also a Distribution Center of Cement. For this reason, the SIC code need to be verified.

03/14/2019- Meeting:

- A meeting was held at the Illinois EPA, Springfield with the contact persons of the source, a consultant, A permit analyst, The Permit section manager, and the Inspector:
 - Revised FESOP permit, new name of the source, SIC code changes, and FPOP revision were discussed. The permit section recommended:
 - Change of the SIC code,
 - Change of the facility owner and operator name - Now Holcim (US) Inc.,
 - New construction permits from the Permittee for-modification in process, temporary portable conveyor system, storage tank etc.
 - Expedited Permit request from the Permittee to expedite the FESOP permit to have new emission limits, which will include conditions that ensure compliance with the revised FPOP.
 - The revised FPOP was ready per recommendations made after the review done on 02/14/2019 but still needs to incorporate temporary material handling section in it.

03/19/2019- Change in SIC Code:

- The permittee sent an e-mail requesting change of SIC code from 5032 to 3312.
- SIC code changed in ICEMAN.

03/22/2019-Revised Fugitive Dust Control Program Submitted:

- The permittee submitted final revised Fugitive Dust Control Program.~

03/28/2019 - Review of Final Revised Fugitive Dust Control Program:

- The Permittee used the Drop Point emission factor contained in Appendix D of the facility's "Potential to Emit" documentation dated July 2, 2009 which utilizes the emission factor equation from AP-42 Chapter 13.2.4 "Aggregate Handling & Storage Piles" that were used for fugitive emission estimates. According to this documentation, the following factors were calculated:
PM = 0.00116 lbs/ton
PM10 = 0.00055 lbs/ton

Based on this calculation, the permittee has considered Fugitive Dust Emission of PM as 1.68 tons/yr/pile and PM10 as 0.80 tons/yr/pile.

- The FESOP Permit limits annual slag processing to 965,790 tons.

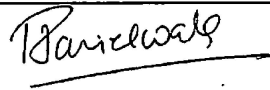
CONCLUSION:

- It is the determination of the inspector that the Fugitive Dust Control Plan submitted meets the criteria to significantly reduce fugitive particulate matter emissions, pursuant to 35 Ill. Adm. Code Section 212.310, 212.324, and 212.316 and is acceptable. No issues are anticipated to arise from the implementation of this Fugitive Dust Control Program as written.

The attached General Checklist, Lake Calumet Areas Checklist, and FPOP as submitted on March 22, 2019, were the documents used to evaluate the FPOP.

SIGNATURE

REPORT CERTIFICATION:



Attachment 1: 031600FHQ Holcim (US), Inc._FPOP General Checklist_040319

Attachment 2: 031600FHQ Holcim (US), Inc._McCook-Lake Calumet Check list_040319

Attachment 3: 031600FHQ Holcim (US), Inc._Revised Fugitive Dust Control program on March 22, 2019

cc: DAPC – Division File
DAPC/FOS – Springfield, Region 2