



DES
**DEPARTMENT OF ENVIRONMENT
AND SUSTAINABILITY**



air quality



desert conservation
PROGRAM



sustainability

4701 W. Russell Rd Suite 200
Las Vegas, NV 89118-2231
Phone (702) 455-5942
Fax (702) 383-9994

**PART 70 OPERATING PERMIT
TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)**

**APPLICATION FOR:
Renewal**

Application Received: April 11, 2022

**SUBMITTED BY:
Trinity Consultants**

**FOR:
Lhoist North America of Arizona Apex Plant
Source: 00003**

**LOCATION:
12101 North Las Vegas Boulevard
Las Vegas, Nevada 89165**

**SIC code 3274, "Lime Manufacturing"
NAICS code 327410, "Lime Manufacturing"**

November 16, 2023

EXECUTIVE SUMMARY

Lhoist North America of Arizona Apex Plant is a lime manufacturing operation located in Hydrographic Area 216 (Garnet Valley) which is designated as an attainment area for 8-hour ozone (regulated through NO_x and VOC), PM₁₀, CO, and SO₂. The source is a categorical source, as defined by AQR 12.2.2(j)(12)- Lime Plants.

The Apex plant is a major stationary source of PM₁₀, PM_{2.5}, NO_x, CO, SO₂, and HAP, and a minor source of VOC. The source is also a major source of greenhouse gases. The source consists of mining, excavating, drilling, blasting, solid fuel handling, lime kilns, crushers, screens, conveyors, silos, fuel storage tanks, haul roads, storage piles, and truck and railcar loading. Each kiln can be fired by coal, coke, or natural gas.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units addressed by this Part 70 Operating Permit:

Table 1: Source Potential To Emit and Program Applicability

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP (HCl)	HAP (total)	Pb	H ₂ S	GHG ²
Tons/year	339.34	203.17	1,901.34	968.90	1,646.76	8.46	21.12	22.96	ND ³	0	697,494.80
Major Source Thresholds (Title V/Categorical)	100	100	100	100	100	100	10/25 ¹	10/25 ¹			

¹10 tons for any individual hazardous air pollutant, or 25 tons for the combination of all hazardous air pollutants.

²In units of CO₂e.

³Not determined

DAQ will continue to require the sources to estimate their GHG potential to emit in terms of each individual pollutant (CO₂, CH₄, N₂O, SF₆). The TSD includes these PTEs for informational purposes.

This source is subject to 40 CFR Part 60, Subpart Y; 40 CFR Part 60, Subpart OOO; 40 CFR Part 60, Subpart IIII; 40 CFR Part 60, Subpart HH; 40 CFR Part 63, Subpart ZZZZ; and 40 CFR Part 63, Subpart AAAAA. By meeting the requirements of 40 CFR Part 60, Subpart IIII, the source meets the requirements of 40 CFR Part 63, Subpart ZZZZ.

DAQ has received delegated authority from the U.S. Environmental Protection Agency to implement the requirements of the Part 70 OP. Based on the information submitted by the applicant, supplemental information provided to the application, and a technical review performed by DAQ staff, the draft Part 70 OP is proposed.

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I. ACRONYMS AND ABBREVIATIONS

ANFO	ammonium nitrate-fuel oil
APCHB	Air Pollution Control Hearing Board
AQR	Clark County Air Quality Regulation
ATC	authority to construct
BLM	Bureau of Land Management
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CI	compression ignition
CO	carbon monoxide
COMS	continuous opacity monitoring system
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
DAQ	Division of Air Quality
DES	Clark County Department of Environment and Sustainability
DOM	date of manufacture
dscf	dry standard cubic feet
dscm	dry standard cubic meter
EPA	U.S. Environmental Protection Agency
EU	emission unit
GHG	greenhouse gas
H ₂ S	hydrogen sulfide
HAP	hazardous air pollutant
HOO	hearing officer order
hp	horsepower
kW	kilowatt
MMBtu	British thermal units (in millions)
NAICS	North American Industry Classification System
NEI	net emissions increase
NO _x	nitrogen oxide(s)
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standards
NSR	New Source Review
O&M	operations and maintenance
OM&M	operation maintenance and monitoring
OP	operating permit
Pb	lead
PM _{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter
ppm	parts per million
PNF	prior notification form
PSD	prevention of significant deterioration
PTE	potential to emit
RT	round trip
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO ₂	sulfur dioxide
VE	visible emissions
VMT	vehicle miles traveled
VOC	volatile organic compound

II. SOURCE DESCRIPTION

A. DESCRIPTION OF PROCESS

Operations conducted by Lhoist North America, Apex facility, include mining operations, limestone handling and processing, four rotary kilns, solid fuel handling, lime kiln product handling and processing, hydrator material handling and processing equipment, truck and railcar loadout operations, a portable screening plant, various auxiliary equipment, and storage tanks.

1. Mining Operations:

Mining operations in the limestone quarry include drilling, blasting, loading, and hauling of limestone ore. The ore is transported from the quarry directly to the primary hopper or to a stockpile adjacent to the hopper.

2. Limestone Processing System:

Ore is discharged into the primary hopper and is transferred, via pan feeder, to a rotating grizzly feeder. Oversized material from the grizzly feeder is fed into the primary jaw crusher. The remaining material is conveyed to two triple deck vibrating screens. The oversized material from the screen is fed into the secondary crusher and undersized material (chat) is conveyed to a bin, for storage, before being loaded out to a stockpile. The remaining mid-sized material is separated by size and conveyed to one of four stockpiles: coarse kiln feed; fine kiln feed; coarse dolomite; and fine dolomite.

3. Kiln-Run Screening System:

Limestone from the coarse kiln feed stockpile follows one of two possible paths in the kiln-run screening system.

The first path conveys limestone to a single-deck vibrating screen. Oversized material from this screen is conveyed to three storage bins and used to feed kilns 1, 2, and 3. Undersized material is sent to a fourth bin where it is stored and eventually loaded out to the chat stockpile.

The second path for the coarse kiln feed is to be conveyed to a separate single deck vibrating screen. Oversized material from this screen is used to feed kiln 4. Material from the fine kiln feed stockpile also follows this path. Undersized material is sent to the chat stockpile.

4. Rotary Kiln Systems:

Limestone (CaCO_3) is converted to quicklime (CaO) by passing through a rotary kiln at high temperatures, releasing CO_2 gas. Each kiln system is comprised of a stone bin, preheater, rotary kiln, contact cooler, and associated material handling equipment. The kilns are capable of being fired by coal, coke, and natural gas.

Limestone is conveyed to the stone bins from the kiln-run system and is gravity fed to the kiln preheaters. Hydraulic rams are used to push the limestone from the preheaters to the rotary kilns.

After leaving the kilns, quicklime is passed through air contact coolers where the kiln combustion air is preheated.

5. Solid Fuel Handling System:

Solid fuel, delivered to the site by truck and railcar, is offloaded to two below-grade hoppers. The hoppers feed the fuel to vibrating feeders before being discharged to a belt conveyor. The fuel can be fed directly to a roll crusher or diverted to a stockpile. Product from the crusher is discharged to a system of screw conveyors that feeds fuel bins for the various kilns. Stone and hard material that is not capable of being processed by the fuel mills is transferred to reject bins.

6. North and South Lime Handling System:

Quicklime from all four kilns is sent to either the north or south lime handling systems. Each system consists of belt conveyors, screw conveyors, a hammer mill, a vibrating screen and miscellaneous equipment for sizing and processing quicklime to customer specifications. The final product is stored in silos for loadout to trucks and railcars.

7. Hydrate System:

Quicklime from Silo 4, of the south lime handling system, is most often conveyed to an atmospheric hydrator. In the hydrator, water is mixed with the quicklime to produce calcium hydroxide (CaOH). The product is further processed by a screen and pulverizer, then stored in a product silo for loadout.

8. Dolomite Handling System and Dolomitic Lime Handling System:

Dolomitic limestone is processed, through kiln 1, in the same manner as the non-dolomitic limestone. The finished product is loaded into silos for future loadout to railcars and trucks.

9. 5,000 Ton Storage Silo System:

Additional lime storage capacity is provided by a 5,000 ton storage silo system. Lime from kilns 2, 3, and 4 is transferred, via belt conveyor, to a bucket elevator, screw conveyor, then into the storage silo.

10. Quicklime Truck and Railcar Loadout System:

Lime is loaded into trucks and railcars via weigh belt feeders and screw conveyors that transfer the product by telescopic loading chutes.

11. Portable Screening Plant:

The portable screening plant is not a permanent operation for the source. Lhoist North America does not own any equipment for this process, and will rent it when needed. It is anticipated that the equipment required for this process will include a feed hopper, belt conveyor, screen, and three stacker belts.

12. Lime Screening Plant

The pebble lime screening plant consists of conveyors, screen and a bucket elevator. The process is capable of screening lime made in any of the four existing kilns.

B. PERMITTING HISTORY

The following represents permitting activities since the issuance of the last renewal permit on October 10, 2017:

1. Minor Revision

On July 13, 2017, a minor revision application was submitted to change the status of the diesel-powered water pump identified as EU: QS101. The application requested to change the status of this unit from a rental unit, classified as a nonroad engine, to a permanent stationary unit. The minor revision operating permit was issued on December 11, 2017.

2. Significant Revision

A significant revision was issued on July 14, 2020. This operating permit consisted of a combination of several applications as detailed below:

- February 8, 2019: Minor revision application to increase annual throughputs to the Dolomitic Lime Handling process, Quick Lime Truck and Rail Loadout System, and Lime Screening System, as well as adding a new lime crushing operation (EU: D212).
- February 21, 2019: Minor revision application for the replacement of the Kiln 3 cooler (EU: K302), addition of a conveyor to the Dolomite Handling process (EU: D104c), and addition of four conveyors to the Kiln 3 process (EU: K309).
- February 25, 2019: Prior Notice Form submitted to replace the Kiln 3 baghouse with an identical unit.
- May 3, 2019: Minor revision application for the addition of one screw conveyor and four transfer chutes to the Kiln 3 process (EU: K310).
- August 14, 2019: Minor revision application to replace the 49 hp Kiln 3 auxiliary drive diesel engine with a 65 hp diesel engine (EU: K302a).
- September 6, 2019: Prior Notice Form submitted to reroute exhaust gas from the Kiln 3 baghouse to modify the manufacturing process. No new emission units were added in conjunction with this modification and there was no impact to the annual PTE.
- November 25, 2019: Minor revision application to permit the drilling operation as a stand alone process (EU: Q104), addition of two screw conveyors to the Kiln 3 process (EU: K311), and the addition of a crusher, screen and five conveyors to the Lime Screening System, (EU: PL107). It should be noted that EU: Q104 removed. The drilling operation has been combined with Q103 (blasting). This is consistent with DAQ policy which includes drilling and blasting as one emission unit.

3. Prior Notice

The permittee submitted a series of Prior Notice Forms as detailed below. Each of these actions fall under AQR 12.5.12(a)(2). As a result revised permits were not issued.

- July 15, 2020: The auxiliary diesel engine for Kiln 2 failed. This engine was replaced with the Kiln 1 auxiliary engine. The previous emission unit identification for the Kiln 2 engine (EU: K202a) was retained.
- July 21, 2020: A new 34 hp auxiliary diesel engine was installed on Kiln 1. The previous emission unit identification of K102a was retained for this unit.
- February 2, 2021: EU: PL104 was modified to include an enclosed chute to transfer dolomite from screen D-VS-4216 (LNA internal designation) to silo 6.
- March 8, 2021: Burner replacement on Kiln 4. The heat input rating of the replacement burner (302 MMBtu/hr) exceeds that of the existing burner (281.25). Electronic limitation and fuel flow restriction acts to limit the maximum heat input rating to 281.25 MMBtu/hr.

4. Minor Revision and Reopen for Cause

A permit revision was issued on February 14, 2022.

On October 25, 2021, a minor revision application was submitted requesting the addition of one new screw conveyor and replacement of one screw conveyor and one belt conveyor for the Kiln 3 process (EU: K309), replacement of the coal spout for the Solid Fuel Handling process (EU: F101), replacement of one screw conveyor for the Lime Handling process (EU: PL105), and addition of a new screw conveyor to the Dolomitic Lime Handling process (EU: D212).

Two separate “reopen for cause” actions were also incorporated into this permitting action. The first of these, initiated on August 9, 2021, involved the implementation of Section 182(a)(3)(B) of the Clean Air Act into the permit. This requires any stationary source located within an ozone nonattainment area that has the potential to emit 25 tons, or more, of NO_x and/or VOC pollutants on an annual basis to submit an annual emissions statement. These statements must be submitted to DAQ no later than March 31 of each year.

The second reopen for cause action was initiated on September 2, 2021. Fugitive dust control and stabilization requirements were added to the *Emission Limitations* and *Control* sections of the permit. The additions resulted from revisions to AQR Sections 92 and 94 that became effective on August 17, 2021.

5. Prior Notice

On May 11, 2022, a PNF was submitted to increase the stack height for Kiln 1 (EU: K102) by four feet. This action falls under AQR 12.5.12(a)(2), so a revised permit was not issued.

6. ATC

On April 11, 2022, the permittee submitted an application for the renewal of the Part 70 operating permit. This application included a source-wide assessment, along with long-term strategies, for compliance with regional haze requirements. In response to a request by DAQ, the source submitted a separate application for regional haze on May 23, 2022. An ATC permit was issued on August 3, 2022. The permittee has up to two years to implement the proposed long-term

strategies and submit an application to include these strategies in the Part 70 operating permit. Once fully implemented, the permittee will be required to submit an application to revise the Part 70 operating permit.

7. ATC

On May 23, 2022, the permittee submitted an ATC application to add a 110 hp diesel-powered fire pump (EU: O111). The ATC permit was issued on September 15, 2022.

C. CURRENT PERMITTING ACTION

This permitting action is for the renewal of the Part 70 operating permit that expired on October 9, 2022. The renewal permit includes the specific items described below as well as the content of the prior notice forms identified in Section II-B-3.

Renewal Application

On February 11, 2022, the permittee submitted the renewal application. This submittal was within the timeframe specified in AQR 12.5.2.1(a)(2). Due to the timely submittal, the permittee has been granted an application shield, which allows the source to operate until the renewal permit is issued.

The renewal application requested the following revisions/corrections. Unless otherwise noted, the requested revision has been incorporated into the renewal permit.

- Addition of new Responsible Official.
- Reclassification of the diesel-powered generators identified as EUs: TL202 and TL3 from stationary to nonroad engines. This results in the removal of the engines, and all applicable regulations from the operating permit.
- Change the process identifier from “Dolomitic Lime Handling” to Lime Handling (EUs: D201, D202, D208, D211, and D212). If necessary, these emission units can be used to produce other types of lime.
- Update the internal source identifier for the conveyor identified as EU: D104c from D-BC-8301 to BC-23100.
- Update the process descriptions for EUs: PL107(a-c).
- Remove Condition III-C-2(jj): “Process materials to the dribble chute bins are limited by the process rate from the Kiln 4 preheater to Kiln 4. This process rate is limited by the Kiln 4 production rate. No additional process rate limits or changes apply to the dribble chute bins.” This condition doesn’t contain a compliance obligation or action for LNA to follow and therefore the request to remove the condition is granted.
- Update Condition 4.1.29 to remove requirement to conduct monthly testing on the kilns, remove requirement to include all four kilns in weighted average calculation, and to remove the requirement to conduct a weighted average test, as this is given as an option in CFR 63, Subpart AAAAA.

DAQ Discussion: This request was not granted. The permittee is required to demonstrate continuous compliance with the emission limitations defined in 40 CFR Part 63, Subpart AAAAA. Monthly testing is the methodology employed to satisfy this requirement. Additionally, the source had originally proposed this weighted average approach for compliance demonstration.

- Update Condition 4.1.36(d) to remove “quarterly” reporting of CEMS for NO_x and SO₂ concentrations, as there is no regulatory basis for the requirement.

DAQ Discussion: Quarterly has been replaced with consecutive 12-month period.

- Revise Condition 4.1.40 to replace annually with “every four calendar quarters” as stated in 40 CFR 60, Appendix F, Section 5.1.4.

DAQ Discussion: This request was not granted. The software used by Compliance staff to track source testing is programmed to flag testing dates on an annual basis. To be consistent with the software, “annually” will be retained in the permit. Essentially, “annual” and “every four calendar quarters” are identical, so there is no additional burden placed on the permittee.

- Revise Table 4-1 to remove “all kilns”. 40 CFR 63.7112(f)(2) allows for any number of kilns to be used for the weighted average calculation.

DAQ Discussion: The permittee withdrew this request.

- Revise Condition 4.2.8 to clarify that the results from a single kiln or the weighted average of multiple kilns can be used to demonstrate compliance with the 0.12 lb/tsf limitation.

DAQ Discussion: The permittee withdrew this request.

- Remove Condition 4.2.11. The condition requires annual testing which conflicts with five year testing requirement in Table 4-1.

DAQ Discussion: This condition has not been removed from the permit. Most emission unit identifiers in the permit are comprised of multiple emission units. There are instances for which some emission units listed under a single identifier may have annual testing requirements while others are at five year intervals. Table 4-1 identifies the specific testing requirements (annual or 5-year) for each emission unit. There are no conflicts between the Condition and the table.

The renewal application also included a source-wide assessment, along with proposed strategies, to comply with regional haze requirements. This information is not included in the renewal permit. As stated previously, an ATC was issued on August 3, 2022. The permittee has up to two years from the date of issuance of the ATC to implement these strategies and to submit an application for inclusion into the Part 70 operating permit.

Significant Revision Application

An application for a significant revision was submitted on May 23, 2022. This application was submitted concurrently with the ATC application to add a 110 hp fire pump (EU: O111). The ATC permit was issued on September 15, 2022. The fire pump has been added to the renewal permit.

Nonroad Engine Declaration Form

On April 5, 2023 the permittee submitted a nonroad declaration form to reclassify the diesel-powered generator identified as EU: SP7. All references to this emission unit have been removed from the operating permit and TSD.

Significant Revision Application

On April 27, 2023, the permittee submitted a significant revision application to add a 16.3 hp diesel-powered emergency generator to operate a railroad crossing arm (EU: O112). This application was submitted concurrently with an ATC application. The ATC permit was issued on June 22, 2023. The generator has been added to the renewal permit.

ATC and Significant Revision Application

On May 18, 2023, the permittee submitted an ATC/significant revision application. This application requested to increase the total source-wide stockpile area by 8.0 acres for solid fuel stockpiles (coal and/or coke) (EU: A01). This increase in coal storage also necessitate an increase of 3,879 VMT for unpaved haul roads (EU: VPW), and the addition of a new emission unit which is defined as “Truck Loading Coal/Coke (Stockpile 2)” (EU: F133). The new emission unit has been added to the emission unit list under “Solid Fuel Handling.”

The permittee requested the issuance of an ATC permit based on the fact that coal handling and transporting are subject to 40 CFR Part 60, Subpart Y. The ATC request is in accordance with AQR 12.4.1.1(a)(4), which requires the issuance of an ATC permit if the source “. . . becomes newly subject to a standard, limitation, or other requirement under 40 CFR Part 60.” Due to the fact that the Lhoist Apex plant was subject to Subpart Y prior to the submittal of the aforementioned application, DES determined that this does not constitute the source becoming “newly subject” to the regulation. As a result, the components requested in the application will be incorporated into this renewal permit which, at the time of this writing, is in DES internal review.

During review of the application, it was determined that the derivation for the emission factors used to calculate the PTE for truck loading were in error. The permittee was notified of these errors, and subsequently submitted revised PTE calculations on June 2, 2023.

AQR Sections 92 and 94

Revisions to AQR 92 (Fugitive Dust from Unpaved Parking Lots and Storage Areas) and AQR 94 (Permitting and Dust Control for Construction Activities) became effective on August 17, 2021. The revised sections were added to the LNA operating permit that was issued on September 14, 2022. Enforcement of these requirements has been stayed by the Control Officer until AQRs 92 and 94 can be revised. On March 2, 2023, the District Attorney’s Office recommended removing these conditions to avoid confusion. As a result, all AQR 92 and 94 conditions added with the September 14, 2022 permit have been removed with this permitting action. However, all fugitive dust conditions included in the permit prior to September 14, 2022 have been retained. In addition, any applicable conditions that were removed from the permit have been reinserted. Once AQR 92 and 94 have revised and promulgated, all applicable conditions will be reintroduced into the permit.

III. EMISSIONS INFORMATION

A. EMISSION UNIT LIST

Table III-A-1 lists the emission units covered by this Part 70 OP.

Table III-A-1: Summary of Emission Units

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
Mining Operations							
Q101			Mining Ore and Removing Overburden				30501650
Q103		65,000 ft ² /blast, 5,200,000 ft ² /yr ANFO: 2,100 tons/yr	Blasting				30501650
Q104		24,552 holes/yr	Drilling				30502020
QS101	Diesel Engine; DOM: 2001	80 hp	Sprinkler Pump	John Deere	4045DF150B	1JDXL06.8016	20200102
	Water Pump			Godwin	CD150M	0022946/5	
Limestone Processing							
P103	HO-101/PF-101		Open Stone Transfer Point				30501608
	GR-101	860 tph	Open Stone Transfer Point				
	BC-103		Closed Stone Transfer Point				
P103a	JC-102	720 tph	Stone Crushing	Pioneer	42" x 48"		30501601
P106	BC-104		Closed Stone Transfer Point				30501616
	VS-202	1,170 tph	Stone Screening	Telsmith	Vibro-King		
P107	VS-203	1,170 tph	Stone Screening	Telsmith	Vibro-King		30501616
P109	BC-204		Closed Stone Transfer Point				30501607
	BC-225		Closed Stone Transfer Point				
P109a	CC-201	800 tph	Secondary Crushing	Telsmith	68S Gyrasphere		30501602
P112	BN-226		Closed Stone Transfer Point				30501607
	BN-226 Loadout		Open Stone Transfer Point				
P114	BC-205		Closed Stone Transfer Point				30501607
	BC-206		Closed Stone Transfer Point				
	BC-207		Open Stone Transfer Point				
	BC-209		Closed Stone Transfer Point				
	BC-210		Open Stone Transfer Point				

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
P115	BC-236		Closed Stone Transfer Point				30501607
	BC-237		Open Stone Transfer Point				
	BC-208		Closed Stone Transfer Point				
	BC-235		Open Stone Transfer Point				
	BC-Coarse 2		Open Stone Transfer Point				
P129	Loader Loading (dolomite)		Open Stone Transfer Point				30501607
	Loader Unloading (dolomite)		Open Stone Transfer Point				
Kiln Run Screening							
R101	BC-11		Closed Stone Transfer Point (underground)				30501607
	BC-12		Closed Stone Transfer Point				
	BC-13		Closed Stone Transfer Point				
	VS-04	200 tph	Stone Screening	Hewitt Robins			
R106	BC-14		Closed Stone Transfer Point				30501607
	BN-05		Closed Stone Transfer Point				
	BN-05 Loadout		Open Stone Transfer Point				
R108	BC-15, 16		Closed Stone Transfer Point				30501607
	BE-01, 02		Closed Stone Transfer Point				
	BC-17		Closed Stone Transfer Point				
	BC-18		Closed Stone Transfer Point				
	SB-01		Closed Stone Transfer Point				
	SB-02		Closed Stone Transfer Point				
	SB-03		Closed Stone Transfer Point				
R117	BC-217		Closed Stone Transfer Point				30501616

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
	BC-224		Closed Stone Transfer Point				
	VS-229	264 tph	Stone Screening	Telsmith	Specmaker		
R120a	BC-231		Closed Stone Transfer Point				30501607
R120	BC-230		Closed Stone Transfer Point				30501607
	SB-04		Closed Stone Transfer Point				
Kiln 1							
K102	PH-01		Closed Stone Transfer Point				30501604
	KN-01	15 tph/ 81.25 MMBtu/hr	Rotary Kiln 1	KVS	10' x 151'		
	CO-01		Cooler	KVS	Contact		
K102a	Diesel Engine; DOM: 07/28/2000	34 hp	Auxiliary Kiln Drive	Isuzu	C240	900825	20200102
K104	SC-01		Lime Transfer				30501615
	SC-02		Lime Transfer				
	BE-03		Lime Transfer				
K106	BN-06		Bin Feeding				30501615
	BN-06		Load Out				
K110	SC-04 (sealed)		Dust Transfer				30501615
	SC-05 (sealed)		Dust Transfer				
	SC-07 (sealed)		Dust Transfer				
	SC-08		Dust Transfer				
	BE-06 (sealed)		Dust Transfer				
	SC-15 (sealed)		Dust Transfer				
K110a	SC-45		Dust Transfer				30501615
	SC-46		Dust Transfer				
K114	BN-09		Bin Feeding				30501615
	BN-09		Load Out				
Kiln 2							
K202	PH-02		Closed Stone Transfer Point	KVS			30501604
	KN-02;	13 tph/ 81.25 MMBtu/hr	Rotary Kiln 2	KVS	10' x 151'		
	CO-02		Cooler	KVS	Contact		
K202a	Diesel Engine	49 hp	Auxiliary Kiln Drive	Isuzu	C240	779553	20200102

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
K204	SC-02		Lime Transfer				30501615
	BE-04		Lime Transfer				
K206	BN-07		Bin Feeding				30501615
	BN-07		Load Out				
K208	SC-06		Dust Transfer				30501615
	SC-09 (sealed)		Dust Transfer				
	SC-13 (sealed)		Dust Transfer				
	BE-07 (sealed)		Dust Transfer				
	SC-16 (sealed)		Dust Transfer				
K213	BN-10		Bin Feeding				30501615
	BN-10		Load Out				
K215	DA-BN-502		Bin Feeding	Silotec			30501615
	DA-SC-505 (sealed)		Dust Transfer				
	DA-SC-506 (sealed)		Dust Transfer				
Kiln 3							
K302	PH-03		Closed Stone Transfer Point	KVS			30501604
	KN-03	17 tph/ 91.10 MMBtu/hr	Rotary Kiln 3	KVS	11' x 150'		
	CO-03		Cooler	KVS	Contact		
K302a	Diesel Engine; DOM: 12/2004	64.8 hp	Auxiliary Kiln Drive	Isuzu	BB-4JG1T	4JG1TPV	20200102
K304	SC-03 (sealed)		Lime Transfer				30501615
	SC-04 (sealed)		Lime Transfer				
K306	BN-08		Bin Feeding				30501615
	BN-08		Load Out				
K308	BN-18		Bin Feeding				30501615
	SC-18		Dust Transfer				
	SC-18		Load Out				
	SC-11,12		Dust Transfer				
K309	D-SC-8306		Lime Transfer				30501615
	BC53102		Lime Transfer				
	SC50101		Lime Transfer				
	D-BE-8307		Lime Transfer				
	SC50106		Lime Transfer				
K310	D-SC-53105		Lime Transfer				30501615
K311	SC-53106 (sealed)		Dust Transfer				30501615

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
Kiln 4							
K402	K4-PH-302		Closed Stone Transfer Point	KVS	LPD		30501604
	K4-KN-305	56.25 tph/ 281.25 MMBtu/hr	Rotary Kiln 4	KVS	18' x 215'		
	K4-CO-309		Cooler	KVS-Niems	Contact		
K402a	Diesel Engine; DOM: 01/2013	174 hp	Auxiliary Kiln Drive	Perkins	MK51645	1204E- E44TTA	20200102
K404	K4-BC-501		Lime Transfer				30501615
	K4-BC-502		Lime Transfer				
	K4-BC-503		Lime Transfer				
	K4-BC-504		Lime Transfer				
K408	K4-DBN-1		Dribble Chute Bin				30501615
	K4-DBN-2		Dribble Chute Bin				
	K4-DBN-3		Dribble Chute Bin				
	K4-DBN-4		Dribble Chute Bin				
	K4-DBN-1		Dribble Chute Bin Load Out				
	K4-DBN-2		Dribble Chute Bin Load Out				
	K4-DBN-3		Dribble Chute Bin Load Out				
	K4-DBN-4		Dribble Chute Bin Load Out				
K410	Kiln Seal		Dribble Chute Bin				30501615
	Kiln Seal		Dribble Chute Bin Load Out				
K412	K4-SC-326		Dust Transfer				30501615
	K4-SC-327		Dust Transfer				
	K4-SC-328		Dust Transfer				
	K4-SC-329		Dust Transfer				
	K4-BE-330		Dust Transfer				
K417	K4-BN-508		Bin Feeding				30501615
	K4-BN-508		Load Out				
K418	K4-SC-342		Dust Transfer				30501615
Solid Fuel Handling							
F101	HO-40,41 (enclosed)		Fuel Transfer				30300305
	BC-40 (sealed)		Fuel Transfer				
	BC-44		Fuel Transfer				

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
	Loader Loading		Fuel Transfer				
	Loader Unloading		Fuel Transfer				
F104	CR-40 (enclosed)	100 tph	Fuel Crushing	McLanahan	Black Diamond		30300310
	SC-44 (enclosed)		Fuel Transfer				
F106	BN-41		Bin Feeding				30300309
	BC-41		Fuel Transfer				
F108	CM-41 (sealed)	4.6 tph	Fuel Crushing	Raymond	493		30300310
F110	SC-41 (sealed)		Fuel Transfer				30300309
	Reject Bin 1		Bin Feeding				
	Reject Bin 1 Loadout		Fuel Transfer				
F112	BN-42		Bin Feeding				30300309
	BC-42		Fuel Transfer				
F114	CM-42 (sealed)	4.6 tph	Fuel Crushing	Raymond	493		30300310
F116	SC-42 (sealed)		Fuel Transfer				30300309
	Reject Bin 2		Bin Feeding				
	Reject Bin 2 Load Out		Fuel Transfer				
F118	BN-43 (enclosed)		Bin Feeding				30300309
	BC-43		Fuel Transfer				
	CM-43 (sealed)	5.6 tph	Fuel Crushing	Raymond	533		
F122	SC-43 (sealed)		Fuel Transfer				30300309
	Reject Bin 3		Bin Feeding				
	Reject Bin 3 Load Out		Fuel Transfer				
F125	K4-SC-402 (sealed)		Fuel Transfer				30300309
	K4-BN-404		Bin Feeding	KVS			
	K4-BN-406		Bin Feeding	KVS			
	K4-WF-408		Fuel Transfer	Merrick	455		
	K4-WF-409		Fuel Transfer	Merrick	455		
	K4-BC-410		Fuel Transfer				
F131	K4-CM-413 (sealed)	14.1 tph	Fuel Crushing	Raymond	613 RB		30300310
F132	K4-SC-419 (sealed)		Fuel Transfer				30300309
	Reject Bin 4		Bin Feeding				
	Reject Bin 4 Load Out		Fuel Transfer				
F133	Truck Loading Coal/Coke (Stockpile 2)		Fuel Transfer				30300305

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
North Lime Handling							
L101	SC-24		Lime Transfer				30501615
	SC-25 (sealed)		Lime Transfer				
	BC-505/BC-20		Lime Transfer				
	BE-20		Lime Transfer				
L105	K4-BN-518		Bin Feeding				30501615
	K4-SC-524		Lime Transfer				
L108	HM-20 (sealed)	50 tph	Product Crushing	Williams	220 K2		30501632
L110	VS-20	150 tph	Screening Product	Tyler			30501613
	SI-02		Bin Feeding				
	SC-21 (sealed)		Lime Transfer				
L112	SI-01		Bin Feeding				30501613
	SC-23 (sealed)		Lime Transfer				
	SC-26 (sealed)		Lime Transfer				
L116	SI-06		Bin Feeding				30501613
	SC-27 (sealed)		Lime Transfer				
L118	SI-07		Bin Feeding				30501613
	SC-28		Lime Transfer				
	SC-20 (sealed)		Dust Transfer				
South Lime Handling							
L201	K4-BC-506		Lime Transfer				30501615
	SC-4029		Lime Transfer				
	SC-30		Lime Transfer				
	K4-BC-507		Lime Transfer				
	BE-30		Lime Transfer				
	BC-32 (enclosed)		Lime Transfer				
	Clean-up Screw Conveyor (enclosed)		Lime Transfer				
L206	CR-30	150 tph	Product Crushing	KVS	3636 RBM		30501615
	BE-31		Lime Transfer				
	VS-30		Screening Product				
	SC-47		Lime Transfer				
	SC-48		Lime Transfer				
	SC-49		Lime Transfer				
L208	SI-04 (enclosed)		Bin Feeding				30501613
	SI-09 (enclosed)		Bin Feeding				
	SI-03 (enclosed)		Bin Feeding				

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
	SI-10		Bin Feeding				
	SI-08 (enclosed)		Bin Feeding				
L209	SC-39 (sealed)		Lime Transfer				30501615
	SC-38 (sealed)		Lime Transfer				
	SC-38A (sealed)		Lime Transfer				
	SC-37 (sealed)		Lime Transfer				
	SC-36 (sealed)		Lime Transfer				
	SC-40 (sealed)		Dust Transfer				
	SC-41 (sealed)		Dust Transfer				
Hydrate							
H101	SC-101 (sealed)		Hydrate Transfer				30501615
H102	Small Bin (enclosed)		Bin Feeding				30501615
	SC-105 (sealed)		Hydrate Transfer				
H105	MX-106 (sealed)		Hydrate Transfer	Scott	2060 BU		30501609
	HY-107		Hydrator	CLC	10.5' x 2.1'		
	Hydrator Baghouse Burner	1.83 MMBtu/hr	Gas combustion				
	SC-111 (sealed)		Hydrate Transfer				
H108	BE-113 (sealed)		Hydrate Transfer				30501629
	VS-115 (enclosed)	28 tph	Product Screening	W.S. Tyler	V85		
	SC-117 (sealed)		Hydrate Transfer				
H109	CR-116 (sealed)	5 tph	Product Crushing	Mikropul	#4		30501628
H110	SC-119 (sealed)		Hydrate Transfer				30501615
H116	SC-118 (sealed)		Hydrate Transfer				30501613
	BE-120 (sealed)		Hydrate Transfer				
	SC-121 (sealed)		Hydrate Transfer				
	SI-05		Bin Feeding				
Dolomite Handling							
D101	D-BN-201		Open Stone Transfer Point				30501608
	D-BC-202		Open Stone Transfer Point				
D104	D-BC-207		Open Stone Transfer Point				30501607
	D-VS-208	250 tph	Screening Stone	Kinergy	KDSNTD-72-HD		
D104a	D-BC-213		Open Stone Transfer Point				30501607
D104b	D-BC-214		Open Stone Transfer Point				30501607

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
D104c	D-BC-23100		Open Stone Transfer Point				3050168
D105	D-BC-209		Open Stone Transfer Point				30501607
	D-BE-210		Open Stone Transfer Point				
	D-BN-211		Open Stone Transfer Point				
	D-BN-211		Load Out				
D106	D-BC-209E		Emergency Conveyor				30501607
	Loader Loading		Temporary Stockpile to Loader				
Lime Handling							
D201	D-HM-510 (sealed)	25 tph	Product Crushing	Williams	30NF		30501632
D202	D-SC-511 (sealed)		Lime Transfer				30501615
	D-SC-512		Lime Transfer				
	D-SC-513		Lime Transfer				
	D-SC-514		Lime Transfer				
	D-SC-515		Lime Transfer				
D208	D-SC-516 (sealed)		Lime Transfer				30501613
	SI-11, SI-12		Bin Feeding				
D211	D-BE-4214		Lime Transfer				30501613
	D-BN-504		Bin Feeding				
	D-SC-508 (sealed)		Lime Transfer				
D212	BE-03 to D-HM-510		Lime Transfer				30501607
Miscellaneous Operations							
O101	Ore Spillage		Open Stone Transfer Point				30501607
	Ore Spillage Reclaim		Open Stone Transfer Point				
	Ore Reclaim Unloading		Open Stone Transfer Point				
	Product Spillage		Lime Transfer				
	Product Spillage Reclaim		Lime Transfer				
	Product Reclaim Unloading		Load Out				
O107	Kiln 1-3 Dump/Bypass		Lime Transfer				30501615
	Kiln 1-3 Dump/Bypass Reclaim		Lime Transfer				

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
	Kiln 1-3 Dump/Bypass Unloading		Load Out				
O110	Diesel Engine; DOM: 2006+	302 hp	Electric Generation (rental)	Various	Various	Various	20200102
	Emergency Genset			Various	Various	Various	
O111	Diesel Engine; DOM: 1996	110 hp	Fire Suppression	Perkins/ Detroit Diesel	1006-6T	703260 U609748A	20200102
	Fire Pump			Clarke	PDFP-L6YT2504	U609748A	
O112	Emergency Generator	11 kW	Electric Generation	Kubota	GL11000	TBD	20200102
	Diesel Engine; DOM: 2023	16.3 hp			D722	TBD	
5,000 Ton Storage Silo Reclaim System							
S101	Kiln Product to BC-8001		Lime Transfer				30501615
S102	BC-8001 to BE-8001		Bin Feeding				30501615
	BE-8001 to SC-8001		Lime Transfer				
	SC-8001 to SI-RC		Lime Transfer				
	SI-RC to BC-8002		Lime Transfer				
	BC-8002		Lime Transfer				
Quick Lime Truck and Rail Load Out System							
LO101	SC-5001		Lime Transfer				30501615
	TC-1001		Load Out				
LO104	BCF-5002		Lime Transfer				30501615
	BCF-5003		Lime Transfer				
	TC-1002		Load Out				
LO106	BCF-5004		Lime Transfer				30501615
	BCF-5005		Lime Transfer				
	TC-1003		Load Out				
LO109	BCF-5006		Lime Transfer				30501615
	BCF-5007		Lime Transfer				
	TC-1004		Load Out				
LO112	SC-5008		Lime Transfer				30501615
	TC-1005		Load Out				
LO114	BCF-5009		Lime Transfer				30501615
	BCF-5010		Lime Transfer				
	TC-1006		Load Out				

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
LO117	BCF-5011		Lime Transfer				30501615
	BCF-5012		Lime Transfer				
	TC-1007		Load Out				
Portable Screening Plant							
SP1	Hopper Loading & Unloading		Open Stone Transfer Point				30501607
	Conveyor Belt SP-2		Open Stone Transfer Point				
SP3	Screen SP-3		Stone Screening				30501625
	Stacker Belt 1		Open Stone Transfer Point				
	Stacker Belt 2		Open Stone Transfer Point				
	Stacker Belt 3		Open Stone Transfer Point				
LD4	Loader Loading		Open Stone Transfer Point				30501607
	Loader Unloading		Open Stone Transfer Point				
Chat Transloader Operations– Alternate Operating Scenario							
TL201	Hopper Loading & Unloading		Open Stone Transfer Point				30501607
	Conveyor Belt to Truck		Open Stone Transfer Point				
Transloader							
TL1	Railcar Unloading (baghouse)		Product Transfer				30501607
Lime Screening System							
L101a	Conveyor SC-24 to Conveyor D-SC-4221		Lime Transfer (From North Lime Handling)				30501615
	Conveyor D-SC-4221 to Bucket Elevator BE-03		Lime Transfer				
K104b	Conveyor SC-02 to Conveyor D-SC-4207		Lime Transfer (From Kiln 1)				30501615
PL101	Conveyor D-SC-4207 to Bucket Elevator D-BE-4214		Lime Transfer				30501615

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
PL102	Bucket Elevator D-BE-4214 to Bin D-BN-504		Bin Feeding				30501615
PL103	Bucket Elevator D-BE-4214 to Conveyor D-SC-4215		Lime Transfer				30501615
PL104	Conveyor D-SC-4215 to Dololime Screen D-VS-4216		Lime Transfer				30501615
	Dololime Screen D-VS-4216		Screening Product				
	Dololime Screen D-VS-4216 to Silo 6		Lime Transfer				
	Dololime Screen D-VS-4216 to Conveyor D-SC-4217		Lime Transfer				
PL105	Conveyor D-SC-4217 to Conveyor SC4220		Lime Transfer				30501615
	Conveyor SC4220 to Crusher D-HM-510		Lime Transfer				
PL106	D-SC-4218		Dust Transfer				30501615
PL107a	SN-50118		Product Screening				30501616
PL107b	CF-50116		Product Crushing				30501601
PL107c	SC-50115		Lime Transfer				30501615
	SC-50117		Lime Transfer				
	SC-50114		Lime Transfer				
	SC-50119		Lime Transfer				
PL107d	SC-50125		Dust Transfer				30501615
Haul Roads							
VPW	Haul Roads		Paved & Unpaved				30502504
Reject Material Removal							
A1	Reject Material Removal		Loader Loading & Unloading				30502506
Open Storage Areas							
A01	Quarry Areas	15.18 acres					30502007
	Limestone at Hopper	1.72 acres					
	Fine Kiln Feed Stockpile	2.51 acres					
	Course Kiln Feed Stockpile	2.74 acres					
	Glass Flux Feed Stockpile	8.76 acres					

EU	Source EU Identifier	Rating	Process Description	Manufacturer	Model No.	Serial No.	SCC
	Kiln 4 Chat Stockpile	0.04 acres					
	Chat Stockpile	0.61 acres					
	Solid Fuel Stockpile; Coal	1.13 acres					
	Solid Fuel Storage; Coke	0.38 acres					
	Dolomite Stockpile	0.82 acres					
	Fine Dolomite Stockpile	1.80 acres					
	Coarse Dolomite Stockpile	1.81 acres					
	Portable Screening Plant Stockpiles	2.25 acres					
	Dolomite at Hopper	2.01 acres					
	Waste Lime Stockpile	3.07 acres					
	Waste Flue Dust Stockpile	3.08 acres					
	Temporary Stockpile	0.25 acre					
	Aggregate Plant Stockpiles	7.33 acres					
Fuel Dispensing							
T101	Aboveground Storage Tank	1,000 gallons	Gasoline Dispensing	Convault			40400108

The following units or activities listed in in Table III-A-2 are present at this source, but are deemed insignificant.

Table III-A-2: Insignificant Activities

Rating	Description
10,000 gallons	Diesel Tank
	Oil and Lubricant Use
	Solvent Use
	Thinner Use

B. APPLICABILITY EMISSIONS

Permitting applicability is determined by calculating the emissions for all proposed emission units using 8,760 hours of operation (except for emergency generators or fire pumps, which use 500 hours), any inherent controls, any inherent throughput limitations, and the emission factors provided by the manufacturer, by source test results, by EPA AP-42, or by other approved methods. As a lime manufacturer, Lhoist is defined as a categorical source. As a result, fugitive emissions are required to be included with applicability calculations.

Table III-B-1: Applicability Emissions Evaluation (tons per year)

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	H ₂ S	Pb	HAP (HCl)	HAP (total)	GHG (metric tons)
Applicability Thresholds	5	5	5	25	25	5	1	0.3	n/a		n/a
Major Source Thresholds (Categorical Source)	100	100	100	100	100	100	n/a	100	10/25 ¹		75,000
Applicability Emissions Total	21,272.93	565.24	1,907.67	903.72	1,643.61	11.94	0	ND ²	21.12	22.97	697,494.80

¹10 tons for any single HAP, or 25 tons for any combination of HAP pollutants.

²Not determined

As Table III-C-1 shows, Applicability Emissions are above major source thresholds for PM₁₀, PM_{2.5}, NO_x, SO₂, HAP, and GHG which qualifies this source as a major source for the aforementioned pollutants and a minor source for VOC. The calculations are included as an attachment.

C. SOURCE-WIDE PTE

Table III-C-1: Source-wide PTE (tons per year)

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP ¹ (HCl)	HAP ² (total)	Pb	H ₂ S	GHG ³
Tons/year	339.34	203.17	1,901.34	968.90	1,646.76	8.46	21.12	22.96	ND ⁴	0	697,494.80

¹A major source is defined as 10 tons for any individual HAP or 25 tons for combination of all HAPs.

²Includes HCl HAP

³Metric tons (in units of CO_{2e}).

⁴Not determined

Table III-C-2: Emissions Increase (tons per year)

Description	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG ¹
Current Permitting Action	339.34	203.17	1,901.34	968.90	1,646.76	8.46	22.96	697,494.80
Significant Revision Issued 07/14/2020	335.85	203.09	1,905.45	974.30	1,646.77	9.40	22.97	697,459
Difference	3.49	0.08	-4.11	-5.40	-0.01	-0.94	-0.01	35.80
Emissions Increase	3.49	0.08	0	0	0	0	0	35.80
AQR 12.5.1(d) Minor NSR Significant Levels	7.5	5	20	50	20	20	n/a	n/a
AQR 12.2.2(uu) Significance Thresholds	15	10	40	100	40	40	10	n/a
BACT Analysis Required	No	No	No	No	No	No	No	No

¹Metric tons (in units of CO_{2e})

D. OPERATIONAL LIMITS

The renewal application did not request to revise any of the existing operational limitations. The permittee submitted an application for an ATC/significant revision on May 18, 2023. The revisions requested with that application have been included with this renewal permit. These revisions increase the VMT on unpaved haul roads (EU: VMT) as well as adding a new stockpile for coal and/or coke (EU: F133), which increases total source-wide stockpile. The revised operational limitations associated with these modifications are identified in this section.

1. The permittee shall limit the accumulated stockpile areas to a maximum of 63.5 acres (EU: A01).
2. The permittee shall limit the vehicle miles traveled on paved and unpaved roads to 514,075 miles in any consecutive 12-month period (EU: VPW).
3. The permittee shall limit truck loading of coal and coke to 100,000 tons per year (EU: F133).

E. CONTROL TECHNOLOGY

The emission increases associated with this permitting action are below the minor NSR significant thresholds for all pollutants. Therefore, a BACT analysis is not required. A summary of BACT requirements established with previous permitting actions is included below. These requirements remain enforceable.

Add-On Controls

1. The permittee shall operate the control devices identified in Table III-E-1 at all times the associated emission units are in operation.

Table III-E-1. Add-on Control Devices

Description	Emission Units
Baghouse	F125, H105, H116, K102, K104, K110, K114, K202, K204, K208, K213, K302, K304, K308, K402, K404, L101, L110, L112, L116, L118, L201, L206, L208, LO101, LO104, LO106, LO109, LO112, LO114, LO117, PL104, PL107(a-c), S101, S102
Bin Vent	D202, D208, D211 L105, K215, K417, PL102

Blasting

2. A water truck shall be available and utilized during all drilling and blasting operations to maintain emissions within opacity limitations (EU: Q103).
3. Disturbed soils shall be watered following each blast.

Haul Roads

3. Unpaved haul roads shall be maintained to the extent that silt loading does not exceed 3%, regardless of the number of vehicles per day (EU: VPW).
4. Unpaved haul roads shall be maintained so as not to exceed an opacity of 20%. Preventative measures shall include, but are not limited to, paving, applying a dust palliative, or using an alternative method approved by the Control Officer (EU: VPW).

5. Paved haul roads shall be maintained, so as not to exceed an opacity of 20%. Preventative measures shall include, but are not limited to, daily vacuuming, sweeping, and/or rinsing.

Engines (New Control Requirement)

6. Engines shall only combust diesel fuel with a maximum sulfur content of 15 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35% by volume (EUs: O110, O112, and K402a).

F. MONITORING

Visible Emissions

1. The permittee shall adhere to the *Visible Emissions Check Guidebook* and keep a copy of the signed guide on-site at all times.
2. Monthly visual emissions checks shall be conducted on the entire plant while it is in operation.
3. Visual emissions checks shall be conducted at least quarterly on the diesel-powered emergency generator (EU: O110) and fire pump (EU: O111) while in operation.

Baghouses

4. Quarterly visible emissions checks shall be conducted on each baghouse, while in operation, using EPA Method 22.
5. Daily monitoring of the pressure drop across each baghouse cell with the installation and operation of a pressure differential (Magnehelic) gauge per manufacturer's specifications.
6. Monthly external inspections of each baghouse while it is running to ensure that equipment is maintained in good working order and operated according to the manufacturer's specifications.
7. Annual visual inspections of each baghouse interior to determine the internal mechanical integrity of the unit and spot any defects.

Bin Vents

8. Visual inspections of the exterior of each bin vent shall be conducted at least once every two weeks, while in operation, to ensure that it does not exhibit fugitive emissions or any measurable opacity.

Kilns

9. The capture/collection and closed vent system for each kiln shall be inspected each at least once each calendar year to ensure that each system is being operated in accordance with the procedures and requirements of the MACT OM&M (EUs: K102, K202, K302, and K402).
10. Continuous compliance with the PM emission standard for each kiln shall be demonstrated as defined in the operating permit: K102, K202, K302, and K402).
11. When solid fuel consisting of a blend of coal and coke is being burned in Kiln 1, Kiln 2, and/or Kiln 3, the permittee shall take a sample of approximately one pound of the blended fuel at least once every two hours each day from each kiln burning blended fuel. Sulfur content of these samples is determined as defined in the operating permit.

12. The opacity from each kiln shall be monitored and recorded through the operation of a COMS (EUs: K102, K202, K302, and K402).
13. Pollutants from kiln 4 (NO_x, CO, and SO₂) shall be monitored and recorded through the operation of a CEMS (EU: K402).

Process Stone Handling

14. Monthly visible emission checks, one-minute in length, shall be conducted on each Process Stone Handling emission unit (EUs: R108, R120, D104a, and D104c).

Gasoline Dispensing

15. Vapor releases to the atmosphere shall be minimized. This includes, but is not limited to, minimizing spills, cleaning spills as expeditiously as possible, covering all open gasoline containers and gasoline storage tank fill-pipes with a gasketed seal when not in use, and minimizing gasoline sent to open waste collection systems (EU: T101).

Haul Roads

16. Compliance with the silt loading limits for paved and unpaved roads shall be demonstrated on a quarterly basis using methods described in the operating permit.

Ambient Air

17. Ambient air monitoring for PM₁₀ and SO₂ pollutants shall be conducted. PM₁₀ concentrations shall be determined as a 24-hour average and SO₂ concentrations shall be determined as a 3-hour average.

Generators

18. The sulfur content and cetane index or aromatic content of the fuel burned in each generator shall be monitored by retaining a copy of vendor fuel specifications (EUs: K402a and O110).
19. The operation of each diesel-powered nonemergency generator engine shall be monitored with a nonresettable hour meter (EUs: K102a, K202a, K302a, and K402a).
20. A log shall be maintained for each rental/temporary engine operated on-site. Each log entry will include the engine rating (in horsepower), model year, tier, manufacturer, model number, serial number, date brought on-site, hours of operation, date taken off-site, date of maintenance, and description of any repairs (EU: O11).
21. The operation of the emergency rental generator (EU: O110) and fire pump (EU: O111) shall be monitored with a nonresettable hour meter and monitor the duration of operation for testing, maintenance, and nonemergency operation, and separately for emergencies. The nature of the emergency leading to emergency operation shall be documented.

G. PERFORMANCE TESTING

The permittee shall conduct performance tests on all emission units listed in Table III-G-1 at intervals specified.

Table III-G-1: Performance Testing Requirements

EU	Description	Compliance Standard	NSPS/MACT Applicability	Applicable Test	Frequency
Limestone Processing					
P103	HO-101/PF101	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-103				
	GR-101				
P103a	JC-102	Opacity ≤ 15%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
P106	VS-202	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-104				
P107	VS-203	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
P109	BC-204	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-225				Annually
P109a	CC-201	Opacity ≤ 15%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
P112	BN-226	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
P114	BC-205	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-206				
	BC-207				
P115	BC-235	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-237				
	BC-236				
Kiln Screen Running					
R108	BC-15, 16	Opacity ≤ 10%	40 CFR Part 63 Subpart AAAAA	Method 9	5 Years
	BE-01, 02				
	BC-17				
	BC-18				
	SB-01				
	SB-02				
	SB-03				
R117	BC-217	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	BC-224				
	VS-229				
R120	SB-04	Opacity ≤ 10%	40 CFR Part 63 Subpart AAAAA	Method 9	5 Years
	BC-230				
R120a	BC-231	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	Annually
Kilns					
K102	KN-01			Method 9 and	5 Years

EU	Description	Compliance Standard	NSPS/MACT Applicability	Applicable Test	Frequency
K202	KN-02	Opacity ≤ 15% each kiln; PM: 0.12 lbs/ton of stone feed weighted average for all kilns (0.60 lbs/stone feed is applicable to EU: K402 only)	40 CFR Part 63 Subpart AAAAA	Method 5D	
K302	KN-03		40 CFR Part 63 Subpart AAAAA and 40 CFR 60 Subpart HH		
K402	K4-KN-305				
Solid Fuel Handling					
F101	HO-40, 41	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	BC-40				
	BC-44				
	Loading				
	Unloading				
F104	CR-40 (C)	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	SC-44				
F106	BN-41	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	BC-41				
F108	CM-41 (C)	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
F110	SC-41	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	Reject Bin 1				
	Loadout				
F112	BN-42	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	BC-42				
F114	CM-42 (C)	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
F116	SC-42	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	Reject Bin 2				
	Load Out				
F118	BN-43	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	BC-43				
	CM-43 (C)				
F122	SC-43	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	Reject Bin 3				
	Load Out				
F125	K4-SC-402	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	K4-BN-404				
	K4-BN-406				

EU	Description	Compliance Standard	NSPS/MACT Applicability	Applicable Test	Frequency
	K4-WF-408				
	K4-WF-409				
	K4-BC-410				
F131	K4-CM-413 (C)	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
F132	K4-SC-419	Opacity ≤ 20%	40 CFR Part 60 Subpart Y	Method 9	5 Years
	Reject Bin 4				
	Load Out				
Dolomite Handling					
D101	D-BN-201	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	D-BC-202				
D104	D-BC-207	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
	D-VS-208				
D104a	D-BC-213	Opacity ≤ 10%	40 CFR Part 63 Subpart AAAAA	Method 9	5 Years
D104b	D-BC-214	Opacity ≤ 7%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
D104c	D-BC-8301	Opacity ≤ 7% Opacity ≤ 10%	40 CFR Part 60 Subpart OOO, 40 CFR Part 63 Subpart AAAAA	Method 9	5 Years
D105	D-BC-209	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	Annually
	D-BE-210				5 years
	D-BN-211				5 years
D106	D-BC-209E	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	5 Years
Portable Screening Plant					
SP3	Screen SP-3	Opacity ≤ 10%	40 CFR Part 60 Subpart OOO	Method 9	Annually
	Stacker Belt				5 years
	Stacker Belt				5 years
	Stacker Belt				5 years

1. Performance tests on the lime kilns shall be conducted every five years to demonstrate compliance with the particulate emission standards identified in 40 CFR Part 63, Subpart AAAAA.
2. The permittee shall conduct RATA testing on the CEMS once each calendar quarter in accordance with the requirements of 40 CFR Part 60, Appendix F.

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

DAQ has determined that the following public laws, statutes, and associated regulations are applicable:

1. Title 40 of the Code of Federal Regulations (CFR);
2. Nevada Revised Statutes (NRS), Chapter 445B;
3. Portions of the AQR included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Operating Permits issued by The Clark County Department of Air Quality are federally enforceable due to the fact that permits are issued pursuant to SIP-included sections of this AQR;
4. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

Table IV-A-1. Air Quality Regulations and SIP status

Section/Title	Applicable Subsection	SIP	Affected Emission Unit
AQR 00: "Definitions"	All Subsections	Yes	Entire Source
AQR 04: "Control Officer"	All Subsections (SIP: 4.7.3 and 4.12.1 through 4.12.3)	partial	Entire Source
AQR 05: "Interference with Control Officer"	All Subsections	Yes	Entire Source
AQR 7: "Hearing Board and Hearing Officer"	All Subsections	No	Entire Source
AQR 08: "Persons Liable for Penalties"	All Subsections	Yes	Entire Source
AQR 09: "Civil Penalties"	All Subsections	No	Entire Source
AQR 12.0: "Applicability and General Requirements"	All Subsections	Yes	Entire Source
AQR 12.2: "Permit Requirements for Major Sources in Attainment Areas (Prevention of Significant Deterioration)"	All Subsections	Yes	Entire Source
AQR 12.3: "Permit Requirements for Major Sources in Nonattainment Areas"	All Subsections	Yes	Entire Source
AQR 12.4: "Authority to Construct Application and Permit Requirements for Part 70 Sources"	All Subsections	Yes	Entire Source
AQR 12.5: "Part 70 Operating Permit Requirements"	All Subsections	No	Entire Source
AQR 12.6: "Confidentiality"	All Subsections	No	Entire Source
AQR 12.7: "Emission Reduction Credits"	All Subsections	Yes	Entire Source
AQR 12.9: "Annual Emissions Inventory Requirement"	All Subsections	No	Entire Source

Section/Title	Applicable Subsection	SIP	Affected Emission Unit
AQR 12.10: “Continuous Monitoring Requirement for Stationary Sources”	All Subsections	No	Kiln 4
AQR 12.12: “Transfer of Permit”	All Subsections	No	Entire Source
AQR 12.13: “Posting of Permit”	All Subsections	No	Entire Source
AQR 13: “National Emission Standards for Hazardous Air Pollutants”	§13.2(b)(1): “Subpart A - General Provisions” §13.2(b)(82): “Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” §13.2(b)(83): “Subpart AAAAAA – National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants”	No	Entire Source
AQR 14: “New Source Performance Standards”	§14.1(b)(1): “Subpart A – General Provisions” §14.1(b)(40): “Standards of Performance for Lime Manufacturing Plants.” §14.1(b)(68): “Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants” §14.1(b)(81): “Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines”	No	Entire Source
AQR 18: “Permit and Technical Service Fees”	All Subsections (SIP: 18.1 through 18.5.2 and 18.6 through 18.12)	Yes	Entire Source
AQR 25: “Affirmative Defense for Excess Emissions due to Malfunctions, Startup, and Shutdown”	§25.1: Requirements for excess emissions cause by upset/breakdown and malfunctions & §25.2: Reporting and Consultation	Yes	Entire Source
AQR 26: “Emission of Visible Air Contaminants”	All Subsections	Yes	Kilns & Hydrator
AQR 27: “Particulate Matter from Process Weight Rate”	All Subsections	No	Entire Source
AQR 28: “Fuel Burning Equipment”	All Subsections	Yes	Entire Source
AQR 40: “Prohibitions of Nuisance Conditions”	§40.1 Prohibitions	No	Entire Source
AQR 41: “Fugitive Dust”, AQR 41.1.2 only	§41.1.2 Prohibitions	Yes	Entire Source
AQR 43: “Odors in the Ambient Air”	All Subsections	No	Entire Source

Section/Title	Applicable Subsection	SIP	Affected Emission Unit
AQR 45: "Idling of Diesel Powered Motor Vehicles"	§45.1: Diesel-Powered Motor Vehicles Idling	No	Diesel-Powered Motor Vehicles
AQR 50: "Storage of Petroleum Products"	All Subsections	Yes	Storage Tank
AQR 70: "Emergency Procedures"	All Subsections	Yes	Entire Source
AQR 80: "Circumvention"	All Subsections	Yes	Entire Source
AQR 81: "Provisions of Regulations Severable"	All Subsections	Yes	Entire Source

B. FEDERALLY APPLICABLE REGULATIONS

DAQ has determined that the following federal regulations are applicable:

1. **Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.;**
2. **40 CFR 52 – Approval and Promulgation of Implementation Plans**

40 CFR 52.21 – Prevention of significant deterioration of air quality

Discussion: The requirements of this section apply to the construction of any new major stationary source or any project at an existing major stationary source.

3. **40 CFR 60 – Standards of Performance for New Stationary Sources:**

Subpart A – General Provisions

40 CFR 60.7 – Notification and record keeping

Discussion: This regulation requires notification to Air Quality of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring device, CEMS data, and performance test data. These requirements are found in the Part 70 OP. Air Quality requires records to be maintained for five years, a more stringent requirement than the two years required by 40 CFR 60.7.

40 CFR 60.8 – Performance tests

Discussion: These requirements are found in the Part 70 OP. Notice of intent to test, the applicable test methods, acceptable test method operating conditions, and the requirement for three runs are outlined in this regulation. Air Quality requirements for initial performance testing are identical to AQR Section 60.8. Air Quality also requires periodic performance testing on emission units based upon throughput or usage.

40 CFR 60.11 – Compliance with standards and maintenance requirements

Discussion: Compliance with various applicable standards will be demonstrated by performance tests unless otherwise specified in the standard. The source is subject to and 40 CFR 60 Subparts Y, HH, and OOO. Compliance requirements for these standards are discussed in corresponding sections.

40 CFR 60.12 – Circumvention

Discussion: This prohibition is addressed in the Part 70 OP. This is also local rule AQR 80.1.

40 CFR 60.13 – Monitoring requirements

Discussion: This regulation describes requirements for continuous monitoring systems (COMS and CEMS). These requirements can be found in the Part 70 OP.

Subpart Y – Standards of Performance for Coal Preparation and Processing Plants

40 CFR 60.250 – Applicability and designation of affected facility

Discussion: This subsection designates facilities that are affected by this subpart as those plants that engage in coal preparation and processing that process in excess of 200 tons of coal per day.

40 CFR 60.254 – Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems and open storage piles.

Discussion: This subsection establishes a maximum opacity limit of 20 percent from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal.

40 CFR 60.255 – Performance tests and other compliance requirements

Discussion: This subsection establishes the requirements for initial performance tests and intervals for subsequent testing.

40 CFR 60.257 – Test methods and procedures

Discussion: This subsection identifies the testing methods and procedures that are approved to demonstrate compliance with the emission limitations defined in this subpart.

40 CFR 60.258 – Reporting and recordkeeping

Discussion: This subsection identifies the type of records that an affected facility must maintain and the information that must be reported to demonstrate compliance with the subpart. It also addresses the methods for maintaining the records and minimum time that records must be kept.

Subpart HH – Standards of Performance for Lime Manufacturing Plants

40 CFR 60.340 – Applicability and designation of affected facility.

Discussion: The Permittee is subject to the provisions of this subpart for all rotary kilns that commenced construction or modification after May 3, 1977. The applicability of this subpart is limited to kiln 4.

40 CFR 60.342 – Standard for particulate matter.

Discussion: These requirements are addressed in the Part 70 operating permit.

40 CFR 60.343 Monitoring of emissions and operations.

Discussion: Daily opacity observation is required as per this subpart. The requirement is found in the OP.

40 CFR 60.344 Test methods and procedures

Discussion: The Permittee shall determine compliance with the PM standards using test methods described in this subsection. These requirements are found in the Part 70 OP.

Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants:

40 CFR 60.670 – Applicability and designation of affected facility

Discussion: The Permittee is subject to the standards based on 60.670(a)(1), which became effective on August 1, 1985.

40 CFR 60.672 – Standard for Particulate Matter

Discussion: These requirements are addressed in the Part 70 OP.

40 CFR 60.675 – Test Methods and Procedures

Discussion: The Permittee is subject to the requirements of particulate matter standards and emissions limits, including PM limit and opacity limits, as described in Tables 2 and 3 of the Subpart. These requirements are found in the Part 70 OP.

40 CFR 60.676 – Reporting and Recordkeeping

Discussion: The Permittee shall submit to the Administrator and to the Control Officer information required by this subsection. Specific record keeping and reporting requirements are identified in the Part 70 OP

Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries

Discussion: The Permittee is not subject to the standards due to the fact that it is not one of the seventeen mineral industries defined in 60.731.

40 CFR 60 Appendix B

Performance Specification 1: Specifications and test procedures for continuous opacity monitoring systems in stationary sources.

Performance Specification 2: Specifications and Test Procedures for SO₂ and NO_x Continuous Emission Monitoring Systems in Stationary Sources.

Performance Specification 4: Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources.

40 CFR 60 Appendix F

Procedure 1: Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used For Compliance Determination

Procedure 2: Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources

4. 40 CFR 63 – National Emission Standards for Hazardous Air Pollutants

Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6580 – Statement of Purpose

Discussion: Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitation.

40 CFR 63.6585 – Definition of Applicability

Discussion: This subpart defines sources that are subject to the requirements of Subpart ZZZZ. As the owner/operator of stationary RICE, Lhoist North America is subject to this subpart.

40 CFR 63.6590 – Parts of Plant that are Subject to the Rule

Discussion: All existing, new, or reconstructed stationary RICE are subject.

40 CFR 63.6595 – Dates for Compliance

Discussion: This subpart establishes May 3, 2013 as the date to comply with all applicable requirements.

40 CFR 63.6602 – Emission limitations for a Major Source of HAP Emissions

Discussion: This subpart establishes the emissions limitations for RICE less than 500 hp. Compliance with the emission limitations, as specified in Table 4 of Subpart ZZZZ, are based on the results of the average of three 1-hour test runs for each affected emission unit.

40 CFR 63.6605 – General Requirements for Compliance

Discussion: The Permittee must be in compliance with the applicable emission limitations and operating limitations defined in this subpart at all times. All affected units must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions. This requirement includes associated air pollution control equipment and monitoring equipment.

40 CFR 63.12 – Initial Testing Requirements for RICE less than or equal to 500 hp

Discussion: Initial testing must be completed no later than 180 days after May 3, 2013.

40 CFR 63.6620 – Performance Tests and Procedures

Discussion: This subpart defines the performance tests that are required and the EPA-approved methods that are applicable for each test.

40 CFR 63.6625(h) – Operation Requirements

Discussion: This subpart requires the Permittee to minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

40 CFR 63.6630 – Requirements for Initial Compliance Demonstration

Discussion: This subpart defines the methods for determining each operating limitation. It also requires the source to submit the results of the tests.

40 CFR 63.645 – Notification Requirements

Discussion: This subpart specifies the notification requirements and dates for affected units.

40 CFR 63.50 – Report Submission Requirements

Discussion: This subpart defines the requirements, and frequency, for submitting compliance reports.

40 CFR 63.6655 – Recordkeeping Requirements

Discussion: This subpart defines the type of records that must be kept to verify compliance.

40 CFR 63.660 – Maintenance of Records

Discussion: All records must be maintained in a suitable form and must be readily accessible, in hard copy or electronic form, for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

Subpart AAAAA – National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

40 CFR 63.7081 – Definition of Applicability

Discussion: This subpart is applicable to lime manufacturing plants (LMP) that is also a major source of HAP emissions, unless the LMP is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, beet sugar manufacturing plant, or only processes sludge containing calcium carbonate from water softening processes.

40 CFR 63.7082 – Affected Equipment

Discussion: This subpart applies to each existing or new lime kilns, and their associated cooler, for which construction and to processed stone handling (PSH) operations systems that are located at an LMP that is a major source.

40 CFR 63.7090(a) – Emission Limits

Discussion: Particulate emissions from each kiln and cooler, or the weighted average of all kilns and associated coolers, shall not exceed 0.12 lbs/tsf. Lhoist provided the results of performance tests that were conducted in November, 2006. The weighted average of all four kilns, combined, was 0.012 lbs/tsf, which is well below the standard.

40 CFR 63.7090(b) – Emission Limits

Discussion: Six minute average opacity from each kiln shall not exceed 15%, to be determined by a COMS. Each capture/collection system shall be operated in accordance with procedures and requirements in the OM&M plan.

40 CFR 63.7100 – General Compliance Requirements

Discussion: The Permittee shall develop a written start up, shutdown, and malfunction plan (SSMP) and a written operations, maintenance, and monitoring plan (OM&M). The SSMP must

be submitted to the control officer for review and approval. Any changes to the plan must also be submitted for review and approval. Lhoist North America met this requirement on July 27, 2006.

40 CFR 63.7111 – Subsequent Performance Testing

Discussion: The Permittee shall conduct subsequent performance tests at intervals not to exceed five years from the date of the previous test.

40 CFR 63.7112 – Performance Testing

Discussion: Defines Kiln testing methods and procedures. These requirements are found in the Part 70 OP.

40 CFR 63.7113 – Installation, Operation, and Maintenance Requirements

Discussion: The OM&M shall include a continuous parameter monitoring system (CPMS) which shall include, at a minimum, the installation of a continuous opacity monitoring system (COMS). The subpart also establishes minimum requirements for the operation and maintenance of control devices. All control devices shall be inspected annually to ensure the system is operating in accordance with the OM&M plan.

40 CFR 63.7130 – Notification Requirements

Discussion: The Permittee shall submit a notification of intent to conduct a performance test at least 60 days before the test is scheduled to begin. Performance test results must be submitted before the close of business on the 60th calendar day following the completion of the test.

40 CFR 63.7131 – Reporting Requirements

Discussion: The Permittee shall submit semiannual reports. The first report shall encompass the time period from January 1 through June 30 and must be postmarked no later than July 31. The second report shall encompass the time period from July 1 through December 31 and must be postmarked no later than January 1.

40 CFR 63.7132 – Record Keeping Requirements

Discussion: The Permittee shall maintain records of performance tests, performance evaluations, opacity, and visual emissions observations. Startups, shutdowns, and malfunctions must also be recorded.

40 CFR 63.7133 – Record Retention Requirements

Discussion: The Permittee shall retain all records pertaining to each occurrence, measurement, maintenance, and corrective action for a minimum of five years. The records shall be kept onsite for at least two years after the date of each occurrence and then may then be stored offsite for the remainder of the five year time period.

5. 40 CFR PART 64 – Compliance Assurance Monitoring

40 CFR 64.2 – Applicability

Discussion: 40 CFR 64.2(b)(1) allows an exemption for sources that are subject to NSPS or NESHAP standards promulgated after November 15, 1990. Lhoist North America is required to comply with the NESHAP requirements of 40 CFR 63 Subpart AAAAA, promulgated on January 5, 2004. As a result, the exemption criteria have been met.

6. 40 CFR PART 72 – Acid Rain Permit Regulations

Subpart A – Acid Rain Program General Provisions

40 CFR 72.6 – Applicability

Discussion: The provisions of this regulation do not apply to the source because the source has no affected units per the applicability criteria listed in 40 CFR 72.6.

7. 40 CFR PART 73 – Sulfur Dioxide Allowance System

40 CFR 73.2 – Applicability

Discussion: The provisions of this regulation do not apply to the source based on 40 CFR Part 73.6.

8. 40 CFR PART 75 – Continuous Emissions Monitoring

40 CFR 75.2 – Applicability

Discussion: The Permittee is not subject to the Acid Rain emission limitations of 40 CFR Part 72. As a result, the facility is not subject to the monitoring requirements 40 CFR Part 75.

V. COMPLIANCE

A. SUMMARY OF MONITORING FOR COMPLIANCE

Table V-A-1: Compliance Summary

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions.	Applicable – LNA will comply with all applicable definitions as they apply.	LNA will meet all applicable test methods should new definitions apply.	LNA is compliant with applicable requirements.
AQR Section 4	Control Officer.	Applicable – The Control Officer or his representative may enter into LNA property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	LNA will allow Control Officer to enter property as required.	LNA is compliant with applicable requirements.
AQR Section 12.1	General application requirements for construction of new and modified sources of air pollution.	Applicable – LNA applied for and the ATC certificate was issued before commencing construction.	LNA received the ATC permit to construct.	LNA is compliant with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.5	Part 70 Operating Permit Requirements	Applicable – LNA is a major stationary source and under 40 CFR 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	LNA shall submit renewal applications between 6 and 18 months prior to expiration and revision applications within 12 months of commencing operation of any new emission unit.	LNA is compliant with applicable requirements.
AQR Section 14.1.1 Subpart A	NSPS – General Provisions	Applicable – LNA is an affected facility under the regulations. Section 14 is locally enforceable; however, the NSPS standards referenced are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	LNA is compliant with applicable requirements.
AQR Section 14.1.94: Subpart OOO	Standards of Performance for New Stationary Sources – Standards of Performance for Nonmetallic Mineral Processing Plants	Applicable – LNA operates emission units processing more than 25 tons per hour of the nonmetallic mineral material.	Applicable performance tests, opacity tests, monitoring, recordkeeping, and reporting requirement.	LNA is compliant with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – LNA will be required to pay all required/applicable permit and technical service fees.	LNA is required to pay all required/applicable permit and technical service fees.	LNA is compliant with applicable requirements.
AQR Section 21	Acid Rain Permits	Not Applicable – per 40 CFR 72.6(b)(1).	Not Applicable.	Not Applicable.
AQR Section 25	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within 24 hours of the time the owner first learns of the excess emissions.	LNA is compliant with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the LNA combustion units shall not exceed 20 percent for more than three (3) minutes in any 60-minute period.	Compliance determined by EPA Method 9	LNA is compliant with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 28	Fuel Burning Equipment	Applicable – The PM emission rate for the fuel burning equipment is below those established based on Section 28 requirements	Maximum allowable PM emission rate determined from equation in Section 28.	LNA is compliant with applicable requirements.
AQR Section 40	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	LNA's air contaminant emissions are controlled by pollution control devices or good combustion in order not to cause a nuisance.	LNA is compliant with applicable requirements.
AQR Section 41	Fugitive Dust	Applicable – LNA shall take necessary actions to abate fugitive dust from becoming airborne.	LNA utilizes appropriate best practices to not allow airborne fugitive dust.	LNA is compliant with applicable requirements.
AQR Section 42	Open Burning	Applicable – In event LNA burns combustible material in any open areas, such burning activity will have been approved by Control Officer in advance. Section 42 is a locally enforceable rule only.	LNA will contact the DAQ and obtain approval in advance for applicable burning activities as identified in the rule.	LNA is compliant with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least fifteen minutes. Section 43 is a locally enforceable rule only.	LNA is a predominantly mineral processing facility and is not expected to cause odors.	LNA is compliant with applicable requirements.
AQR Section 45	Idling of Diesel Powered Motor Vehicles	Applicable – a person shall not idle the engine of a diesel truck or diesel bus for more than 15 consecutive minutes.	LNA will utilize appropriate best practices to not allow the idling of an engine of a diesel truck or diesel bus for more than 15 consecutive minutes.	LNA is compliant with applicable requirements.
AQR Section 70.4	Emergency Procedures	Applicable – LNA submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	LNA submitted an emergency standby plan and received the Section 16 Operating Permit.	LNA is compliant with applicable requirements.

Table V-A-2: Applicable Federal Air Quality Regulations

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR 52.21	Approval and Promulgation of Implementation Plans: Subpart A – General Provision	Applicable – LNA will comply with all applicable definitions.	LNA has and will continue to meet BACT and Additional impact analysis through applicable monitoring and record keeping of emission data.	LNA is compliant with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR 52.1470	Approval and Promulgation of Implementation Plans: Subpart DD – Nevada [SIP Rules]	Applicable – LNA is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	LNA is in compliant with applicable state SIP requirements including monitoring and recordkeeping of emission data.
40 CFR 60	Appendix A, Method 5 or equivalent, (Particulate Matter)	Applicable – Emissions from stacks are subject to particulate matter standards.	Particulate matter is determined by EPA Method 5.	LNA complies with applicable requirements.
40 CFR 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – Emissions from stacks are subject to opacity standards.	Opacity determined by EPA Method 9.	LNA complies with applicable requirements.
40 CFR 60, Subpart A	Standards of Performance for New Stationary Sources – General Provisions	Applicable – LNA is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	LNA complies with applicable requirements.
40 CFR 60, Subpart HH	New Source Performance Standards – Standards of Performance for Lime Manufacturing Plants.	Applicable – LNA is a lime manufacturing operation	Applicable monitoring, recordkeeping, and reporting requirements are applicable for the Alpha boiler.	LNA complies with applicable requirements.
40 CFR 60, 000	New Source Performance Standards – Standards of Performance for Nonmetallic Mineral Processing Plants	Applicable – LNA is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	LNA complies with applicable requirements.
40 CFR 60, Subpart UUU	New Source Performance Standards – Standards of Performance for Calciners and Dryers in Mineral Industries	Applicable – LNA is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	LNA complies with applicable requirements.
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Applicable – LNA owns and operates internal combustion engines.	All tests as required by 40 CFR 60.4212	LNA complies with applicable requirements.
40 CFR 64	Compliance Assurance Monitoring	Not Applicable – Exempted by 40 CFR 64(b)(1)	Not Applicable.	Not Applicable.
40 CFR 68	Chemical Accident Prevention Provisions	Not Applicable – LNA does not store or handle any chemicals that are subject to 40 CFR Part 68.	Not Applicable.	Not Applicable.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR 63, Subpart AAAAA	National Emission Standard for Hazardous Air Pollutants for Lime Manufacturing Plants	Applicable – LNA is a lime manufacturing establishment engaged in the manufacture of lime product. It is also a major source of HAP with annual PTE of a single HAP in excess of 10 tons and with an annual PTE of HAP in excess of 25 tons.	All tests as required by 40 CFR 63.7112	LNA complies with applicable requirements.
40 CFR 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	Applicable – LNA owns and operates stationary RICE.	All tests as required by 40 CFR 63.6620	LNA complies with applicable requirements.
40 CFR 70	Federally Mandated Operating Permits	Applicable – LNA is a major stationary source and under Part 70. The initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission units.	The previous Part 70 OP renewed October 10, 2017. This renewal application was submitted on April 11, 2022. Applications for new units will be submitted within 12 months of startup.	LNA complies with applicable requirements.
40 CFR 72	Acid Rain Permits Regulations	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR 75	Acid Rain CEMS	Not Applicable.	Not Applicable.	Not Applicable.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

Lhoist North America Apex Plant is located in a hydrographic area that is designated attainment with NAAQS standards. As a result, it is not subject to offset requirements.

VII. MODELING

Lhoist North America Apex Plant is a major source in Hydrographic Area 216 (Garnet Valley). Permitted emission units include four kilns, lime mining and processing. Since minor source baseline dates for PM₁₀ (December 31, 1980), NO₂ (January 24, 1991) and SO₂ (December 31, 1980) have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

DAQ modeled the source using AERMOD to track the increment consumption. The average of 2021 and 2022 actual emissions were used in the model. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (2011 to 2015) of meteorological data from the McCarran Station were used in the model. U.S. Geological Survey National Elevation Dataset terrain data were used to calculate elevations. Table VII-1 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table VII-1: PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption ($\mu\text{g}/\text{m}^3$)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO ₂	3-hour	86.94 ¹	688700	4025000
SO ₂	24-hour	24.74 ¹	687724	4025200
SO ₂	Annual	1.51	688268	4027917
NO _x	Annual	1.86	688178	4027917
PM ₁₀	24-hour	15.98 ¹	687635	4025198
PM ₁₀	Annual	1.09	688138	4026345

¹ Highest Second High Concentration

VIII. ENVIRONMENTAL JUSTICE

The primary principle of environmental justice is that all people have a right to live in a healthful environment that is protected from industrial pollution. Environmental justice focuses on the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. One technique in which this is accomplished is through the methodical distribution of new large pollution-emitting sources based on a balance of socioeconomic factors.

The EPA EJ Screen website allows users to obtain demographic indicators (e.g., low-income communities, communities of color, and tribal/indigenous communities) with environmental indicators in order to conduct a screening of a community potentially disproportionately and adversely affected by environmental and human health harms or risks.

The Lhoist North America Apex Plant is located outside of the Las Vegas metropolitan area. The nearest residential area in Las Vegas is approximately 11 miles southwest of the source and the Moapa Indian reservation, which is approximately 13 miles northwest of the source.

The map and statistical tables included in this section were obtained from the EJ Screen website. As a means to obtain reasonable demographic data, a 20 miles radius from the center of the source was selected. The area within this circle equates to 1,256 square miles and represents a residential population of 774,561. The statistics indicate that there is a high percentile of the socioeconomic indicators in this area. However, the increase for all criteria pollutants associated with this permitting action is less than 4 tons per year, which is not considered to be a sufficient to warrant additional outreach.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	29
Water Dischargers	1082
Air Pollution	38
Brownfields	200
Toxic Release Inventory	53

Other community features within defined area:

Schools	192
Hospitals	29
Places of Worship	184

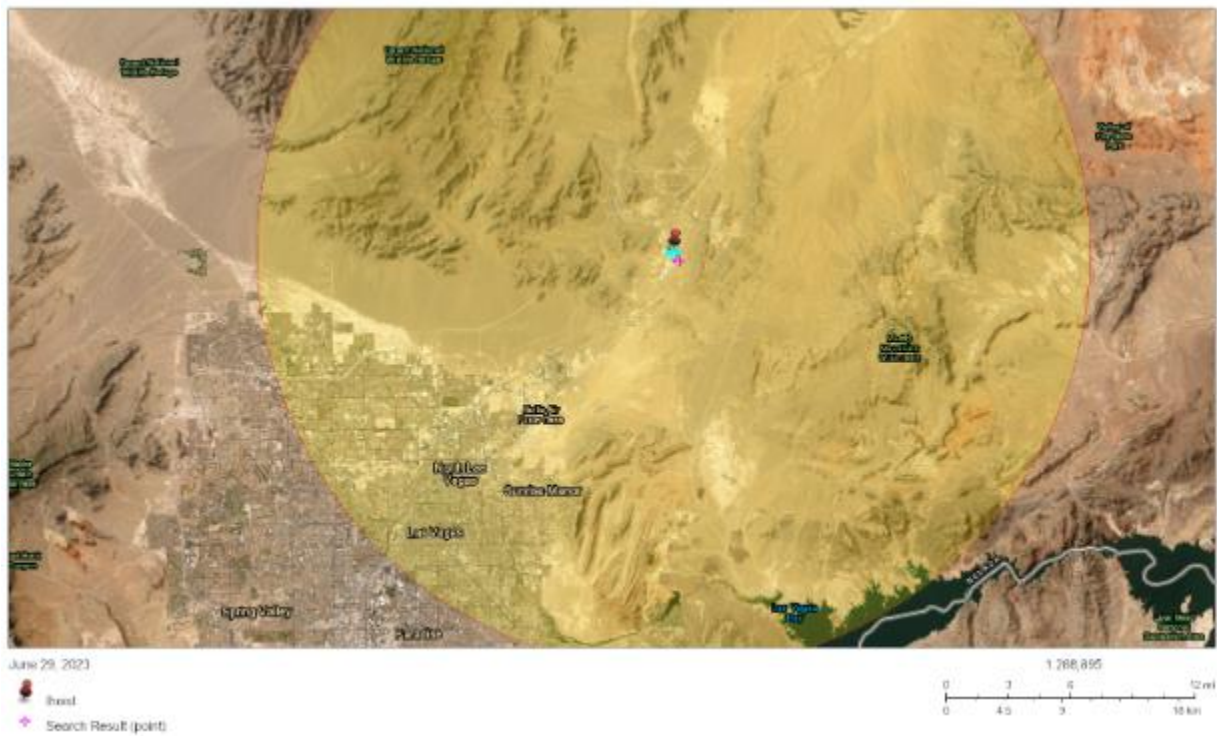
Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	N/A

Report for 20 miles Ring Centered at 36.359754,-114.912943

Map of Selected Area



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	57%
Spanish	36%
Other Indo-European	1%
Tagalog (including Filipino)	3%
Other Asian and Pacific Island	1%
Total Non-English	43%

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	20%	20%	38	20%	52
Heart Disease	6	6.4	44	6.1	50
Asthma	11	10.3	76	10	77
Cancer	4.6	5.7	30	6.1	19
Persons with Disabilities	12.9%	13.2%	55	13.4%	52

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	16%	13%	67	14%	66
Lack of Health Insurance	15%	12%	71	9%	84
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	2%	6%	45	12%	21
Wildfire Risk	6%	33%	60	14%	80

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	6.4	5.65	76	8.08	11
Ozone (ppb)	66.1	64.1	60	61.6	81
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.615	0.446	72	0.261	95
Air Toxics Cancer Risk* (lifetime risk per million)	28	25	5	28	3
Air Toxics Respiratory HI*	0.37	0.34	23	0.31	31
Toxic Releases to Air	180	1,400	67	4,600	31
Traffic Proximity (daily traffic count/distance to road)	210	200	71	210	75
Lead Paint (% Pre-1960 Housing)	0.057	0.063	76	0.3	27
Superfund Proximity (site count/km distance)	0.0045	0.014	16	0.13	0
RMP Facility Proximity (facility count/km distance)	0.44	0.29	83	0.43	74
Hazardous Waste Proximity (facility count/km distance)	2.1	1.8	62	1.9	74
Underground Storage Tanks (count/km ²)	3.9	3.3	72	3.9	72
Wastewater Discharge (toxicity-weighted concentration/m distance)	4.4	7	93	22	95
SOCIOECONOMIC INDICATORS					
Demographic Index	57%	41%	76	35%	81
Supplemental Demographic Index	21%	16%	74	14%	81
People of Color	73%	50%	77	39%	79
Low Income	42%	33%	68	31%	71
Unemployment Rate	9%	7%	69	6%	77
Limited English Speaking Households	9%	6%	77	5%	84
Less Than High School Education	22%	14%	77	12%	84
Under Age 5	7%	5%	69	6%	68
Over Age 64	12%	17%	42	17%	35
Low Life Expectancy	20%	20%	38	20%	52

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

IX. PERMIT SHIELD

- The source has requested a permit shield for applicable regulations in the regulations identified in Table IX-1.

Table IX-1: Applicable Requirements Related to Permit Shield

Citation	Title
40 CFR Part 60, Subpart Y	"Standards of Performance for Coal Preparation and Processing Plants"
40 CFR Part 60, Subpart HH	"Standards of Performance for Lime Manufacturing Plants"
40 CFR Part 60, Subpart OOO	"Standards of Performance for Nonmetallic Mineral Processing Plants"
40 CFR Part 60, Subpart IIII	"Standards of Performance for Stationary Compression Ignition Internal Combustion Engines"
40 CFR Part 63, Subpart ZZZZ	"National Emission Standards for Stationary Reciprocating Internal Combustion Engines"
40 CFR Part 63, Subpart AAAAA	"National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants"

X. STREAMLINING

1. Compliance with the terms contained in this permit shall be deemed compliance with the applicable requirements of Table X-1 in effect on the date of permit issuance.

Table X-1: Streamlined Requirements Related to Permit Shield

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Permit Shield Purposes
				Standard Value	Permit Limit Value	Is Permit Limit Equal or More Stringent?	Standard Averaging Period	Permit Limit Averaging Period	Is Permit Limit Equal or More Stringent?	
F101, F104, F106, F108, F110, F112, F114, F116, F118, F122, F125, F131, F132	60.254 (Y)	(Opacity) ≤ 20%	≤ 20%	≤ 20%	≤ 20%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard
K402	60.342(a)(1) (HH)	(PM) 0.60 lbs/tsf	0.60 lbs/tsf	0.60 lbs/tsf	0.60 lbs/tsf	Yes	1 hour	1 hour	Yes	The results of performance testing established a value of 0.0014 lbs/tsf.
K402	60.342(a)(2) (HH)	(Opacity - Stack) ≤ 15%	≤ 15%	≤ 15%	≤ 15%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard
P103a, P109a	60.672 (OOO)	(Opacity) ≤ 15%	≤ 15%	≤ 15%	≤ 15%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard
P103, P106, P107, P109, P112, P114, P115, P129, R117, R120a, D101, D104, D105	60.672 (OOO)	(Opacity) ≤ 10%	≤ 10%	≤ 10%	≤ 10%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard
K102a, K202a, And K302a	63.6602 (ZZZZ) non-emergency generators	Change Oil & Inspect Air Cleaner Every 1,000 hours; Inspect Hoses, and Belts Every 500 hours	Change Oil & Inspect Air Cleaner Every 1,000 hours; Inspect Hoses, and Belts Every 500 hours			Yes				The permit limit is equally as stringent as the standard

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Permit Shield Purposes
				Standard Value	Permit Limit Value	Is Permit Limit Equal or More Stringent?	Standard Averaging Period	Permit Limit Averaging Period	Is Permit Limit Equal or More Stringent?	
O110	63.6602 (ZZZZ) emergency generators	Change Oil & Inspect Hoses, and Belts Every 500 hours; Inspect Air Cleaner Every 1,000 hours;	Change Oil & Inspect Hoses, and Belts Every 500 hours; Inspect Air Cleaner Every 1,000 hours;			Yes				The permit limit is equally as stringent as the standard
K102, K202, K302, and K402a	63.7090(a) (AAAAA)	(PM) 0.12 lbs/tsf	0.12 lbs/tsf	0.12 lbs/tsf	0.12 lbs/tsf	Yes	1 hour	1 hour	Yes	The results of performance testing, using the weighted average of all four kilns, established a value of 0.012 lbs/tsf.
K102, K202 K302	63.7090(a) (AAAAA)	(PM Stack) 0.05 g/dscm	0.05 g/dscm	0.0219 gr/dscf	0.0219 gr/dscf	Yes	1 hour	1 hour	Yes	The permit limits are equal or more stringent than the standard based upon concentration
K402	63.7090(a) (AAAAA)	(PM Stack) 0.05 g/dscm	0.03 g/dscm	0.0219 gr/dscf	0.0131 gr/dscf	Yes	1 hour	1 hour	Yes	
K102, K202 K302, K402	63.7090(a) (AAAAA)	(Opacity Stack) ≤ 15%	≤ 15%	≤ 15%	≤ 15%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard
R108, R120 D104a	63.7090(a) (AAAAA)	(Opacity Fugitive) ≤ 10%	≤ 10%	≤ 10%	≤ 10%	Yes	1 Hour (Ten 6 minute averages)	1 Hour (Ten 6 minute averages)	Yes	The permit limit is equally as stringent as the standard

XI. PUBLIC PARTICIPATION

This permitting action is for the renewal of an AQR 12.5 operating permit. As a result, public participation is required in accordance with AQR 12.5.2.17.

XII. ATTACHMENTS

XII-1. Source PTE for Limestone Processing

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
Q101	N/A	Mining Ore and Removing Overburden	8,294,600	0.0013	0.0089	5.39	36.85
P103	HO-101/PF-101	Open Stone Transfer Point	2,680,000	0.000013	0.000046	0.05	0.18
	GR-101	Open Stone Transfer Point	2,680,000	0.000013	0.000046		
	BC-103	Closed Stone Transfer Point	2,680,000	0.000013	0.000046		
P103a	JC-102	Stone Crushing	1,125,600	0.00044	0.0024	0.25	1.35
P106	BC-104	Closed Stone Transfer Point	4,569,480	0.000013	0.000046	0.09	0.95
	VS-202	Stone Screening	2,284,740	0.00005	0.00074		
P107	VS-203	Stone Screening	2,284,740	0.00005	0.00074	0.06	0.85
P109	BC-204	Closed Stone Transfer Point	1,889,480	0.000013	0.000046	0.02	0.06
	BC-225		670,000	0.000013	0.000046		
P109a	CC-201	Secondary Crushing	1,889,480	0.00044	0.0024	0.42	2.27
P112	BN-226	Closed Stone Transfer Point	670,000	0.000013	0.000046	0.11	0.38
	BN-226 Loadout	Open Stone Transfer Point	670,000	0.00031	0.0011		
P114	BC-205	Closed Stone Transfer Point	730,741	0.000013	0.000046	0.05	0.09
	BC-206	Closed Stone Transfer Point	538,201	0.000013	0.000046		
	BC-207	Open Stone Transfer Point	538,201	0.000013	0.000046		
	BC-209	Closed Stone Transfer Point	1,086,719	0.000013	0.000046		
	BC-210	Open Stone Transfer Point	1,086,719	0.000013	0.000046		
P115	BC-236	Closed Stone Transfer Point	385,080	0.000013	0.000046	0.05	0.07
	BC-237	Open Stone Transfer Point	385,080	0.000013	0.000046		
	BC-208	Closed Stone Transfer Point	1,279,259	0.000013	0.000046		
	BC-235	Open Stone Transfer Point	385,080	0.000013	0.000046		
	BC-Coarse 2	Open Stone Transfer Point	385,080	0.000013	0.000046		
P129	Loader Loading (dolomite)	Open Stone Transfer Point	233,408	0.00031	0.0011	0.07	0.26
	Loader Unloading (dolomite)	Open Stone Transfer Point	233,408	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
R101	BC-11	Closed Stone Transfer Point (underground)	778,026	0.000013	0.000046	0.05	0.34
	BC-12	Closed Stone Transfer Point	778,026	0.000013	0.000046		
	BC-13	Closed Stone Transfer Point	778,026	0.000013	0.000046		
	VS-04	Stone Screening	778,026	0.00005	0.00074		
R106	BC-14	Closed Stone Transfer Point	38,901	0.000013	0.000046	0.03	0.04
	BN-05	Closed Stone Transfer Point	38,901	0.000013	0.000046		
	BN-05 Loadout	Open Stone Transfer Point	38,901	0.00031	0.0011		
R108	BC-15, 16	Closed Stone Transfer Point	739,125	0.000013	0.000046	0.07	0.09
	BE-01, 02	Closed Stone Transfer Point	739,125	0.000013	0.000046		
	BC-17	Closed Stone Transfer Point	739,125	0.000013	0.000046		
	BC-18	Closed Stone Transfer Point	295,650	0.000013	0.000046		
	SB-01	Closed Stone Transfer Point	221,738	0.000013	0.000046		
	SB-02	Closed Stone Transfer Point	221,738	0.000013	0.000046		
	SB-03	Closed Stone Transfer Point	295,650	0.000013	0.000046		
R117	BC-217	Closed Stone Transfer Point	534,375	0.000013	0.000046	0.05	0.42
	BC-224	Closed Stone Transfer Point	534,375	0.000013	0.000046		
	VS-229	Stone Screening	1,068,750	0.00005	0.00074		
R120a	BC-231	Closed Stone Transfer Point	106,875	0.000013	0.000046	0.01	0.01
R120	BC-230	Closed Stone Transfer Point	961,875	0.000013	0.000046	0.02	0.04
	SB-04	Closed Stone Transfer Point	961,875	0.000013	0.000046		
K102	PH-01	Closed Stone Transfer Point	221,738	See Table III-A-2 Baghouse DC-01		0.02	0.13
	KN-01; 81.25 MMBtu/hr	Rotary Kiln 1	109,500				
	CO-01	Cooler	109,500				
K104	SC-01	Lime Transfer	109,500	See Table III-A-2 Baghouse DC-20		0.03	0.03
	SC-02	Lime Transfer	109,500				
	BE-03	Lime Transfer	109,500				
K106	BN-06	Bin Feeding	8,760	0.00031	0.0011	0.15	0.95
	BN-06	Load Out	8,760	0.0323	0.2135		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
K110	SC-04 (sealed)	Dust Transfer	3,285	0.00031	0.0011	0.06	0.07
	SC-05 (sealed)	Dust Transfer	3,285	0.00031	0.0011		
	SC-07 (sealed)	Dust Transfer	6,570	0.00031	0.0011		
	SC-08	Dust Transfer	12,909	Included with K102 Baghouse DC-01			
	BE-06 (sealed)	Dust Transfer	26,049	0.00031	0.0011		
	SC-15 (sealed)	Dust Transfer	26,049	0.00031	0.0011		
K110a	SC-45	Dust Transfer	13,140	0.00031	0.0011	0.02	0.02
	SC-46	Dust Transfer	13,140	0.00031	0.0011		
K114	BN-09	Bin Feeding	32,619	Baghouse DC-04		0.02	0.02
	BN-09	Load Out	19,479				
K202	PH-02	Closed Stone Transfer Point	221,738	Baghouse DC-02		0.02	0.13
	KN-02; 81.25 MMBtu/hr	Rotary Kiln 2	109,500				
	CO-02	Cooler	109,500				
K204	SC-02	Lime Transfer	109,500	Baghouse K2-DC-505N or K2-DC-506S		0.02	0.02
	BE-04	Lime Transfer	109,500				
K206	BN-07	Bin Feeding	8,760	0.00031	0.0011	0.15	0.95
	BN-07	Load Out	8,760	0.0323	0.2135		
K208	SC-06	Dust Transfer	3,285	0.00031	0.0011	0.05	0.07
	SC-09 (sealed)	Dust Transfer	13,410	0.00031	0.0011		
	SC-13 (sealed)	Dust Transfer	30,660	0.00031	0.0011		
	BE-07 (sealed)	Dust Transfer	30,660	0.00031	0.0011		
	SC-16 (sealed)	Dust Transfer	30,660	0.00031	0.0011		
K213	BN-10	Bin Feeding	30,660	Baghouse DC-05		0.02	0.02
	BN-10	Load Out	24,660				
K215	DA-BN-502	Bin Feeding	6,000	Bin Vent DA-DC-507		0.03	0.03
	DA-SC-505 (sealed)	Dust Transfer	6,000	0.00031	0.0011		
	DA-SC-506 (sealed)	Dust Transfer	6,000	0.00031	0.0011		
K302	PH-03	Closed Stone Transfer Point	295,650	See Table III-A-2 Baghouse DC-03		0.02	0.17
	KN-03; 91.10 MMBtu/hr	Rotary Kiln 3	146,000				
	CO-03	Cooler	146,000				
K304	SC-03 (sealed)	Lime Transfer	146,000	Baghouse DC-CA-04		0.03	0.09
	SC-04 (sealed)	Lime Transfer	146,000	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
K306	BN-08	Bin Feeding	10,950	0.00031	0.0011	0.19	1.18
	BN-08	Load Out	10,950	0.0323	0.2135		
K308	BN-18	Bin Feeding	4,380	Emissions included in EU: K302		0.04	0.04
	SC-18	Dust Transfer	4,380				
	SC-18	Load Out	4,380				
	SC-11,12	Dust Transfer	17,520	0.00031	0.0011		
K309	D-SC-8306	Lime Transfer	146,000	0.00031	0.0011	0.10	0.40
	BC53102	Lime Transfer	146,000	0.00031	0.0011		
	SC50101	Lime Transfer	146,000	0.00031	0.0011		
	D-BE-8307	Lime Transfer	146,000	0.00031	0.0011		
	SC50106	Lime Transfer	146,000	0.00031	0.0011		
K310	D-SC-53105	Lime Transfer	146,000	0.00031	0.0011	0.02	0.08
K311	SC-53106 (sealed)	Dust Transfer	17,520	0.00031	0.0011	0.01	0.01
K402	K4-PH-302	Closed Stone Transfer Point	961,875	Baghouse K4-DC-316		0.02	0.54
	K4-KN-305; 281.25 MMBtu/hr	Rotary Kiln 4	475,000				
	K4-CO-309	Cooler	475,000	Baghouse K4-DC-340			
K404	K4-BC-501	Lime Transfer	471,673	0.00031	0.0011	0.17	0.54
	K4-BC-502	Lime Transfer	475,000	0.00031	0.0011		
	K4-BC-503	Lime Transfer	285,000	Baghouse DC-30N			
	K4-BC-504	Lime Transfer	190,000				
K408	K4-DBN-1	Dribble Chute Bin	17,500	0.00031	0.0011	0.29	1.88
	K4-DBN-2	Dribble Chute Bin					
	K4-DBN-3	Dribble Chute Bin					
	K4-DBN-4	Dribble Chute Bin					
	K4-DBN-1	Dribble Chute Bin Load Out	17,500	0.0323	0.2135		
	K4-DBN-2	Dribble Chute Bin Load Out					
	K4-DBN-3	Dribble Chute Bin Load Out					
	K4-DBN-4	Dribble Chute Bin Load Out					
K410	Kiln Seal	Dribble Chute Bin	3,650	0.00031	0.0011	0.07	0.40
	Kiln Seal	Dribble Chute Bin Load Out	3,650	0.0323	0.2135		
K412	K4-SC-326	Dust Transfer	19,857	0.00031	0.0011	0.05	0.05
	K4-SC-327	Dust Transfer	19,857	0.00031	0.0011		
	K4-SC-328	Dust Transfer	19,857	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	K4-SC-329	Dust Transfer	19,857	0.00031	0.0011		
	K4-BE-330	Dust Transfer	19,857	0.00031	0.0011		
K417	K4-BN-508	Bin Feeding	19,857	Binvent K4-DC-509		0.33	2.13
	K4-BN-508	Load Out	19,857	0.0323	0.2135		
K418	K4-SC-342	Dust Transfer	3,327	0.00031	0.0011	0.01	0.01
F101	HO-40,41 (enclosed)	Fuel Transfer	600,631	0.00031	0.0011	0.29	0.93
	BC-40 (sealed)	Fuel Transfer	600,631	0.00031	0.0011		
	BC-44	Fuel Transfer	378,395	0.0223 lb/hr	0.0011		
	Loader Loading	Fuel Transfer	156,160	0.00031	0.0011		
	Loader Unloading	Fuel Transfer	156,160	0.00031	0.0011		
F104	CR-40 (enclosed)	Fuel Crushing	222,236	0.00088	0.015	0.13	1.79
	SC-44 (enclosed)	Fuel Transfer	222,236	0.00031	0.0011		
F106	BN-41	Bin Feeding	31,885	0.00031	0.0011	0.02	0.04
	BC-41	Fuel Transfer	31,885	0.00031	0.0011		
F108	CM-41 (sealed)	Fuel Crushing	31,885	0.00088	0.015	0.01	0.24
F110	SC-41 (sealed)	Fuel Transfer	936	0.00031	0.0011	0.03	0.03
	Reject Bin 1	Bin Feeding	936	0.00031	0.0011		
	Reject Bin 1 Loadout	Fuel Transfer	936	0.00031	0.0011		
F112	BN-42	Bin Feeding	35,073	0.00031	0.0011	0.02	0.04
	BC-42	Fuel Transfer	35,073	0.00031	0.0011		
F114	CM-42 (sealed)	Fuel Crushing	35,073	0.00088	0.015	0.02	0.26
F116	SC-42 (sealed)	Fuel Transfer	1,030	0.00031	0.0011	0.03	0.03
	Reject Bin 2	Bin Feeding	1,030	0.00031	0.0011		
	Reject Bin 2 Load Out	Fuel Transfer	1,030	0.00031	0.0011		
F118	BN-43 (enclosed)	Bin Feeding	37,856	0.00031	0.0011	0.04	0.33
	BC-43	Fuel Transfer	37,856	0.00031	0.0011		
	CM-43 (sealed)	Fuel Crushing	37,856	0.00088	0.015		
F122	SC-43 (sealed)	Fuel Transfer	1,096	0.00031	0.0011	0.03	0.03
	Reject Bin 3	Bin Feeding	1,096	0.00031	0.0011		
	Reject Bin 3 Load Out	Fuel Transfer	1,096	0.00031	0.0011		
F125	K4-SC-402 (sealed)	Fuel Transfer	117,421	0.00031	0.0011	0.08	0.21
	K4-BN-404	Bin Feeding	82,194	Baghouse K4-DC-421			
	K4-BN-406	Bin Feeding	35,226				
	K4-WF-408	Fuel Transfer	82,194	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	K4-WF-409	Fuel Transfer	35,226	0.00031	0.0011		
	K4-BC-410	Fuel Transfer	117,421	0.00031	0.0011		
F131	K4-CM-413 (sealed)	Fuel Crushing	117,421	0.00088	0.015	0.05	0.88
F132	K4-SC-419 (sealed)	Fuel Transfer	584	0.00031	0.0011	0.03	0.03
	Reject Bin 4	Bin Feeding	584	0.00031	0.0011		
	Reject Bin 4 Load Out	Fuel Transfer	584	0.00031	0.0011		
F133	Truck Loading Coal/Coke (Stockpile 2)	Fuel Transfer	100,000	0.011	0.00133	0.07	0.55
L101	SC-24	Lime Transfer	10,438	0.00031	0.0011	0.04	0.04
	SC-25 (sealed)	Lime Transfer	10,438	0.00031	0.0011		
	BC-505/BC-20	Lime Transfer	316,307	Included with K104 Baghouse DC-20			
	BE-20	Lime Transfer	458,644	Included with K104 Baghouse DC-20			
L105	K4-BN-518	Bin Feeding	13,759	Bin Vent K4-DC-519		0.02	0.02
	K4-SC-524	Lime Transfer	2,752	0.00031	0.0011		
L108	HM-20 (sealed)	Product Crushing	142,363	0.00088	0.015	0.06	1.07
L110	VS-20	Screening Product	444,885	Included with K104 Baghouse DC-20		0.04	0.08
	SI-02	Bin Feeding	117,450	Included with K104 Baghouse DC-20			
	SC-21 (sealed)	Lime Transfer	117,450	0.00031	0.0011		
L112	SI-01	Bin Feeding	117,450	Included with K104 Baghouse DC-20		0.05	0.14
	SC-23 (sealed)	Lime Transfer	117,450	0.00031	0.0011		
	SC-26 (sealed)	Lime Transfer	117,450	0.00031	0.0011		
L116	SI-06	Bin Feeding	117,450	Included with K104 Baghouse DC-20		0.03	0.07
	SC-27 (sealed)	Lime Transfer	117,450	0.00031	0.0011		
L118	SI-07	Bin Feeding	117,450	Included with K104 Baghouse DC-20		0.03	0.03
	SC-28	Lime Transfer	117,450	Included with K104 Baghouse DC-20			
	SC-20 (sealed)	Dust Transfer	1,000	0.00031	0.0011		
L201	K4-BC-506	Lime Transfer	730,500	Included with S101 Baghouse DC-8001		0.38	1.25
	SC-4029	Lime Transfer	1,000	Included with K404 Baghouse DC-30N			
	SC-30	Lime Transfer	1,000	Included with K404 Baghouse DC-30N			
	K4-BC-507	Lime Transfer	730,500	Included with K104 Baghouse DC-20			
	BE-30	Lime Transfer	730,500	0.00031	0.0011		
	BC-32 (enclosed)	Lime Transfer	730,500	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	Clean-up Screw Conveyor (enclosed)	Lime Transfer	730,500	0.00031	0.0011		
L206	CR-30	Product Crushing	611,832	Baghouse DC-36		0.06	0.06
	BE-31	Lime Transfer	1,095,750				
	VS-30	Screening Product	1,095,750				
	SC-47	Lime Transfer	13,759	0.00031	0.0011		
	SC-48	Lime Transfer	13,759	0.00031	0.0011		
	SC-49	Lime Transfer	13,759	0.00031	0.0011		
L208	SI-04 (enclosed)	Bin Feeding	121,750	0.00031	0.0011	0.09	0.28
	SI-09 (enclosed)	Bin Feeding	121,750	0.00031	0.0011		
	SI-03 (enclosed)	Bin Feeding	121,750	0.00031	0.0011		
	SI-10	Bin Feeding	121,750	Baghouse DC-37			
	SI-08 (enclosed)	Bin Feeding	121,750	0.00031	0.0011		
L209	SC-39 (sealed)	Lime Transfer	121,750	0.00031	0.0011	0.11	0.35
	SC-38 (sealed)	Lime Transfer	121,750	0.00031	0.0011		
	SC-38A (sealed)	Lime Transfer	121,750	0.00031	0.0011		
	SC-37 (sealed)	Lime Transfer	121,750	0.00031	0.0011		
	SC-36 (sealed)	Lime Transfer	121,750	0.00031	0.0011		
	SC-40 (sealed)	Dust Transfer	968	0.00031	0.0011		
	SC-41 (sealed)	Dust Transfer	968	0.00031	0.0011		
H101	SC-101 (sealed)	Hydrate Transfer	71,550	0.00031	0.0011	0.01	0.04
H102	Small Bin (enclosed)	Bin Feeding	71,550	0.00031	0.0011	0.02	0.08
	SC-105 (sealed)	Hydrate Transfer	71,550	0.00031	0.0011		
H105	MX-106 (sealed)	Hydrate Transfer	71,550	0.00031	0.0011	0.05	0.11
	HY-107	Hydrator	93,015	Baghouse DC-109			
	Hydrator Baghouse Burner; 1.83 MMBtu/hr	Gas combustion	16.0 MMcf/yr				
	SC-111 (sealed)	Hydrate Transfer	93,015	0.00031	0.0011		
H108	BE-113 (sealed)	Hydrate Transfer	93,909	0.00031	0.0011	0.04	0.17
	VS-115 (enclosed)	Product Screening	16,099	0.0006	0.0087		
	SC-117 (sealed)	Hydrate Transfer	93,015	0.00031	0.0011		
H109	CR-116 (sealed)	Product Crushing	894	0.00088	0.015	0.01	0.01
H110	SC-119 (sealed)	Hydrate Transfer	894	0.00031	0.0011	0.01	0.01
H116	SC-118 (sealed)	Hydrate Transfer	93,015	0.00031	0.0011	0.05	0.16
	BE-120 (sealed)	Hydrate Transfer	93,015	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	SC-121 (sealed)	Hydrate Transfer	93,015	0.00031	0.0011		
	SI-05	Bin Feeding	93,015	Included with H105 Baghouse DC-109			
D101	D-BN-201	Open Stone Transfer Point	466,816	0.00031	0.0011	0.08	0.27
	D-BC-202	Open Stone Transfer Point	466,816	0.000013	0.000046		
D104	D-BC-207	Open Stone Transfer Point	466,816	0.000013	0.000046	0.02	0.18
	D-VS-208	Screening Stone	466,816	0.00005	0.00074		
D104a	D-BC-213	Open Stone Transfer Point	443,475	0.000013	0.000046	0.01	0.01
D104b	D-BC-214	Open Stone Transfer Point	221,738	0.000013	0.000046	0.01	0.01
D104c	D-BC-8301	Open Stone Transfer Point	295,650	0.000013	0.000046	0.01	0.01
D105	D-BC-209	Open Stone Transfer Point	23,341	0.000013	0.000046	0.04	0.04
	D-BE-210	Open Stone Transfer Point	23,341	0.000013	0.000046		
	D-BN-211	Open Stone Transfer Point	23,341	0.000013	0.000046		
	D-BN-211	Load Out	23,341	0.000013	0.000046		
D106	D-BC-209E	Emergency Conveyor	23,341	0.000013	0.000046	0.02	0.02
	Loader Loading	Temporary Stockpile to Loader	23,341	0.000013	0.000046		
D201	D-HM-510 (sealed)	Product Crushing	146,000	0.00088	0.015	0.06	1.1
D202	D-SC-511 (sealed)	Lime Transfer	146,000	0.00031	0.0011	0.06	0.12
	D-SC-512	Lime Transfer	146,000	Baghouse DC-526			
	D-SC-513	Lime Transfer	146,000				
	D-SC-514	Lime Transfer	146,000	Bin Vent D-DC-520			
	D-SC-515	Lime Transfer	146,000				
D208	D-SC-516 (sealed)	Lime Transfer	146,000	0.00031	0.0011	0.03	0.09
	SI-11, SI-12	Bin Feeding	146,000	Emissions Included with EU: D202			
D211	D-BE-4214	Lime Transfer	146,000	Emissions included with EU: PL102		0.03	0.03
	D-BN-504	Bin Feeding	146,000				
	D-SC-508 (sealed)	Lime Transfer	146,000				
D212	BE-03 to D-HM-510	Lime Transfer	146,000	0.00031	0.0011	0.02	0.08
O101	Ore Spillage	Open Stone Transfer Point	300	0.00031	0.0011	0.06	0.08
	Ore Spillage Reclaim	Open Stone Transfer Point	300	0.00031	0.0011		
	Ore Reclaim Unloading	Open Stone Transfer Point	300	0.00031	0.0011		

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	Product Spillage	Lime Transfer	300	0.00031	0.0011		
	Product Spillage Reclaim	Lime Transfer	300	0.00031	0.0011		
	Product Reclaim Unloading	Load Out	300	0.0323	0.2135		
O107	Kiln 1-3 Dump/Bypass	Lime Transfer	50	0.00031	0.0011	0.03	0.03
	Kiln 1-3 Dump/Bypass Reclaim	Lime Transfer	50	0.00031	0.0011		
	Kiln 1-3 Dump/Bypass Unloading	Load Out	50	0.0323	0.2135		
S101	Kiln Product to BC-8001	Lime Transfer	180,000	See Table III-A-2 Baghouse DC-8001		0.01	0.01
S102	BC-8001 to BE-8001	Bin Feeding	180,000	See Table III-A-2 Baghouse DC-8002		0.05	0.05
	BE-8001 to SC-8001	Lime Transfer	180,000	See Table III-A-2 Baghouse DC-8003			
	SC-8001 to SI-RC	Lime Transfer	180,000	See Table III-A-2 Baghouse DC-8004			
	SI-RC to BC-8002	Lime Transfer	180,000				
	BC-8002	Lime Transfer	180,000				
LO101	SC-5001	Lime Transfer	66,409	See Table III-A-2 Baghouse DC-5007		0.02	0.02
	TC-1001	Load Out	66,409				
LO104	BCF-5002	Lime Transfer	66,409	See Table III-A-2 Baghouse DC-5001		0.03	0.03
	BCF-5003	Lime Transfer	66,409				
	TC-1002	Load Out	132,818				
LO106	BCF-5004	Lime Transfer	66,409	See Table III-A-2 Baghouse DC-5002		0.03	0.04
	BCF-5005	Lime Transfer	146,000				
	TC-1003	Load Out	212,409				
LO109	BCF-5006	Lime Transfer	73,000	See Table III-A-2 Baghouse DC-5003		0.03	0.04
	BCF-5007	Lime Transfer	73,000				
	TC-1004	Load Out	146,000				
LO112	SC-5008	Lime Transfer	93,015	See Table III-A-2 Baghouse DC-5006		0.02	0.02
	TC-1005	Load Out	93,015				
LO114	BCF-5009	Lime Transfer	66,409	See Table III-A-2 Baghouse DC-5004		0.03	0.03
	BCF-5010	Lime Transfer	66,409				
	TC-1006	Load Out	132,818				
LO117	BCF-5011	Lime Transfer	66,409	See Table III-A-2 Baghouse DC-5005		0.03	0.03
	BCF-5012	Lime Transfer	66,409				
	TC-1007	Load Out	132,818				

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
SP1	Hopper Loading & Unloading	Open Stone Transfer Point	1,500,000	0.000013	0.000046	0.02	0.05
	Conveyor Belt SP-2	Open Stone Transfer Point	750,000	0.000013	0.000046		
SP3	Screen SP-3	Stone Screening	750,000	0.00005	0.00074	0.05	0.31
	Stacker Belt 1	Open Stone Transfer Point	250,000	0.000013	0.000046		
	Stacker Belt 2	Open Stone Transfer Point	250,000	0.000013	0.000046		
	Stacker Belt 3	Open Stone Transfer Point	250,000	0.000013	0.000046		
LD4	Loader Loading	Open Stone Transfer Point	750,000	0.000013	0.000046	0.02	0.03
	Loader Unloading	Open Stone Transfer Point	750,000	0.000013	0.000046		
TL201	Hopper Loading & Unloading	Open Stone Transfer Point	750,000	0.00031	0.0011	0.17	0.62
	Conveyor Belt to Truck	Open Stone Transfer Point	375,000	0.00031	0.0011		
TL1	Railcar Unloading (baghouse)	Product Transfer	75,000	0.00031	0.0011	0.01	0.04
L101a	Conveyor SC-24 to Conveyor D-SC-4221	Lime Transfer (From North Lime Handling)	10,438	0.00031	0.0011	0.02	0.02
	Conveyor D-SC-4221 to Bucket Elevator BE-03	Lime Transfer	10,438	0.00031	0.0011		
K104b	Conveyor SC-02 to Conveyor D-SC-4207	Lime Transfer (From Kiln 1)	146,000	0.00031	0.0011	0.02	0.08
PL101	Conveyor D-SC-4207 to Bucket Elevator D-BE-4214	Lime Transfer	146,000	0.00031	0.0011	0.02	0.08
PL102	Bucket Elevator D-BE-4214 to Bin D-BN-504	Bin Feeding	146,000	Binvent D-DC-505		0.01	0.01
PL103	Bucket Elevator D-BE-4214 to Conveyor D-SC-4215	Lime Transfer	146,000	0.00031	0.0011	0.02	0.08
PL104	Conveyor D-SC-4215 to Dolomite Screen D-VS-4216	Lime Transfer	146,000	0.00031	0.0011	0.05	0.11
	Dolomite Screen	Screening Product	146,000				

EU	Source EU Identifier	Process Description	Throughput (tons/yr)	EF (lb/ton)		PTE (tons/yr)	
				PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	D-VS-4216	Lime Transfer	146,000	Baghouse D-DC-4217			
	Dololime Screen						
	D-VS-4216 to Silo 6						
	Dololime Screen						
	D-VS-4216 to Conveyor						
	D-SC-4217						
PL105	Conveyor	Lime Transfer	146,000	0.00031	0.0011	0.05	0.16
	D-SC-4217 to Conveyor SC4220						
	Conveyor SC4220 to Crusher D-HM-510						
PL106	D-SC-4218	Dust Transfer	0.59	0.00031	0.0011	0.01	0.01
PL107a	SN-50118	Product Screening	146,000	Baghouse D-DC-50122		0.02	0.08
PL107b	CF-50116	Product Crushing	146,000				
PL107c	SC-50115	Lime Transfer	146,000				
	SC-50117	Lime Transfer	146,000				
	SC-50114	Lime Transfer	146,000				
	SC-50119	Lime Transfer	146,000				
PL107d	SC-50125	Dust Transfer	146,000	0.00031	0.0011		
Total						11.96	67.63

Derivation of emission factors for Truck Loading (EU: F133)

Table 11.9-1 from AP-42

Table 11.9-1 (English Units). EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES^a

Operation	Material	Emissions By Particle Size Range (Aerodynamic Diameter) ^{b,c}				Units	EMISSION FACTOR RATING
		Emission Factor Equations		Scaling Factors			
		TSP ≤30 μm	≤15 μm	≤10 μm ^d	≤2.5 μm/TSP ^e		
Blasting ^f	Coal or overburden	0.000014(A) ^{1.5}	ND	0.52 ^e	0.03	lb/blast	C_DD
Truck loading	Coal	$\frac{1.16}{(M)^{1.2}}$	$\frac{0.119}{(M)^{0.9}}$	0.75	0.019	lb/ton	BBCC

Relevant Footnotes to Table 11.9-1

- d Multiply the ≤15-μm equation by this fraction to determine emissions, except as noted.
- e Multiply the TSP predictive equation by this fraction to determine emissions.

PM₁₀ EF Calculation (see footnote d)

Moisture Value (M) Provided in Application: 10.35%

$$\leq 15 \mu\text{m} = \frac{0.119}{(M)^{0.9}} \rightarrow \frac{0.119}{(10.35)^{0.9}} = \frac{0.119}{8.19} = \mathbf{0.014}$$

EF PM₁₀ (lb/ton): 0.014 * 0.75 = 0.011

PM_{2.5} EF Calculation (see footnote e)

Moisture Value (M) Provided in Application: 10.35%

$$\text{TSP} \leq 30 \mu\text{m} = \frac{1.16}{(M)^{1.2}} \rightarrow \frac{1.16}{(10.35)^{1.2}} = \frac{1.16}{16.52} = \mathbf{0.07}$$

EF PM_{2.5} (lb/ton): 0.07 * 0.019 = 1.33E-03

XII-2. Source PTE for Drilling (tons per year)

Proposed limit (holes/yr)	PM ₁₀ EF (lb/hole)	Potential PM ₁₀ (tpy)	PM _{2.5} EF (lb/hole)	Potential PM _{2.5} (tpy)
24552	0.676	8.30	0.101	1.24

XII-3. Source PTE for Blasting (tons per year)

Horizontal Area (ft ² /blast)	Proposed Blasts (blasts/yr)	PM ₁₀ EF (lb/blast)	Potential PM ₁₀ (tpy)	PM _{2.5} EF (lb/blast)	Potential PM _{2.5} (tpy)
65000	80	120.25	4.81	18.00	0.72

XII-4. Source PTE for ANFO Consumption (tons per year)

Proposed ANFO (tons/yr)	CO EF (lb/ton)	Potential CO (tpy)	NO _x EF (lb/ton)	Potential NO _x (tpy)	SO ₂ (lb/ton)	Potential SO ₂ (tpy)
2100	67	70.35	17	17.85	3.0	3.15

XII-5. Source PTE for Baghouse Stack Emissions (tons per year)

ID	Description	PTE Flow Rate (acfm)	PTE Annual Hours (hrs)	Discharge Pressure (mmHg)	Discharge Temperature (°R)	PTE Flow Rate (dscfm)	PTE PM ₁₀ Grain Loading (gr/dscf) (g/dscf)		Controlled PM _{2.5} /PM ₁₀ Fraction*	PTE PM _{2.5} Grain Loading (gr/dscf) (g/dscf)		PTE Annual PM ₁₀ Rate (tpy)	PTE Annual PM _{2.5} Rate (tpy)
C101	DC-01 (Kiln 1)	50,000	8,760	703	776	31,475	0.0219	0.05	1.00	0.02	0.05	25.88	25.88
C102	DC-02 (Kiln 2)	50,000	8,760	703	776	31,475	0.0219	0.05	1.00	0.02	0.05	25.88	25.88
C103	DC-03 (Kiln 3)	70,000	8,760	703	769	44,466	0.0219	0.05	1.00	0.02	0.05	36.56	36.56
C115	K4-DC-316 (Kiln 4)	168,700	8,760	703	845	97,525	0.0120	0.03	1.00	0.01	0.03	44.1	44.1
C104	DC-04 (Kiln dust loadout)	2,000	8,760	703	526.3	1,856	0.0219	0.05	0.71	0.02	0.04	1.52	1.07
C105	DC-05 (Kiln dust loadout)	2,000	8,760	703	526.3	1,856	0.0219	0.05	0.71	0.02	0.04	1.52	1.07
C106	DC-20 (North lime handling)	10,000	8,760	703	526.3	9,282	0.0219	0.05	0.71	0.02	0.04	7.61	5.37
C136	DC-30N (South lime handling)	8,000	8,760	703	526.3	7,425	0.0050	0.01	0.71	0.0035	0.01	1.39	0.98
C109	DC-36 (South lime handling)	10,000	8,760	703	526.3	9,282	0.0219	0.05	0.71	0.02	0.04	7.61	5.37
C110	DC-109 (Hydrator)	12,000	8,760	703	710	8,256	0.0219	0.05	0.71	0.02	0.04	6.77	4.78
C111	DA-DC-507 (Dust blending bin vent Kiln2)	1,060	8,760	703	526.3	984	0.0219	0.05	0.71	0.02	0.04	0.81	0.57
C112	D-DC-505 (Upset bin vent)	1,000	8,760	703	526.3	928	0.0219	0.05	0.71	0.02	0.04	0.76	0.54
C113	D-DC-520 (Dolomitic bin vent)	3,000	8,760	703	526.3	2,784	0.0219	0.05	0.71	0.02	0.04	2.28	1.61
C114	D-DC-526 (Dolomitic)	3,000	8,760	703	526.3	2,784	0.0219	0.05	0.71	0.02	0.04	2.28	1.61
C117	K4-DC-340 (Kiln 4 cooler)	13,000	8,760	703	845	9,846	0.0100	0.02	1.00	0.01	0.02	3.70	3.70
C118	K4-DC-421 (Kiln 4 fuel bins)	1,000	8,760	703	526.3	928	0.0219	0.05	0.71	0.02	0.04	0.76	0.54
C119	K4-DC-509 (Kiln 4 dust bin vent)	1,000	8,760	703	526.3	928	0.0219	0.05	0.71	0.02	0.04	0.76	0.54
C120	K4-DC-516 (Dust blend filter receiver)	1,200	8,760	703	526.3	1,114	0.0219	0.05	0.71	0.02	0.04	0.91	0.64
C121	K4-DC-519 (Start-up bin)	1,000	8,760	703	526.3	928	0.0219	0.05	0.71	0.02	0.04	0.76	0.54
C122	DC-8001 (Lime Reclaim)	15,442	8,760	703	526.3	14,333	0.0100	0.02	0.71	0.01	0.02	5.38	3.80
C123	DC-8002 (5000 ton Silo System)	2,631	8,760	703	526.3	2,442	0.0100	0.02	0.71	0.01	0.02	0.92	0.65
C124	DC-8003 (5000 ton Silo System)	2,631	8,760	703	526.3	2,442	0.0100	0.02	0.71	0.01	0.02	0.92	0.65
C125	DC-8004 (5000 ton Silo System)	2,631	8,760	703	526.3	2,442	0.0100	0.02	0.71	0.01	0.02	0.92	0.65
C127	DC-5001 (South Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C128	DC-5002 (North Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C129	DC-5003 (South Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C130	DC-5004 (South Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C131	DC-5005 (North Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C132	DC-5006 (Hydrator)	5,500	8,760	703	526.3	5,105	0.0100	0.02	0.71	0.01	0.02	1.92	1.35
C133	DC-5007 (South Lime Handling)	4,690	8,760	703	526.3	4,353	0.0100	0.02	0.71	0.01	0.02	1.63	1.15
C134	D-DC-4217 (Dolomite Handling Baghouse)	6,714	8,760	703	527.7	6,215	0.0100	0.02	0.71	0.01	0.02	2.33	1.65
C135	DC-37 (South lime handling)	400	8,760	703	526.3	371	0.0219	0.05	0.71	0.02	0.04	0.31	0.22
C137	K2-DC-506S (Kiln 2)	1,200	8,760	703	526.3	1,114	0.0150	0.03	0.71	0.01	0.02	0.63	0.44
C138	K2-DC-505N (Kiln 2)	1,200	0	703	526.3	1,114	0.0150	0.03	0.71	0.01	0.02	0.00	0.00
C139	DC-CA-04	5,000	8,760	703	526.3	4,641	0.0030	0.01	1.00	0.003	0.01	0.52	0.52
C140	DC-50122	3,000	8,760	703	526.3	2,784	0.0219	0.05	1.00	0.022	0.05	2.29	2.29
Total:												197.80	180.48

XII-6. Source PTE for Diesel Engine

EU#	K202a		Horsepower:	49	Emission Factor (lb/hp-hr)	Potential Emissions (per unit)			
Make:	Isuzu		Hours/Day:	24.0		lb/hr	lb/day	ton/yr	
Model:	C240		Hours/Year	500					
S/N:									
Manufacturer Guarantees					PM10	1.32E-03	0.06	1.56	0.02
PM10	0.6	g/hp-hr			NOx	1.60E-02	0.79	18.87	0.20
NOx	7.28	g/hp-hr			CO	9.00E-03	0.44	10.59	0.11
CO	4.084	g/hp-hr			SO₂	1.21E-05	0.01	0.01	0.01
SO₂		g/hp-hr			VOC	2.51E-03	0.12	2.96	0.03
VOC		g/hp-hr			HAP	2.71E-05	0.01	0.03	0.01
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-7. Source PTE for Diesel Engine

EU#	K302a		Horsepower:	64.8	Emission Factor (lb/hp-hr)	Potential Emissions			
Make:	Isuzu		Hours/Day:	24.0		lb/hr	lb/day	ton/yr	
Model:	BB-4JG1T		Hours/Year	500					
S/N:	4JG1TPV								
Manufacturer Guarantees					PM10	3.62E-04	0.02	0.56	0.01
PM10	0.164	g/hp-hr			NOx	1.11E-02	0.72	17.25	0.18
NOx	5.03	g/hp-hr			CO	1.81E-03	0.12	2.81	0.03
CO	0.821	g/hp-hr			SO₂	1.21E-05	0.01	0.02	0.01
SO₂		g/hp-hr			VOC	5.84E-04	0.04	0.91	0.01
VOC	0.265	g/hp-hr			HAP	2.71E-05	0.01	0.04	0.01
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-8. Source PTE for Diesel Engine

EU#	K402a		Horsepower:	174			Emission Factor	Potential Emissions			
Make:	Perkins		Hours/Day:	24.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	MK51645		Hours/Year	500			PM10	5.07E-06	0.01	0.02	0.01
S/N:	1204E-E44TTA						NOx	4.30E-03	0.75	17.95	0.19
							CO	1.60E-04	0.03	0.67	0.01
							SO₂	1.21E-05	0.01	0.05	0.01
Manufacturer Guarantees							VOC	2.87E-05	0.01	0.12	0.01
PM10	0.0023	g/hp-hr ▼					HAP	2.71E-05	0.01	0.11	0.01
NOx	1.95	g/hp-hr ▼									
CO	0.0725	g/hp-hr ▼									
SO₂		g/hp-hr ▼									
VOC	0.013	g/hp-hr ▼									
Engine Type:	Diesel	▼									
											Diesel Fuel Sulfur Content is 15 ppm (0.0015%)

XII-9. Source PTE for Diesel Engine

EU#	O110		Horsepower:	302				Emission Factor	Potential Emissions			
Make:	Various		Hours/Day:	24.0				(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	Various		Hours/Year	500				PM10	2.20E-03	0.66	15.95	0.17
S/N:	Various							NOx	3.10E-02	9.36	224.69	2.34
								CO	6.68E-03	2.02	48.42	0.50
								SO₂	1.21E-05	0.01	0.09	0.01
Manufacturer Guarantees							VOC	2.51E-03	0.76	18.19	0.19	
PM10		g/hp-hr ▼					HAP	2.71E-05	0.01	0.20	0.01	
NOx		g/hp-hr ▼										
CO		g/hp-hr ▼										
SO₂		g/hp-hr ▼										
VOC		g/hp-hr ▼										
Engine Type:	Diesel	▼										
											Diesel Fuel Sulfur Content is 15 ppm (0.0015%)	

XII-10. Source PTE for Diesel Engine

EU#	O111		Horsepower:	110				Emission Factor	Potential Emissions			
Make:	Perkins		Hours/Day:	24.0				(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	1006-6T		Hours/Year	500				PM10	2.20E-03	0.24	5.81	0.06
S/N:	703260U609748A							NOx	3.01E-02	3.32	79.56	0.83
								CO	5.34E-03	0.59	14.08	0.15
								SO₂	1.21E-05	0.01	0.03	0.01
Manufacturer Guarantees							VOC	9.70E-04	0.11	2.56	0.03	
PM10		g/hp-hr ▼					HAP	2.71E-05	0.01	0.07	0.01	
NOx	13.67	g/hp-hr ▼										
CO	2.42	g/hp-hr ▼										
SO₂		g/hp-hr ▼										
VOC	0.44	g/hp-hr ▼										
Engine Type:	Diesel	▼										
											Diesel Fuel Sulfur Content is 15 ppm (0.0015%)	

XII-11. Source PTE for Diesel Engine

EU#	O112		Horsepower:	16.3			Emission Factor	Potential Emissions			
Make:	Kubota		Hours/Day:	24.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	D722		Hours/Year	500			PM10	6.61E-04	0.01	0.26	0.01
S/N:	TBD						NOx	1.17E-02	0.19	4.59	0.05
							CO	1.08E-02	0.18	4.23	0.04
Manufacturer Guarantees							SO₂	1.21E-05	0.01	0.01	0.01
PM10	0.3	g/hp-hr ▼					VOC	6.17E-04	0.01	0.24	0.01
NOx	5.32	g/hp-hr ▼					HAP	2.71E-05	0.01	0.01	0.01
CO	4.9	g/hp-hr ▼	EPA Tier 4 EF								
SO₂		g/hp-hr ▼									
VOC	0.28	g/hp-hr ▼									
Engine Type:	Diesel	▼	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-12. Source PTE for Diesel Engine

EU#	QS101		Horsepower:	80				Emission Factor	Potential Emissions			
Make:	John Deere		Hours/Day:	24.0				(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	4045DF150B		Hours/Year	8760				PM10	2.20E-03	0.18	4.22	0.77
S/N:								NOx	1.51E-02	1.21	29.00	5.29
								CO	6.68E-03	0.53	12.83	2.34
Manufacturer Guarantees								SO₂	1.21E-05	0.01	0.02	0.01
PM10		g/hp-hr ▼						VOC	2.47E-03	0.20	4.74	0.87
NOx	6.85	g/hp-hr ▼						HAP	2.71E-05	0.01	0.05	0.01
CO		g/hp-hr ▼										
SO₂		g/hp-hr ▼										
VOC	1.12	g/hp-hr ▼	1									
Engine Type:	Diesel	▼	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

XII-13. Source PTE for Diesel Engine

EU#	K102a		Horsepower:	34				Emission Factor	Potential Emissions			
Make:	Isuzu		Hours/Day:	24.0				(lb/hp-hr)	lb/hr	lb/day	ton/yr	
Model:	C240		Hours/Year	500				PM10	9.26E-04	0.03	0.76	0.01
S/N:	900825							NOx	8.46E-03	0.29	6.90	0.07
								CO	2.43E-03	0.08	1.98	0.02
Manufacturer Guarantees								SO₂	1.21E-05	0.01	0.01	0.01
PM10	0.42	g/hp-hr ▼						VOC	4.45E-04	0.02	0.36	0.01
NOx	3.838	g/hp-hr ▼						HAP	2.71E-05	0.01	0.02	0.01
CO	1.1	g/hp-hr ▼										
SO₂		g/hp-hr ▼										
VOC	0.202	g/hp-hr ▼										
Engine Type:	Diesel	▼	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

XII-14. Source PTE for Stockpiles (tons per year)

EU	Stockpile Description	Acres	EF (lb/acre-day)		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
A01	Quarry Areas	15.18	0.954	6.3	0.327	2.38	15.75
	Limestone at Hopper	1.72					
	Fine Kiln Feed	2.51					
	Course Kiln Feed	2.74					
	Glass Flux Feed	8.76					
	Kiln 4 Chat	0.04					
	Chat	0.61					
	Solid Fuel (Coal/Coke)	9.51					
	Dolomite	0.82					
	Subtotal	41.89					
	Fine Dolomite	1.8	0.954	6.3	0.124	0.13	0.84
	Coarse Dolomite	1.81					
	Portable Screening Plant	2.25					
	Subtotal	5.86					
	Dolomite at Hopper	2.01	0.954	6.3	0.327	0.48	3.16
	Waste Lime	3.07					
	Waste Flue Dust	3.08					
	Temporary	0.25					
	Subtotal	8.41					
Aggregate Plant	7.33	0.954	6.3	0.18	0.23	1.52	
Total	63.49				3.21	21.27	

XII-15. Source PTE for HCl Emissions

Description	Process Rate (dscfm)	EF (ppmv)	HCl Molecular Wt. (g/mol)	PTE (tons/yr)
Kiln 1	33,000	17.5	36.5	14.39
Kiln 2	33,000	1.7		1.40
Kiln 3	54,000	1.7		2.29
Kiln 3	72,000	1.7		3.05
Total				21.12

Equation: $[EF/1,000,000 * (\text{process rate}) * (60 \text{ min/hr}) * (\text{Mol. Wt.}/385) * (8,760 \text{ hr/yr})]/2,000 \text{ lb/ton}$

XII-16. Source PTE for Gasoline Dispensing (from TANKS ESP)

EU	Throughput (gallons/yr)	Loading Losses (lbs/yr)	Working Losses (lbs/yr)	Total (lbs/yr)	PTE (VOC) (tons/yr)
T101	60,000	220.24	279.99	500.23	0.25

XII-17. Source PTE for Haul Roads

EU	Source Description	VMT/yr	lb/VMT		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
VPW	Quarry Loader (Stone, Overburden)	14,587	0.21	2.08	0.10	0.15	1.52
	70T Rock Trucks (Kiln Stone) North Pit to LNA Plant	3,679	0.18	1.77	0.10	0.03	0.33
	70T Rock Trucks (Kiln Stone) North East Pit to LNA Plant	46,370	0.18	1.77	0.10	0.42	4.10
	70T Rock Trucks (Kiln Stone) Vegas Pit to LNA Plant	14,595	0.18	1.77	0.10	0.13	1.29
	70T Rock Trucks (Overburden) North Pit to Aggregate Plant	0	0.18	1.77	0.10	0.00	0.00
	70T Rock Trucks (Overburden) North East Pit to North Dump	124,217	0.18	1.77	0.10	1.12	10.99
	70T Rock Trucks (Overburden) North East Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) North Pit to North Dump	9,810	0.18	1.77	0.10	0.09	0.87
	70T Rock Trucks (Kiln Stone) Central Pit to Plant	3,010	0.18	1.77	0.10	0.03	0.27
	70T Rock Trucks (Overburden) Central Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Central Pit to North Dump	9,109	0.18	1.77	0.10	0.08	0.81
	70T Rock Trucks (Overburden) Reno Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Reno Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Reno Pit to North Dump	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Reno Pit to South Storage	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Reno Pit to Central Dump	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Vegas Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Vegas Pit to Central Storage	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Vegas Pit to North Dump	0	0.18	1.77	0.10	0	0
	70T Rock Trucks (Overburden) Vegas Pit to Central Dump	0	0.18	1.77	0.10	0	0
70T Rock Trucks (Overburden) Vegas Pit to Reno Dump	65,453	0.18	1.77	0.10	0.59	5.79	
70T Rock Trucks (Kiln Stone) Dolo Pit to LNA Plant	8,010	0.18	1.77	0.10	0.07	0.71	
70T Rock Trucks (Overburden) Dolo Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0	
70T Rock Trucks (Overburden) Dolo Pit to North Dump	0	0.18	1.77	0.10	0	0	
70T Rock Trucks (Overburden) Dolo Pit to South Storage	0	0.18	1.77	0.10	0	0	
70T Rock Trucks (Overburden) Dolo Pit to Central Dump	30,949	0.18	1.77	0.10	0.28	2.74	
69T Rock Trucks (Kiln Stone)	0	0.18	1.77	0.10	0	0	

EU	Source Description	VMT/yr	Ib/VMT		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
VPW (cont)	North Pit to LNA Plant						
	69T Rock Trucks (Kiln Stone) North East Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Kiln Stone) Vegas Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) North East Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) North East Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) North Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) North Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Kiln Stone) Central Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Central Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Central Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) South Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) South Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) South Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) South Pit to South Storage	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Reno Pit to Central Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Vegas Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Vegas Pit to South Storage	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Vegas Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Vegas Pit to Central Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Vegas Pit to Reno Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Dolo Pit to Central Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Kiln Stone) Dolo Pit to LNA Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Dolo Pit to Aggregate Plant	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Dolo Pit to North Dump	0	0.18	1.77	0.10	0	0
	69T Rock Trucks (Overburden) Dolo Pit to South Storage	0	0.18	1.77	0.10	0	0
	55T Rock Trucks (Kiln Stone) North Pit to LNA Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Kiln Stone) North East Pit to LNA Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Kiln Stone)	0	0.17	1.69	0.10	0	0

EU	Source Description	VMT/yr	Ib/VMT		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
VPW (cont.)	Vegas Pit to LNA Plant						
	55T Rock Trucks (Overburden) North Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) North Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Kiln Stone) Central Pit to Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) North East Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) North East Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Central Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Central Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Reno Pit to LNA Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Reno Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Reno Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) South Pit to South Storage	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Kiln Stone) Dolo Pit to CLC Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Reno Pit to Central Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Vegas Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Vegas Pit to South Storage	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Vegas Pit to Reno Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Vegas Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Vegas Pit to Central Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Dolo Pit to Aggregate Plant	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Dolo Pit to North Dump	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Dolo Pit to South Storage	0	0.17	1.69	0.10	0	0
	55T Rock Trucks (Overburden) Dolo Pit to Central Dump	0	0.17	1.69	0.10	0	0
	40T Dump Truck (Dolo Chat) LNA Plant to South Storage	0	0.15	1.47	0.10	0	0
	40T Dump Truck (HiCal Chat) LNA Plant to South Storage	0	0.15	1.47	0.10	0	0
	35T Rock Trucks (Kiln Stone) North Pit to LNA Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Kiln Stone) North East Pit to LNA Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Kiln Stone)	0	0.14	1.44	0.10	0	0

EU	Source Description	VMT/yr	Ib/VMT		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
	Vegas Pit to LNA Plant						
	35T Rock Trucks (Overburden) North Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) North Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Kiln Stone) Central Pit to Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Central Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Central Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Reno Pit to CLC Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) North East Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) North East Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Vegas Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Reno Pit to Central Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Vegas Pit to South Storage	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Vegas Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Vegas Pit to Reno Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Vegas Pit to Central Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Reno Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Reno Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) South Pit to South Storage	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Kiln Stone) Dolo Pit to Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Dolo Pit to Aggregate Plant	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Dolo Pit to North Dump	0	0.14	1.44	0.10	0	0
	35T Rock Trucks (Overburden) Dolo Pit to South Storage	0	0.14	1.44	0.10	0	0
VPW (cont.)	35T Rock Trucks (Overburden) Dolo Pit to Central Dump	0	0.14	1.44	0.10	0	0
	25T Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) LNA Plant to North Dump	0	0.15	1.47	0.10	0	0
	6Yd Dump Trucks (Chat Lime Waste, Lime Dust and Solid Fuel Waste) LNA Plant to North Dump	83,436	0.08	0.82	0.10	0.33	3.42
	Blade	1,000	0.09	0.94	0.10	0.01	0.05
	Water Trucks	14,692	0.10	1.03	0.10	0.07	0.76

EU	Source Description	VMT/yr	Ib/VMT		CF	PTE (tons/yr)	
			PM _{2.5}	PM ₁₀		PM _{2.5}	PM ₁₀
	Dagerstrom Truck From South Pit to South Storage	0	0.20	1.98	0.10	0	0
	Chat Trucks (Chat Sold to Public) Aggregate Plant to Exit	0	0.04	0.17	1	0	0
	Coal Trucks From LNA Scale to Highway	992	0.04	0.17	1	0.02	0.08
	Bulk Trucks From LNA to Highway	5,785	0.04	0.17	1	0.12	0.49
	Portable Screening Product Trucks Aggregate Plant Scale to Exit	9,091	0.04	0.17	1	0.18	0.77
	40T Dump Truck (Primary & Secondary Chat for Aggregate Plant) LNA Plant to Aggregate Plant	0	0.15	1.47	0.02	0	0
	Chat Trucks (Chat Sold to Public) LNA Plant to Aggregate Plant Scale	0	0.11	1.08	0.02	0	0
	Portable Screening Product Trucks Chat Pile to Aggregate Plant Scale	13,636	0.11	1.08	0.02	0.01	0.15
	25T Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) CLC Plant to North Dump	0	0.05	0.19	1	0	0
	6Yd Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) CLC Plant to North Dump	8,630	0.02	0.09	1	0.09	0.39
	Water Trucks	1,632	0.04	0.16	1	0.03	0.13
	Coal Trucks	5,624	0.07	0.27	1	0.20	0.76
	Maintenance Vehicles - Plant Activity	3,265	0.01	0.03	1	0.02	0.05
	Plant Pickups - Plant Activity	1,072	0.01	0.02	1	0.01	0.01
	Utility Loaders - Plant Activity	1,741	0.02	0.10	1	0.02	0.09
	Utility Equipment - Plant Activity	1,741	0.01	0.05	1	0.01	0.04
	Bulk Trucks - Plant Activity	15,273	0.04	0.17	1	0.31	1.30
	Plant Loaders – Chat	0	0.14	1.38	0.10	0	0
	Plant Loaders – Solid Fuel	818	0.14	1.38	0.10	0.01	0.06
	Maintenance Vehicles – Plant Activity	2,177	0.05	0.50	0.10	0.01	0.05
	Plant Pickups – Plant Activity	9,811	0.04	0.40	0.10	0.02	0.20
	Utility Loaders – Plant Activity	435	0.08	0.84	0.10	0.01	0.02
	Utility Equipment – Plant Activity	435	0.06	0.62	0.10	0.01	0.01
	Dozer	3,000	0.15	1.48	0.10	0.02	0.22
	Total	514,075				4.50	38.47

XII-18. Source PTE for GHG Emissions (metric tons per year)

Description	Metric Tons	Notes
Previous GHG	697,454	Provided by Permittee 09/09/2011
Increase from Replacement of Engine (EU: K02a) Added with Permit Issued 04/14/2020	4.5	E-mail From Emily Kolb (Trinity Consultants) 01/10/2020
Increase from New Engine (EU: O111) Added with Permit Issued 09/15/2022	30.58	From ATC application dated 05/23/2022
Increase from New Engine (EU: O112)	5.72	From ATC application dated 04/27/2023
Total	697,494.80	

XII-19. Source PTE for Natural Gas Fuel Burning (Kilns & Hydrate System)

EU	Emission Source Description	Process Description	Pollutant	PTE Annual Process Rate	Units	PTE Annual Emission Factor	Emission Factor Units	Pollutant	PTE Annual Rate (tpy)
Kilns:									
K102	KN-01	Rotary Kiln	PM-10	109,500	tons limestone	42	lb/ton limestone	PM-10	Included in the LS table
			CO			2.246	lb/ton limestone	CO	122.97
			NOx	33,108	tons fuel	6.2738	lb/ton limestone	NOx	343.49
			SO2			7.545	lb/ton limestone	SO2	413.09
			VOC			0.06	lb/ton fuel	VOC	0.99
			HCl			FTIR Test	lb/ton fuel	HCl	14.38
			Other HAP			0.01457	lb/ton fuel	Other HAP	0.24
			Total HAPs					Total HAPs	14.62
K202	KN-02	Rotary Kiln	PM-10	109,500	tons limestone	42	lb/ton limestone	PM-10	Included in the LS table
			CO			2.286	lb/ton limestone	CO	125.16
			NOx	37,490	tons fuel	6.39	lb/ton limestone	NOx	349.85
			SO2			4.96	lb/ton limestone	SO2	271.56
			VOC			0.06	lb/ton fuel	VOC	1.12
			HCl			FTIR Test	lb/ton fuel	HCl	1.40
			Other HAP			0.01457	lb/ton fuel	Other HAP	0.27
			Total HAPs					Total HAPs	1.67
K302	KN-03	Rotary Kiln	PM-10	146,000	tons limestone	42	lb/ton limestone	PM-10	Included in the LS table
			CO			2.35	lb/ton limestone	CO	171.55
			NOx	46,741	tons fuel	6.55	lb/ton limestone	NOx	478.15
			SO2			5.75	lb/ton limestone	SO2	419.75
			VOC			0.06	lb/ton fuel	VOC	1.40
			HCl			FTIR Test	lb/ton fuel	HCl	2.29
			Other HAP			0.01457	lb/ton fuel	Other HAP	0.34
			Total HAPs					Total HAPs	2.63
K402	K4-KN-305	Rotary Kiln	PM-10	475,000	tons limestone	42	lb/ton limestone	PM-10	Included in the LS table
			CO			2	lb/ton limestone	CO	475.00
			NOx	116,163	tons fuel	2.956	lb/ton limestone	NOx	702.05
			SO2			2.27	lb/ton limestone	SO2	539.13
			VOC			0.06	lb/ton fuel	VOC	3.48
			HCl			FTIR Test	lb/ton fuel	HCl	3.05
			Other HAP			0.01457	lb/ton fuel	Other HAP	0.85
			Total HAPs					Total HAPs	3.90
Hydrate System:									
H105	Hydrator Baghouse Burner	Gas Combustion	PM-10	16	MMcf	8	lb/MMcf	PM-10	Included in the LS table
			CO			84	lb/MMcf	CO	0.67
			NOx			100	lb/MMcf	NOx	0.80
			SO2			0.6	lb/MMcf	SO2	0.00
			VOC			5.5	lb/MMcf	VOC	0.04
			Total HAPs			5.5	lb/MMcf	Total HAPs	0.04

XII-20. Source PTE Summary (tons per year)¹

Process Description	PM ₁₀ (tpy)	PM _{2.5} (tpy)	NO _x (tpy)	CO (tpy)	SO ₂ (tpy)	VOC (tpy)	HAP (HCl)	HAP (other)	Total HAPs (tpy)
Limestone Processing	67.63	11.96	0	0	0	0	0	0	0
Storage Piles	21.27	3.21	0	0	0	0	0	0	0
Baghouse Emissions	197.80	180.48	0	0	0	0	0	0	0
Haul Roads	38.47	4.50	0	0	0	0	0	0	0
Drilling & Blasting	13.11	1.96	17.85	70.35	3.15	0	0	0	0
Kilns/Hydrate	Included w/Limestone Processing		1,874.34	895.35	1,643.53	7.05	21.12	1.75	22.87
Generators/Fire Pump	1.06	1.06	9.15	3.20	0.08	1.16	0.00	0.08	0.08
Gasoline Dispensing	0	0	0	0	0	0.25	0	0.01	0.01
Total	339.34	203.17	1,901.34	968.90	1,646.76	8.46	21.12	1.84	22.96

¹Differences in values between this table and Excel spreadsheets are due to rounding methodology practices and policies adopted by DES

XII-21. Applicability Emissions for Limestone Processing

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
Q101	Mining	2,400	21,024,000	0.0013	0.0089	13.67	93.56
P103	HO-101/PF-101	1,200	10,512,000	0.000013	0.000046	0.07	0.24
	GR-101	1,200	10,512,000	0.000013	0.000046	0.07	0.24
	BC-103	1,200	10,512,000	0.000013	0.000046	0.07	0.24
P103a	JC-102	504	4,415,040	0.00044	0.0024	0.97	5.30
P106	BC-104	2,046	17,922,960	0.000013	0.000046	0.12	0.41
	VS-202	1,023	8961480	0.00005	0.00074	0.22	3.32
P107	VS-203	1,023	8961480	0.00005	0.00074	0.22	3.32
P109	BC-204	846	7410960	0.000013	0.000046	0.05	0.17
	BC-225	300	2628000	0.000013	0.000046	0.02	0.06
P109a	CC-201	846	7410960	0.00044	0.0024	1.63	8.89
P112	BN-226	300	2628000	0.000013	0.000046	0.02	0.06
	BN-226 Loadout	300	2628000	0.00031	0.0011	0.41	1.45
P114	BC-205	327	2864520	0.000013	0.000046	0.02	0.07
	BC-206	241	2111160	0.000013	0.000046	0.01	0.05
	BC-207	241	2111160	0.000013	0.000046	0.01	0.05
	BC-209	487	4266120	0.000013	0.000046	0.03	0.10
	BC-210	487	4266120	0.000013	0.000046	0.03	0.10
P115	BC-236	86	753360	0.000013	0.000046	0.00	0.02
	BC-237	86	753360	0.000013	0.000046	0.00	0.02
	BC-208	573	5019480	0.000013	0.000046	0.03	0.12
	BC-235	86	753360	0.000013	0.000046	0.00	0.02
	BC-Coarse 2	86	753360	0.000013	0.000046	0.00	0.02
P129	Loader Loading (dolomite)	25	219000	0.00031	0.0011	0.03	0.12
	Loader Unloading (dolomite)	25	219000	0.00031	0.0011	0.03	0.12
R101	BC-11	93.3	817308	0.000013	0.000046	0.01	0.02
	BC-12	93.3	817308	0.000013	0.000046	0.01	0.02
	BC-13	93.3	817308	0.000013	0.000046	0.01	0.02
	VS-04	93.3	817308	0.00005	0.00074	0.02	0.30
R106	BC-14	4.7	41172	0.000013	0.000046	0.00	0.00
	BN-05	4.7	41172	0.000013	0.000046	0.00	0.00
	BN-05 Loadout	4.7	41172	0.00031	0.0011	0.01	0.02
R108	BC-15, 16	88.6	776136	0.000013	0.000046	0.01	0.02
	BE-01, 02	88.6	776136	0.000013	0.000046	0.01	0.02
	BC-17	88.6	776136	0.000013	0.000046	0.01	0.02
	BC-18	33.8	296088	0.000013	0.000046	0.00	0.01
	SB-01	29.5	258420	0.000013	0.000046	0.00	0.01
	SB-02	25.3	221628	0.000013	0.000046	0.00	0.01
	SB-03	33.8	296088	0.000013	0.000046	0.00	0.01
R117	BC-217	63.3	554508	0.000013	0.000046	0.00	0.01

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	BC-224	63.3	554508	0.000013	0.000046	0.00	0.01
	VS-229	127	1112520	0.00005	0.00074	0.03	0.41
R120a	BC-231	13	113880	0.000013	0.000046	0.00	0.00
R120	BC-230	114	998640	0.000013	0.000046	0.01	0.02
	SB-04	114	998640	0.000013	0.000046	0.01	0.02
K102	PH-01	29.5	258420	0.000013	0.000046	0.00	0.01
	KN-01;	14.6	127896	0.00001	42	0.01	2685.82
	CO-01	14.6	127896	0.3604	2.38	0.01	152.20
K104	SC-01	14.6	127896	0.00031	0.0011	0.01	0.07
	SC-02	14.6	127896	0.00031	0.0011	0.01	0.07
	BE-03	14.6	127896	0.00031	0.0011	0.01	0.07
K106	BN-06	1.2	10512	0.00031	0.0011	0.01	0.01
	BN-06	1.2	10512	0.03233	0.2135	0.01	1.12
K110	SC-04 (sealed)	0.44	3854.4	0.00031	0.0011	0.01	0.00
	SC-05 (sealed)	0.44	3854.4	0.00031	0.0011	0.01	0.00
	SC-07 (sealed)	0.81	7095.6	0.00031	0.0011	0.01	0.00
	SC-08	1.7	14892	Included with K102		0	0
	BE-06 (sealed)	1.7	14892	0.00031	0.0011	0.00	0.01
	SC-15 (sealed)	1.7	14892	0.00031	0.0011	0.00	0.01
K110a	SC-45		13,140	0.00031	0.0011	0.00	0.01
	SC-46		13,140	0.00031	0.0011	0.00	0.01
K114	BN-09	2.5	21900	0.00031	0.0011	0.00	0.01
	BN-09	2.5	21900	0.03233	0.2135	0.35	2.34
K202	PH-02	25.3	221628	0.000013	0.000046	0.00	0.01
	KN-02;	12.5	109500	0.00001	42	0.01	2299.50
	CO-02	12.5	109500	0.3604	2.38	19.73	130.31
K204	SC-02	12.5	109500	0.00031	0.0011	0.02	0.06
	BE-04	12.5	109500	0.00031	0.0011	0.02	0.06
K206	BN-07	1	8760	0.00031	0.0011	0.00	0.00
	BN-07	1	8760	0.0323	0.2135	0.14	0.94
K208	SC-06	0.38	3328.8	0.00031	0.0011	0.00	0.00
	SC-09 (sealed)	1.5	13140	0.00031	0.0011	0.00	0.01
	SC-13 (sealed)	3.5	30660	0.00031	0.0011	0.00	0.02
	BE-07 (sealed)	3.5	30660	0.00031	0.0011	0.00	0.02
	SC-16 (sealed)	3.5	30660	0.00031	0.0011	0.00	0.02
K213	BN-10	3.5	30660	0.00031	0.0011	0.00	0.02
	BN-10	2.8	24528	0.03233	0.2135	0.40	2.62
K215	DA-BN-502	0.68	5956.8	0.00031	0.0011	0.00	0.00
	DA-SC-505 (sealed)	0.68	5956.8	0.00031	0.0011	0.00	0.00
	DA-SC-506 (sealed)	0.68	5956.8	0.00031	0.0011	0.00	0.00
K302	PH-03	33.8	296088	0.000013	0.000046	0.00	0.01
	KN-03	16.7	146292	0.00001	42	0.00	3072.13
	CO-03	16.7	146292	0.3604	2.38	26.36	174.09

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
K304	SC-03 (sealed)	16.7	146292	0.00031	0.0011	0.02	0.08
	SC-04 (sealed)	16.7	146292	0.00031	0.0011	0.02	0.08
K306	BN-08	1.3	11388	0.00031	0.0011	0.00	0.01
	BN-08	1.3	11388	0.0323	0.2135	0.18	1.22
K308	BN-18	0.5	4380	Emissions included in EU: K302		0	0
	SC-18	0.5	4380			0	0
	SC-18	0.5	4380			0	0
	SC-11,12	2	17520	0.00031	0.0011	0.00	0.01
K309	D-SC-8306		146,000	0.00031	0.0011	0.02	0.08
	BC53102		146,000	0.00031	0.0011	0.02	0.08
	SC50101		146,000	0.00031	0.0011	0.02	0.08
	D-BE-8307		146,000	0.00031	0.0011	0.02	0.08
	SC50106		146,000	0.00031	0.0011	0.02	0.08
K310	D-SC-53105		146,000	0.00031	0.0011	0.02	0.08
K311	SC-53106 (sealed)		17,520	0.00031	0.0011	0.00	0.01
K402	K4-PH-302	114	998640	0.000013	0.000046	0.01	0.02
	K4-KN-305	56.25	492750	0.00001	42	0.00	10347.75
	K4-CO-309	56.25	492750	0.3604	2.38	88.79	586.37
K404	K4-BC-501	55.9	489684	0.00031	0.0011	0.08	0.27
	K4-BC-502	56.25	492750	0.00031	0.0011	0.08	0.27
	K4-BC-503	33.8	296088	0.00031	0.0011	0.05	0.16
	K4-BC-504	22.5	197100	0.00031	0.0011	0.03	0.11
K408	K4-DBN-1	0.5	4380	0.00031	0.0011	0.00	0.00
	K4-DBN-2	0.5	4380	0.00031	0.0011	0.00	0.00
	K4-DBN-3	0.5	4380	0.00031	0.0011	0.00	0.00
	K4-DBN-4	0.5	4380	0.00031	0.0011	0.00	0.00
	K4-DBN-1	0.5	4380	0.0323	0.2135	0.07	0.47
	K4-DBN-2	0.5	4380	0.0323	0.2135	0.07	0.47
	K4-DBN-3	0.5	4380	0.0323	0.2135	0.07	0.47
	K4-DBN-4	0.5	4380	0.0323	0.2135	0.07	0.47
K410	Kiln Seal	0.43	3766.8	0.00031	0.0011	0.00	0.00
	Kiln Seal	0.43	3766.8	0.0323	0.2135	0.06	0.40
K412	K4-SC-326	2.4	21024	0.00031	0.0011	0.00	0.01
	K4-SC-327	2.4	21024	0.00031	0.0011	0.00	0.01
	K4-SC-328	2.4	21024	0.00031	0.0011	0.00	0.01
	K4-SC-329	2.4	21024	0.00031	0.0011	0.00	0.01
	K4-BE-330	2.4	21024	0.00031	0.0011	0.00	0.01
K417	K4-BN-508	2.4	21024	0.00031	0.0011	0.00	0.01
	K4-BN-508	2.4	21024	0.0323	0.2135	0.34	2.24
K418	K4-SC-342	0.39	3416.4	0.00031	0.0011	0.00	0.00
F101	HO-40,41 (enclosed)	100	876000	0.00031	0.0011	0.14	0.48
	BC-40 (sealed)	100	876000	0.00031	0.0011	0.14	0.48
	BC-44	100	876000	0.00031	0.0011	0.14	0.48

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	Loader Loading	100	876000	0.00031	0.0011	0.14	0.48
	Loader Unloading	100	876000	0.00031	0.0011	0.14	0.48
F104	CR-40 (enclosed)	100	876000	0.00088	0.015	0.39	6.57
	SC-44 (enclosed)	100	876000	0.00031	0.0011	0.14	0.48
F106	BN-41	15.6	136656	0.00031	0.0011	0.02	0.08
	BC-41	15.6	136656	0.00031	0.0011	0.02	0.08
F108	CM-41 (sealed)	15.6	136656	0.00088	0.015	0.06	1.02
F110	SC-41 (sealed)	0.46	4029.6	0.00031	0.0011	0.00	0.00
	Reject Bin 1	0.46	4029.6	0.00031	0.0011	0.00	0.00
	Reject Bin 1 Loadout	0.46	4029.6	0.00031	0.0011	0.00	0.00
F112	BN-42	15.6	136656	0.00031	0.0011	0.02	0.08
	BC-42	15.6	136656	0.00031	0.0011	0.02	0.08
F114	CM-42 (sealed)	15.6	136656	0.00088	0.015	0.06	1.02
F116	SC-42 (sealed)	0.46	4029.6	0.00031	0.0011	0.00	0.00
	Reject Bin 2	0.46	4029.6	0.00031	0.0011	0.00	0.00
	Reject Bin 2 Load Out	0.46	4029.6	0.00031	0.0011	0.00	0.00
F118	BN-43 (enclosed)	16.8	147168	0.00031	0.0011	0.02	0.08
	BC-43	16.8	147168	0.00031	0.0011	0.02	0.08
	CM-43 (sealed)	16.8	147168	0.00088	0.015	0.06	1.10
F122	SC-43 (sealed)	996	8724960	0.00031	0.0011	1.35	4.80
	Reject Bin 3	996	8724960	0.00031	0.0011	1.35	4.80
	Reject Bin 3 Load Out	996	8724960	0.00031	0.0011	1.35	4.80
F125	K4-SC-402 (sealed)	52.1	456396	0.00031	0.0011	0.07	0.25
	K4-BN-404	36.5	319740	0.00031	0.0011	0.05	0.18
	K4-BN-406	15.6	136656	0.00031	0.0011	0.02	0.08
	K4-WF-408	36.5	319740	0.00031	0.0011	0.05	0.18
	K4-WF-409	15.6	136656	0.00031	0.0011	0.02	0.08
	K4-BC-410	52.1	456396	0.00031	0.0011	0.07	0.25
F131	K4-CM-413 (sealed)	52.1	456396	0.00088	0.015	0.20	3.42
F132	K4-SC-419 (sealed)	0.26	2277.6	0.00031	0.0011	0.00	0.00
	Reject Bin 4	0.26	2277.6	0.00031	0.0011	0.00	0.00
	Reject Bin 4 Load Out	0.26	2277.6	0.00031	0.0011	0.00	0.00
F133	Truck Loading Coal/Coke (Stockpile 2)		100,000	0.00133	0.01	0.07	0.50
L101	SC-24	15	131400	0.00031	0.0011	0.02	0.07
	SC-25 (sealed)	15	131400	0.00031	0.0011	0.02	0.07
	BC-505/BC-20	37	324120	Included with K104		0	0
	BE-20	53.6	469536	Included with K104		0	0
L105	K4-BN-518	1.6	14016	0.00031	0.0011	0.00	0.01
	K4-SC-524	0.32	2803.2	0.00031	0.0011	0.00	0.00

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
L108	HM-20 (sealed)	16.6	145416	0.00088	0.015	0.06	1.09
L110	VS-20	52	455520	Included with K104		0	0
	SI-02	13.7	120012	Included with K104		0	0
	SC-21 (sealed)	13.7	120012	0.00031	0.0011	0.02	0.07
L112	SI-01	13.7	120012	Included with K104		0	0
	SC-23 (sealed)	13.7	120012	0.00031	0.0011	0.02	0.07
	SC-26 (sealed)	13.7	120012	0.00031	0.0011	0.02	0.07
L116	SI-06	13.7	120012	Included with K104		0	0
	SC-27 (sealed)	13.7	120012	0.00031	0.0011		
L118	SI-07	13.7	120012	Included with K104		0.02	0.00
	SC-28	13.7	120012	Included with K104		0.02	0.00
	SC-20 (sealed)	0.12	1051.2	0.00031	0.0011	0.00	0.00
L201	K4-BC-506	85.4	748104	Included with S101		0	0
	SC-4029		1,000	0.00031	0.0011	0.01	0.01
	SC-30	0.12	1051.2	Included with K404		0	0
	K4-BC-507	85.4	748104	Included with K104		0	0
	BE-30	85.4	748104	0.00031	0.0011	0.12	0.41
	BC-32 (enclosed)	85.4	748104	0.00031	0.0011	0.12	0.41
	Clean-up Screw Conveyor (enclosed)	85.4	748104	0.00031	0.0011	0.12	0.41
L206	CR-30	71.5	626340	0.00088	0.015	0.28	4.70
	BE-31	128.1	1122156	0.00031	0.0011	0.17	0.62
	VS-30	128.1	1122156	0.00059	0.0087	0.33	4.88
	SC-47		13,759	0.00031	0.0011	0.00	0.01
	SC-48		13,759	0.00031	0.0011	0.00	0.01
	SC-49		13,759	0.00031	0.0011	0.00	0.01
L208	SI-04 (enclosed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SI-09 (enclosed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SI-03 (enclosed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SI-10	14.2	124392	0.00031	0.0011	0.02	0.07
	SI-08 (enclosed)	14.2	124392	0.00031	0.0011	0.02	0.07
L209	SC-39 (sealed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SC-38 (sealed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SC-38A (sealed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SC-37 (sealed)	14.2	124392	0.00031	0.0011	0.02	0.07
	SC-36 (sealed)	28.5	249660	0.00031	0.0011	0.04	0.14
	SC-40 (sealed)	0.11	963.6	0.00031	0.0011	0.00	0.00
	SC-41 (sealed)	0.11	963.6	0.00031	0.0011	0.00	0.00
H101	SC-101 (sealed)	18	157680	0.00031	0.0011	0.02	0.09
H102	Small Bin (enclosed)	18	157680	0.00031	0.0011	0.02	0.09
	SC-105 (sealed)	18	157680	0.00031	0.0011	0.02	0.09
H105	MX-106 (sealed)	18	157680	0.00031	0.0011	0.02	0.09
	HY-107	23.4	204984	0.001776	0.011725	0.18	1.20

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
	SC-111 (sealed)	23.4	204984	0.00031	0.0011	0.03	0.11
H108	BE-113 (sealed)	23.6	206736	0.00031	0.0011	0.03	0.11
	VS-115 (enclosed)	23.6	206736	0.0006	0.0087	0.06	0.90
	SC-117 (sealed)	22.3	195348	0.00031	0.0011	0.03	0.11
H109	CR-116 (sealed)	1.3	11388	0.00088	0.015	0.01	0.09
H110	SC-119 (sealed)	1.3	11388	0.00031	0.0011	0.00	0.01
H116	SC-118 (sealed)	22.3	195348	0.00031	0.0011	0.03	0.11
	BE-120 (sealed)	22.3	195348	0.00031	0.0011	0.03	0.11
	SC-121 (sealed)	22.3	195348	0.00031	0.0011	0.03	0.11
	SI-05	22.3	195348	Included with H105		0	0
D101	D-BN-201	31.1	272436	0.00031	0.0011	0.04	0.15
	D-BC-202	31.1	272436	0.000013	0.000046	0.00	0.01
D104	D-BC-207	31.1	272436	0.000013	0.000046	0.00	0.01
	D-VS-208	31.1	272436	0.00005	0.00074	0.01	0.10
D104a	D-BC-213	31.1	272436	0.000013	0.000046	0.00	0.01
D104b	D-BC-214		221,738	0.000013	0.000046	0.00	0.01
D104c	D-BC-8301		295,650	0.000013	0.000046	0.00	0.01
D105	D-BC-209	1.5	13140	0.000013	0.000046	0.00	0.00
	D-BE-210	1.5	13140	0.000013	0.000046	0.00	0.00
	D-BN-211	1.5	13140	0.000013	0.000046	0.00	0.00
	D-BN-211	1.5	13140	0.000013	0.000046	0.00	0.00
D106	D-BC-209E		23,341	0.000013	0.000046	0.00	0.00
	Loader Loading		23,341	0.000013	0.000046	0.00	0.00
D201	D-HM-510 (sealed)	14.6	127896	0.00088	0.015	0.06	0.96
D202	D-SC-511 (sealed)	14.6	127896	0.00031	0.0011	0.02	0.07
	D-SC-512	14.6	127896	0.00031	0.0011	0.02	0.07
	D-SC-513	14.6	127896	0.00031	0.0011	0.02	0.07
	D-SC-514	14.6	127896	0.00031	0.0011	0.02	0.07
	D-SC-515	14.6	127896	0.00031	0.0011	0.02	0.07
D208	D-SC-516 (sealed)	14.6	127896	0.00031	0.0011	0.02	0.07
	SI-11, SI-12	14.6	127896	0.00031	0.0011	0	0
D211	D-BE-4214	14.6	127896	0.00031	0.0011	0	0
	D-BN-504	14.6	127896	0.00031	0.0011	0	0
	D-SC-508 (sealed)	14.6	127896	0.00031	0.0011	0.02	0.07
D212	BE-03 to D-HM-510		146,000	0.00031	0.0011	0.02	0.08
O101	Ore Spillage	0.125	1095	0.00031	0.0011	0.00	0.00
	Ore Spillage Reclaim	300	2628000	0.00031	0.0011	0.41	1.45
	Ore Reclaim Unloading	300	2628000	0.00031	0.0011	0.41	1.45
	Product Spillage	0.13	1138.8	0.00031	0.0011	0.00	0.00
	Product Spillage Reclaim	0.13	1138.8	0.00031	0.0011	0.00	0.00
	Product Reclaim Unloading	0.13	1138.8	0.0323	0.2135	0.02	0.12

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
O107	Kiln 1-3 Dump/Bypass	50	438000	0.00031	0.0011	0.07	0.24
	Kiln 1-3 Dump/Bypass Reclaim	50	438000	0.00031	0.0011	0.07	0.24
	Kiln 1-3 Dump/Bypass Unloading	50	438000	0.0323	0.2135	7.07	46.76
S101	Kiln Product to BC-8001	150	1314000	0.00031	0.0011	0.20	0.72
S102	BC-8001 to BE-8001	150	1314000	0.00031	0.0011	0.20	0.72
	BE-8001 to SC-8001	150	1314000	0.00031	0.0011	0.20	0.72
	SC-8001 to SI-RC	150	1314000	0.00031	0.0011	0.20	0.72
	SI-RC to BC-8002	150	1314000	0.00031	0.0011	0.20	0.72
	BC-8002	150	1314000	0.00031	0.0011	0.20	0.72
LO101	SC-5001	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1001	200	1752000	0.03233	0.2135	28.32	187.03
LO104	BCF-5002	200	1752000	0.00031	0.0011	0.27	0.96
	BCF-5003	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1002	200	1752000	0.03233	0.2135	28.32	187.03
LO106	BCF-5004	200	1752000	0.00031	0.0011	0.27	0.96
	BCF-5005	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1003	200	1752000	0.03233	0.2135	28.32	187.03
LO109	BCF-5006	200	1752000	0.00031	0.0011	0.27	0.96
	BCF-5007	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1004	200	1752000	0.03233	0.2135	28.32	187.03
LO112	SC-5008	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1005	200	1752000	0.03233	0.2135	28.32	187.03
LO114	BCF-5009	200	1752000	0.00031	0.0011	0.27	0.96
	BCF-5010	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1006	200	1752000	0.03233	0.2135	28.32	187.03
LO117	BCF-5011	200	1752000	0.00031	0.0011	0.27	0.96
	BCF-5012	200	1752000	0.00031	0.0011	0.27	0.96
	TC-1007	200	1752000	0.03233	0.2135	28.32	187.03
SP1	Hopper Loading & Unloading	600	5256000	0.000013	0.000046	0.03	0.12
	Conveyor Belt SP-2	300	2628000	0.000013	0.000046	0.02	0.06
SP3	Screen SP-3	300	2628000	0.00005	0.00074	0.07	0.97
	Stacker Belt 1	100	876000	0.000013	0.000046	0.01	0.02
	Stacker Belt 2	100	876000	0.000013	0.000046	0.01	0.02
	Stacker Belt 3	100	876000	0.000013	0.000046	0.01	0.02

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
LD4	Loader Loading	300	2628000	0.000013	0.000046	0.02	0.06
	Loader Unloading	300	2628000	0.000013	0.000046	0.02	0.06
TL1	Railcar Unloading (baghouse)	80	75,000	0.00031	0.0011	0.01	0.04
L101a	Conveyor SC-24 to Conveyor D-SC-4221	15	131400	0.00031	0.0011	0.02	0.07
	Conveyor D-SC-4221 to Bucket Elevator BE-03	15	131400	0.00031	0.0011	0.02	0.07
K104b	Conveyor SC-02 to Conveyor D-SC-4207	14.6	127896	0.00031	0.0011	0.02	0.07
PL101	Conveyor D-SC-4207 to Bucket Elevator D-BE-4214	14.6	127896	0.00031	0.0011	0.02	0.07
PL102	Bucket Elevator D-BE-4214 to Bin D-BN-504	14.6	127896	0.00031	0.0011	0.02	0.07
PL103	Bucket Elevator D-BE-4214 to Conveyor D-SC-4215	14.6	127896	0.00031	0.0011	0.02	0.07
PL104	Conveyor D-SC-4215 to Dolomite Screen D-VS-4216	14.6	127896	0.00031	0.0011	0.02	0.07
	Dolomite Screen D-VS-4216	14.6	127896	0.00031	0.0011	0.02	0.07
	Dolomite Screen D-VS-4216 to Silo 6	14.6	127896	0.0006	0.0087	0.02	0.07
	Dolomite Screen D-VS-4216 to Conveyor D-SC-4217	14.6	127896	0.00031	0.0011	0.02	0.07
PL105	Conveyor D-SC-4217 to Conveyor SC4220	14.6	127896	0.00031	0.0011	0.02	0.07
	Conveyor SC4220 to Crusher D-HM-510	14.6	127896	0.00031	0.0011	0.02	0.07
PL106	D-SC-4218	0.01	87.6	0.00031	0.0011	0.01	0.01
PL107a	SN-50118		146,000	0.0006	0.0087	0.04	0.64
PL107b	CF-50116		146,000	0.0009	0.015	0.07	1.10

EU	Source EU Identifier	Throughput		EF (lb/ton)		PTE (tons/yr)	
		tons/hr	tons/yr	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀
PL107c	SC-50115		146,000	0.00031	0.0011	0.02	0.08
	SC-50117		146,000	0.00031	0.0011	0.02	0.08
	SC-50114		146,000	0.00031	0.0011	0.02	0.08
	SC-50119		146,000	0.00031	0.0011	0.02	0.08
PL107d	SC-50125		146,000	0.00031	0.0011	0.02	0.08
Total						375.07	21012.76

XII-22. Applicability Emissions for Diesel Engine

EU#	K202a		Horsepower:	49	Emission Factor (lb/hp-hr)	Potential Emissions (per unit)			
Make:	Isuzu		Hours/Day:	24.0		lb/hr	lb/day	ton/yr	
Model:			Hours/Year	8760	PM10	1.32E-03	0.06	1.56	0.28
S/N:					NOx	1.60E-02	0.79	18.87	3.44
					CO	9.00E-03	0.44	10.59	1.93
Manufacturer Guarantees					SO ₂	1.21E-05	0.01	0.01	0.01
PM10	0.6	g/hp-hr ▼			VOC	2.51E-03	0.12	2.96	0.54
NOx	7.28	g/hp-hr ▼			HAP	2.71E-05	0.01	0.03	0.01
CO	4.084	g/hp-hr ▼							
SO ₂		g/hp-hr ▼							
VOC		g/hp-hr ▼							
Engine Type:	Diesel	▼	2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-23. Applicability Emissions for Diesel Engine

EU#	K302a		Horsepower:	64.8	Emission Factor (lb/hp-hr)	Potential Emissions			
Make:	Isuzu		Hours/Day:	24.0		lb/hr	lb/day	ton/yr	
Model:			Hours/Year	8760	PM10	3.62E-04	0.02	0.56	0.10
S/N:					NOx	1.11E-02	0.72	17.25	3.15
					CO	1.81E-03	0.12	2.81	0.51
Manufacturer Guarantees					SO ₂	1.21E-05	0.01	0.02	0.01
PM10	0.164	g/hp-hr ▼			VOC	5.84E-04	0.04	0.91	0.17
NOx	5.03	g/hp-hr ▼			HAP	2.71E-05	0.01	0.04	0.01
CO	0.821	g/hp-hr ▼							
SO ₂		g/hp-hr ▼							
VOC	0.265	g/hp-hr ▼							
Engine Type:	Diesel	▼	2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-24. Applicability Emissions for Diesel Engine

EU#	K402a	Horsepower:	174	Emission Factor (lb/hp-hr)	Potential Emissions			
					lb/hr	lb/day	ton/yr	
Make:	Perkins	Hours/Day:	24.0	PM10	5.07E-06	0.01	0.02	0.01
Model:	MK51645	Hours/Year	8760	NOx	4.30E-03	0.75	17.95	3.28
S/N:	1204E-E44TTA			CO	1.60E-04	0.03	0.67	0.12
Manufacturer Guarantees	q/hp-hr ▼			SO ₂	1.21E-05	0.01	0.05	0.01
PM10	0.0023	q/hp-hr ▼		VOC	2.87E-05	0.01	0.12	0.02
NOx	1.95	q/hp-hr ▼		HAP	2.71E-05	0.01	0.11	0.02
CO	0.0725	q/hp-hr ▼						
SO ₂		g/hp-hr ▼						
VOC	0.013		1					
	Diesel ▼							
Engine Type:		2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-25. Applicability Emissions for Diesel Engine

EU#	O111	Horsepower:	110	Emission Factor	Potential Emissions			
					lb/hr	lb/day	ton/yr	
Make:	Perkins	Hours/Day:	24.0	PM10	2.20E-03	0.24	5.81	1.06
Model:	1006-6T	Hours/Year	8760	NOx	3.01E-02	3.32	79.56	14.52
S/N:	703260U609748A			CO	5.34E-03	0.59	14.08	2.57
Manufacturer Guarantees	q/hp-hr ▼			SO ₂	1.21E-05	0.01	0.03	0.01
PM10		q/hp-hr ▼		VOC	9.70E-04	0.11	2.56	0.47
NOx	13.67	q/hp-hr ▼		HAP	2.71E-05	0.01	0.07	0.01
CO	2.42	q/hp-hr ▼						
SO ₂		g/hp-hr ▼						
VOC	0.44		1					
	Diesel ▼							
Engine Type:		2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-26. Applicability Emissions for Diesel Engine

EU#	QS101	Horsepower:	80	Emission Factor	Potential Emissions			
					lb/hr	lb/day	ton/yr	
Make:	John Deere	Hours/Day:	24.0	PM10	2.20E-03	0.18	4.22	0.77
Model:	4045DF150B	Hours/Year	8760	NOx	1.51E-02	1.21	29.00	5.29
S/N:				CO	6.68E-03	0.53	12.83	2.34
Manufacturer Guarantees	q/hp-hr ▼			SO ₂	1.21E-05	0.01	0.02	0.01
PM10		q/hp-hr ▼		VOC	2.47E-03	0.20	4.74	0.87
NOx	6.85	q/hp-hr ▼		HAP	2.71E-05	0.01	0.05	0.01
CO		q/hp-hr ▼		CO ₂	1.15	92.00	2208.00	402.96
SO ₂		g/hp-hr ▼						
VOC	1.12		1					
	Diesel ▼							
Engine Type:		2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-27. Applicability Emissions for Diesel Engine

EU#	K102a		Horsepower:	34		Emission Factor	Potential Emissions		
Make:	Isuzu		Hours/Day:	24.0			lb/hr	lb/day	ton/yr
Model:	C240		Hours/Year	8760	PM10	9.26E-04	0.03	0.76	0.14
S/N:	900825				NOx	8.46E-03	0.29	6.90	1.26
					CO	2.43E-03	0.08	1.98	0.36
Manufacturer Guarantees					SO ₂	1.21E-05	0.01	0.01	0.01
PM10	0.42	g/hp-hr ▼			VOC	4.45E-04	0.02	0.36	0.07
NOx	3.838	g/hp-hr ▼			HAP	2.71E-05	0.01	0.02	0.01
CO	1.1	g/hp-hr ▼							
SO ₂		g/hp-hr ▼							
VOC	0.202	g/hp-hr ▼							
Engine Type:	Diesel		2		Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

XII-28. Applicability Emissions for Insignificant Activities (tons per year)

Description	Consumption (gal/yr)	EF (lb/gal)	VOC PTE (ton/yr)
Oils & Lubricants	25,000	0.17	2.13
Safety Kleen Solvent	500	0.33	0.08
Thinner	110	1.7	0.09
Total			2.30

XII-29. Applicability Emissions Summary (tons per year)

Process Description	PM ₁₀ (tpy)	PM _{2.5} (tpy)	NO _x (tpy)	CO (tpy)	SO ₂ (tpy)	VOC (tpy)	HAP (HCl)	HAP (other)	Total HAPs (tpy)
Limestone Processing	21012.81	375.07	0	0	0	0	0	0	0
Storage Piles	21.26	2.78	0	0	0	0	0	0	0
Baghouse Emissions	197.80	180.48	0	0	0	0	0	0	0
Haul Roads	38.51	4.37	0	0	0	0	0	0	0
Kilns/Hydrate	Included w/Limestone Processing		1,874.34	895.35	1,643.53	7.05	21.12	1.75	22.87
Generators/Fire Pump	2.54	2.54	33.33	8.37	0.08	2.34	0.00	0.09	0.09
Gasoline Dispensing	0	0	0	0	0	0.25	0	0.01	0.01
Insignificant Activities	0	0	0	0	0	2.3	0	0	0
Total	21272.93	565.24	1,907.67	903.72	1,643.61	11.94	21.12	1.85	22.97