

# **TECHNICAL SUPPORT DOCUMENT**

## **TECHNICAL INFORMATION PRESENTED IN REVIEW OF AN APPLICATION FOR A Part 70 OPERATING PERMIT**

### **SUBMITTED BY:**

Applied Environmental Consultants  
1553 West Elna Rae  
Tempe, Arizona 85281

### **FOR:**

Chemical Lime Company

### **LOCATION:**

12101 North US Highway 91  
North Las Vegas, Nevada 89124

Part 70 Operating Permit Number: 3  
(Renewal)

### **Prepared by:**

Scott Chappell

Clark County Department of Air Quality and Environmental Management

December, 2011

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## I. Acronyms

**Table III-1: Acronym List**

<b>Acronym</b>	<b>Term</b>
ANFO	Ammonium Nitrate Fuel Oil
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
CAAA	Clean Air Act, as amended
CEMS	Continuous Emissions Monitoring System
CFC	Chlorofluorocarbon
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
DAQEM	Clark County Department of Air Quality & Environmental Management
DLN	Dry Low-NO <sub>x</sub>
dscfm	Dry Standard Cubic Feet per Minute
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
HP	Horse Power
kW	kilowatt
MMBtu	Millions of British Thermal Units
M/N	Model Number
NAICS	North American Industry Classification System
NO <sub>x</sub>	Nitrogen Oxides
NRS	Nevada Revised Statutes
OP	Operating Permit
PM <sub>10</sub>	Particulate Matter less than 10 microns
ppm	Parts per Million
PTE	Potential to Emit
QA/AC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audits
RMP	Risk Management Plan
SCC	Source Classification Codes
scf	Standard Cubic Feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
S/N	Serial Number
SO <sub>x</sub>	Sulfur Oxides
TCS	Toxic Chemical Substance
VOC	Volatile Organic Compound

## II. Source Information

### A. General

**Preparer:** Scott Chappell  
**Date:** July 22, 2011  
**Company:** Chemical Lime Company  
**Submitter:** Applied Environmental Consultants  
**Source:** 3  
**Modification:** 0  
**Revision:** 0  
**Hydrographic Area:** 216  
**Subject:** Apex Lime Plant  
12101 North US Highway 91  
Apex, Nevada  
T18S, R63E, Sections 23 and 26

### B. Executive Summary

Chemical Lime Company is manufacturer of lime and lime products and is located approximately twenty miles north of the City of Las Vegas, Nevada. The mining and processing operations are situated in hydrographic area 216 (Garnet Valley), a section of the Apex Valley Airshed. The legal description of the source location is: portions of T18S, R63E, Sections 23 and 26 in Apex Valley, County of Clark, State of Nevada. The source falls under SIC Code 3274: Lime Manufacturing, and NAICS Code 327410: Lime Manufacturing.

Garnet Valley is designated as nonattainment area for 8-hour ozone (regulated through NO<sub>x</sub> and VOC) and is a PSD area for PM<sub>10</sub>, CO, and SO<sub>x</sub>. Chemical Lime Company, Apex plant, is a major source for PM<sub>10</sub>, NO<sub>x</sub>, CO, SO<sub>x</sub>, and HAP (HCl), and a minor source for VOC pollutants. The source is also identified as a major source for greenhouse gases. The Apex operation includes mining and excavating, limestone handling and processing, solid fuel handling, lime storage silos, fuel storage tanks, and truck and railcar loading and transporting. Four rotary lime kilns are utilized to convert limestone to quicklime. These kilns can be fired by coal, coke, or natural gas.

In 2010 the Clark County Board of Commissioners adopted new regulations governing the Part 70 Operating Permit program under the Clean Air Act. Section 19 of the Air Quality Regulations (AQR), which had been approved by the Environmental Protection Agency (EPA) for implementation in Clark County, was repealed, and revised regulations were adopted as Section 12.5 of the AQR. These changes were made effective July 1, 2010. Because the new Section 12.5 regulations have not yet been approved by EPA, this permit makes reference to both Section 12.5 and Section 19 as authority for those permit conditions that are based on the part 70 Operating Permit.

Table II-1 summarizes the source PTE for each regulated air pollutant for all emission units addressed by this Part 70 Operating Permit.

**Table II-1: Source PTE (tons per year)**

PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HAP	Lead (Pb)
338.09	197.23	1,892.12	947.21	1,646.39	8.34	22.94	0.00

### C. Process Description

Operations conducted by Chemical Lime Company, 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 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 ( $\text{CaCO}_3$ ) is converted to quicklime ( $\text{CaO}$ ) by passing through a rotary kiln at high temperatures, releasing  $\text{CO}_2$  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 conveyed to the stone bins from the kiln-run system 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 ( $\text{CaOH}$ ). 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. Chemical Lime Company 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 (New)

A new pebble lime screening plant, consisting of one screen, ten conveyors, and one bucket elevator, is being added. The new process will be capable of screening lime made in any of the four existing kilns. For this permitting action, Chemical Lime Company will only use lime made in Kiln 1. An existing screw conveyor (SC-02) will be extended to provide for material transfer to a new screw conveyor that will feed the lime screening operation.

## **D. Permit History**

Mining operations first began at the current site of the Chemical Lime Company in 1945 by the Nevada Lime and Plaster Company. Ownership of the mine changed several times before being permitted by the Clark County Health District in 1967. The first permit was issued to The Flintkote Company, U.S. Lime Division. Genstar Cement and Lime Company took control in 1979, and operated the facility until 1986, when the company was acquired by Chemical Lime Company.

The Most Recent Title V operating permit was issued to Chemical lime Company on August 24, 2004. Since that time, the following ATC permits have been issued:

1. Modification 7, issued September 2, 2004
  - a. addition of a 5,000 ton storage silo reclaim system, with dust collectors.
  - b. addition of a quicklime truck and rail loadout system.
  - c. Addition of dust collectors to South Lime Handling system, North Lime Handling system, and hydrator.
  - d. removal of five loadout baghouses from the North Lime Handling system

- e. removal of four loadout baghouses from the South Lime Handling system
  - f. removal of one loadout baghouse from the Hydrate system
2. Modification 8, issued August 17, 2005
    - a. addition of gravity chute for Kiln 4 stockpile
    - b. increased speed of specified belt conveyors
    - c. revised airflow rates and temperatures of specified dust collectors
  3. Modification 9, issued May 2, 2006
    - a. replacement of two existing diesel-powered generators with larger units
    - b. addition of quicklime slurry process
    - c. addition of clean-up screw conveyor
  4. Modification 10, issued May 22, 2006, for the replacement of an existing screen for the Granite Construction Company aggregate processing operation.
  5. Modification 11 was a temporary permit for two crushers, two screens, and five diesel generators. The permit was issued on December 22, 2006 and expired on April 22, 2007.
  6. Modification 12, issued January 11, 2007
    - a. addition of a second operating scenario to Modification 11, consisting of one impact crusher, seven conveyors, and one diesel generator.
    - b. aggregate operation acquired by CEMEX
  7. Modification 13 was a temporary permit to operate a diesel-powered compressor while repairs were made to an electric compressor. The permit was issued on September 26, 2008 and expired on October 17, 2008.

## **E. Current Permitting Action**

The Permittee submitted a Title V renewal application on February 26, 2009. On July 9, 2009, a supplemental application was submitted to increase the hourly limits for the blasting operation from 10 tons to 30 tons.

The initial review of the February, 2009 renewal application revealed some inconsistencies with emission units and throughputs. An e-mail was sent to the Permittee on December 17, 2009 requesting clarification. A response to this request was submitted on April 13, 2010 with the following updates:

1. the Sugar Rock process, permitted by Modification 6, had been removed from the process.
2. the gravity chute, permitted by Modification 8, was not installed.
3. the Slurry Processing plant, permitted by Modification 9, was not constructed.
4. increase in hourly production rate of Dolomitic Lime Handling system.

5. increase in short term limits for Kiln 1.
6. correction of errors for process descriptions and process rates.
7. addition of Pebble Lime Screening System (ATC Modification 14)
8. various changes to hourly and annual limits throughout all processes. There are too many changes to list here. A comparison between this Title V renewal and Modification 10 is suggested as a reference for specific changes.

On May 11, 2010, the Permittee submitted a supplemental application. The application included information relating to hourly and annual production throughputs along with an ATC application for a new Pebble Lime Screening Plant. On October 6, 2010, an ATC permit was issued for the new process. However, the Permittee subsequently declined to sign it. Instead, they chose to submit an application to revise the Title V permit to include said process.

On May 28, 2010, the Permittee submitted supplemental information stating that CEMEX equipment had been removed from the site.

On December 7, 2010, the Permittee disclosed that the source has four existing diesel-powered generators that had not been identified on any of the previous applications. Each generator is associated with a specific kiln. The engines are primarily used for kiln maintenance and emergency use during power outages. The permittee elected to take an annual operational VAEL of 500 hours to include maintenance, testing, scheduled operation, and emergency use. The VAEL was not implemented to evade or circumvent any local or federal NSR, NSPS, or NESHAP regulations.

On April 14, 2011, DAQEM Permitting and Compliance staff met to discuss the final draft of the operating permit. Compliance staff voiced some concerns regarding the emission factors that were used to calculate PTE for PM<sub>10</sub>. This prompted a review of permits that had been previously issued. It was discovered that many references to AP-42 were incorrect. On May 12, 2011, a request was made to the Permittee to update all PM<sub>10</sub> references and emission factors and to submit PM<sub>2.5</sub> emission factors. The Permittee complied with this request by submitting corrected PM<sub>10</sub> emission factors on May 19, 2011, and PM<sub>2.5</sub> emission factors on July 11, 2011.

All of the aforementioned supplemental information has been incorporated into the Title V renewal permit and TSD.

### III. Emission Information

#### Emission Units, Throughputs, and PTE

Table III-1: Emission Units, Throughputs and PTE for PM<sub>10</sub>

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
<b>Mining Operations</b>												
Q101	N/A	30501650	Mining Ore and Removing Overburden	1945	2,400	5,360,000	0.0015	0.0102	3.60	24.48	4.02	27.34
Q103	N/A	30501650	Blasting	1945	1 Blast	80 Blasts	18.09 lbs/blast	120.6 lbs/blast	18.09	120.60	0.72	4.82
<b>Limestone Processing</b>												
P103	HO-101/PF-101	30501608	Open Stone Transfer Point	1945	1,200	2,680,000	0.000013	0.000046	0.05	0.17	0.05	0.18
	GR-101	30501607	Open Stone Transfer Point	1945	1,200	2,680,000	0.000013	0.000046				
	BC-103	30501607	Closed Stone Transfer Point	1996	1,200	2,680,000	0.000013	0.000046				
P103a	JC-102	30501601	Stone Crushing	1945	504.0	1,125,600	0.00044	0.0024	0.22	1.21	0.25	1.35
P106	BC-104	30501607	Closed Stone Transfer Point	1996	2,046	4,569,480	0.000013	0.000046	0.08	0.85	0.09	0.95
	VS-202	30501616	Stone Screening	1996	1,023	2,284,740	0.00005	0.00074				
P107	VS-203	30501616	Stone Screening	1996	1,023	2,284,740	0.00005	0.00074	0.05	0.76	0.05	0.84
P109	BC-204	30501607	Closed Stone Transfer Point	1996	846.0	1,889,480	0.000013	0.000046	0.01	0.05	0.02	0.05
	BC-225	30501607	Closed Stone Transfer Point	1996	300.0	670,000	0.000013	0.000046				
P109a	CC-201	30501602	Secondary Crushing	1996	846.0	1,889,480	0.00044	0.0024	0.37	2.03	0.42	2.27
P112	BN-226	30501607	Closed Stone Transfer Point	1996	300.0	670,000	0.000013	0.000046	0.09	0.34	0.11	0.38
	BN-226 Loadout	30501607	Open Stone Transfer Point	1996	300.0	670,000	0.00031	0.0011				
P114	BC-205	30501607	Closed Stone Transfer Point	1996	327.0	730,741	0.000013	0.000046	0.02	0.08	0.03	0.92
	BC-206	30501607	Closed Stone Transfer Point	1996	241.0	538,201	0.000013	0.000046				
	BC-207	30501607	Open Stone Transfer Point	1996	241.0	538,201	0.000013	0.000046				
	BC-209	30501607	Closed Stone Transfer Point	1996	487.0	1,086,719	0.000013	0.000046				
	BC-210	30501607	Open Stone Transfer Point	1996	487.0	1,086,719	0.000013	0.000046				
P115	BC-236	30501607	Closed Stone Transfer Point	2003	86.0	192,540	0.000013	0.000046	0.01	0.04	0.01	0.05

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	BC-237	30501607	Open Stone Transfer Point	2003	86.0	192,540	0.000013	0.000046				
	BC-208	30501607	Closed Stone Transfer Point	1996	573.0	1,279,259	0.000013	0.000046				
	BC-235	30501607	Open Stone Transfer Point	1998	86.0	192,540	0.000013	0.000046				
	BC-Coarse 2	30501607	Open Stone Transfer Point	1998	86.0	192,540	0.000013	0.000046				
P129	Loader Loading (dolomite)	30501607	Open Stone Transfer Point	1998	25.0	233,408	0.00031	0.0011	0.01	0.06	0.07	0.26
	Loader Unloading (dolomite)	30501607	Open Stone Transfer Point	1998	25.0	233,408	0.00031	0.0011				
<b>Kiln Run Screening</b>												
R101	BC-11	30501607	Closed Stone Transfer Point (underground)	1957	93.3	778,026	0.000013	0.000046	0.01	0.08	0.03	0.34
	BC-12	30501607	Closed Stone Transfer Point	1968	93.3	778,026	0.000013	0.000046				
	BC-13	30501607	Closed Stone Transfer Point	1968	93.3	778,026	0.000013	0.000046				
	VS-04	30501607	Stone Screening	1968	93.3	778,026	0.00005	0.00074				
R106	BC-14	30501607	Closed Stone Transfer Point	1968	4.7	38,901	0.000013	0.000046	0.01	0.01	0.01	0.02
	BN-05	30501607	Closed Stone Transfer Point	1968	4.7	38,901	0.000013	0.000046				
	BN-05 Loadout	30501607	Open Stone Transfer Point	1968	4.7	38,901	0.00031	0.0011				
R108	BC-15, 16	30501607	Closed Stone Transfer Point	1957	88.6	739,125	0.000013	0.000046	0.01	0.02	0.02	0.07
	BE-01, 02	30501607	Closed Stone Transfer Point	1957	88.6	739,125	0.000013	0.000046				
	BC-17	30501607	Closed Stone Transfer Point	1968	88.6	739,125	0.000013	0.000046				
	BC-18	30501607	Closed Stone Transfer Point	1968	33.8	295,650	0.000013	0.000046				
	SB-01	30501607	Closed Stone Transfer Point	1957	29.5	221,738	0.000013	0.000046				
	SB-02	30501607	Closed Stone Transfer Point	1957	25.3	221,738	0.000013	0.000046				
	SB-03	30501607	Closed Stone Transfer Point	1968	33.8	295,650	0.000013	0.000046				
R117	BC-217	30501607	Closed Stone Transfer Point	1996	63.3	534,375	0.000013	0.000046	0.01	0.09	0.03	0.42
	BC-224	30501607	Closed Stone Transfer Point	1996	63.3	534,375	0.000013	0.000046				
	VS-229	30501607	Stone Screening	1996	127.0	1,068,750	0.00005	0.00074				
R120a	BC-231	30501607	Closed Stone Transfer Point	1996	13.0	106,875	0.000013	0.000046	0.01	0.01	0.01	0.01
R120	BC-230	30501607	Closed Stone Transfer Point	1996	114.0	961,875	0.000013	0.000046	0.01	0.01	0.01	0.04
	SB-04	30501607	Closed Stone Transfer Point	1996	114.0	961,875	0.000013	0.000046				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
<b>Kiln 1</b>												
K102	PH-01	30501607	Closed Stone Transfer Point	1957	29.5	221,738	See Table III-2 Baghouse DC-01		5.90	5.90	25.83	25.83
	KN-01; 81.25 MMBtu/hr	30501604	Rotary Kiln 1	1957	14.6	109,500						
	CO-01	30501611	Cooler	1957	14.6	109,500						
K102a	Auxiliary Kiln Drive Isuzu	20200101	49 hp Diesel Engine		1.0 hour	500 hours	0.0013 lbs/hp-hr		0.06	0.06	0.02	0.02
K104	SC-01	30501615	Lime Transfer	1957	14.6	109,500	See Table III-2 Baghouse DC-20		1.24	1.74	5.41	7.62
	SC-02	30501615	Lime Transfer	1957	14.6	109,500						
	BE-03	30501615	Lime Transfer	1991	14.6	109,500						
K106	BN-06	30501615	Bin Feeding	1957	1.2	8,760	0.00031	0.0011	0.04	0.26	0.14	0.94
	BN-06	30501627	Load Out	1957	1.2	8,760	0.0323	0.2135				
K110	SC-04 (sealed)	30501615	Dust Transfer	1991	0.44	3,285	0.00031	0.0011	0.01	0.01	0.01	0.02
	SC-05 (sealed)	30501615	Dust Transfer	1991	0.44	3,285	0.00031	0.0011				
	SC-07 (sealed)	30501615	Dust Transfer	1991	0.81	6,570	0.00031	0.0011				
	SC-08	30501615	Dust Transfer	1972	1.7	12,909	Included with K102 Baghouse DC-01					
	BE-06 (sealed)	30501615	Dust Transfer	1985	1.7	12,909	0.00031	0.0011				
	SC-15 (sealed)	30501615	Dust Transfer	1985	1.7	12,909	0.00031	0.0011				
K114	BN-09	30501615	Bin Feeding	1985	2.5	19,479	See Table III-2 Baghouse DC-04		0.25	0.35	1.08	1.52
	BN-09	30501615	Load Out	1985	2.5	19,479						
<b>Kiln 2</b>												
K202	PH-102	30501607	Closed Stone Transfer Point	1957	25.3	221,738	See Table III-2 Baghouse DC-02		5.90	5.90	25.83	25.83
	KN-02; 81.25 MMBtu/hr	30501604	Rotary Kiln 2	1957	12.5	109,500						
	CO-02	30501604	Cooler	1957	12.5	109,500						
K202a	Auxiliary Kiln Drive Isuzu	20200101	49 hp Diesel Engine		1.0 hour	500 hours	0.0013 lbs/hp-hr		0.06	0.02	0.06	0.02
K204	SC-02	30501615	Lime Transfer	2004	12.5	109,500	See Table III-2 Baghouse DC-30		0.28	0.40	1.24	1.74
	BE-04	30501615	Lime Transfer	2004	12.5	109,500						
K206	BN-07	30501615	Bin Feeding	1957	1.0	8,760	0.00031	0.0011	0.03	0.21	0.14	0.94
	BN-07	30501627	Load Out	1957	1.0	8,760	0.0323	0.2135				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
K208	SC-06	30501615	Dust Transfer	1991	0.38	3,285	Included with K202 Baghouse DC-02		0.01	0.01	0.02	0.06
	SC-09 (sealed)	30501615	Dust Transfer	1972	1.5	13,410	0.00031	0.0011				
	SC-13 (sealed)	30501615	Dust Transfer	1972	3.5	30,660	0.00031	0.0011				
	BE-07 (sealed)	30501615	Dust Transfer	1972	3.5	30,660	0.00031	0.0011				
	SC-16 (sealed)	30501615	Dust Transfer	1972	3.5	30,660	0.00031	0.0011				
K213	BN-10	30501615	Bin Feeding	1972	3.5	30,660	See Table III-2 Baghouse DC-05		0.25	0.35	1.08	1.52
	BN-10	30501627	Load Out	1972	2.8	24,660						
K215	DA-BN-502	30501615	Bin Feeding	1994	0.68	6,000	See Table III-2 Binvent DA-DC-507		0.13	0.18	0.58	0.82
	DA-SC-505(sealed)	30501615	Dust Transfer	1994	0.68	6,000	0.00031	0.0011				
	DA-SC-506(sealed)	30501615	Dust Transfer	1994	0.68	6,000	0.00031	0.0011				
<b>Kiln 3</b>												
K302	PH-03	30501607	Closed Stone Transfer Point	1968	33.8	295,650	See Table III-2 Baghouse DC-03		8.33	8.33	36.49	36.49
	KN-03; 91.10 MMBtu/hr	30501604	Rotary Kiln 3	1968	16.7	146,000						
	CO-03	30501611	Cooler	1968	16.7	146,000						
K302a	Auxiliary Kiln Drive Isuzu	20200101	49 hp Diesel Engine		1.0 hour	500 hours	0.0013 lbs/hp-hr		0.06	0.02	0.06	0.02
K304	SC-03 (sealed)	30501615	Lime Transfer	1968	16.7	146,000	0.00031	0.0011	0.01	0.04	0.05	0.16
	SC-04 (sealed)	30501615	Lime Transfer	1968	16.7	146,000	0.00031	0.0011				
K306	BN-08	30501615	Bin Feeding	1968	1.3	10,951	0.00031	0.0011	0.04	0.28	0.18	1.18
	BN-08	30501627	Load Out	1968	1.3	10,951	0.0323	0.2135				
K308	BN-18	30501615	Bin Feeding	1968	0.5	4,380	Included with K302 Baghouse DC-03		0.01	0.01	0.01	0.01
	SC-18	30501615	Dust Transfer	1968	0.5	4,380						
	SC-18	30501627	Load Out	1968	0.5	4,380						
	SC-11,12 (sealed)	30501615	Dust Transfer	1972	2.0	17,520						
<b>Kiln 4</b>												
K402	K4-PH-302	30501607	Closed Stone Transfer Point	1996	114.0	961,875	See Table III-2 Baghouse		11.52	11.52	51.08	51.08

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	K4-KN-305; 281.25MMBtu/hr;	30501604	Rotary Kiln 4	1996	56.25	475,000	K4-DC-316					
	K4-CO-309	30501611	Cooler	1996	56.25	475,000	See Table III-2 Baghouse K4-DC-340					
K402a	Auxiliary Kiln Drive Isuzu	20200101	123 hp Diesel Engine		1.0 hour	500 hours	0.0022 lbs/hp-hr		0.27	0.27	0.07	0.07
K404	K4-BC-501	30501615	Lime Transfer	1996	55.90	475,000	0.00031	0.0011	0.03	0.12	0.15	0.52
	K4-BC-502	30501615	Lime Transfer	1996	56.25	475,000	0.00031	0.0011				
	K4-BC-503	30501615	Lime Transfer	2004	33.8	285,000	Included with K204 Baghouse DC-30					
	K4-BC-504	30501615	Lime Transfer	2004	22.5	190,000						
K408	K4-BN-338	30501615	Bin Feeding	1996	2.1	17,500	See Table III-2 Bin Filter Receiver K4-DC-336		0.24	0.34	1.08	1.52
	K4-BN-338	30501615	Load Out	1996	2.1	17,500	See Table III-2 Binvent K4-DC-509					
K410	Emergency Dump	30501627	Load Out	1996	0.43	3,650	0.0323	0.2135	0.01	0.18	0.06	0.39
	Emergency Dump Reclaim	30501615	Lime Transfer	1996	0.43	3,650	0.00031	0.0011				
K412	K4-SC-326 (sealed)	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011	0.01	0.01	0.02	0.05
	K4-SC-327 (sealed)	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011				
	K4-SC-328 (sealed)	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011				
	K4-SC-329 (sealed)	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011				
	K4-BE-330 (sealed)	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011				
K417	K4-BN-508	30501615	Bin Feeding	1996	2.4	19,857	Included with K408 (Load Out) Binvent K4-DC-509		0.08	0.51	0.32	2.12
	K4-BN-508	30501627	Load Out	1996	2.4	19,857	0.0323	0.2135				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
K418	K4-PM-514	30501615	Dust Transfer	1996	2.4	19,857	0.00031	0.0011	0.08	0.51	0.32	2.13
	K4-PM-514	30501627	Load Out	1996	2.4	19,857	0.0323	0.2135				
	K4-SC342	30501615	Dust Transfer	1996	0.39	3,327	0.00031	0.0011				
<b>Solid Fuel Handling</b>												
F101	HO-40,41 (enclosed)	30300305	Fuel Transfer	1975	100.0	553,862	0.00031	0.0011	0.16	0.55	0.25	0.88
	BC-40 (sealed)	30300309	Fuel Transfer	1975	100.0	553,862	0.00031	0.0011				
	BC-44	30300309	Fuel Transfer	1975	100.0	348,931	0.00031	0.0011				
	Loader Loading	30300309	Fuel Transfer	1975	100.0	144,000	0.00031	0.0011				
	Loader Unloading	30300309	Fuel Transfer	1975	100.0	144,000	0.00031	0.0011				
F104	CR-40 (enclosed)	30300310	Fuel Crushing	1975	100.0	204,931	0.00088	0.0150	0.12	1.61	0.12	1.65
	SC-44 (enclosed)	30300309	Fuel Transfer	1975	100.0	204,931	0.00031	0.0011				
F106	BN-41	30300309	Bin Feeding	1975	15.6	31,885	0.00031	0.0011	0.01	0.03	0.01	0.04
	BC-41	30300309	Fuel Transfer	1975	15.6	31,885	0.00031	0.0011				
F108	CM-41 (sealed)	30300310	Fuel Crushing	1990	15.6	31,885	0.00088	0.0150	0.01	0.23	0.01	0.24
F110	SC-41 (sealed)	30300309	Fuel Transfer	1975	0.46	936.0	0.00031	0.0011	0.01	0.01	0.01	0.01
	Reject Bin 1	30300309	Bin Feeding	1975	0.46	936.0	0.00031	0.0011				
	Reject Bin 1 Loadout	30300309	Fuel Transfer	1975	0.46	936.0	0.00031	0.0011				
F112	BN-42	30300309	Bin Feeding	1975	15.6	31,885	0.00031	0.0011	0.01	0.03	0.01	0.04
	BC-42	30300309	Fuel Transfer	1975	15.6	31,885	0.00031	0.0011				
F114	CM-42 (sealed)	30300310	Fuel Crushing	1975	15.6	31,885	0.00088	0.0150	0.01	0.23	0.01	0.24
F116	SC-42 (sealed)	30300309	Fuel Transfer	1990	0.46	936.0	0.00031	0.0011	0.01	0.01	0.01	0.01
	Reject Bin 2	30300309	Bin Feeding	1975	0.46	936.0	0.00031	0.0011				
	Reject Bin 2 Load Out	30300309	Fuel Transfer	1975	0.46	936.0	0.00031	0.0011				
F118	BN-43 (enclosed)	30300309	Bin Feeding	1975	16.8	34,415	0.00031	0.0011	0.03	0.39	0.03	0.30
	BC-43	30300309	Fuel Transfer	1975	16.8	34,415	0.00031	0.0011				
	CM-43 (sealed)	30300310	Fuel Crushing	1975	16.8	34,415	0.00088	0.0150				
F122	SC-43 (sealed)	30300309	Fuel Transfer	1986	0.49	996.0	0.00031	0.0011	0.01	0.01	0.01	0.01
	Reject Bin 3	30300309	Bin Feeding	1975	0.49	996.0	0.00031	0.0011				
	Reject Bin 3 Load	30300309	Fuel Transfer	1975	0.49	996.0	0.00031	0.0011				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	Out											
F125	K4-SC-402 (sealed)	30300309	Fuel Transfer	1996	52.1	106,746	0.00031	0.0011	0.17	0.34	0.59	0.94
	K4-BN-404	30300309	Bin Feeding	1996	36.5	74,722	See Table III-2					
	K4-BN-406	30300309	Bin Feeding	1996	15.6	32,024	Baghouse K4-DC-421					
	K4-WF-408	30300309	Fuel Transfer	1996	36.5	74,722	0.00031	0.0011				
	K4-WF-409	30300309	Fuel Transfer	1996	15.6	32,024	0.00031	0.0011				
	K4-BC-410	30300309	Fuel Transfer	1996	52.1	106,746	0.00031	0.0011				
F131	K4-CM-413 (sealed)	30300310	Fuel Crushing	1996	52.1	106,746	0.00088	0.0150	0.05	0.78	0.05	0.80
F132	K4-SC-419 (sealed)	30300309	Fuel Transfer	1996	0.26	531.0	0.00031	0.0011	0.01	0.01	0.01	0.01
	Reject Bin 4	30300309	Bin Feeding	1996	0.26	531.0	0.00031	0.0011				
	Reject Bin Load Out	30300309	Fuel Transfer	1996	0.26	531.0	0.00031	0.0011				
<b>North lime Handling</b>												
L101	SC-24	30501615	Lime Transfer	1991	15.0	10,438	0.00031	0.0011	0.01	0.03	0.01	0.01
	SC-25 (sealed)	30501615	Lime Transfer	1991	15.0	10,438	0.00031	0.0011				
	BC-505/BC-20	30501615	Lime Transfer	1957	37.0	316,307	Included with K104					
	BE-20	30501615	Lime Transfer	1957	53.6	458,644	Baghouse DC-20					
L105	K4-BN-518	30501615	Bin Feeding	1996	1.6	13,759	See Table III-2		0.12	0.17	0.54	0.76
	K4-SC-524	30501615	Lime Transfer	1996	0.32	2,752	0.00031	0.0011				
L108	HM-20 (sealed)	30501632	Product Crushing	1986	16.6	142,363	0.00088	0.015	0.01	0.25	0.06	1.07
L110	VS-20	30501619	Screening Product	1957	52.0	444,885	Included with K104		0.01	0.02	0.02	0.06
	SI-02	30501615	Bin Feeding	1957	13.7	117,450	Baghouse DC-20					
	SC-21 (sealed)	30501615	Lime Transfer	1957	13.7	117,450	0.00031	0.0011				
L112	SI-01	30501613	Bin Feeding	1957	13.7	117,450	Included with K104		0.01	0.03	0.04	0.13
	SC-23 (sealed)	30501615	Lime Transfer	1957	13.7	117,450	0.00031	0.0011				
	SC-26 (sealed)	30501615	Lime Transfer	1957	13.7	117,450	0.00031	0.0011				
L116	SI-06	30501615	Bin Feeding	1957	13.7	117,450	Included with K104		0.01	0.02	0.02	0.06

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
							Baghouse DC-20					
	SC-27 (sealed)	30501615	Lime Transfer	1957	13.7	117,450	0.00031	0.0011				
L118	SI-07	30501615	Bin Feeding	1957	13.7	117,450	Included with K104 Baghouse DC-20		0.01	0.01	0.01	0.01
	SC-28	30501615	Lime Transfer	1968	13.7	117,450						
	SC-20 (sealed)	30501615	Dust Transfer	1986	0.12	1,000	0.00031	0.0011				
<b>South Lime Handling</b>												
L201	K4-BC-506	30501615	Lime Transfer	2004	85.4	730,500	Included with K204 Baghouse DC-30		0.53	0.19	0.34	1.21
	SC-30	30501615	Lime Transfer	2004	0.12	1,000						
	K4-BC-507	30501615	Lime Transfer	2004	85.4	730,500	Included with K204 Baghouse DC-20					
	BE-30	30501615	Lime Transfer	1968	85.4	730,500	0.00031	0.0011				
	BC-32 (enclosed)	30501615	Lime Transfer	1968	85.4	730,500	0.00031	0.0011				
	Clean-up Screw Conveyor (enclosed)	30501615	Lime Transfer	2006	85.4	730,500	0.00031	0.0011				
L206	CR-30	30501631	Product Crushing	1968	71.5	611,832	See Table III-2 Baghouse DC-36		1.24	1.74	5.41	7.62
	BE-31	30501615	Lime Transfer	1968	128.1	1,095,750						
	VS-30	30501629	Screening Product	1968	128.1	1,095,750						
L208	SI-04 (enclosed)	30501613	Bin Feeding	1968	14.2	121,750	0.00031	0.0011	1.25	1.82	5.50	7.95
	SI-09 (enclosed)	30501613	Bin Feeding	1968	14.2	121,750	0.00031	0.0011				
	SI-03 (enclosed)	30501613	Bin Feeding	1957	14.2	121,750	0.00031	0.0011				
	SI-10 (enclosed)	30501613	Bin Feeding	1968	14.2	121,750	0.00031	0.0011				
	SI-08	30501613	Bin Feeding	1957	14.2	121,750	See Table III-2 Baghouse DC-35					
	SI-11	30501613	Bin Feeding	1968	14.2	121,750	0.00031	0.0011				
L209	SC-39 (sealed)	30501615	Lime Transfer	1968	14.2	121,750	0.00031	0.0011	0.03	0.09	0.13	0.46
	SC-38 (sealed)	30501615	Lime Transfer	1968	14.2	121,750	0.00031	0.0011				
	SC-38A (sealed)	30501615	Lime Transfer	1968	14.2	121,750	0.00031	0.0011				
	SC-37 (sealed)	30501615	Lime Transfer	1995	14.2	121,750	0.00031	0.0011				
	SC-36 (sealed)	30501615	Lime Transfer	1995	28.5	243,499	0.00031	0.0011				
	SC-40 (sealed)	30501615	Dust Transfer	1995	0.11	968.0	0.00031	0.0011				
	SC-41 (sealed)	30501615	Dust Transfer	1995	0.11	968.0	0.00031	0.0011				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
L224	BC-37	30501615	Lime Transfer	1995	14.2	121,750	0.00031	0.0011	0.01	0.02	0.02	0.07
<b>Hydrate</b>												
H101	SC-101 (sealed)	30501615	Hydrate Transfer	1990	18.0	71,550	0.00031	0.0011	0.01	0.02	0.012	0.04
H102	Small Bin (enclosed)	30501615	Bin Feeding	1990	18.0	71,550	0.00031	0.0011	0.01	0.04	0.02	0.08
	SC-105 (sealed)	30501615	Hydrate Transfer	1990	18.0	71,550	0.00031	0.0011				
H105	MX-106 (sealed)	30501615	Hydrate Transfer	1990	18.0	71,550	0.00031	0.0011	1.10	1.59	4.83	6.87
	HY-107	30501609	Hydrator	1990	23.4	93,015	See Table III-2 Baghouse DC-109					
	Hydrator Baghouse Burner; 1.83 MMBtu/hr	10300603	Gas Combustion	1990	0.0018 MMcf/Hour	16.0 MMcf/year						
	SC-111 (sealed)	30501615	Hydrate Transfer	1990	23.4	93,015	0.00031	0.0011				
H108	BE-113 (sealed)	30501615	Hydrate Transfer	1990	23.6	93,909	0.00031	0.0011	0.03	0.26	0.03	0.17
	VS-115(enclosed)	30501629	Product Screening	1990	23.6	16,099	0.0006	0.0087				
	SC-117 (sealed)	30501615	Hydrate Transfer	1990	22.3	93,015	0.00031	0.0011				
H109	CR-116 (sealed)	30501628	Product Crushing	1990	1.3	894.0	0.00088	0.015	0.01	0.02	0.01	0.01
H110	SC-119 (sealed)	30501615	Hydrate Transfer	1990	1.3	894.0	0.00031	0.0011	0.01	0.01	0.01	0.01
H116	SC-118 (sealed)	30501615	Hydrate Transfer	1990	22.3	93,015	0.00031	0.0011	0.02	0.07	0.04	0.15
	BE-120 (sealed)	30501615	Hydrate Transfer	1990	22.3	93,015	0.00031	0.0011				
	SC-121 (sealed)	30501615	Hydrate Transfer	1990	22.3	93,015	0.00031	0.0011				
	SI-05	30501615	Bin Feeding	1990	22.3	93,015	Included with H105 Baghouse DC-109					
<b>Dolomite Handling</b>												
D101	D-BN-201	30501608	Open Stone Transfer Point	1995	31.1	233,408	0.00031	0.0011	0.01	0.03	0.04	0.13
	D-BC-202	30501607	Open Stone Transfer Point	1995	31.1	233,408	0.000013	0.000046				
D104	D-BC-207	30501607	Open Stone Transfer Point	1995	31.1	233,408	0.000013	0.000046	0.01	0.02	0.01	0.09
	D-VS-208	30501616	Screening Stone	1995	31.1	233,408	0.00005	0.00074				
D104a	D-BC-213	30501607	Open Stone Transfer Point	1995	31.1	221,738	0.000013	0.000046	0.01	0.01	0.01	0.01
D105	D-BC-209	30501607	Open Stone Transfer Point	1995	1.5	11,670	0.000013	0.000046	0.01	0.01	0.01	0.01
	D-BE-210	30501607	Open Stone Transfer Point	1995	1.5	11,670	0.000013	0.000046				
	D-BN-211	30501607	Open Stone Transfer Point	1995	1.5	11,670	0.000013	0.000046				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	D-BN-211	30501607	Load Out	1995	1.5	11,670	0.000013	0.000046				
<b>Dolomitic Lime Handling</b>												
D201	D-HM-510 (sealed)	30501632	Product Crushing	1995	14.6	109,500	0.00088	0.0150	0.13	0.22	0.05	0.82
D202	D-SC-511 (sealed)	30501615	Lime Transfer	1995	14.6	109,500	0.00031	0.0011	0.74	1.04	3.27	4.64
	D-SC-512	30501615	Lime Transfer	1995	14.6	109,500	See Table III-2 Baghouse DC-526					
	D-SC-513	30501615	Lime Transfer	1995	14.6	109,500	See Table III-2 Binvent D-DC-520					
	D-SC-514	30501615	Lime Transfer	1995	14.6	109,500						
D208	D-SC-516 (sealed)	30501615	Lime Transfer	1995	14.6	109,500	0.00031	0.0011	0.01	0.03	0.03	0.12
	SI11, SI 12	30501615	Bin Feeding	1995	14.6	109,500	0.00031	0.0011				
D211	D-BE-4214	30501615	Lime Transfer	2010	14.6	109,500	See Table III-2 Binvent D-DC-505		0.12	0.18	0.54	0.76
	D-BN-504	30501615	Bin Feeding	1995	14.6	4,900						
	D-SC-508 (sealed)	30501613	Lime Transfer	1995	14.6	4,900						
<b>Miscellaneous Operations</b>												
O101	Ore Spillage	30501607	Open Stone Transfer Point	1945	0.125	300.0	0.00031	0.0011	0.19	0.68	0.01	0.03
	Ore Spillage Reclaim	30501607	Open Stone Transfer Point	1945	300.0	300.0	0.00031	0.0011				
	Ore Reclaim Unloading	30501607	Open Stone Transfer Point	1945	300.0	300.0	0.00031	0.0011				
	Product Spillage	30501615	Lime Transfer	1957	0.13	300.0	0.00031	0.0011				
	Product Spillage Reclaim	30501615	Lime Transfer	1957	0.13	300.0	0.00031	0.0011				
	Product Reclaim Unloading	30501615	Load Out	1957	0.13	300.0	0.0323	0.2135				
O107	Kiln 1-3 Dump/Bypass	30501615	Lime Transfer	1957	50.0	50.0	0.00031	0.0011	1.64	10.79	0.01	0.01
	Kiln 1-3 Dump/Bypass Reclaim	30501615	Lime Transfer	1957	50.0	50.0	0.00031	0.0011				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	Kiln 1-3 Dump/Bypass Unloading	30501615	Load Out	1957	50.0	50.0	0.0323	0.2135				
<b>5,000 Ton Storage Silo Reclaim System</b>												
S101	Kiln Product to BC-8001	30501615	Lime Transfer	2004	150.0	180,000	See Table III-2 Baghouse DC-8001		0.51	0.72	2.25	3.17
S102	BC-8001 to BE-8001	30501615	Bin Feeding	2004	150.0	180,000	See Table III-2 Baghouse DC-8002		0.26	0.36	1.11	1.56
	BE-8001 to SC-8001	30501615	Lime Transfer	2004	150.0	180,000	See Table III-2 Baghouse DC-8003					
	SC-8001 to SI-RC	30501615	Lime Transfer	2004	150.0	180,000	See Table III-2 Baghouse DC-8004					
	SI-RC to BC-8002	30501615	Lime Transfer	2004	150.0	180,000	Included with S101 Baghouse DC-8001					
BC-8002	30501615	Lime Transfer	2004	150.0	180,000							
<b>Quick Lime Truck and Rail Load Out System</b>												
LO101	SC-5001	30501615	Lime Transfer	2004	200.0	66,409	See Table III-2 Baghouse DC-5007		0.21	0.29	0.90	1.27
	TC-1001	30501615	Load Out	2004	200.0	66,409						
LO104	BCF-5002	30501615	Lime Transfer	2004	200.0	66,409	See Table III-2 Baghouse DC-5001		0.21	0.29	0.90	1.27
	BCF-5003	30501615	Lime Transfer	2004	200.0	66,409						
LO106	TC-1002	30501615	Load Out	2004	200.0	132,818			0.21	0.29	0.90	1.27
	BCF-5004	30501615	Lime Transfer	2004	200.0	66,409	See Table III-2 Baghouse DC-5002					
	BCF-5005	30501615	Lime Transfer	2004	200.0	66,409						
LO109	TC-1003	30501615	Load Out	2004	200.0	132,818			0.21	0.29	0.90	1.27
	BCF-5006	30501615	Lime Transfer	2004	200.0	54,750	See Table III-2 Baghouse DC-5003					
	BCF-5007	30501615	Lime Transfer	2004	200.0	54,750						
LO112	TC-1004	30501615	Load Out	2004	200.0	109,500			0.21	0.44	1.36	1.92
	SC-5008	30501615	Lime Transfer	2004	100.0	93,015	See Table III-2 Baghouse DC-5006					
LO114	TC-1005	30501615	Load Out	2004	100.0	93,015			0.21	0.29	0.90	1.27
	BCF-5009	30501615	Lime Transfer	2004	200.0	66,409	See Table III-2 Baghouse DC-5004					
	BCF-5010	30501615	Lime Transfer	2004	200.0	66,409						
	TC-1006	30501615	Load Out	2004	200.0	132,818						

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
LO117	BCF-5011	30501615	Lime Transfer	2004	200.0	66,409	See Table III-2		0.21	0.29	0.90	1.27
	BCF-5012	30501615	Lime Transfer	2004	200.0	66,409	Baghouse DC-5005					
	TC-1007	30501615	Load Out	2004	200.0	132,818	Included with L0109 Baghouse DC-5003					
<b>Portable Screening Plant</b>												
SP1	Hopper Loading & Unloading	30501607	Open Stone Transfer Point	2003	600.0	1,500,000	0.000013	0.000046	0.01	0.04	0.01	0.05
	Conveyor Belt SP-2	30501607	Open Stone Transfer Point	2003	300.0	750,000	0.000013	0.000046				
SP3	Screen SP-3	30501625	Stone Screening	2003	300.0	750,000	0.000005	0.000074	0.02	0.24	0.02	0.29
	Stacker Belt	30501607	Open Stone Transfer Point	2003	100.0	250,000	0.000013	0.000046				
	Stacker Belt	30501607	Open Stone Transfer Point	2003	100.0	250,000	0.000013	0.000046				
	Stacker Belt	30501607	Open Stone Transfer Point	2003	100.0	250,000	0.000013	0.000046				
SP7	Volvo Penta Diesel-Powered Generator; 218 hp	20200101	Electricity Generation	2006	1 hour	2,500 hours/year	0.0022 lbs/hp-hr		0.19	0.19	0.24	0.24
LD4	Loader Loading	30501607	Open Stone Transfer Point	2003	300.0	750,000	0.000013	0.000046	0.01	0.03	0.01	0.03
	Loader Unloading	30501608	Open Stone Transfer Point	2003	300.0	750,000	0.000013	0.000046				
<b>Transloader</b>												
TL1	Railcar Unloading (baghouse)	30501607	Product Transfer	1999	80.0	75,000	0.00031	0.0011	0.02	0.09	0.01	0.04
TL3	John Deere Diesel-Powered Generator; 80 hp	20200101	Electricity Generation	2006	1 hour	940 hours/year	0.0009 lbs/hp-hr		0.07	0.07	0.03	0.03
<b>Lime Screening System</b>												
L101a	Conveyor SC-24 to Conveyor D-SC-4221	30501615	Lime Transfer (From North Lime Handling)	2010	15.0	10,438	0.00031	0.0011	0.01	0.02	0.01	0.01
	Conveyor D-SC-4221 to Bucket Elevator BE-03	30501615	Lime Transfer	2010	15.0	10,438	0.00031	0.0011				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
K104b	Conveyor SC-02 to Conveyor D-SC-4207	30501615	Lime Transfer (From Kiln 1)	2010	14.6	109,500	0.00031	0.0011	0.01	0.02	0.02	0.06
PL101	Conveyor D-SC-4207 to Bucket Elevator D-BE-4214	30501615	Lime Transfer	2010	14.6	109,500	0.00031	0.0011	0.01	0.02	0.02	0.06
PL102	Bucket Elevator D-BE-4214 to Bin D-BN-504	30501615	Bin Feeding	2010	14.6	109,500	See Table III-2 Binvent D-DC-505		0.12	0.17	0.54	0.76
PL103	Bucket Elevator D-BE-4214 to Conveyor D-SC-4215	30501615	Lime Transfer	2010	14.6	109,500	0.00031	0.0011	0.01	0.02	0.02	0.06
PL104	Conveyor D-SC-4215 to Dololime Screen D-VS-4216	30501615	Lime Transfer	2010	14.6	109,500	0.00031	0.0011	0.19	0.28	0.84	1.22
	Dololime Screen D-VS-4216	30501619	Screening Product	2010	14.6	109,500	See Table III-2 Baghouse D-DC-4217					
	Dololime Screen D-VS-4216 to Silo 6	30501615	Lime Transfer	2010	14.6	109,500						
	Dololime Screen D-VS-4216 to Conveyor D-SC-4217	30501615	Lime Transfer	2010	14.6	109,500						
PL105	Conveyor D-SC-4217 to Conveyor D-SC-4220	30501615	Lime Transfer	2010	14.6	109,500	0.00031	0.0011	0.01	0.03	0.03	0.12
	Conveyor D-SC-4220 to	30501615	Lime Transfer	2010	14.6	109,500	0.00031	0.0011				

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	Crusher D-HM-510											
<b>Haul Roads</b>												
V01	Haul Roads	30502504	Unpaved		55.0 VMT/hr		245,916 VMT/year		2.23	26.74	4.71	43.46
V02	Import/Shipping Roads	30502504	Paved		6.0 VMT/hr		15,868 VMT/year		0.43	4.09	0.64	6.50
V03	Reject Material Removal Exit Roads	30502504	Unpaved		5.0 VMT/hr		13,636 VMT/year		0.03	0.27	0.04	0.37
V04	Lime Plant Roads	30502504	Paved		9.0 VMT/hr		35,449 VMT/year		0.53	3.99	1.14	10.21
V05	Lime Plant Roads	30502504	Unpaved		6.0 VMT/hr		13,676 VMT/year		0.11	1.05	0.11	0.85
V06	Dozer travel	30502504	Paved		1.0 VMT/hr		3,000 VMT/year		0.08	0.20	0.11	1.02
<b>Open Storage Areas</b>												
EU	Source EU Identifier	SCC	Disturbed Surfaces/Stockpiles	Year est.	EF		CF	PTE (lbs/hr)		PTE (tons/yr)		
					PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	
A01	Quarry Areas	30502007	15.18 acres	1945	0.954 lbs/acre-day	6.3 lbs/acre-day	0.327	0.51	3.41	2.48	16.36	
	Limestone at Hopper	30501610	1.72 acres	1945								
	Fine Kiln Feed Stockpile	30501610	2.51 acres	1996								
	Course Kiln Feed Stockpile	30501610	2.74 acres	1945								
	Glass Flux Feed Stockpile	30501610	8.76 acres	1996								
	Kiln 4 Chat Stockpile	30501610	0.04 acres	1996								
	Chat Stockpile	30501610	0.61 acres	1945								
	Solid Fuel Stockpile; Coal	30501610	0.38 acres	1975								
	Solid Fuel Storage: Coke	30501610	0.38 acres	1975								
	Dolomite Stockpile	30501610	0.82 acres	1995								
Fine Dolomite Stockpile	30501610	1.80 acres	1998	0.124								

EU	Description	SCC	Process	Year Est.	Throughput		EF (lbs/ton)		PTE (lbs/hr)		PTE (tons/yr)	
					tons/hr	tons/yr	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	Coarse Dolomite Stockpile	30501610	1.81 acres	1998								
	Portable Screening Plant Stockpiles	305016103	2.25 acres	2003								
	Dolo at Hopper		2.01 acres	2010								
	Waste Lime Stockpile		3.07 acres	2010				0.327				
	Waste Flue Dust Stockpile		3.08 acres	2010								

Control factors: 0.124 = 2.0 percent moisture content; 0.327 = 1.0 percent moisture content

**Table III-2: PTE for PM<sub>10</sub> Through Baghouses and Binvents**

Description	Process	Flow Rate		Outlet PM10 Loading (grains/dscf)	PTE	
		acfm	dscfm		lbs/hour	(tons/year)
DC-01	Kiln 1	50,000	31,475	0.0219	5.90	25.83
DC-02	Kiln 2	50,000	31,475	0.0219	5.90	25.83
DC-03	Kiln 3	70,000	44,466	0.0219	8.33	36.49
DC-04	Kiln Dust Load Out	2,000	1,856	0.0219	0.35	1.52
DC-05	Kiln Dust Load Out	2,000	1,856	0.0219	0.35	1.52
DC-20	North Lime Handling	10,000	9,282	0.0219	1.74	7.62
DC-30	South Lime Handling	5,000	4,631	0.0100	0.40	1.74
DC-35	South Lime Handling	10,000	9,282	0.0219	1.74	7.62
DC-36	South Lime Handling	10,000	9,282	0.0219	1.74	7.62
DC-109	Hydrator	12,000	8,256	0.0219	1.54	6.78
DA-DC-507	Dust Bleed Bin Vent	1,060	984	0.0219	0.18	0.81
D-DC-505	Upset Bin Vent	1,000	928	0.0219	0.17	0.76
D-DC-520	Dolomitic bin Vent	3,000	2,784	0.0219	0.52	2.29
D-DC-526	Dolomitic Lime H	3,000	2,784	0.0219	0.52	2.29
K4-DC-316	Kiln 4	168,700	97,525	0.0131	10.69	48.00
K4-DC-336	Dribble Bin Filter	1,000	928	0.0219	0.17	0.76
K4-DC-340	Kiln 4 Cooler	13,000	9,846	0.0100	0.83	3.70
K4-DC-421	Kiln 4 Fuel Bins	1,000	928	0.0219	0.17	0.76
K4-DC-509	Kiln 4 Dust Bin Vent	1,000	928	0.0219	0.17	0.76
K4-DC-516	Filter receiver	1,200	1,114	0.0219	0.21	0.91
K4-DC-519	Start-up Bin	1,000	928	0.0219	0.17	0.76
DC-8001	5,000 ton Silo System	9,125	8,452	0.0100	0.72	3.17
DC-8002	5,000 ton Silo System	1,500	1,389	0.0100	0.12	0.52
DC-8003	5,000 ton Silo System	1,500	1,389	0.0100	0.12	0.52
DC-8004	5,000 ton Silo System	1,500	1,389	0.0100	0.12	0.52
DC-5001	South Lime Handling	3,650	3,381	0.0100	0.29	1.27
DC-5002	North Lime Handling	3,650	3,381	0.0100	0.29	1.27
DC-5003	South Lime Handling	3,650	3,381	0.0100	0.29	1.27
DC-5004	South Lime Handling	3,650	3,381	0.0100	0.29	1.27
DC-5005	North Lime Handling	3,650	3,381	0.0100	0.29	1.27
DC-5006	Hydrator	5,500	5,094	0.0100	0.44	1.91
DC-5007	South Lime Handling	3,650	3,381	0.0100	0.29	1.27
D-DC-4217	Pebble Lime Screening	3,326	3,078	0.0100	0.26	1.16

**Table III-3: Emission Units and PTE for PM<sub>10</sub> from Reject Material Removal**

EU	Description	Process	Throughput		EF (lbs/ton)	CF <sup>1</sup>	PTE	
			tons/hr	tons/yr			lbs/hr	tons/yr
A1	Loader Loading	Reject Material Removal	1,000	1,000,000	0.0025	0.124	0.31	0.32
	Loader Unloading	Reject Material Removal	1,000	1,000,000	0.0025	0.124	0.31	
A56	Aggregate Plant Storage Pile		7.33 Acres		6.3 lbs/acre-day	0.180	0.35	1.52

<sup>1</sup>Control factor: 0.124 is equivalent to 2.0 percent moisture content; 0.180 is equivalent to 1.6 percent moisture.

**Table III-4: PTE (Other than PM<sub>10</sub>) for Limestone Mining and Manufacturing of Lime Products**

EU	Description	Throughputs		Pollutants	EF (hour) (lbs/ton)	EF (year) (lbs/ton)	PTE (lbs/hr)	PTE (tons/yr)
		hour	year					
H105	Hydrator Baghouse Burner	1.8 E-03 MMcf	16.0 MMcf	NOx	100.00 lbs/MMcf		0.18	0.80
				CO	84.00 lbs/MMcf		0.15	0.67
				SO <sub>x</sub>	0.60 lbs/MMcf		0.01	0.01
				VOC	5.50 lbs/MMcf		0.01	0.04
				Total HAP	5.50 lbs/MMcf		0.01	0.04
K102	KN-01; Rotary Kiln 1; 81.25 MMBtu/hr	15.0 tons (stone)	109,500 tons (stone)	NOx	8.82	6.27	132.3	343.49
				CO	22.76	2.25	341.40	122.97
				SO <sub>x</sub>	7.25	7.55	108.75	413.09
				VOC	0.06 lbs/ton fuel		0.26	0.99
		4.41 tons (fuel)	33,108 tons (fuel)	HCl	FTIR Test		3.29	14.38
		Other HAP	0.01457 lbs/ton fuel		0.06	0.24		
		Total HAP			3.50	14.62		
K202	KN-02; Rotary Kiln 2; 81.25 MMBtu/hr	13.0 tons (stone)	109,500 tons (stone)	NOx	8.82	6.39	114.66	349.85
				CO	22.76	2.29	295.88	125.16
				SO <sub>x</sub>	4.77	4.96	62.01	271.56
				VOC	0.06 lbs/ton fuel		0.26	1.12
		4.28 tons (fuel)	37,490 tons (fuel)	HCl	FTIR Test		0.32	1.40
		Other HAP	0.01457 lbs/ton fuel		0.06	0.27		
		Total HAP			0.51	1.67		
K302	KN-03; Rotary Kiln 3; 95.10 MMBtu/hr	17.0 tons (stone)	146,000 tons (stone)	NOx	8.82	6.55	149.94	478.15
				CO	22.76	2.35	386.92	171.55
				SO <sub>x</sub>	5.64	5.75	95.88	419.75
				VOC	0.06 lbs/ton fuel		0.32	1.40
		5.34 tons (fuel)	46,741 tons (fuel)	HCl	FTIR Test		0.52	2.29
		Other HAP	0.01457 lbs/ton fuel		0.08	0.34		
		Total HAP			0.77	2.63		
K402	KN-KN-305; Rotary Kiln 4; 281.25 MMBtu/hr	56.25 tons (stone)	475,000 tons (stone)	NOx	28.15	2.956	1,583.44	702.05
				CO	12.00	2.00	675.00	475.00
				SO <sub>x</sub>	2.27		127.88	539.13
				VOC	0.06 lbs/ton fuel		0.83	3.48
		13.76 tons (fuel)	116,163 tons (fuel)	HCl	FTIR Test		0.70	3.05
		Other HAP	0.01457 lbs/ton fuel		0.20	0.85		
		Total HAP			1.52	3.90		
Q103	Blasting Agent	30 tons	1,370 tons	NOx	17.0 lbs/ton		510.0	11.65
				CO	67.0 lbs/ton		2,010	45.90
				SO <sub>x</sub>	3.0 lbs/ton		90.0	2.06
SP7	Volvo Penta Diesel-Powered	1 hour	2,500 hours	NOx	1.50E-02 lbs/hp-hour		3.27	4.15
				CO	1.87E-02 lbs/hp-hour		4.08	5.11

EU	Description	Throughputs		Pollutants	EF (hour) (lbs/ton)	EF (year) (lbs/ton)	PTE (lbs/hr)	PTE (tons/yr)
		hour	year					
	Generator; 218 hp; DOM: 2006			SO <sub>x</sub>	2.05E-03	lbs/hr-hour	0.45	0.56
				VOC	2.51E-03	lbs/hr-hour	0.55	0.69
				Total HAP	2.71E-05	lbs/hr-hour	0.01	0.01
TL3	John Deere Diesel-Powered Generator; 80 hp; DOM: 2007	1 hour	940 hours	NO <sub>x</sub>	1.15E-02	lbs/hr-hour	0.92	0.43
				CO	8.16E-03	lbs/hr-hour	0.65	0.31
				SO <sub>x</sub>	2.10E-03	lbs/hr-hour	0.17	0.08
				VOC	2.51E-03	lbs/hr-hour	0.59	0.10
				Total HAP	4.52E-05	lbs/hr-hour	0.01	0.01
K102a	Kiln 1 Auxiliary Drive Engine; Isuzu; 49 hp; M/N: C240; S/N: 860824	1 hour	500 hours	NO <sub>x</sub>	1.60E-02	lbs/hp-hour	0.78	0.20
				CO	9.00E-03	lbs/hp-hour	0.44	0.11
				SO <sub>x</sub>	2.05E-03	lbs/hp-hour	0.10	0.03
				VOC	2.51E-03	lbs/hp-hour	0.12	0.03
				Total HAP	2.71E-05	lbs/hp-hour	0.01	0.01
K202a	Kiln 2 Auxiliary Drive Engine; Isuzu; 49 hp; M/N: C240; S/N: 779553	1 hour	500 hours	NO <sub>x</sub>	1.60E-02	lbs/hp-hour	0.78	0.20
				CO	9.00E-03	lbs/hp-hour	0.44	0.11
				SO <sub>x</sub>	2.05E-03	lbs/hp-hour	0.10	0.03
				VOC	2.51E-03	lbs/hp-hour	0.12	0.03
				Total HAP	2.71E-05	lbs/hp-hour	0.01	0.01
K302a	Kiln 3 Auxiliary Drive Engine; Isuzu; 49 hp; M/N: C240; S/N: 854004	1 hour	500 hours	NO <sub>x</sub>	1.60E-02	lbs/hp-hour	0.78	0.20
				CO	9.00E-03	lbs/hp-hour	0.44	0.11
				SO <sub>x</sub>	2.05E-03	lbs/hp-hour	0.10	0.03
				VOC	2.51E-03	lbs/hp-hour	0.12	0.03
				Total HAP	2.71E-05	lbs/hp-hour	0.01	0.01
K402a	Kiln 4 Auxiliary Drive Engine; Isuzu; 123 hp; M/N: 6BB1; S/N: 6BB1S64832	1 hour	500 hours	NO <sub>x</sub>	3.10E-02	lbs/hp-hour	3.81	0.95
				CO	6.68E-03	lbs/hp-hour	0.82	0.21
				SO <sub>x</sub>	2.05E-03	lbs/hp-hour	0.25	0.06
				VOC	2.51E-03	lbs/hp-hour	0.31	0.08
				Total HAP	4.52E-05	lbs/hp-hour	0.01	0.01
T101	1,000 gallon aboveground storage tank (Gasoline)	N/A	60,000 gallons	VOC	0.0112		0.08	0.34
				Total HAP	2.53E-04		0.01	0.01
T102	10,000 gallon (Diesel) aboveground storage tank	N/A	700,000 gallons	VOC	2.86E-05		0.01	0.01
				Total HAP	1.97E-06		0.01	0.01

**Table III-A-5: Insignificant Activities**

Hydrochloric Acid (5.0% volatile)
Scale Solvent (contains HCL, 2.5% volatile)
Thinner (contains Benzene)

#### IV. Production Limits

Note: Average hourly records required by this ATC/OP shall be calculated using the total daily record divided by 24, except in the cases of kiln 4 and the portable screening plant. In the cases of kiln 4 and the portable screening plant, average hourly records shall be calculated using the total daily records of kiln 4 and the portable screening plant,

respectively, divided by the hours of kiln 4 and the portable screening plant, respectively, operated that day. (Note: Except for kiln 4, there are no enforceable short-term limits for any process at Chemical Lime facility). *[NSR - ATC/OP Modification 10, Revision 0, Section III-H, Condition 6, (05/22/06)]*

1. The permittee shall limit mining operations to a maximum of 2,400 tons per hour and 5,360,000 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Section III-A, Condition 2, (05/22/06)]*
2. The permittee shall limit blasting operations, using ammonium nitrate fuel oil (ANFO), to a maximum of 30 tons of per hour and 1,370 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
3. The Permittee shall limit the amount of limestone processing (crushing and screening) to a maximum of 1,200 tons per hour and 2,680,000 tons per any consecutive twelve month period. *[NSR – ATC/OP Modification 10, Section III-A, Condition 4, (05/22/06)]*
4. The Permittee shall limit the throughputs in Kiln 1 to a maximum of 15 tons per hour and 109,500 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
5. The Permittee shall limit the throughputs in Kiln 2 to a maximum of 13 tons per hour and 109,500 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Section III-A, Conditions 5 and 6, (05/22/06)]*
6. The Permittee shall limit the throughput in kiln 3 to a maximum of 17 tons per hour and 146,000 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Section III-A, Conditions 7, (05/22/06)]*
7. The Permittee shall limit the throughput in kiln 4 to a maximum of 1,350 tons per day, based on a calendar month average, and 475,000 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
8. The Permittee shall limit solid fuel handling and processing to a maximum of 100 tons per hour and 553,863 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Table II-A-2, (05/22/06)]*
9. The Permittee shall limit dolomite handling and processing to a maximum of 31.0 tons per hour and 233,408 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
10. The Permittee shall limit dolomitic lime handling to a maximum of 15 tons per hour and 109,500 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
11. The Permittee shall limit the throughput at the portable screening plant to a maximum of 600 tons per hour and 1,500,000 tons per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*
12. The Permittee shall limit the transloading of materials to 80 tons per hour and 75,000 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Table II-A-2, (05/22/06)]*
13. The Permittee shall limit the quicklime loadout to trucks and railcars to a maximum of 200 tons per hour and the PTE shown in Table III-1 per any consecutive twelve month period. *[NSR - ATC/OP Modification 6, Revision 1, Table III-A-2, (04/26/04)]*
14. The Permittee shall limit lime transfer through the silo reclaim system to a maximum of 150 tons per hour and 180,000 tons per any consecutive twelve month period. *[NSR - ATC/OP Modification 10, Table II-A-2, (05/22/06)]*
15. The Permittee shall limit the lime handling (north) to a maximum of 100 tons per hour and the PTE shown on Table III-1 per any consecutive twelve month period. *[AQR 12.5.2.6(a)/19.4.1.3]*

16. The Permittee shall limit the lime handling (south) to a maximum of 100 tons per hour and the PTE shown on Table III-1 per any consecutive twelve month period. [AQR 12.5.2.6(a)/19.4.1.3]
17. The Permittee shall limit the throughput of gasoline products to 60,000 gallons per any consecutive twelve month period (EU: T101). [NSR - ATC/OP Modification 10, Table II-A-2, (05/22/06)]
18. The Permittee shall limit operation of the Volvo Penta 218-hp portable screening generator to 2,500 hours per any consecutive twelve month period (EU SP7). [NSR - ATC/OP Modification 10, Section III-A, Condition 9, (05/22/06)]
19. The Permittee shall limit the hours of operation of the 80-hp transloader generator to 940 hours per any consecutive twelve month period (EU TL3). [NSR - ATC/OP Modification 10, Section III-A, Condition 10, (05/22/06)]
20. The Permittee shall limit the operation of the four 49 hp diesel auxiliary Kiln Drive engines to a maximum of 500 hours per any consecutive twelve month period. [AQR 12.5.2.6(a)/19.4.1.3]
21. The Permittee shall limit the consumption of natural gas for combustion of the hydrator baghouse burner to 16 million cubic feet per any consecutive twelve month period. [NSR - ATC/OP Modification 10, Table II-A-2, (05/22/06)]
22. The Permittee shall limit production of material through the Lime Pebble Screening System to a maximum of 15 tons per hour based on 24 hour average and 109,500 tons per year per any consecutive twelve month period. [NSR – ATC Modification 14, Condition IV-A-2-b, (10/06/2010)]

## V. Regulatory Review

### A. Local Regulatory Requirements

The Nevada Revised Statutes (NRS) and the Clean Air Act Amendments (CAAA) are public laws that establish the general authority for the Regulations mentioned.

The DAQEM Part 70 (Title V) Program received Final Approval on November 30, 2001 with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234. AQR Section 19 – Part 70 Operation Permit [Amended 07/01/04] details the Clark County Part 70 Operating Permit Program.

Local regulations contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable only rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Requirements and conditions that appear in the Part 70 OP and are based on non-SIP rules noted as locally enforceable only.

DAQEM has determined that the following public law, statutes, and associated regulations are applicable:

1. Nevada Revised Statutes (NRS), Chapter 445B;
2. Portions of the AQR included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits issued by DAQEM are federally enforceable because these permits were issued pursuant to SIP-included sections of this AQR: and

3. Portions of the AQR that aren't included in the SIP. These locally applicable requirements are locally enforceable only.

**Table V-A-1: Applicable DAQEM Air Quality Regulations**

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Emission Unit
0: Definitions (09/07/2004)	Applicable Definitions	yes	entire source
00: Definitions (11/16/2010)	Applicable Definitions		entire source
2: Air Pollution Control Board	All Subsections	yes	entire source
4: Control Officer	All Subsections	yes	entire source
5: Interference with Control Officer	All Subsections	yes	entire source
6: Injunctive Relief	All Subsections	yes	entire source
7: Hearing Board and Hearing Officer	All Subsections	no	entire source
8: Persons Liable for Penalties - Punishment: Defense	All Subsections	yes	entire source
9: Civil Penalties	All Subsections	no	entire source
10: Compliance Schedule	When Applicable; Applicable Subsections	yes	entire source
11: Ambient Air Quality Standards	Applicable Subsections	yes	entire source
12: Preconstruction Review for New or Modified Stationary Sources	All Applicable Subsections SIP Exceptions: § 12.2.19 TCS Sources in Clark County. § 12.2.20 Additional Requirements for STATIONARY SOURCES with Beryllium, Mercury, Vinyl Chloride, or Asbestos EMISSIONS in Clark County	yes	entire source
12.0: Applicability, General requirements, and Transition Procedures	12.01(a),(c),(e), and (f); 12.02; 12.03(a)		entire source
12.2: Permit Requirements for Major Sources in Attainment Areas	All Subsections		entire source
12.4: ATC Application and Permit Requirements for Part 70 Sources	All Subsections		entire source
12.5: Part 70 Operating Permit Requirements	All Subsections		entire source
12.6: Confidentiality	All Subsections		entire source
12.7: Emission Reduction Credits			
12.9: Annual Emissions Inventory Requirements	All Subsections		entire source
12.10: Continuous Monitoring Requirements for Stationary Sources	Where Applicable; All Subsections		Kiln 4
12.12: Transfer of Permit	All Subsections		entire source
12.13: Posting of Permit	All Subsections		
13: Emission Standards for Hazardous Pollutants	Applicable Subsections	no	entire source

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Emission Unit
14: New Source Performance Standards	CCAQR Section 14.1.1: Subpart A - General Provisions CCAQR Section 14.1.38: Subpart OOO - Standards of Performance for Nonmetallic Minerals Processing Plants CCAQR Section 14.1.41: Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries	no	entire source
18: Permit and Technical Service Fees	§ 18.1 Operating Permit Fees § 18.2 Annual Emission Unit Fees § 18.4 New Source Review Application Review Fee § 18.5 Part 70 Application Review Fee § 18.6 Annual Part 70 Emission Fee § 18.14 Billing Procedures	yes	entire source
19: Part 70 Operating Permit Federal Approval (11/25/01)	§ 19.2 Applicability § 19.3 Part 70 Permit Applications § 19.4 Part 70 Permit Content § 19.5 Permit Issuance, Renewal, Re-openings, and Revisions § 19.6 Permit Renewal by the EPA and Affected States § 19.7 Fee Determination and Certification	N/A	entire source
25.1: Upset/Breakdown, Malfunctions	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions	no	entire source
25.2: Upset/Breakdown, Malfunctions	§ 25.2 Reporting and Consultation	yes	entire source
26: Emission of Visible Air Contaminants	§ 26.1 Limit on opacity ( $\leq$ 20 percent for 3 minutes in a 60-minute period)	yes	entire source
27: Particulate Matter from Process Weight Rate	all subsections	no	entire source
28: Fuel Burning Equipment	all subsections	yes	entire source
29: Sulfur Contents of Fuel Oil	Sulfur content shall be equal to or less than 0.05 percent sulfur by weight	no	Diesel-Powered Generators
35: Diesel Engine Powered Electrical Generating Equipment	all subsections	no	none
40: Prohibitions of Nuisance Conditions	§ 40.1 Prohibitions	no	entire source
41: Fugitive Dust	§ 41.1 Prohibitions	yes	entire source
42: Open Burning	§ 42.2	no	entire source
43: Odors In the Ambient Air	§ 43.1 Prohibitions coded as Section 29	no	entire source
45: Idling of Diesel Powered Motor Vehicles	§ 45.1 Diesel Powered Motor Vehicles Idling	no	Diesel Powered Motor Vehicles
50: Storage of Petroleum Products	all subsections	yes	none
51. Petroleum Product Loading into Tanks, Trucks And Trailers	all subsections	yes	none

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Emission Unit
52: Gasoline Dispensing Facilities	§ 52.3 Registration and Permitting § 52.4 Specification of Vapor Control Systems § 52.7 Recordkeeping, Recording and Notifications § 52.10 Motor Vehicle Refueling	no	none
58: Emission Reduction Credits	all subsections	yes	entire source
60: Evaporation and Leakage	all subsections	yes	entire source
70: Emergency Procedures	all subsections	yes	entire source
80: Circumvention	all subsections	yes	entire source
81: Provisions of Regulations Severable	all subsections	yes	entire source

## B. Applicable Federal Regulations

DAQEM has determined that the following federal regulations are applicable:

- Clean Air Act, as amended (CAA), Authority: 42 U.S.C. § 7401, et seq**
- 40 CFR PART 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 DAQEM of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring devices, CEMS data, and performance test data. These requirements are found in the Part 70 OP. DAQEM requires records to be maintained for five years, a more stringent requirement than the two (2) years required by § 60.7.

#### 40 CFR 60.8 – Performance test

**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. DAQEM requirements for initial performance testing are identical to § 60.8. DAQEM also requires periodic performance testing on emission units based upon throughput or usage. More discussion is in this document under the compliance section.

#### 40 CFR 60.11 – Compliance with standards and maintenance requirements

**Discussion:** Chemical Lime Company is subject to three NSPS standards: Subpart HH – Standards of Performance for Lime Manufacturing Plants; Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants; and Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries. Compliance requirements for these standards are discussed in corresponding sections.

#### **40 CFR 60.12 – Circumvention**

**Discussion:** These requirements are found in the Part 70 OP. This is also SIP-approved local rule § 80.1.

#### **40 CFR 60.13 – Monitoring requirement**

**Discussion:** The Part 70 OP contains the monitoring conditions. In addition, the CAM plan approved for the monitoring procedures follows the requirements outlined, including the span time and recording time.

### **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 SO<sub>2</sub> and NO<sub>x</sub> 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

### **3. 40 CFR Part 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 limitations.

##### **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, Chemical Lime Company 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 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. Chemical Lime Company provided the results of performance tests that were conducted in November, 2006. The weighted average of all four kilns, combined, was 0.074 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. Chemical Lime Company 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 60<sup>th</sup> 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.

### **Subpart CCCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities**

#### **40 CFR 63.11111 – Applicability**

**Discussion:** Applicable to an area source which includes a gasoline storage tank and gasoline dispensing facility.

#### **40 CFR 63.11112 – Affected Equipment**

**Discussion:** The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF. Included components consist of pressure/vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

#### **40 CFR 63.11116 – Requirement for facilities with a monthly throughput less than 10,000 gallons of gasoline.**

**Discussion:** The Permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Spills shall be cleaned up spills as expeditiously as practicable, all open gasoline containers and all gasoline storage tank fill-pipes shall be covered with a gasketed seal when not in use, and gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators, shall be minimized.

The permittee is not required to submit notifications or reports, but shall have records available within 24 hours of a request by the Control Officer to document gasoline throughput.

## **4. 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. Chemical Lime Company 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.

## 5. 40 CFR PART 72 – ACID RAIN PERMITS 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.

## 6. 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.

## 7. 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.

#### 40 CFR 51, 52, 70 and 71.

On June 3, 2010, EPA published the final Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailoring Rule (herein referred to as the Tailoring Rule; 75 FR 31514), setting thresholds for GHG emissions that define when permits under these programs are required for new and existing industrial facilities.

Step 2 of the Tailoring Rule implementation began on July 1, 2011. Under Step 2, “anyway” title V sources—that is, sources already subject to title V based on non-GHGs and that are covered under Step 1 previously—will continue to be subject to title V. In addition, GHG emission sources that equal or exceed the 100,000 tpy CO<sub>2</sub>e threshold will be required to obtain a title V permit if they do not already have one. It is important to note that the requirement to obtain a title V permit will not, by itself, result in the triggering of additional substantive requirements or control of GHG. Rather, these new title V permits will simply incorporate whatever applicable CAA requirements, if any, apply to the source being permitted. Both of the following conditions need to be met in order for title V to apply under Step 2 to a GHG emission source: (1) An existing or newly constructed source emits or has the potential to emit GHGs in amounts that equal or exceed 100 tpy calculated as the sum of the six well-mixed GHGs on a mass basis (no GWPs applied). (2) An existing or newly constructed source emits or has the potential to emit GHGs in amounts that equal or exceed 100,000 tpy calculated as the sum of the six well-mixed GHGs on a CO<sub>2</sub>e basis.

On September 9, 2011, the Permittee provided the CO<sub>2</sub> emission information for the source. The Permittee estimated actual emissions for 2009 was 697,454 metric tons of

CO<sub>2</sub> emission. The source is a major source for CO<sub>2</sub> and therefore, the source is subject to all applicable requirements under the Tailoring Rule.

## **VI. Control Technology**

The only pertinent control technologies implemented after the August, 2004 issuance of the Title V operating permit consist of dust collectors and enclosed transfer points for the 5,000 ton storage silo system and the rail/truck loadout system, permitted with Modification 7, and turbocharger and aftercooler devices installed on two new diesel-powered generators, permitted with Modification 9.

The gravity chute, permitted with Modification 8, and the quicklime slurry process, permitted with Modification 9, were never installed, thus negating the need to review the control devices approved for these units.

Modifications 11 through 13 were issued as temporary permits and have all expired.

## **VII. Monitoring**

### **A. Compliance Certification**

Requirements for compliance certification: *[AQR 12.5.2.8/19.3.3.9]*

- a. Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the DAQEM shall be as outlined in Table VII-A-1

**Table VII-A-1: Compliance Reporting Schedule**

<b>Required Report</b>	<b>Applicable Period</b>	<b>Due Date<sup>1</sup></b>
Semi-annual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year
Semi-annual Report for 2 <sup>nd</sup> Six-Month Period, Any additional annual records required.	July, August, September, October, November, December	January 30 each year
Annual Compliance Certification Report	12 Months	January 30 of each year
Annual Emission Inventory Report	Calendar Year	March 31 each year
Deviation Report	As Required	As soon as practicable but not to exceed ten (10) calendar days from discovery of the deviation
Upset, Breakdown, Malfunction	As Required	Within 72 hours of the onset of the event
Performance Testing	As Required	Within 60 days from the end of the test

<sup>1</sup>Each report shall be received by DAQEM on or before the due date listed. If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day..

- b. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
- c. A schedule for submission of compliance certifications during the permit term.
- d. A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

## B. Compliance Summary

**Table VII-B-1: AQR Compliance Summary**

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions.	Applicable – Chemical Lime Company will comply with all applicable definitions as they apply.	Clark Station will meet all applicable test methods should new definitions apply.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 4	Control Officer.	Applicable – The Control Officer or his representative may enter into Chemical Lime Company property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	NPC will allow Control Officer to enter Station property as required.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 11	Ambient Air Quality Standards.	Applicable – Chemical Lime Company is a source of air pollutants.	Clark Station demonstrated compliance in the ATC permit application with air dispersion modeling.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.1	General application requirements for construction of new and modified sources of air pollution.	Applicable – Chemical Lime Company applied for and the ATC certificate was issued before commencing construction.	Clark Station received the ATC permit to construct.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.2.5	Requirements for specific air pollutants: PM <sub>10</sub> emission source located in the PSD area.	Applicable – Chemical Lime Company has PM <sub>10</sub> PTE > 100 tpy.	All new or modified units at Chemical Lime Company will meet the BACT requirement.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.2.10	Requirements for specific air pollutants: CO sources located in the PSD Area.	Applicable – Chemical Lime Company has CO PTE > 100 tpy.	All new or modified emission units at Chemical Lime Company will meet the BACT requirement.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.2.13	Requirements for specific air pollutants: VOC sources located the PSD Area.	Applicable – Chemical Lime Company has VOC < 100 tpy.	All new or modified emission units at Chemical Lime Company will meet the BACT requirement.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.2.15	Requirements for specific air pollutants: NO <sub>x</sub> sources located in the PSD Area.	Applicable – Chemical Lime Company has NO <sub>x</sub> > 100 tpy.	All new or modified emission units at Chemical Lime Company will meet the BACT requirement	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.2.16	Requirements for specific air pollutants: SO <sub>x</sub> sources located in the PSD Area	Applicable – Chemical Lime Company has SO <sub>x</sub> > 100 tpy.	All new or modified emission units at Chemical Lime Company will meet the BACT requirements.	Chemical Lime Company is compliant with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.2.19	Requirements for specific air pollutants: TCS sources in Clark County	Not Applicable – Chemical Lime Company does not have any TCS emissions.	Not Applicable.	Not Applicable.
AQR Section 12.5	Air Quality Models	Applicable – Dispersion modeling performed will be performed as required for any future major modifications.	As applicable, future dispersion modeling will be performed in ATC permit modifications will be in accordance with provisions of 40 CFR 51, Appendix W.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 12.7	Continuous Emission Monitoring Systems	Applicable – Chemical Lime Company emits NO <sub>x</sub> , CO, and SO <sub>x</sub> in excess of 100 tpy	Clark Station submitted all required protocols/test plans per the issued ATC permit prior to CEMS certification. CEMS certification was approved by DAQEM.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 14.1.1 Subpart A	NSPS – General Provisions	Applicable – Chemical Lime Company 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.	Chemical Lime Company 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 – Chemical Lime 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.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 14.1.101: Subpart UUU	Standards of Performance for New Stationary Sources – Standards of Performance for Calciners and Dryers in Mineral Industries	Applicable – Chemical Lime Company operates calciners and dryers.	Applicable performance tests, opacity tests, monitoring, recordkeeping, and reporting requirement.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – Chemical Lime Company will be required to pay all required/applicable permit and technical service fees.	Chemical Lime Company is required to pay all required/applicable permit and technical service fees.	Chemical Lime Company is compliant with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 19	40 CFR 70 Operating Permits	Applicable – Chemical Lime Company 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. Section 19 is both federally and locally enforceable	The previous Part 70 OP dated August 27, 2004. This renewal application was submitted on February 26, 2009. Applications for new units will be submitted within 12 months of startup.	Chemical Lime Company 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 one (1) hour of onset of such event.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the G-P combustion units shall not exceed 20 percent for more than three (3) minutes in any 60-minute period.	Compliance determined by EPA Method 9	Chemical Lime Company is compliant with applicable requirements.
AQR Section 27	Particulate Matter from Process Weight Rate	Not Applicable.	Not Applicable.	Not Applicable.
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.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 29	Sulfur Contents of Fuel Oil	Applicable – The diesel fuel that will be burned at the facility will require low sulfur fuel with sulfur content less than 0.05 percent by weight. Section 29 is locally enforceable only.	Fuel sulfur content verification obtained from fuel oil supplier.	Chemical Lime Company is compliant with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
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.	Chemical Lime Company's air contaminant emissions are controlled by pollution control devices or good combustion in order not to cause a nuisance.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 41	Fugitive Dust	Applicable – Chemical Lime Company shall take necessary actions to abate fugitive dust from becoming airborne.	Chemical Lime Company utilizes appropriate best practices to not allow airborne fugitive dust.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 42	Open Burning	Applicable – In event Chemical Lime Company 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.	Chemical Lime Company will contact the DAQEM and obtain approval in advance for applicable burning activities as identified in the rule.	Chemical Lime Company 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.	Chemical Lime Company is a predominantly mineral processing facility and is not expected to cause odors.	Chemical Lime Company 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.	Chemical Lime Company 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.	Chemical Lime Company is compliant with applicable requirements.
AQR Section 49	Emission Standards for Boilers and Steam Generators Burning Fossil Fuels	Not Applicable – Chemical Lime Company does not have any boilers or steam generators.	Not Applicable.	Not Applicable.
AQR Section 70.4	Emergency Procedures	Applicable – Chemical Lime Company submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	Chemical Lime Company submitted an emergency standby plan and received the Section 16 Operating Permit.	Chemical Lime Company is compliant with applicable requirements.

### C. Compliance Summary: Federal Air Quality Regulations

**Table VII-C-1: 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 – Chemical Lime Company will comply with all applicable definitions.	Chemical Lime Company has and will continue to meet BACT AQIA and Additional impact analysis through applicable monitoring and record keeping of emission data.	Chemical Lime Company 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 – Chemical Lime Company is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	Chemical Lime Company 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.	Chemical Lime Company 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.	Chemical Lime Company complies with applicable requirements.
40 CFR 60, Subpart A	Standards of Performance for New Stationary Sources – General Provisions	Applicable – Chemical Lime Company is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	Chemical Lime Company complies with applicable requirements.
40 CFR 60, Subpart HH	New Source Performance Standards – Standards of Performance for Lime Manufacturing Plants.	Applicable – Chemical lime Company is a lime manufacturing operation	Applicable monitoring, recordkeeping, and reporting requirements are applicable for the Alpha boiler.	Chemical Lime Company complies with applicable requirements.
40 CFR 60, 000	New Source Performance Standards – Standards of Performance for Nonmetallic Mineral Processing Plants	Applicable – Chemical Lime Company is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	Chemical Lime Company complies with applicable requirements.
40 CFR 60, Subpart UUU	New Source Performance Standards – Standards of Performance for Calciners and Dryers in Mineral Industries	Applicable – Chemical Lime Company is an affected facility under this regulation.	Applicable monitoring, recordkeeping, and reporting requirements.	Chemical Lime Company complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Applicable – Chemical Lime Company owns and operates internal combustion engines.	All tests as required by 40 CFR 60.4212	Chemical Lime Company 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 – Chemical Lime Company does not store or handle any chemicals that are subject to 40 CFR Part 68.	Not Applicable.	Not Applicable.
40 CFR 63, Subpart AAAAA	National Emission Standard for Hazardous Air Pollutants for Lime Manufacturing Plants	Applicable – Chemical Lime Company 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	Chemical Lime Company complies with applicable requirements.
40 CFR 63, Subpart CCCCC	National Emission Standards for Hazardous Air Pollutants – Gasoline Dispensing Facilities	Applicable – The GDO (EU:T101) is an affected source under the regulations.	Applicable work practice requirements.	Chemical Lime Company complies with applicable requirements.
40 CFR 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	Applicable – Chemical Lime Company owns and operates stationary RICE.	All tests as required by 40 CFR 63.6620	Chemical Lime must complete initial testing of all affected units within 180 days after May 3, 2013
40 CFR 70	Federally Mandated Operating Permits	Applicable – Chemical Lime Company 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 dated August 27, 2004. This renewal application was submitted on February 26, 2009. Applications for new units will be submitted within 12 months of startup.	Chemical Lime Company complies with applicable requirements.
40 CFR 72	Acid Rain Permits Regulations	Not Applicable.	Not Applicable.	Not Applicable.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR 75	Acid Rain CEMS	Not Applicable.	Not Applicable.	Not Applicable.

## D. Streamlining Demonstration

**Table VII-D-1: 40 CFR 60 Subparts HH, OOO, and Y and 40 CFR 63 Subpart AAAAA Streamlining Demonstration**

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Shielding 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?	
K402	60.342 (HH)	(PM) 0.60 lbs/tsf	11.52 lbs/hr	68.4 lbs/hr	11.52 lbs/hr	Yes	1 hour	1 hour	Yes	The permit limits are more stringent than the standard based upon concentration
K402	60.342 (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
K102, K202 K302, K402	63.7090(a) (AAAAA)	(PM) 0.12 lbs/tsf	0.12 lbs/tsf <sup>1</sup>	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 0.074 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

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Shielding 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
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
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

## VIII. Testing

1. Emission units that are to be performance tested are listed in Table IX-1. Initial and subsequent performance testing shall be conducted using applicable test methods, time frames, and frequency of testing as required by 40 CFR 60, Subpart OOO, Y or HH and 40 CFR 63 Subpart AAAAA as applicable.
2. Pursuant to Section 4.5 of the AQR, additional or more frequent performance testing may be required by the Control Officer.
3. Opacity testing requirements for the source are presented in the Part 70 operating permit (Table III-D-1). All other testing requirements are presented in Table VIII-1, below.

**Table VIII-1: Chemical Lime Emissions Units Requiring Performance Testing**

Emission Units	Pollutant	NSPS/MACT Reference and Test Method
Kiln 4: (EU: K402)	PM	40 CFR 60 Subpart HH; Method 5D
<b>Kilns 1 through 4:</b> (EUs: K102, K202, K302 and K402)	PM	40 CFR 63 Subpart AAAAA; Method 5D
<b>Compression Ignition Engines:</b> (EUs: K102a, K202a, K302a, K402a, and SP7)	CO	40 CFR 63 Subpart ZZZZ; Method 10

## IX. Emission Reduction Credits (Offsets)

Chemical Lime Company is not subject to emission reduction credits.

## X. Public Notice

Public notice requirements have been triggered for PM<sub>10</sub>, NO<sub>x</sub>, CO, SO<sub>x</sub>, and HAP pollutants.

## XI. Administrative Requirements

AQR Section 19 requires that DAQEM identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic test in brackets] after each Part 70 Permit condition.

DAQEM proposes to issue the Part 70 Operating Permit conditions on the following basis:

### Legal:

On December 5, 2001 in Federal Register Volume 66, Number 234 FR30097 the EPA fully approved the Title Operating Permit Program submitted for the purpose of complying with the Title V requirements of the 1990 CAAA and implementing 40 CFR 70.

### Factual:

Chemical Lime Company supplied all the necessary information for DAQEM to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

**Conclusion:**

DAQEM has determined that Chemical Lime Company will continue to determine compliance through the use of performance testing, quarterly reporting, and daily recordkeeping in combination with annual certifications of compliance. DAQEM proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted to Chemical Lime Company for a period not to exceed five years.

**XII. Calculations**

**Table XII-1: HCl Calculation using Fourier Transform Infrared Spectroscopy (FTIR)**

Description	Process Rate	Emission Factor	Mol. Wt. HCl	Equation
Kiln 1	33,000 dscfm	17.5 ppmv	36.5 g/mol	$(EF/1,000,000) \times (\text{process rate}) \times (60 \text{ min/hr}) \times (36.5/385) \times (8760 \text{ hrs/yr}) \div (2,000 \text{ lbs/ton})$
Kiln 2	33,000 dscfm	1.7 ppmv		
Kiln 3	54,000 dscfm	1.7 ppmv		
Kiln 4	72,000 dscfm	1.7 ppmv		

**Table XII-2: PTE for Auxiliary Diesel Engines**

EU#	K102a, K202a, and K302a	Pollutants	Emission Factor (lb/hp-hr) <sup>1</sup>	PTE	
				lb/hr	ton/yr
Make:	Isuzu				
Model:	C240	PM <sub>10</sub>	1.30E-03	0.06	0.02
S/N:	See Table III-4	NO <sub>x</sub>	1.60E-02	0.78	0.20
Horsepower:	49	CO	9.00E-03	0.44	0.11
Hours/Day:	24	SO <sub>x</sub>	2.05E-03	0.01	0.03
Hours/Year	500	VOC	2.51E-03	0.12	0.03
		HAP	2.71E-05	0.01	0.01

<sup>1</sup>Emission factors supplied by Permittee

**Table XII-3: PTE for Auxiliary Diesel Engine**

EU#	K402a	Pollutants	Emission Factor (lb/hp-hr) <sup>1</sup>	PTE	
				lb/hr	ton/yr
Make:	Isuzu				
Model:	6BB1	PM <sub>10</sub>	2.20E-03	0.27	0.07
S/N:	6BB1S64832	NO <sub>x</sub>	3.10E-02	3.81	0.95
Horsepower:	123	CO	6.68E-03	0.82	0.21
Hours/Day:	24	SO <sub>x</sub>	2.05E-03	0.25	0.06
Hours/Year	500	VOC	2.51E-03	0.31	0.08
		HAP	4.52E-05	0.01	0.01

<sup>1</sup>Emission factors from AP-42

**Table XII-4: PTE for Diesel Engine**

EU#	SP7	Pollutants	Emission Factor (lb/hp-hr) <sup>1</sup>	PTE	
				lb/hr	ton/yr
<b>Make:</b>	Volvo Penta				
<b>Model:</b>	Not Supplied	<b>PM<sub>10</sub></b>	8.80E-04	0.19	0.24
<b>S/N:</b>	Not Supplied	<b>NO<sub>x</sub></b>	1.50E-02	3.27	4.09
<b>Horsepower:</b>	218	<b>CO</b>	1.87E-02	4.08	5.10
<b>Hours/Day:</b>	24	<b>SO<sub>x</sub></b>	2.05E-03	0.45	0.56
<b>Hours/Year</b>	2500	<b>VOC</b>	2.51E-03	0.55	0.69
		<b>HAP</b>	4.52E-05	0.01	0.01

<sup>1</sup>Emission factors from manufacturer's data and AP-42

**Table XII-5: PTE for Diesel Engine**

EU#	TL3	Pollutants	Emission Factor (lb/hp-hr) <sup>1</sup>	PTE	
				lb/hr	ton/yr
<b>Make:</b>	John Deere				
<b>Model:</b>	Not Supplied	<b>PM<sub>10</sub></b>	9.00E-04	0.07	0.03
<b>S/N:</b>	Not Supplied	<b>NO<sub>x</sub></b>	1.15E-02	0.92	0.43
<b>Horsepower:</b>	80	<b>CO</b>	8.16E-03	0.65	0.31
<b>Hours/Day:</b>	24	<b>SO<sub>x</sub></b>	2.10E-03	0.17	0.08
<b>Hours/Year</b>	940	<b>VOC</b>	7.40E-03	0.59	0.28
		<b>HAP</b>	4.52E-05	0.01	0.01

<sup>1</sup>Emission factors from manufacturer's data and AP-42

**Table XII-6: Unpaved Haul Roads**

EU	Source Description	VMT/ hr	VMT/ yr	lb/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V01	Quarry Loader (Stone, Overburden)	2	8,970	0.56	5.19	0.10	0.11	1.04	0.25	2.33
	70T Rock Trucks (Kiln Stone) - North Pit to CLC Plant	1	5,813	0.48	4.43	0.10	0.05	0.44	0.14	1.29
	70T Rock Trucks(Overburden) North Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	70T Rock Trucks (Overburden)- North Pit to North Dump	2	7,398	0.48	4.43	0.10	0.10	0.89	0.18	1.64
	70T Rock Trucks (Kiln Stone) - Central Pit to Plant	1	4,756	0.48	4.43	0.10	0.05	0.44	0.11	1.05
	70T Rock Trucks (Overburden)- Central Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	70T Rock Trucks (Overburden)- Central Pit to North Dump	1	6,870	0.48	4.43	0.10	0.05	0.44	0.16	1.52
	70T Rock Trucks (Overburden)- South Pit to CLC Plant	4	18,531	0.48	4.43	0.10	0.19	1.77	0.44	4.11
	70T Rock Trucks (Overburden)- South Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	70T Rock Trucks (Overburden)- South Pit to North Dump	0	0	0.48	4.43	0.10	0	0	0	0
	70T Rock Trucks (Overburden)- South Pit to South Storage	3	16,976	0.48	4.43	0.10	0.14	1.33	0.41	3.76
	70T Rock Trucks (Kiln Stone) - Dolo Pit to CLC Plant	1	4,763	0.48	4.43	0.10	0.05	0.44	0.11	1.06
	70T Rock Trucks (Overburden) - Dolo Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	70T Rock Trucks (Overburden) - Dolo Pit to North Dump	1	6,447	0.48	4.43	0.10	0.05	0.44	0.15	1.43
	70T Rock Trucks (Overburden) - Dolo Pit to South Storage	1	5,014	0.48	4.43	0.10	0.05	0.44	0.12	1.11
	69T Rock Trucks (Kiln Stone) - North Pit to Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden)- North Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden)- North Pit to North Dump	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Kiln Stone) - Central Pit to CLC Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden)- Central Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0

EU	Source Description	VMT/ hr	VMT/ yr	lb/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V01 (cont)	69T Rock Trucks (Overburden)- Central Pit to North Dump	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - South Pit to CLC Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - South Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden)- South Pit to North Dump	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - South Pit to South Storage	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Kiln Stone) - Dolo Pit to CLC Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - Dolo Pit to Aggregate Plant	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - Dolo Pit to North Dump	0	0	0.48	4.43	0.10	0	0	0	0
	69T Rock Trucks (Overburden) - Dolo Pit to South Storage	0	0	0.48	4.43	0.10	0	0	0	0
	55T Rock Trucks (Kiln Stone) - North Pit to Plant	1	937	0.46	4.22	0.10	0.05	0.42	0.02	0.20
	55T Rock Trucks (Overburden)- North Pit to Aggregate Plant	0	0	0.46	4.22	0.10	0	0	0	0
	55T Rock Trucks (Overburden)- North Pit to North Dump	1	1,192	0.46	4.22	0.10	0.05	0.42	0.03	0.25
	55T Rock Trucks (Kiln Stone) - Central Pit to Plant	1	766	0.46	4.22	0.10	0.05	0.42	0.02	0.16
	55T Rock Trucks (Overburden)- Central Pit to Aggregate Plant	0	0	0.46	4.22	0.10	0	0	0	0
	55T Rock Trucks (Overburden)- Central Pit to North Dump	1	1,107	0.46	4.22	0.10	0.05	0.42	0.03	0.23
	55T Rock Trucks (Overburden) - South Pit to CLC Plant	1	2,985	0.46	4.22	0.10	0.05	0.42	0.07	0.63
	55T Rock Trucks (Overburden) - South Pit to Aggregate Plant	0	0	0.46	4.22	0.10	0	0	0	0
	55T Rock Trucks (Overburden)- South Pit to North Dump	0	0	0.46	4.22	0.10	0	0	0	0
	55T Rock Trucks (Overburden) - South Pit to South Storage	1	2,735	0.46	4.22	0.10	0.05	0.42	0.06	0.58
	55T Rock Trucks (Kiln Stone) - Dolo Pit to CLC Plant	1	767	0.46	4.22	0.10	0.05	0.42	0.02	0.16

EU	Source Description	VMT/ hr	VMT/ yr	lb/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V01 (cont.)	55T Rock Trucks (Overburden) - Dolo Pit to Aggregate Plant	0	0	0.46	4.22	0.10	0	0	0	0
	55T Rock Trucks (Overburden) - Dolo Pit to North Dump	1	1,039	0.46	4.22	0.10	0.05	0.42	0.02	0.22
	55T Rock Trucks (Overburden) - Dolo Pit to South Storage	1	808	0.46	4.22	0.10	0.05	0.42	0.02	0.17
	35T Rock Trucks (Kiln Stone) - North Pit to CLC Plant	1	1,619	0.38	3.49	0.10	0.04	0.35	0.03	0.28
	35T Rock Trucks (Overburden)- North Pit to Aggregate Plant	0	0	0.38	3.49	0.10	0	0.35	0	0
	35T Rock Trucks (Overburden)- North Pit to North Dump	1	2,060	0.39	3.60	0.10	0.04	0.36	0.04	0.37
	35T Rock Trucks (Kiln Stone) - Central Pit to Plant	1	1,324	0.39	3.60	0.10	0.04	0.36	0.03	0.24
	35T Rock Trucks (Overburden)- Central Pit to Aggregate Plant	0	0	0.39	3.60	0.10	0	0	0	0
	35T Rock Trucks (Overburden)- Central Pit to North Dump	1	1,913	0.39	3.60	0.10	0.04	0.36	0.04	0.34
	35T Rock Trucks (Overburden) - South Pit to CLC Plant	1	5,160	0.39	3.60	0.10	0.04	0.36	0.10	0.93
	35T Rock Trucks (Overburden) - South Pit to Aggregate Plant	0	0	0.39	3.60	0.10	0	0	0	0
	35T Rock Trucks (Overburden) - South Pit to North Dump	0	0	0.39	3.60	0.10	0	0	0	0
	35T Rock Trucks (Overburden) - South Pit to South Storage	1	4,728	0.39	3.60	0.10	0.04	0.36	0.09	0.85
	35T Rock Trucks (Kiln Stone) - Dolo Pit to Plant	1	1,326	0.39	3.60	0.10	0.04	0.36	0.03	0.24
	35T Rock Trucks (Overburden) - Dolo Pit to Aggregate Plant	0	0	0.39	3.60	0.10	0	0	0	0
	35T Rock Trucks (Overburden) - Dolo Pit to North Dump	1	1,795	0.39	3.60	0.10	0.04	0.36	0.04	0.32
	35T Rock Trucks (Overburden) - Dolo Pit to South Storage	1	1,396	0.39	3.60	0.10	0.04	0.36	0.03	0.25
	40T Dump Truck (Dolo Chat) - CLC Plant to South Storage	0	0	0.40	3.66	0.10	0	0	0	0
40T Dump Truck (HiCal Chat) - CLC Plant to South Storage	0	0	0.40	3.66	0.10	0	0	0	0	

EU	Source Description	VMT/ hr	VMT/ yr	lb/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V01 (cont)	25T Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) - CLC Plant to North Dump	0	0	0.31	2.82	0.10	0	0	0	0
	6Yd Dump Trucks (Chat Lime Waste, Lime Dust and Solid Fuel Waste) – CLC Plant to North Dump	14	86,811	0.22	2.05	0.10	0.31	2.87	0.95	8.90
	Blade	1	1,000	0.25	2.35	0.10	0.03	0.12	0.01	0.12
	Water Trucks	3	14,692	0.28	2.58	0.10	0.08	1.90	0.21	1.90
	Dagerstrom Truck - From South Pit to South Storage	3	27,600	0.54	4.94	0.10	0.16	6.82	0.75	6.82
<b>TOTAL</b>		<b>55</b>	<b>249,298</b>				<b>2.23</b>	<b>26.74</b>	<b>4.71</b>	<b>43.46</b>

**Table XII-7: Paved Import/Shipping Roads**

EU	Source Description	VMT/ hr	VMT/ yr	lb/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V02	Chat Trucks (Chat Sold to Public) - Aggregate Plant to Exit	0	0	0.13	1.24	0.66	0	0	0	0
	Coal Trucks - From CLC Scale to Highway	1	992	0.13	1.24	0.66	0	0	0	0.41
	Bulk Trucks - From CLC to Highway	1	5,785	0.13	1.24	0.66	0.09	0.82	0.25	2.37
	Portable Screening Product Trucks - Aggregate Plant Scale to Exit	4	9,091	0.13	1.24	0.66	0.34	3.27	0.39	3.72
<b>TOTAL</b>		<b>6</b>	<b>15,868</b>				<b>0.43</b>	<b>4.09</b>	<b>0.64</b>	<b>6.50</b>

**Table XII-8: Paved Reject Material Removal Exit Roads**

EU	Source Description	VMT/ hr	VMT/ yr	lbs/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V03	40T Dump Truck (Primary & Secondary Chat for Aggregate Plant) – CLC Plant to Aggregate Plant	0	0	0.40	3.66	0.02	0	0	0	0
	Chat Trucks (Chat Sold to Public) – CLC Plant to Aggregate Plant Scale	0	0	0.29	2.69	0.02	0	0	0	0
	Portable Screening Product Trucks – Chat Pile to Aggregate Plant Scale	5	13,363	0.29	2.69	0.02	0.03	0.27	0.04	0.37
<b>TOTAL</b>		<b>5</b>	<b>13,363</b>				<b>0.03</b>	<b>0.27</b>	<b>0.04</b>	<b>0.37</b>

**Table XII-9:Unpaved Lime Plant Roads**

EU	Source Description	VMT/ hr	VMT/ yr	lbs/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V04	25T Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) - CLC Plant to North Dump	0	0	0.14	1.45	0.66	0	0	0	0
	6Yd Dump Trucks (Chat, Lime Waste, Lime Dust and Solid Fuel Waste) - CLC Plant to North Dump	1	8,980	0.07	0.5	0.66	0.05	0.33	0.21	1.48
	Water Trucks	1	1,632	0.12	1.07	0.66	0.08	0.71	0.06	0.58
	Coal Trucks	1	1,745	0.20	2.34	0.66	0.13	1.54	0.12	1.35
	Maintenance Vehicles - Plant Activity	1	3,265	0.02	0.10	0.66	0.01	0.07	0.02	0.11
	Plant Pickups - Plant Activity	1	1,072	0.01	0.04	0.66	0.01	0.03	0.01	0.01
	Utility Loaders - Plant Activity	1	1,741	0.07	0.55	0.66	0.05	0.36	0.04	0.32
	Utility Equipment - Plant Activity	1	1,741	0.04	0.19	0.66	0.03	0.13	0.02	0.11
Bulk Trucks - Plant Activity	2	15,273	0.13	1.24	0.66	0.17	0.82	0.66	6.25	
<b>TOTAL</b>		<b>9</b>	<b>35,449</b>				<b>0.53</b>	<b>3.99</b>	<b>1.14</b>	<b>10.21</b>

**Table XII-10:Unpaved Lime Plant Roads**

EU	Source Description	VMT/ hr	VMT/ yr	lbs/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V05	Plant Loaders – Chat	0	0	0.37	3.46	0.10	0	0	0	0
	Plant Loaders – Solid Fuel	1	818	0.37	3.46	0.10	0.04	0.35	0.02	0.14
	Maintenance Vehicles – Plant Activity	1	2,177	0.14	1.25	0.10	0.01	0.13	0.02	0.14
	Plant Pickups – Plant Activity	2	9,811	0.11	0.99	0.10	0.02	0.20	0.05	0.49
	Utility Loaders – Plant Activity	1	435	0.23	2.11	0.10	0.02	0.21	0.01	0.05
	Utility Equipment – Plant Activity	1	435	0.17	1.55	0.10	0.02	0.16	0.01	0.03
<b>TOTAL</b>		<b>6</b>	<b>13,676</b>				<b>0.11</b>	<b>1.05</b>	<b>0.11</b>	<b>0.85</b>

**Table XII-11: Dozer Activity**

EU	Source Description	VMT/ hr	VMT/ yr	lbs/VMT		CF	PTE (lbs/hr)		PTE (tons/yr)	
				PM <sub>2.5</sub>	PM <sub>10</sub>		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
V06	Dozer	1.0	3,000	0.75	6.80	0.10	0.08	0.20	0.11	1.02
<b>TOTAL</b>		<b>6</b>	<b>13,676</b>				<b>0.08</b>	<b>0.20</b>	<b>0.11</b>	<b>1.02</b>

**Table XII-12: PM<sub>2.5</sub>/PM<sub>10</sub> Ratio for Baghouses and Binvents**

EU	Baghouse/Binvent ID	PM10 Loading (grains/dscf)	PM <sub>2.5</sub> /PM <sub>10</sub> Fraction	PM <sub>2.5</sub> Loading (grains/dscf)
C101	DC-01a (Kiln 1)	0.0219	1.00	0.0219
C102	DC-02 (Kiln 2)	0.0219	1.00	0.0219
C103	DC-03 (Kiln 3)	0.0219	1.00	0.0219
C104	DC-04 (Kiln dust loadout)	0.0219	0.71	0.0155
C105	DC-05 (Kiln dust loadout)	0.0219	0.71	0.0155
C106	DC-20 (North lime handling)	0.0219	0.71	0.0155
C107	DC-30 (South lime handling)	0.0100	0.71	0.0071
C108	DC-35 (South lime handling)	0.0219	0.71	0.0155
C109	DC-36 (South lime handling)	0.0219	0.71	0.0155
C110	DC-109 (Hydrator)	0.0219	0.71	0.0155
C111	DA-DC-507 (Dust blending bin vent Kiln2)	0.0219	0.71	0.0155
C112	D-DC-505 (Upset bin vent)	0.0219	0.71	0.0155
C113	D-DC-520 (Dolomitic bin vent)	0.0219	0.71	0.0155
C114	D-DC-526 (Dolomitic Lime Handling)	0.0219	0.71	0.0155
C115	K4-DC-316 (Kiln 4)	0.0131	1.00	0.0093
C116	K4-DC-336 (Dribble bin filter receiver)	0.0219	0.71	0.0155
C117	K4-DC-340 (Kiln 4 cooler)	0.0100	0.71	0.0071
C118	K4-DC-421 (Kiln 4 fuel bins)	0.0219	0.71	0.0155
C119	K4-DC-509 (Kiln 4 dust bin vent)	0.0219	0.71	0.0155
C120	K4-DC-516 (Dust blend filter receiver)	0.0219	0.71	0.0155
C121	K4-DC-519 (Start-up bin)	0.0219	0.71	0.0155
C122	DC-8001 (5,000 ton Silo System)	0.0100	0.71	0.0071
C123	DC-8002 (5,000 ton Silo System)	0.0100	0.71	0.0071
C124	DC-8003 (5,000 ton Silo System)	0.0100	0.71	0.0071
C125	DC-8004 (5,000 ton Silo System)	0.0100	0.71	0.0071
C126	DC-5001 (South Lime Handling)	0.0100	0.71	0.0071
C127	DC-5002 (North Lime Handling)	0.0100	0.71	0.0071
C128	DC-5003 (South Lime Handling)	0.0100	0.71	0.0071
C129	DC-5004 (South Lime Handling)	0.0100	0.71	0.0071
C130	DC-5005 (North Lime Handling)	0.0100	0.71	0.0071
C131	DC-5006 (Hydrator)	0.0100	0.71	0.0071
C132	DC-5007 (South Lime Handling)	0.0100	0.71	0.0071
C133	D-DC-4217 (Pebble Lime Screening)	0.0100	0.71	0.0071