

Permit #: 28.1143-02

Effective Date: November 28, 2012

Expiration Date: March 10, 2013

The seal of the State of South Dakota is a circular emblem with a serrated outer edge. It features a central landscape scene with a river, mountains, and a sun. The text "STATE OF SOUTH DAKOTA" is arched across the top, and "GREAT SEAS" is arched across the bottom. The year "1889" is at the bottom center. A banner across the middle reads "UNDER GOD THE PEOPLE RULE".

**SOUTH DAKOTA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
TITLE V AIR QUALITY PERMIT**

A handwritten signature in black ink, appearing to read "S. Pirner".

Steven M. Pirner, Secretary
Department of Environment and Natural Resources

Under the South Dakota Air Pollution Control Regulations

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to operate the unit(s) at the location designated below and under the listed conditions:

A. Owner

1. Company Name and Address

Pete Lien and Sons, Inc.
P.O. Box 440
Rapid City, South Dakota 57709

2. Legal Description

Sections 6, 7, 8, 17, 18, 19, 20, 21, 28, and NE ¼, N ½, NW ¼, 30, T2N, R7E, Sections 1, 12, 13, 24, and NE ¼, NE ¼, 25, T2N, R6E in Pennington County and Meade County.

3. Permit Contact

Danielle Wiebers, Environmental Engineer, (605) 939-2686

4. Facility Contact

Danielle Wiebers, Environmental Engineer, (605) 939-2686

5. Responsible Official

Josh Rickenbach, Division Manager, (605) 342-7224

B. Permit Revisions or Modifications

November 12, 2008 – Modified to allow construction and operation of Kiln #3

June 21, 2010 – Minor permit modification to add two fugitive sources, remove permitted unit #40, update improvement area acreages, and modify permit language

August 16, 2010 – Minor permit modification to replace 3-deck screen.

September 19, 2012 – Minor permit amendment to correct the description of Unit 4b, remove the vertical kiln (Unit 6), reflect the replacement of Unit 16, remove

Unit 24, and remove permit condition 10.7 an obsolete stack testing requirement.

November 28, 2012 – Permit Modification to include the Prevention of Significant Deterioration requirements associated with the permit 28.1143-PSD issued October 30, 2008.

C. Type of Operation

Quarry and Lime plant – Lime manufacturing, nonmetallic mineral processing.

Cheyenne River Spec Mix – Concrete batch plant, produces bagged cement.

Dakota Block – Haydite processor, produces concrete blocks.

Birdsall Sand and Gravel – Central mix concrete plant.

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1.0 Standard Conditions

1.1 Construction and operation of source.

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:05:16.01(8) and 74:36:09:02, the owner or operator shall construct and operate the units, controls, and processes as described in Table 1-1 and in accordance with the statements, representations, and supporting data contained in the permit applications received on August 19, 2003, November 13, 2003, October 20, 2005, May 12, 2008, April 8, 2011, April 28, 2011, and May 2, 2011, unless modified by the conditions of this permit. Except as otherwise provided herein, the control devices in Table 1-1 shall be operated in a manner that achieves compliance with the conditions of this permit at all times. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

Table 1-1 – Description of Permitted Units, Operations, and Processes

Unit	Description	Maximum Operating Rate	Air Pollution Control Device
Quarry and Lime Plant Operations			
#1	ID #1 – 1972 Universal impact primary crusher, feeder hopper, and associated transfer points	500 tons per hour	2000 Mac Equipment pulse jet baghouse
#2	ID #2 – 1997 Cedar Rapids impact secondary crusher and associated transfer points	1,000 tons per hour	2000 Mac Equipment pulse jet baghouse
#3	ID #3 – 1993 Stedman tertiary crusher and associated transfer points	350 tons per hour	2000 Mac Equipment pulse jet baghouse
#4a	ID #4 – Rotary Kiln #1 (K121), pre heater, contact cooler, coal mill, and associated transfer points. The kiln is fired with subbituminous coal	90 million Btus per hour heat input and a process rate of 34.9 tons per hour ¹	1978 Joy Manufacturing Company reverse air baghouse with multiclone
#4b	Cooler pit elevator (ID #33 – MT-51), and associated transfer points (ID #33 – MT-52)	23 tons per hour	1978 Johnson March pulse jet baghouse
#5	1979 Stedman pebble lime crusher (ID #5), quick lime screen (ID #20), and associated transfer points (ID #33 – MT-55, MT-56, and MT-57)	ID #5 = 30 tons per hour ID #20 = 70 tons per hour	1999 Torit (Donaldson) pulse jet baghouse
#7	1982 Gundlack pebble lime crusher (ID #7), hummer screen (ID #30), and associated transfer points	ID #7 = 20 tons per hour ID #30 = 100 tons per hour	1991 MAC pulse jet baghouse
#8	1965 large lime hydrator (ID	25 tons per hour	1970 Ducon venturi wet

Unit	Description	Maximum Operating Rate	Air Pollution Control Device
	#8) and hammer mill (ID #10)		scrubber
#9	1952 Harding small lime hydrator (ID #9) and hammer mill (ID #10)	12 tons per hour	1969 Ducon venturi wet scrubber
#11	1955 Saint Regis pebble lime bagging machine (ID #11) and 2004 Choice hydrated lime bagging machines (ID #12), hydrate feed hopper, and associated transfer points	ID #11 = 18 tons per hour ID#12 = 12 tons per hour	Norblo shaker baghouse
#12	ID #13 – Old front load out and truck tank pressurization during loading	45 tons per hour	1999 Torit (Donaldson) pulse jet baghouse
#13	ID #14 – New front pebble lime load and associated transfer points	160 tons per hour	1991 MAC pulse jet baghouse
#14	ID #15 – 1976 rear load out and truck tank pressurization during loading	75 tons per hour	1999 Torit (Donaldson) pulse jet baghouse
#15	ID #16 – New fines tank load out	62 tons per hour	1991 Midwest International baghouse
#16	ID #17 – 2010 Deister triple deck primary screen and associated transfer points	870 tons per hour	2000 Mac pulse jet baghouse
#17	ID #18 – 2009 Kolberg-Pioneer 3-deck secondary screen and associated transfer points	950 tons per hour	2000 Mac pulse jet baghouse
#18	ID #19 – 1982 Pioneer 3-deck tertiary screen and associated transfer points	750 tons per hour	2000 Mac pulse jet baghouse
#21	ID #22 – 1959 Allis Chalmers tiple screen and associated transfer points	300 tons per hour	1974 Johnson-March pulse jet baghouse
#22	ID #24 – Brock hydrated lime storage tank, North pebble lime storage tank, and associated transfer points	30 tons per hour	1991 MAC pulse jet baghouse
Cheyenne River Spec Mix Plant			
#25	Custom Welding rotary kiln dryer and transfer to elevated storage bin. The dryer is fired	25 million Btus per hour heat input and a process rate of 40 tons	Jet Aire pulse jet baghouse

Unit	Description	Maximum Operating Rate	Air Pollution Control Device
	with natural gas.	per hour	
#26	Con-E-Co cement silo, Model # PI-300	40 tons per hour	Baghouse
#27	Con-E-Co fly ash silo, Model #PI-300	40 tons per hour	Baghouse
#28	Con-E-Co lime silo, Model #PI-300	40 tons per hour	Baghouse
#29	Five Con-E-Co aggregate silos, Model #PI-300	8 tons per hour (each silo)	Baghouse
Dakota Block Company			
#30	1924 Allis Chalmers rotary kiln fired with natural gas	20 million Btus per hour heat input and a process rate of 15 tons per hour	1988 Ducon cyclone wet scrubber
#31	Two – 1972 Dakota Steel and Supply cement silos	32 tons per hour	Dusty Dustless baghouse
Birdsall Sand and Gravel			
#32	1975 Rexnord concrete plant, model #1018-80DPR339 - sand and aggregate transfer system, weigh hopper and mixer loading	220 cubic yards per hour	Not Applicable
#33	Cement silo 1	30 tons per hour	1974 Mikro Pulsair baghouse
#34	Cement silo 2	30 tons per hour	1974 Mikro Pulsair baghouse
#35	Cement silo 3	30 tons per hour	1974 Mikro Pulsair baghouse
#36	Fly ash silo	30 tons per hour	1974 Mikro Pulsair baghouse
#37	2000 Kemco Systems, natural gas fired water heater	9 million Btus per hour	Not Applicable
#38	Cement silo 4	30 tons per hour	2003 Con-E-Co pulse jet baghouse
Operations Associated with Kiln #2.			
#39	D-231 C-231 feed, E-231 boot, N-222 cooler discharge, R-251, T-234 core bin, C-232 feed, and E-232 boot, U-234 load spout	75 tons per hour	Baghouse with a maximum fan flow rate of 1,346 dscfm ³
#41	D-241: S-241 screen, T-241 silo, T-242 silo, T-243 silo, C-242 feed, blow line, E-232 head	75 tons per hour	Baghouse with a maximum fan flow rate of 5,290 dscfm ³
#42	D-261: U-261 load spout	200 tons per hour	Baghouse with a maximum fan flow rate of 1,346 dscfm ³

Unit	Description	Maximum Operating Rate	Air Pollution Control Device
#43	D-262: U-262 load spout	200 tons per hour	Baghouse with a maximum fan flow rate of 1,346 dscfm ³
#44	D-263: U-263 load spout	200 tons per hour	Baghouse with a maximum fan flow rate of 1,346 dscfm ³
#45	Kiln #2 (K221) – preheater, contact cooler and rotary kiln fired with natural gas and subbituminous coal and/or petroleum coke	50 tons stone feed per hour and 25 tons of produced lime per hour	Baghouse with a maximum fan flow rate of 44,592 dscfm ³
#46	D-288: T-288 – dust silo	3.5 tons per hour	Baghouse with a maximum fan flow rate of 2,035 dscfm ³
#47	D-289: U-289 – load spout	200 tons per hour	Baghouse with a maximum fan flow rate of 1,346 dscfm ³
#48	D-291: T-291 coal silo and T-292 coke silo	20 tons per hour	Baghouse with a maximum fan flow rate of 897 dscfm ³
Fugitive Sources			
ID #21	2001 Oldenburg-Stamper mobile feeder breaker crusher	1,200 tons per hour	Two spray bars – Capable of 30 to 75 gallons of water per hour
ID #25	1997 Extec rock screen	500 tons per hour	Spray bars
C-051	Belt conveyor transfer points	870 tons per hour	Not applicable
C-052	Belt conveyor transfer points	870 tons per hour	Not applicable
C-053	Belt conveyor transfer points	870 tons per hour	Not applicable
S-052	Belt conveyor transfer points	870 tons per hour	Not applicable
T-291	Coal silo	240 tons per day	Not applicable

¹ – The maximum operating rate is actually 40 tons per hour. The process rate of 34.9 tons per hour is based on a 1998 stack performance test that was not performed within 90 percent of the maximum operating rate for the unit;

² – “dscfm” means dry standard cubic feet per minute.

1.2 Duty to comply.

In accordance with ARSD 74:36:05:16.01(12), the owner or operator shall comply with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of a permit renewal application. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

1.3 Property rights or exclusive privileges.

In accordance with ARSD 74:36:05:16.01(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant that the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

1.4 Penalty for violating a permit condition.

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than \$10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

1.5 Inspection and entry.

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary to:

1. Enter the premises where a regulated activity is located or where pertinent records are stored;
2. Have access to and copy any records that are required under this permit;
3. Inspect operations regulated under this permit; and/or
4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

1.6 Severability.

In accordance with ARSD 74:36:05:16.01(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

1.7 Permit termination, modification, or revocation.

In accordance with ARSD 74:36:05:46, the Secretary may recommend that the Board of Minerals and Environment terminate, modify, or revoke this permit for violations of SDCL

34A-1 or the federal Clean Air Act or for nonpayment of any outstanding fee or enforcement penalty.

1.8 Credible evidence.

In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is violation of this permit. Credible evidence is as follows:

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at the source:
 - a. A monitoring method approved for the source pursuant to 40 CFR § 70.6(a)(3) and incorporated in this permit; or
 - b. Compliance methods specified in an applicable plan;
2. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information-gathering methods:
 - a. Any monitoring or testing methods approved in this permit, including those in 40 CFR Parts 51, 60, 61, and 75; or
 - b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in section (1) or (2)(a).

2.0 Permit Fees

2.1 Annual air fee required.

In accordance with ARSD 74:36:05:06.01, the owner or operator shall submit an annual administrative fee and an annual fee. The fee is based on actual emissions in accordance with ARSD 74:37.

2.2 Annual operational report.

In accordance with ARSD 74:37:01:06, the Secretary will supply the owner or operator with an annual operational report in January of each year. The owner or operator shall complete and submit the operational report to the Secretary by March 1 of each year. The responsible official shall sign the operational report in the presence of a notary public.

2.3 Annual air fee.

In accordance with ARSD 74:37:01:08, the Secretary will notify the owner or operator of the required annual air emission fee and administrative fee by June 1 of each year. The fees shall accrue on July 1 and are payable to the Department of Revenue by July 31 of each year.

3.0 Permit Amendments and Modifications

3.1 Permit flexibility.

In accordance with ARSD 74:36:05:30, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The

Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

The Secretary will notify the owner or operator whether the change is an administrative permit amendment, a minor permit amendment, or a permit modification. A proposed change that is considered an administrative permit amendment or a minor permit amendment can be completed immediately after the Secretary receives the written notification. The owner or operator must comply with both the applicable requirements governing the change and the proposed permit terms and conditions until the Secretary takes final action on the proposed change.

A proposed change that is considered a modification can not be constructed until the Secretary takes final action on the proposed change. Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

3.2 Administrative permit amendment.

In accordance with ARSD 74:36:05:33, the Secretary has 60 days from receipt of a written notice to verify that the proposed change is an administrative permit amendment. As provided in ASRD 74:36:01:03, the Secretary considers a proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

1. Corrects typographical errors;
2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change at the source;
3. Requires more frequent monitoring or reporting by the source;
4. The ownership or operational control of a source change and the Secretary determines that no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
5. Any other changes that the Secretary and the administrator of EPA determines to be similar to those requirements in this condition.

3.3 Minor permit amendment.

In accordance with ARSD 74:36:05:38, the Secretary has 90 days from receipt of a written notice or 15 days after the end of EPA's 45-day review period, whichever is later, to take final action on a minor permit amendment. Final action consists of issuing or denying a minor permit amendment or determining that the proposed change is a permit modification. As provided in ASRD 74:36:04:20:02, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

1. Does not violate any applicable requirements;
2. Does not involve significant changes to existing monitoring, reporting, or record keeping requirements;

3. Does not require or change a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. Does not seek to establish or change a permit term or condition for which the source has assumed to avoid an applicable requirement, a federally enforceable emission cap, or an alternative emission limit. An alternative emission limit is approved pursuant to regulations promulgated under section 112(i)(5) of the federal Clean Air Act.

3.4 Permit modification.

In accordance with ARSD 74:36:05:39, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

1. An increase in the amount of an air pollutant emitted by the source or results in the emission of an air pollutant not previously emitted;
2. A significant change to existing monitoring, reporting, or record keeping requirements in the permit;
3. The change requires or changes a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. The change seeks to establish or change a permit term or condition for which there is a corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement, a federally enforceable emissions cap assumed to avoid classification as a modification under a provision of the Title I of the Clean Air Act, or an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Clean Air Act.

Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

3.5 Permit revision.

In accordance with ARSD 74:36:05:40, the Secretary may reopen and revise this permit to meet requirements of SDCL 34A-1 or the federal Clean Air Act.

3.6 Testing new fuels or raw materials.

In accordance with ARSD 74:36:11:04, an owner or operator may request permission to test a new fuel or raw material to determine if it is compatible with existing equipment before requesting a permit amendment or modification. A complete test proposal shall consist of the following:

1. A written proposal that describes the new fuel or raw material, operating parameters, and parameters that will be monitored and any testing associated with air pollutant emissions during the test;
2. An estimate of the type and amount of regulated air pollutant emissions that will result from the proposed change; and

3. The proposed schedule for conducting the test. In most cases the owner or operator will be allowed to test for a maximum of one week. A request for a test period longer than one week will need additional justification. A test period shall not exceed 180 days.

The Secretary shall approve, conditionally approve, or deny in writing the test proposal within 45 days after receiving a complete proposal. Approval conditions may include changing the test schedule or pollutant sampling and analysis methods. Pollutant sampling and analysis methods may include, but are not limited to performance testing, visible emission evaluation, fuel analysis, dispersion modeling, and monitoring of raw material or fuel rates.

If the Secretary determines that the proposed change will result in an increase in the emission of a regulated air pollutant or result in the emission of an additional regulated air pollutant, the Secretary shall give public notice of the proposed test for 30 days. The Secretary shall consider all comments received during the 30-day public comment period before making a final decision on the test.

The Secretary will not approve a test if the test would cause or contribute to a violation of a national ambient air quality standard.

4.0 Permit Renewal

4.1 Permit effective.

In accordance with ARSD 74:36:05:07, this permit shall expire five years from date of issuance unless reopened or terminated for cause.

4.2 Permit renewal.

In accordance with ARSD 74:36:05:08, the owner or operator shall submit an application for a permit renewal at least 180 days before the date of permit expiration if the owner or operator wishes to continue an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the timely permit renewal application.

4.3 Permit expiration.

In accordance with ARSD 74:36:05:28, permit expiration terminates the owner's or operator's right to operate any unit covered by this permit.

5.0 Record Keeping and Reporting

5.1 Record keeping and reporting.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application unless otherwise specified in this permit. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All

notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources
PMB 2020, Air Quality Program
523 E. Capitol, Joe Foss Building
Pierre, SD 57501-3182

5.2 Signatory Requirements.

In accordance with ARSD 74:36:05:12 and ARSD 74:36:05:16.01, all applications submitted to the Secretary shall be signed and certified by a responsible official. A responsible official for a corporation is a responsible corporate officer and for a partnership or sole proprietorship is a general partner or the proprietor, respectively. All reports or other information submitted to the Secretary shall be signed and certified by a responsible official or a duly authorized representative. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to the Secretary; and
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

The responsible official shall notify the Secretary if an authorization is no longer accurate. The new duly authorized representative must be designated prior to or together with any reports or information to be signed by a duly authorized representative.

5.3 Certification statement.

In accordance with ARSD 74:36:05:16.01(14)(a), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

“I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete.”

5.4 Monitoring log.

In accordance with ARSD 74:36:05:16.01(9) and 74:36:09:02, the owner or operator must maintain a monitoring log. The monitoring log shall contain the following information:

1. Maintenance schedule for the air pollution control equipment specified in Table 1-1. At a minimum, the maintenance schedule shall meet the manufacturer’s recommended schedule for maintenance. The following information shall be recorded for any maintenance performed:
 - a. Identify the unit;
 - b. The date and time maintenance was performed;

- c. Description of the type of maintenance;
 - d. Reason for performing maintenance; and
 - e. Signature of person performing maintenance;
2. The following information shall be recorded for each visible emission reading required in permit condition 8.1:
 - a. Identify the unit;
 - b. The date and time the visible emission reading was performed;
 - c. If visible emissions were observed;
 - d. Description of maintenance performed to eliminate visible emissions;
 - e. Visible emission evaluation if visible emissions are not eliminated; and
 - f. Signature of person performing visible emission reading and/or visible emission evaluation;
 3. The owner or operator shall maintain relevant records of the occurrence and duration of each startup, shutdown, or malfunction of process equipment and/or air pollution control equipment;
 4. The following information shall be recorded within two days of each emergency exceedance:
 - a. The date of the emergency exceedance and the date the emergency exceedance was reported to the Secretary;
 - b. The cause(s) of the emergency;
 - c. The reasonable steps taken to minimize the emissions during the emergency; and
 - d. A statement that the permitted equipment was at the time being properly operated.
 5. The 3-hour rolling average sulfur dioxide emission rate from Unit #45, in pounds per hour;
 6. The 24-hour rolling average nitrogen oxide and carbon monoxide emission rate from Unit #45, in pounds per hour and pounds per ton of stone feed;
 7. The 30-day rolling average sulfur dioxide emission rate from Unit #45, in pounds per ton of stone feed;
 8. Each periodic inspection of the wet suppression systems associated with ID #21 and #25, including dates and any corrective actions taken; and
 9. If the wet suppression system associated with ID #21 and/or #25 is not used during a monthly inspection due to using another control mechanism, the owner or operator shall identify other type of control mechanism and the time period in which it was used.

5.5 Rapid City annual emissions inventory.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit an annual emissions inventory report to the Secretary for point and fugitive dust sources by March 1 of each year. This report may be submitted with the operational report that is required in permit condition 2.2.

5.6 Annual compliance certification.

In accordance with ARSD 74:36:05:16.01(14), the owner or operator shall submit an annual compliance certification letter to the Secretary by March 1 of each year this permit is in effect (NOTE: The Secretary will forward a copy of the certification letter to EPA). The certification shall contain the following information:

1. Methods used to determine compliance, including: monitoring, record keeping, performance testing and reporting requirements;

2. The source is in compliance and will continue to demonstrate compliance with all applicable requirements;
3. In the event the source is in noncompliance, a compliance plan that indicates how the source has or will be brought into compliance; and
4. Certification statement required in permit condition 5.3.

5.7 Reporting permit violations.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-5286.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

1. Description of the permit violation and its cause(s);
2. Duration of the permit violation, including exact dates and times; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

5.8 Monthly records.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(9), the owner or operator shall maintain monthly records. The monthly records shall contain the following information:

1. Record the amount of sulfur dioxide emitted each month, in tons, from Unit #45 using the continuous emission monitoring equipment and calculate a 12-month rolling total for each month using that month's value and the previous 11 months' values;
2. Record the amount of nitrogen oxide emitted each month, in tons, from Unit #45 using the continuous emission monitoring equipment and calculate a 12-month rolling total for each month using that month's value and the previous 11 months' values; and
3. Record the amount of carbon monoxide emitted each month, in tons, from Unit #45 using the continuous emission monitoring equipment and calculate a 12-month rolling total for each month using that month's value and the previous 11 months' values.

5.9 Quarterly reports.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(9), the owner or operator shall submit a quarterly report. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a quarterly report;
2. Calendar dates covered in the quarterly report;
3. A summary of the excess emissions as determined by the continuous emission monitoring systems:
 - a. The magnitude of the emissions that were greater than identified emission limit;

- b. The date and duration of the excess emissions;
 - c. The causes of the excess emissions (startup/shutdown, control equipment problems, process problems, other known causes, or unknown causes); and
 - d. The percentage of time the excess emissions occurred during operation of the permitted unit;
4. The amount of time a continuous emission monitoring system was down due to monitoring equipment malfunction, non-monitoring malfunction, quality assurance calibrations, other known causes, or unknown causes; and
 5. The percentage of time a monitoring system was down while the permitted unit was in operation.

The first quarterly report shall be submitted at the end of the calendar quarter that the initial startup of Unit #45 occurred. All other quarterly reports shall be postmarked no later than the 30th day following the end of each calendar quarter (i.e. January 30th, April 30th, July 30th, and October 30th).

6.0 Control of Regulated Air Pollutants

6.1 Visibility limit.

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1, unless otherwise specified. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement. An exceedance of the opacity limit is not considered a violation during brief periods of soot blowing, startup, shutdown, or malfunction. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

6.2 Visibility exceedances.

In accordance with ARSD 74:36:12:01, an exceedance of the operating limit in permit conditions 6.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

6.3 Total suspended particulate limits.

In accordance with ARSD 74:36:06:02(1) and ARSD 74:36:06:03(1), the owner or operator shall not allow the emission of total suspended particulate in excess of the emission limit specified in Table 6-1 for the appropriate permitted unit, operations, and process:

Table 6-1 – Total Suspended Particulate Emission Limit

Unit	Description	Emission Limit
Quarry and Lime Plant		
#1	ID #1 – Primary crusher	69.0 pounds per hour
#2	ID #2 – Secondary crusher	77.6 pounds per hour
#3	ID #3 – Tertiary crusher	64.8 pounds per hour
#4b	Cooler pit elevator and transfer points	33.5 pounds/hour
#5	Pebble lime crusher (Stedman)	40.0 pounds/hour
#7	Pebble lime crusher/screen	30.5 pounds/hour
#8	Large lime hydrator/mill	35.4 pounds per hour
#9	Small lime hydrator/mill	21.7 pounds per hour
#11	Pebble/hydrated lime bagging	40.0 pounds/hour
#12	Old front load out	43.6 pounds/hour
#13	New front pebble lime load out	56.1 pounds/hour
#14	Rear load out	48.4 pounds/hour
#15	New fines tank load out	46.6 pounds/hour
#16	Triple deck primary screen	75.8 pounds/hour
#17	Triple deck secondary screen	76.9 pounds/hour
#18	Triple deck tertiary screen	73.9 pounds/hour
#21	Tipple screen	63.0 pounds/hour
#22	Hydrated/pebble lime storage	40.0 pounds/hour
Dakota Block Company		
#30	Rotary kiln	0.6 pounds/million Btus heat input
#31	Cement silos	40.5 pounds/hour
Birdsall Sand and Gravel		
#33	Cement silo 1	40.0 pounds/hour
#34	Cement silo 2	40.0 pounds/hour
#35	Cement silo 3	40.0 pounds/hour
#36	Fly ash silo	40.0 pounds/hour
#37	Water heater	0.6 pounds/million Btus heat input
#38	Cement silo 4	40.0 pounds/hour

6.4 Sulfur dioxide limit.

In accordance with ARSD 74:36:06:02(2), the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 6-2 for the appropriate permitted unit, operations, and process:

Table 6-2 – Sulfur Dioxide Emission Limit

Unit	Description	Emission Limit
Quarry and Lime Plant		
#4a	Rotary Kiln #1 (K121)	3.0 pounds per million Btu heat input
Cheyenne River Spec Mix Plant		
#25	Sand dryer	3.0 pounds per million Btu heat input

Dakota Block Company		
#30	Rotary kiln	3.0 pounds per million Btu heat input
Birdsall Sand and Gravel		
#37	Water heater	3.0 pounds per million Btu heat input

Compliance with the sulfur dioxide emission limit is based on a three-hour rolling average, which is the arithmetic average of three contiguous one-hour periods.

6.5 Air emission exceedances – emergency conditions.

In accordance with ARSD 74:36:05:16.01(18), the Secretary will allow for an unavoidable emission exceedance of a technology-based emission limit if the exceedance is caused by an emergency condition and immediate action is taken by the owner or operator to restore the operations back to normal. An emergency condition is a situation arising from a sudden and reasonably unforeseeable event beyond the control of the source, including acts of God. An emergency shall not include an emission exceedance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. The owner or operator shall notify the Secretary within two working days of the incident and take all steps possible to eliminate the excess emissions. The notification must provide a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. If the notification is submitted orally, a written report summarizing the information required by the notification shall be submitted and postmarked within 30 days of the oral notification.

6.6 Circumvention not allowed.

In accordance with ARSD 74:36:05:47.01, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

6.7 Minimizing emissions.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(d), the owner or operator shall at all times, when practicable, maintain and operate all permitted units in a manner that minimizes air pollution emissions.

7.0 Performance Tests

7.1 Performance test may be required.

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test during the term of this permit. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A performance test conducted while operating less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

7.2 Test methods and procedures.

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not federally applicable or federally required.

7.3 Representative performance test.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

7.4 Submittal of test plan.

In accordance with ARSD 74:36:11:01, the owner or operator shall submit the proposed testing procedures to the Secretary at least 30 days prior to any performance test. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification that outlines what needs to be completed for approval.

7.5 Notification of test.

In accordance with ARSD 74:36:11:03, the owner or operator shall notify the Secretary at least 10 days prior to the start of a performance test to arrange for an agreeable test date when the Secretary may observe the test. The Secretary may extend the deadline for the performance test in order to accommodate schedules in arranging an agreeable test date.

7.6 Performance test report.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

1. A brief description of the process and the air pollution control system being tested;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test, preparation of standards, and calibration procedures;

7. Raw data sheets for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. All data recorded and used to establish parameters for compliance monitoring; and
10. Any other information required by the test method.

7.7 Performance test for particulate.

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct a performance test on Units #4b within 90 days of the issuance of this permit. The performance tests shall be conducted to demonstrate compliance with the total suspended particulate matter emission limits in permit condition 6.3.

7.8 Performance test for sulfur dioxide.

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct a performance test on Unit #30 within 90 days of the issuance of this permit. The performance test shall be conducted to demonstrate compliance with the sulfur dioxide emission limits in permit condition 6.4.

7.9 Initial certification of continuous emission monitoring system.

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct the initial certification of each continuous emission monitoring system required in Chapter 8.0 within 60 days of achieving maximum production or within 180 days after initial startup of Unit #45, whichever comes first.

8.0 Monitoring

8.1 Periodic monitoring for opacity limits.

In accordance with ARSD 74:36:13:07, the owner or operator shall demonstrate compliance with the opacity limits in this permit on a periodic basis except as otherwise specified in this permit. Periodic monitoring shall be based on the amount of visible emissions from each unit and evaluated according to the following steps if the unit is operated during the periodic period:

Step 1: If there are no visible emissions from a unit subject to an opacity limit, periodic monitoring shall consist of a visible emission reading. A visible emission reading shall consist of a visual survey of each unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission readings on each unit subject to an opacity limit in Chapter 6.0 shall be based on the following frequency:

- a. The owner or operator shall conduct a visible emission reading once per calendar month;
- b. If no visible emissions are observed from a unit in six consecutive monthly visible emission readings, the owner or operator may decrease the frequency of readings from monthly to semiannually for that unit; or
- c. If no visible emissions are observed from a unit in two consecutive semiannual visible emission readings, the owner or operator may decrease the frequency of testing of readings from semiannually to annually for that unit.

Step 2: If visible emissions are observed from a unit, except Unit #39, #41, #42, 43, #44, #46, #47, and #48, at any time other than periods of startup, shutdown, or malfunction, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity limit specified in Chapter 6.0. If visible emissions are observed from Unit #39, #41, #42, 43, #44, #46, #47, or #48, the owner or operator shall go to Step 3. The emission test shall be for six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission tests shall be based on the following frequency:

- a. The visible emission test must be conducted within one hour of witnessing a visible emission from a unit during a visible emission reading;
- b. If the visible emission test required in Step 2(a) results in an opacity value less than or equal to 50 percent of the opacity limit for the unit, the owner or operator shall perform a visible emission test once per month;
- c. If the opacity value of a visible emission test is less than five percent for six straight monthly tests, the owner or operator may revert back to monthly visible emission readings as required in Step 1;
- d. If the visible emission test required in Steps 2(a) or 2(b) results in an opacity value greater than 50 percent of the opacity limit but less than the opacity limit, the owner or operator shall perform a visible emission test once per week; or
- e. If the visible emission test in Step 2(d) results in an opacity value less than or equal to 50 percent of the opacity limit for six straight weekly readings, the owner or operator may revert back to a monthly visible emission test as required in Step 2(b).

Step 3: If visible emissions are observed from Unit #39, #41, #42, 43, #44, #46, #47, and #48, the owner or operator shall inspect the baghouse to determine the cause of the visible emissions and repair the baghouse. Once the repairs are completed, a visible emission reading shall be conducted in accordance with visible emission reading procedures in Step 1 and shall be conducted the next time the applicable unit is operating.

The person conducting the visible emission test must be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. If a visible emission test is required before a person is certified in accordance with permit condition 8.2, the owner or operator shall notify the Secretary within 24 hours of observing the visible emissions to schedule a visible emission test performed by a state inspector.

8.2 Certified personnel – visible emission tests.

In accordance with ARSD 74:36:13:07, within 180 days after permit issuance the owner or operator shall retain a person that is certified to perform a visible emission test in accordance with 40 CFR Part 60, Appendix A, Method 9. The owner or operator shall retain a certified person throughout the remaining term of this permit.

8.3 Sulfur dioxide continuous emission monitoring system.

In accordance with ARSD 74:36:09 and 74:36:13, the owner or operator shall install, calibrate,

maintain, and operate a continuous emission monitoring system for sulfur dioxide on Unit #45. The continuous emission monitoring systems shall measure and record the emissions at all times, including periods of startup, shutdown, and malfunctions. Monitor downtime is allowed for system breakdowns, repairs, calibration checks, zero and span adjustments, and when the unit is not in operation. The continuous emission monitoring system shall meet the performance specifications in 40 CFR Part 75, Appendix A and the quality assurance requirements in 40 CFR Part 75, Appendix B, except the required relative accuracy test audit shall be performed annually.

8.4 Nitrogen oxide continuous emission monitoring system.

In accordance with ARSD 74:36:09 and 74:36:13, the owner or operator shall install, calibrate, maintain, and operate continuous emission monitoring systems for nitrogen oxide on Unit #45. The continuous emission monitoring systems shall measure and record the emissions at all times, including periods of startup, shutdown, malfunctions or emergency conditions. Monitor downtime is allowed for system breakdowns, repairs, calibration checks, zero and span adjustments, and when the unit is not in operation. The continuous emission monitoring systems shall meet the performance specifications in 40 CFR Part 75, Appendix A and the quality assurance requirements in 40 CFR Part 75, Appendix B, except the required relative accuracy test audit shall be performed annually.

8.5 Carbon monoxide continuous emission monitoring system.

In accordance with ARSD 74:36:09 and 74:36:13, the owner or operator shall install, calibrate, maintain, and operate continuous emission monitoring systems for carbon monoxide on Unit #45. The continuous emission monitoring systems shall measure and record the emissions at all times, including periods of startup, shutdown, malfunctions or emergency conditions. Monitor downtime is allowed for system breakdowns, repairs, calibration checks, zero and span adjustments, and when the unit is not in operation. The continuous emission monitoring systems shall meet the performance specifications in 40 CFR Part 60, Appendix B and the quality assurance requirements in 40 CFR Part 60, Appendix F.

8.6 Wet suppression monitoring.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall conduct monthly periodic inspections on the wet suppression system associated with ID #21 and #25 to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator shall initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator shall record each inspection of the water spray nozzles, including the date of each inspection and correction actions taken, in the logbook required in permit condition 5.4. If the owner or operator decides not to use the water suppression system during a monthly inspection due to using another control mechanism (for example, water from a recent rainfall), the owner or operator shall identify this control mechanism in the logbook specified in permit condition 5.4.

9.0 Exemption - PSD

9.1 Cheyenne River Spec Mix plant wide particulate matter limit.

In accordance with ARSD 74:36:05:16.01(8), the owner operator shall not emit into the ambient air greater than 14.3 tons of particulate matter per 12-month rolling period from the units in Table 1-1 associated with the Cheyenne River Spec Mix plant. The first month of the 12-month rolling total shall begin on the initial startup date of the Cheyenne River Spec Mix plant.

This particulate matter limit allows the Cheyenne River Spec Mix plant to forgo a Prevention of Significant Deterioration review for particulate matter. Any relaxation in the permit that increases particulate matter emissions equal to or greater than 15 tons per year shall require a full Prevention of Significant Deterioration review as though construction had not commenced on the Cheyenne River Spec Mix plant.

The compliance demonstration for the plant wide limit shall be a summation of fugitive emissions related to the Cheyenne River Spec Mix plant and emissions released from Unit #25, #26, #27, #28 and #29. The particulate matter emissions from fugitive sources will be based on the amount of material processed and emission factors approved by the Secretary. The particulate matter emissions from Unit #25, #26, #27, #28 and #29 shall be based on the most recent stack performance test.

9.2 Particulate matter emission limit for Unit #25 through #29.

In accordance with ARSD 74:36:05:16.01(8), the owner operator shall not allow the emissions of particulate matter from each unit in excess of the amount specified in Table #9-1.

Table #9-1 – Particulate Matter Emission Limits

Unit	Description	Limit
#25	Rotary kiln dryer	0.01 grains per dry standard cubic foot
#26	Cement silo	0.01 grains per dry standard cubic foot
#27	Fly ash silo	0.01 grains per dry standard cubic foot
#28	Lime silo	0.01 grains per dry standard cubic foot
#29	Five aggregate silos	0.01 grains per dry standard cubic foot

Compliance with the particulate matter emission limit shall be based on the average of three test runs from the stack performance test required in permit condition 9.4 of this permit.

9.3 Initial startup notification of Cheyenne River Spec Mix plant.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall notify the Secretary of the actual date of initial startup of the Cheyenne River Spec Mix plant. The initial startup shall be the first time sand is processed through Unit #25. The initial notification shall be postmarked within 15 days after such date and shall identify the initial startup date.

9.4 Initial performance test on Unit #25, #26, #27, #28 and #29.

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct a performance test on Unit #25, #26, #27, #28 and #29 for particulate matter 10 microns in diameter or less (PM10) within 90 days of the initial startup of Unit #25. The owner or operator may conduct the

performance test for total suspended particulate matter provided the results of the test demonstrate that the total suspended particulate matter emission rate is in compliance with the particulate matter emission limit in permit condition 9.2.

9.5 Monitoring log for Cheyenne River Spec Mix plant.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain a monitoring log. The monitoring log shall contain the following information.

1. Maintenance schedule for the control equipment associated with Unit #25 through #29 as described in Table 1-1. At a minimum, the maintenance schedule shall meet the manufacturer’s recommended schedule for maintenance.
2. The following information shall be recorded for maintenance performed in accordance with the maintenance schedule:
 - a. Identify the unit;
 - b. The date and time maintenance was performed;
 - c. Description of the type of maintenance;
 - d. Reason for performing maintenance;
 - e. Signature of person performing maintenance; and
3. The amount of particulate matter, in tons, emitted into the ambient air from fugitive sources associated with the Cheyenne River Spec Mix plant and from Unit #25, #26, #27, #28, and #29 during the month and during the 12-month rolling period for that month.

9.6 Quarterly report for Cheyenne River Spec Mix plant.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit a quarterly report. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a quarterly report;
2. Calendar dates covered in the quarterly report; and
3. The quantity of particulate matter emitted from fugitive dust sources associated with the Cheyenne River Spec Mix plant and Unit #25, #26, #27, #28, and #29, in tons, for each month and the 12-month rolling total for each month in the reporting period and supporting documentation.

The first quarterly report shall be postmarked no later than the 30th day following the end of the quarter in which the initial startup of Unit #25 occurred. The remaining quarterly reports shall be postmarked no later than the 30th day following the end of each calendar quarter (i.e. January 30th, April 30th, July 30th, and October 30th).

9.7 Particulate matter limits for Unit #45 and associated equipment.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not allow the emissions of particulate matter 10 microns in diameter or less (PM10) in excess of the emission limits specified in Table 9-2 for the appropriate permitted unit, operation, and process.

Table # 9-2 – Particulate Matter Emission Limits for Unit #45 and Associated Equipment

Unit	Description	PM10 Emission Limit
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Unit	Description	PM10 Emission Limit
#39	D-231: C-231 feed, E-231 boot, N-222 cooler discharge, R-251, T-234 core bin, C-232 feed, and E-232 boot	0.010 grains per dry standard cubic foot (filterable)
#41	D-241: S-241 screen, T-241 silo, T-242 silo, T-243 silo, C-242 feed, blow line, E-232 head	0.010 grains per dry standard cubic foot (filterable)
#42	D-261: U-261 load spout	0.010 grains per dry standard cubic foot (filterable)
#43	D-262: U-262 load spout	0.010 grains per dry standard cubic foot (filterable)
#44	D-263: U-263 load spout	0.010 grains per dry standard cubic foot (filterable)
#45	Kiln #2 (K221) – preheater, contact cooler and rotary kiln fired with natural gas and subbituminous coal and/or petroleum coke	0.010 grains per dry standard cubic foot (filterable)
#46	D-288: T-288 – dust silo	0.010 grains per dry standard cubic foot (filterable)
#47	D-289: U-289 – load spout	0.010 grains per dry standard cubic foot (filterable)
#48	D-291: T-291 coal silo and T-292 coke silo	0.010 grains per dry standard cubic foot (filterable)

Compliance with the particulate matter emission limits shall be based on the average of three test runs from the stack performance test procedures in Chapter 7.0 and the initial testing requirements in permit condition 9.8.

9.8 Initial PM10 performance tests.

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct an initial performance test on Unit #39, #41, and #45 within 90 days of initial startup of Unit #45. The initial performance tests shall be conducted to determine the emission rate of particulate matter 10 microns in diameter or less (filterable).

9.9 Initial startup notification for Unit #45.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall notify the Secretary of the initial startup date of Unit #45. The notification shall be postmarked within 15 days after the date of initial startup. Initial startup is the first date that limestone is processed through Unit #45.

9.10 Fugitive dust plan.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall develop, maintain, and implement a fugitive dust plan. The fugitive dust plan shall be submitted to the Secretary for approval before the initial startup of Unit #45. The fugitive dust plan shall be maintained on-site and contain the following information at a minimum:

1. Maps identifying the location and area (e.g. acreage) of each improvement or work practice identified in permit condition 9.11 through 9.15, inclusive;
2. The specific work practice standards that will be implemented to achieve the requirements in

- permit condition 9.11 through 9.15, inclusive;
3. The completion date for each improvement or work practice identified in permit condition 9.11 through 9.15, inclusive; and
 4. Documentation that the improvements and work practice standards were implemented.

9.11 Areas and roads to be paved.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall pave and maintain in accordance with permit condition 13.2, the following areas as shown in the approved Fugitive Dust Plan submitted March 22, 2010:

1. Area 1 – area around the lime plant area (Kiln #1 and Kiln #2); and
2. Area 5 (5A, 5B, & 5C) –lime plant customer roads and customer quarry roads.

The paved roads and areas shall be cleaned in accordance with permit condition 13.2, except the frequency of cleaning the paved road or area will occur each day that the quarry and/or lime plant are operating and as necessary to achieve an 80 percent particulate matter control efficiency from the paved roads and areas. Daily vacuuming or rinsing of paved areas is not required when natural precipitation effectively controls re-entrained dust. Visible accumulations of silt loading on paved surfaces inaccessible to mechanical sweepers or water flushing shall be removed manually at least once a week.

9.12 Coal and petroleum coke storage.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall store the coal and petroleum coke in Area 2 and construct 3-sided storage enclosures for coal and petroleum coke storage and reclaim. The 3-sided storage walls shall be a minimum of 6 feet high. The coal and petroleum coke shall be unloaded using only belly dump trucks and reclaimed from a 3-sided enclosure by an underground reclaim system.

9.13 Areas to be paved and/or improved.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall pave, maintain, and clean, in accordance with permit condition 13.2, and/or improve the following areas as shown in the approved Fugitive Dust Plan required by permit condition 9.10 before the initial startup of Unit #45:

1. Area 2 – coal storage area; and
2. Area 3 (3A, 3B, & 3C) –truck staging area.

9.14 Unpaved road dust controls.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall apply a chemical stabilizer on all unpaved traffic areas in the stockpile area once per month or in accordance with the manufacturers recommendation for achieving a minimum of 75 percent control of fugitive emissions from unpaved roads.

10.0 NSPS –Rotary Lime Kiln Requirements

10.1 Standard for particulate matter – Unit #4a and #45.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(c) and (d) and ARSD 74:36:07:19, as referenced to 40 CFR § 60.342(a), on or after the date of the initial performance test, the owner or operator shall not cause to be discharged into the atmosphere from Unit #4a or #45 any gases which:

1. Contain particulate matter in excess of 0.30 kilograms per megagrams (0.60 pounds per ton) of stone feed; and
2. Exhibit greater than 15 percent opacity.

The opacity limit shall apply at all times except during periods of startup, shutdown, and malfunctions. The owner or operator shall at all times, including periods of startup, shutdown, and malfunction, to the extent practicable maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection.

10.2 Continuous opacity monitor – Unit #4a and #45.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.13(h)(1) and ARSD 74:36:07:19, as referenced to 40 CFR § 60.343(a), the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from Unit #4a and #45. The span of this system shall be set at 40 percent opacity. The owner or operator shall reduce all data to 6-minute averages. The six-minute averages shall be calculated from 36 or more data points spaced over each 6-minute period.

10.3 Operation of continuous opacity monitor.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.13(b), (c), (d), and (e), the continuous opacity monitoring system shall be installed and operational prior to the initial performance test. Verification of its operational status shall at a minimum include completion of the manufacturer's written requirements or recommendation for installation, operation, and calibration of the device. If the owner or operator elects to submit continuous opacity monitoring system data for compliance with the opacity standard as provided in permit condition 10.3, the owner or operator shall conduct a performance evaluation of the continuous opacity monitoring system as specified in 40 CFR Part 60, Appendix B, Performance Specification 1, before the initial performance test is conducted.

The owner or operator shall check the zeros and span calibration drifts at least once daily in accordance with a written procedure. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry including the light source and photodetector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation. The acceptable range of zero and upscale

calibration materials is defined in Performance Specification 1 in 40 CFR Part 60, Appendix B. In addition, the optical surfaces exposed to the effluent gases must be cleaned before performing the zero and upscale drift adjustments except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the continuous opacity monitoring system shall be in continuous operation and meet minimum frequency of operation requirements. The minimum frequency of operation requirements for a continuous opacity monitoring system is a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

10.4 Measuring stone feed rate – Unit #4a and #45.

In accordance with ARSD 74:36:07:19, as referenced to 40 CFR § 60.343(d), the owner or operator shall install, calibrate, maintain, and operate a device that measures the mass rate of stone feed to Unit #4a and #45. The measuring device must be accurate to within plus or minus five percent of the mass rate over its operating rate. Stone feed means limestone feedstock and mill scale or other iron oxide additives that become part of the product. This device shall be operational when determining compliance with permit condition 10.1.

10.5 Semiannual continuous opacity monitoring report.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR §60.7(c) and ARSD 74:36:07:19, as referenced to 40 CFR § 60.343(e), the owner or operator shall submit a semiannual excess emissions and monitoring systems performance report to the Secretary. Excess emissions are defined as all 6-minute periods during which the average opacity of the visible emissions from Unit #4a and #45 are greater than 15 percent opacity. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a semiannual report;
2. The magnitude of excess emissions computed in accordance with permit condition 10.4 and the date and time of commencement and completion of each time period of excess emissions;
3. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
4. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
5. When no excess emissions have occurred or the continuous monitoring system have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

The semiannual report must be postmarked no later than 30 days after the end of the reporting period (e.g., July 30th and January 30th). The owner or operator may combine the reporting requirements in this condition with any other semiannual reports required by this permit.

10.6 Annual audit of continuous opacity monitor.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.13(d)(1)(2), the owner or operator shall conduct an annual performance audit on the continuous opacity monitor. The owner or operator will contact the Secretary ten days prior to the audit to allow for Secretary to be present during the audit with oversight from the Secretary. At a minimum, the procedures for the annual audit must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry including the light source and photo detector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation. The owner or operator shall submit a written summary of the annual report to the Secretary within 60 days of the annual audit.

10.7 Demonstration of compliance – with particulate emission limit.

In accordance with ARSD 74:36:07:19, as referenced to 40 CFR § 60.344(a) and (b), the owner or operator shall determine compliance with the particulate matter emission limit in permit condition 10.1 using the test methods in 40 CFR Part 60, Appendix A, except as follows:

1. The emission rate (E) of particulate matter shall be computed for each stack performance test run using Equation 10-1.
2. 40 CFR Part 60, Appendix A, Method 5 shall be used at negative-pressure fabric filters and 40 CFR Part 60, Appendix A, Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 31.8 dry standard cubic feet; and
3. The monitoring device specified in permit condition 10.4 shall be used to determine the stone feed rate (P) for each run

Equation 10-1 – Calculating Particulate Matter Emission Rate

$$E = (c_s Q_{sd}) \div (PK)$$

Where:

- E = emission rate of particulate matter, in pounds per ton of stone feed;
- c_s = concentration of particulate matter, in grains per dry standard cubic feet;
- Q_{sd} = volumetric flow rate of effluent gas, in dry standard cubic feet per hour;
- P = stone feed rate, in tons per hour; and
- K = conversion factor, 7000 grains per pound.

10.8 Demonstration of compliance with opacity limit.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(e)(1) and (5) and ARSD 74:36:07:19, as referenced to 40 CFR § 60.344(a) and (b), the owner or operator shall determine compliance with the opacity limit in permit condition 10.1 using the following method:

1. 40 CFR Part 60, Appendix A, Method 9 shall be used to determine opacity. The opacity observations shall be conducted concurrently with the performance test; or

2. The owner or operator may submit, for compliance purposes, continuous opacity monitoring system data results produced during any performance test in lieu of Method 9 observation data. If an owner or operator elects to submit continuous opacity monitoring system data for compliance with the opacity standard, the owner or operator shall notify Secretary of that decision, in writing, at least 30 days before any performance test. Once the owner or operator notifies the Secretary, the continuous opacity monitoring system data results will be used to determine opacity compliance during subsequent tests until the owner or operator notifies the Secretary, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test using continuous opacity monitoring system data, the minimum total time of continuous opacity monitoring system data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the continuous opacity monitoring system opacity determinations shall be submitted along with the results of the performance test. The owner or operator using a continuous opacity monitoring system for compliance purposes is responsible for demonstrating the continuous opacity monitoring system meets the requirements specified in permit condition 2H.6, the continuous opacity monitoring system has been properly maintained and operated, and the resulting data have not been altered in any way. If continuous opacity monitoring system data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

10.9 Notification of continuous opacity monitoring system performance test.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.7(a)(5), the owner or operator shall notify the Secretary of the date of demonstration of the continuous opacity monitoring system performance test commences in accordance with permit condition 10.5. The notification shall be postmarked no later than 30 days prior to such date.

10.10 Startup, shutdown, and malfunction records.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.7(b), the owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of Unit #4a and #45; any malfunction of the air pollution control equipment; or any periods during which the continuous opacity monitoring system is inoperative.

11.0 NONMETALLIC MINERAL PROCESSING OPERATIONS

11.1 Particulate limit for fugitive operations.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(c) and (d) and ARSD 74:36:07:27, as referenced to 40 CFR § 60.672(b), (c), and (d), within 60 days after achieving the maximum production rate at which the process operates, but not later than 180 days after initial startup, the owner or operator shall not allow fugitive emissions of particulate matter from the operations identified in Table 11-2 in excess of the amount specified in Table 11-2.

Table 000-2 – Particulate Matter Emission Limits for Fugitive Operations

Process	Description	Limit
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Process	Description	Limit
ID #21	A crusher without a capture and control device system	15 percent opacity
ID #25	Transfer points on belt conveyors	10 percent opacity
C-051, C-052, C-053, and S-052	Grinding mill, screening operation, bucket elevator, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations	7 percent opacity

A transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile or truck. The opacity limits are not applicable to truck dumping into any screening operation, feed hopper, or crusher.

The opacity limit shall apply at all times except during periods of startup, shutdown, and malfunctions. The owner or operator shall at all times, including periods of startup, shutdown, and malfunction, to the extent practicable maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection.

11.2 Demonstrating compliance.

In accordance with ARSD 74:36:07:27, as referenced to 40 CFR § 60.675(c) and (e), the owner or operator shall conduct the required performance tests for the fugitive operations identified in permit condition 11.1 as follows:

1. The compliance testing for the opacity emission limits shall be based on 40 CFR Part 60, Appendix A, Method 9, with the following additions:
 - a. The minimum distance between observer and the fugitive operation shall be 15 feet;
 - b. The observer shall, when possible, select a position that minimizes interference from other particulate matter emitting operations (i.e., road dust) emission sources. If the observer is unable to minimize the interference, the observer shall use the highest fugitive opacity standard applicable to any of the emission sources contributing to the emission stream or separate the emissions so that the opacity may be read;
 - c. The observer position relative to the sun must be followed;
 - d. If water vapor or water mist is present, the observer shall observe the opacity at a point in the plume where the water vapor or water mist is no longer visible;
 - e. The duration of a performance test for fugitive sources demonstrating compliance with permit condition 11.1 must be 30 minutes (five 6-minute averages). The compliance with the opacity limit is based on the average of the five 6-minute averages.
 - f. A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval under the following conditions:
 - i. No more than three emission points may be read concurrently;

- ii. All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points; and
- iii. If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

12.0 MACT – 40 CFR Part 63 Subpart AAAAA

12.1 Particulate matter emission limit for lime kiln operation.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(h)(1) and ARSD 74:36:08:85, as referenced to 40 CFR §§ 63.7083(b), 63.7090(a), and 63.7100(a) and (b), on or after January 5, 2007, the owner or operator shall comply with the particulate matter emission limits in Table 12-1.

Table 12-1 – Particulate matter emission limits for lime kiln operations

Unit	Description	Control Device	Opacity Limit	Particulate Matter Emission Limit
#4a	Rotary kiln and contact cooler	Baghouse	-	0.12 pounds per ton of stone feed ¹
#45	Kiln #2 (K221)	Baghouse	-	0.10 pounds per ton of stone feed ¹
Process stone handling operation considered fugitive ²		-	10%	-

¹ – In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7112(f), the owner or operator may comply with the particulate matter emission limit by a weighted average particulate matter emission limit not to exceed 0.12 pounds per ton of stone feed. The weighted average particulate matter emission limit shall be calculated according to Equation 12-1; and

² – In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7082(g), the processed stone handling operation begins at the processed stone storage bin(s) or open storage pile(s) and ends where the processed stone is fed into the kiln. It includes man-made processed stone storage bins (but not open processed stone storage piles), conveying system transfer points, bulk loading or unloading systems, screening operations, surge bins, bucket elevators, and belt conveyors. No other material processing operations are subject to this subpart.

The owner or operator must be in compliance with the particulate matter emission limits and opacity limit in Table 12-1 at all times, except during periods of startup, shutdown, and malfunction.

Equation 12-1 – Weighted average particulate matter emission rate

$$E_T = \frac{\sum_{i=1}^n E_i P_i}{\sum_{i=1}^n P_i}$$

Where:

- E_T = Emission rate of particulate matter from all kilns and coolers, in pounds per ton of stone feed;
- E_i = Emission rate of particulate matter from kiln i, or from kiln/cooler combination i, in

- pounds per ton of stone feed;
- P_i = Stone feed rate to kiln i , in tons per hour; and
 - n = Number of kilns included in averaging.

12.2 Operating limit for lime kiln.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(h)(1) and ARSD 74:36:08:85, as referenced to 40 CFR §§ 63.7083(b), 63.7090(b), 63.7100(a) and (b), and 63.7121(a) and (f), on or after January 5, 2007, the owner or operator shall demonstrate continuous compliance by one of the following methods:

1. The owner or operator may use a bag leak detector system or particulate matter detector on the baghouse associated with Unit #4a and/or #45. The owner or operator shall maintain and operate the baghouse such that a bag leak detector system or particulate matter detector alarm condition does not exist for more than five percent of the total operating time in a 6-month period. Each time the alarm sounds and the owner or operator initiates corrective actions within one hour of the alarm or inspection of the baghouse demonstrates that no corrective action is necessary; no alarm time will be counted. One hour of the alarm time will be counted if the owner or operator takes longer than one hour to initiate corrective actions. The alarm time will be counted as the actual amount of time taken by the owner or operator to initiate corrective actions;
2. The owner or operator may use a continuous opacity monitoring system. The owner or operator shall maintain the baghouse associated with Unit #4a and/or #45 such that the 6-minute average opacity for any 6-minute block period does not exceed 15 percent; or
3. The owner or operator may perform visible emission measurements in accordance with 40 CFR Part 60, Appendix A, Method 9 if any of the following conditions exist:
 - a. A baghouse is used for particulate matter control and the baghouse is under positive pressure and has multiple stacks;
 - b. The control device exhausts through a monovent. Monovent means an exhaust configuration of a building or emission control device that extends the length of the structure and has a width very small in relation to its length. The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features; or
 - c. The installation of a continuous opacity monitoring system in accordance with 40 CFR Part 60, Appendix B, Performance Specification 1 is infeasible.

The owner or operator must be in compliance with the opacity limit at all times except during periods of startup, shutdown, and malfunction.

12.3 Bag leak detection system.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7113(a) and (d), the owner or operator that uses a bag leak detection system must install, operate, and maintain the bag leak detection system according to the Operations, Maintenance, and Monitoring plan and meets the following requirements:

1. The bag leak detection system must complete a minimum of one cycle of operation for each successive 15-minute period;
2. To calculate a valid hourly value, the owner or operator must have at least four equally

- spaced data values (or at least two, if that condition is included to allow for periodic calibration checks) for that hour from a bag leak detection system that is not out of control according to the Operations, Maintenance, and Monitoring plan, and use all valid data;
3. The owner or operator must conduct a performance evaluation of each bag leak detection system in accordance with the Operations, Maintenance, and Monitoring plan;
 4. The owner or operator must continuously operate and maintain the bag leak detection system according to the Operations, Maintenance, and Monitoring plan, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment;
 5. The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;
 6. The sensor on the bag leak detection system must provide output of relative particulate matter emissions;
 7. The bag leak detection system must have an alarm that will sound automatically when it detects an increase in relative particulate matter emissions greater than a preset level;
 8. The alarm must be located in an area where appropriate plant personnel will be able to hear it;
 9. For a positive-pressure baghouse, each compartment or cell must have a bag leak detector. For a negative-pressure or induced-air baghouse, the bag leak detection must be installed downstream of the baghouse. If multiple bag leak detections are required (for either type of baghouse), the detectors may share the system instrumentation and alarm;
 10. At a minimum, initial adjustment of the system must consist of establishing the baseline output by the following methods:
 - a. Adjust the range and the averaging period of the device; and
 - b. Establish the alarm set points and the alarm delay time;
 11. Bag leak detection systems must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the Operations, Maintenance, and Monitoring plan; and
 12. After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the Operations, Maintenance, and Monitoring plan. In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official certifies in writing to the Secretary that the baghouse has been inspected and found to be in good operating condition.

12.4 Particulate matter detection alarm.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7113(a) and (e), the owner or operator that uses a particulate matter detection alarm must install, operate, and maintain the particulate matter detection system according to the Operations, Maintenance, and Monitoring plan and meets the following requirements:

1. The particulate matter detector must complete a minimum of one cycle of operation for each successive 15-minute period;
2. To calculate a valid hourly value, the owner or operator must have at least four equally spaced data values (or at least two, if that condition is included to allow for periodic calibration checks) for that hour from a particulate matter detector that is not out of control according to the Operations, Maintenance, and Monitoring plan, and use all valid data;

3. The owner or operator must conduct a performance evaluation of each particulate matter detector in accordance with the Operations, Maintenance, and Monitoring plan;
4. The owner or operator must continuously operate and maintain the particulate matter detector according to the Operations, Maintenance, and Monitoring plan, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment;
5. The particulate matter detector must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;
6. The sensor on the particulate matter detector must provide output of relative particulate matter emissions;
7. The particulate matter detector must have an alarm that will sound automatically when it detects an increase in relative particulate matter emissions greater than a preset level;
8. The alarm must be located in an area where appropriate plant personnel will be able to hear it;
9. At a minimum, initial adjustment of the system must consist of establishing the baseline output by the following methods:
 - a. Adjust the range and the averaging period of the device; and
 - b. Establish the alarm set points and the alarm delay time.
10. Particulate matter detectors must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the Operations, Maintenance, and Monitoring plan; and
11. After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the Operations, Maintenance, and Monitoring plan. In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official certifies in writing to the Secretary that the baghouse has been inspected and found to be in good operating condition.

12.5 Continuous opacity monitoring system.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7113(a) and (g), the owner or operator that uses a continuous opacity monitor shall install, maintain, calibrate and operate the continuous opacity monitor that meets the following requirements:

1. Install the continuous opacity monitoring system at the outlet of the baghouse;
2. Install, maintain, calibrate and operate the continuous opacity monitor as required in 40 CFR Part 60, Appendix B, Performance Specification 1; and
3. Collect the continuous opacity monitoring system data at a frequency of at least once every 15 seconds, determining block averages for each 6-minute period.

12.6 Visible emission checks.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7121(e), the owner or operator that uses visible emissions to demonstrate compliance permit condition 12.2(3) and the process stone handling opacity limit in permit condition 12.1 shall meet the following requirements:

1. Conduct monthly 1-minute visible emission checks of each emission unit while the emission unit is in operation. The visible emission checks shall be performed in the following manner:

- a. Conduct visual emission checks that consist of a visual survey of each stack or process emission point over the test period to identify if there are visible emissions, other than condensed water vapor;
 - b. Select a position at least 15 but not more 1,320 feet from the emission unit with the sun or other light source generally at the back of the observer; and
 - c. The observer conducting the visible emission checks need not be certified to conduct a 40 CFR Part 60, Appendix A, Method 9, but must meet the training requirements as described in 40 CFR Part 60, Appendix A, Method 22;
2. If no visible emissions are observed in 6 consecutive monthly checks for any emission unit, the owner or operator may decrease the frequency of visible emission checking from monthly to semiannual for that emission unit. If visible emissions are observed during any semiannual check, the owner or operator must resume visible emission checking of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in 6 consecutive monthly checks;
 3. If no visible emissions are observed during the semiannual check for any emission unit, the owner or operator may decrease the frequency of visible emission checking from semiannual to annual for that emission unit. If visible emissions are observed during any annual check, the owner or operator must resume visible emission checking of that emission unit on a monthly basis and maintain that schedule until no visible emissions are observed in 6 consecutive monthly checks; and
 4. If visible emissions are observed during any visible emission check, the owner or operator must visible emission evaluation in accordance with 40 CFR Part 60, Appendix A, Method 9. The owner or operator must begin the Method 9 test within 1 hour of any observation of visible emissions and the 6-minute opacity reading must not exceed the applicable opacity limit.

12.7 Annual baghouse inspection.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7113(f), the owner or operator must inspect the baghouse associated with Unit #4a and/or #45 at least once each calendar year to ensure that baghouse is operating in accordance with following requirements:

1. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a baghouse; and
2. Operate each baghouse according to the procedures and requirements in the Operations, Maintenance, and Monitoring plan.

12.8 Operation and maintenance requirements.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(1)(i) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7100(c), the owner or operator shall operate and maintain Unit #4a, Unit #45, and associated process stone handling systems, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all time, including periods of startup, shutdown, and malfunction. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator to reduce emissions to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does

not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Secretary which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan), review of operation and maintenance records, and inspection of the source.

12.9 Operations, maintenance, and monitoring plan.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.8(c) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7100(d), the owner or operator shall prepare and implement a written Operations, Maintenance, and Monitoring plan. The Operations, Maintenance, and Monitoring plan shall be submitted to the Secretary within 30 days of permit issuance. Any subsequent changes to the plan must be submitted to the Secretary for review and approval. Pending approval by the Secretary of an initial or amended plan, the owner or operator must comply with the provisions of the submitted plan. Each plan must contain the following information:

1. Process and control device parameters to be monitored to determine compliance, along with established operating limits or ranges, as applicable, for each emission unit;
2. A monitoring schedule for each emission unit;
3. Procedures for the proper operation and maintenance of each emission unit and each air pollution control device used to meet the applicable emission limits and operating limits in Chapter 12.0;
4. Procedures for the proper installation, operation, and maintenance of monitoring devices or systems used to determine compliance include:
 - a. Calibration and certification of accuracy of each monitoring device;
 - b. Performance and equipment specifications for the sample interface, parametric signal analyzer, and the data collection and reduction systems; and
 - c. Ongoing operation and maintenance procedures in accordance with the following requirements:
 - i. Maintain and operate each continuous opacity monitoring system in a manner consistent with good air pollution control practices;
 - ii. Maintain and operate each continuous opacity monitoring system as specified in permit condition 12.5;
 - iii. Maintain the necessary parts for routine repairs of each continuous opacity monitoring system;
 - iv. Install, operate, and the data verified prior to or in conjunction with conducting performance tests. The verification shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system; and
 - v. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all continuous opacity monitoring systems shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 10-

- second period and one cycle of data recording for each successive 6-minute period.
5. Procedures for monitoring process and control device parameters.
 6. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the operating limits specified in permit condition 12.2, including:
 - a. Procedures to determine and record the cause of a deviation or excursion, and the time the deviation or excursion began and ended; and
 - b. Procedures for recording the corrective action taken, the time corrective action was initiated, and the time and date the corrective action was completed; and
 7. A maintenance schedule for each emission unit and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

12.10 Startup, shutdown, and malfunction plan.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(3) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7100(e), the owner or operator shall develop a written Startup, Shutdown, and Malfunction plan that describes in detail the procedures for operating and maintaining Unit #4a, Unit #45, and the associated process stone handling system during periods of startup, shutdown, and malfunctions. In addition, the plan shall identify a program of corrective action for a malfunction of the process, air pollution control, and monitoring equipment used to comply with the relevant standard. The Startup, Shutdown, and Malfunction plan does not need to address any scenario that would not cause an exceedance of an applicable emission limit. The Startup, Shutdown, and Malfunction plan shall:

1. Ensure that at all times the owner or operator operates and maintains Unit #4a, Unit #45, and the associated process stone feed handling system, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions in permit condition 12.8;
2. Ensure that the owner or operator is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
3. Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

To satisfy this requirement, the owner or operator may use its standard operating procedures manual, an Occupational Safety and Health Administration (OSHA) plan, or another plan, provided the alternative plans meet all the requirements of this permit condition and are made available for inspection or submitted when requested by the Secretary.

The owner or operator shall make revisions to the Startup, Shutdown, and Malfunction plan, if it is determined that the plan does not address a startup, shutdown, or malfunction event that has occurred; fails to provide for the operation of a unit (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions; or does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable. Revisions to the Startup, Shutdown, and Malfunction plan are not considered a permit revision.

12.11 Startup, shutdown, and malfunction plan record keeping.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(3)(iii) and (v) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7100(e), the owner or operator must maintain a copy of the current Startup, Shutdown, and Malfunction plan at the site and must make the plan available upon request for inspection and copying by the Secretary. In addition, if the Startup, Shutdown, and Malfunction plan is subsequently revised, the owner or operator must maintain at the site each previous (i.e., superseded) version of the Startup, Shutdown, and Malfunction plan, and must make each previous version available for inspection and copying by the Secretary for a period of five years after revision of the plan. If at any time after adoption of a Startup, Shutdown, and Malfunction plan the owner or operator ceases operation or is otherwise no longer subject to this permit condition, the owner or operator must retain a copy of the most recent plan for five years from the date the owner or operator ceases operation or is no longer subject to this permit condition and must make the plan available upon request for inspection and copying by the Secretary.

The owner or operator must keep the following records when an exceedance of an emission limit in Chapter 12.0 occurs during startup, shutdown, or malfunction:

1. The occurrence and duration of each startup or shutdown;
2. The occurrence and duration of each malfunction of operation (e.g., process equipment), the required air pollution control, or the monitoring equipment;
3. Actions taken during periods of startup or shutdown when the actions taken are different from the procedures specified in the Startup, Shutdown, and Malfunction plan;
4. Actions taken during periods of a malfunction when the actions taken are different from the procedures specified in the Startup, Shutdown, and Malfunction plan; and
5. All information necessary, including actions taken, to demonstrate conformance with the Startup, Shutdown, and Malfunction plan;

12.12 Startup, shutdown, and malfunction exceedance reporting.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR §§ 63.6(e)(3)(iv) and 63.10(d)(5) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7100(e), if an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the startup, shutdown, and malfunction plan, and the owner or operator exceed any applicable emission limit in Chapter 12.0, the owner or operator must report such actions by telephone call or facsimile within two working days after commencing actions inconsistent with the plan, followed by a letter, delivered or postmarked, within seven working days after the end of the event. The startup, shutdown and malfunction report shall include:

1. The name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy;
2. An explanation of the circumstances of the event;
3. The reasons for not following the Startup, Shutdown, and Malfunction plan;
4. A description of all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions); and
5. Actions taken to minimize emissions.

12.13 Initial compliance with lime kiln operational limits.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.7(a)(2) and ARSD 74:36:08:85, as referenced to 40 CFR §§ 63.7110(a) and 63.7114(a), the owner or operator shall demonstrate initial compliance with each emission limit in Table 12-1 within 90 days of the issuance of this permit. Initial compliance shall be determined by one of the following methods:

1. Initial compliance with the particulate matter emission limit shall be measured using 40 CFR Part 60, Appendix A, Method 5 and the stone feed rate measured over the period of initial performance test;
2. If the owner or operator opts to monitor the particulate matter emissions with a bag leak detection system, initial compliance is based on installing and operating the bag leak detection system in accordance with permit condition 12.3;
3. If the owner or operator opts to monitor the particulate matter emissions with a particulate matter detector, initial compliance is based on installing and operating the particulate matter detector in accordance with permit condition 12.4;
4. If the owner or operator opts to monitor particulate matter emissions using a continuous opacity monitoring system, initial compliance is based on installing and operating the continuous opacity monitoring system in accordance with permit condition 12.5.
5. If the owner or operator meets the requirements of permit condition 12.2(3), initial compliance is based on a visible emission evaluation in accordance with 40 CFR Part 60, Appendix A, Method 9; and
6. Initial compliance with the opacity limit for the process stone feed system is based on a visible emission evaluation in accordance with 40 CFR Part 60, Appendix A, Method 9.

12.14 Performance test procedures.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.7(e)(1) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7112(a) through (d), inclusive, and (l), the owner or operator shall conduct each performance test in the following manner:

1. The sampling site for each lime kiln shall be located at the outlet of the control device and prior to any releases to the atmosphere;
2. The sampling ports and the number of traverse points for each lime kiln shall be based on 40 CFR Part 60, Appendix A, Method 1 or 1A;
3. The velocity and volumetric flow rate for each lime kiln shall be determined using 40 CFR Part 60, Appendix A, Method 2, 2A, 2C, 2D, 2F, or 2G;
4. The gas molecular weight analysis for each lime kiln shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 3, 3A, or 3B;
5. The moisture content of the stack gas for each lime kiln shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 4;
6. The particulate emissions for each lime kiln which uses a negative pressure particulate matter control device shall use 40 CFR Part 60, Appendix A, Method 5 to determine the particulate matter emission rate. The minimum sampling volume must be 0.85 dry standard cubic meter (30 dry standard cubic foot);
7. The particulate emissions for each lime kiln which uses a positive pressure fabric filter shall use 40 CFR Part 60, Appendix A, Method 5D to determine the particulate matter emission rate;

8. The mass rate of stone feed to the lime kiln shall be determined using the monitoring device required in permit condition 10.4 during the lime kiln performance test;
9. If the owner or operator opts to demonstrate compliance with a continuous opacity monitoring system, each lime kiln equipped with a fabric filter that is monitored with a continuous opacity monitoring system shall have the monitoring system operational prior to the performance test:
10. Fugitive emissions from the process stone handling system and kilns that are not monitored with a continuous opacity monitoring, bag leak detection or particulate matter detection system shall be conducted using 40 CFR Part 60, Appendix A, Method 9. The test duration must be for at least 3 hours, but the 3-hour test may be reduced to one hour if during the first 1-hour period there are no individual readings greater than 10 percent opacity and there are no more than three readings of 10 percent during the first 1-hour period. The owner or operator shall conduct 40 CFR Part 60, Appendix A, Method 9 in accordance with the following procedures:
 - a. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet);
 - b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun must be followed; and
 - c. If wet dust suppression is used to control particulate emissions, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered visible emissions. When a water mist of this nature is present, the observer must observe emissions at a point in the plume where the mist is no longer visible.

The performance tests shall be conducted under representative conditions. Operations during periods of startup, shutdown, or malfunction shall not constitute representative conditions nor shall emission in excess of the emission limits in permit condition 12.1 and 12.2 during periods of startup, shut down or malfunction be considered a violation of the relevant emission limit. Except for opacity and visible emission observations, the owner or operator must conduct three separate test runs for each performance test and each test run must last at least 1 hour unless otherwise specified.

12.15 Calculating particulate matter emission rate.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7112(e), the owner or operator shall calculate the emission rate of particulate matter from each lime kiln based on Equation 12-2.

Equation 12-2 – Emission Rate Calculation for Single Lime Kiln

$$E = (C_k Q_k + C_c Q_c) \div PK$$

Where:

- E = Emission rate of particulate matter, pounds per ton of stone feed;
- C_k = Concentration of particulate matter in the kiln effluent, in grain per dry standard cubic feet;
- Q_k = Volumetric flow rate of kiln effluent gas, in dry standard cubic feet per hour;
- C_c = Concentration of particulate matter in the cooler effluent, in grain per dry standard

cubic feet. This value is zero if there is not a separate cooler exhaust to the atmosphere;

- Q_c = Volumetric flow rate of cooler effluent gas, in dry standard cubic feet per hour. This value is zero if there is not a separate cooler exhaust to the atmosphere;
- P = Stone feed rate, in tons per hour; and
- K = Conversion factor, in 7,000 grains per pound.

12.16 Periodic performance tests for particulate matter.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7111, the owner or operator shall conduct periodic performance tests in accordance with permit condition 12.13 and 12.14 within five years following the initial compliance performance test required in permit condition 12.13 and within five years following each subsequent performance test thereafter.

12.17 Performance test notification and reporting.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.63.9(h)(2)(ii), and ARSD 74:36:08:85, as referenced to 40 CFR §§ 63.7112(h), 63.7114(c) and 63.7130(e), the owner or operator shall submit a notice of compliance before the close of business on the 60th day following the completion of the compliance test required in permit condition 12.13 and 12.16. The performance test report shall contain:

1. A brief description of the process and the air pollution control system;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results, including opacity;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test, preparation of standards, and calibration procedures;
7. Raw data sheets for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. All data recorded and used to establish operating limits; and
10. Any other information required by the test method.

12.18 Monitoring and collection of data.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7120, except for monitor malfunctions, associated repairs, required quality assurance or control activities (including, as applicable, calibration checks and required zero adjustments), and except for lime kilns that meet the requirements of permit condition 12.2(3) and process stone handling operations subject to monthly visible emission testing, the owner or operator must monitor continuously (or collect data at all required intervals) at all times that the emission unit is operating. The owner or operator shall use all data collected in assessing the operation of the control device and associated control system except data recorded during the conditions described below:

1. Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;
2. Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

3. Start-ups, shutdowns, and malfunctions.

12.19 Performance test notification and test plan.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR §§ 63.7(b) and (c) and 63.9(e) and (f) and ARSD 74:36:08:85, as referenced to 40 CFR §§ 63.7083(d) and 63.7130(a) and (d), the owner or operator shall notify the Secretary at least 60 calendar days before a performance test in permit condition 12.13 and 12.16 is initially scheduled to begin to allow the Secretary, upon request, to review and approve the site-specific test plan and to have an observer present during the test. In the event the owner or operator is unable to conduct the performance test on the date specified in the notification due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Secretary as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. The site-specific test plan shall consist of the following:

1. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data;
2. The internal quality assurance program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision, an example of internal quality assurance is the sampling and analysis of replicate samples;
3. The external quality assurance program shall include, at a minimum, application of plans for a test method performance audit during the performance test. The performance audits consist of blind audit samples analyzed during the performance test in order to provide a measure of test data bias. The external quality assurance program may also include systems audits that include the opportunity for on-site evaluation by the Secretary of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities; and
4. The owner or operator shall submit the site-specific test plan to the Secretary upon request at least 60 calendar days before the performance test is scheduled to take place or on a mutually agreed upon date.

12.20 Semiannual compliance report.

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR §§ 63.10(a) and 63.8(c)(7) and ARSD 74:36:08:85, as referenced to 40 CFR § 63.7131, the owner or operator shall submit a semiannual compliance report. The semiannual compliance report shall contain the following:

1. Company name and address;
2. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;
3. Date of report and beginning and ending dates of the reporting period;
4. For each exceedance that occurs during startup, shutdown or malfunction and the owner or operator took actions consistent with the Startup, Shutdown or Malfunction plan, the report shall include the actions taken to minimize emissions during such startup, shutdown, and malfunction. Such a report shall also include the number, duration, and a brief description for each malfunction which caused or may have caused any applicable emission limit to be

- exceeded;
5. For each deviation of any emission limit (emission limit, operating limit, opacity limit, and visible emission limit), the report shall contain the following information:
 - a. The total operating time of each emission unit during the reporting period; and
 - b. Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken;
 6. For each deviation from an emission limit (emission limit, operating limit, opacity limit, and visible emission limit) occurs where a continuous monitoring system is used to comply with the emission limit, the report shall include:
 - a. The date and time that each malfunction started and stopped;
 - b. The date and time that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks;
 - c. The date, time, and duration that each continuous monitoring system was out-of-control and a description of the corrective action taken;
 - d. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period;
 - e. A summary of the total duration of the deviations and the total duration as a percent of the total operating time;
 - f. A breakdown of the total duration of the deviations into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes;
 - g. A summary of the total duration of continuous monitoring system downtime and the total duration of continuous monitoring system downtime as a percent of the total emission unit operating time;
 - h. A brief description of the process units;
 - i. A brief description of the continuous monitoring system;
 - j. The date of the latest continuous monitoring system certification or audit; and
 - k. A description of any changes in continuous monitoring system, processes, or controls since the last reporting period;
 7. If there were no deviations from any emission limit (emission limit, operating limit, opacity limit, and visible emission limit), the compliance report must include a statement that there were no deviations from the emission limits during the reporting period; and
 8. If there were no periods during which the continuous monitoring systems were out-of-control, a statement that there were no periods during which the continuous monitoring systems were out-of-control during the reporting period.

A continuous monitoring system is out of control if the zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard; the continuous monitoring system fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or the continuous opacity monitor calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system

is within the allowable limits. During the period the continuous monitoring system is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirements.

The compliance report shall be submitted within 30 days of the end of the reporting period (e.g., July 31 and January 31). The first compliance report shall be postmarked or delivered no later than July 31 or January 31, for the reporting period in which this permit is issued. The owner or operator may combine the reporting requirements in this condition with the semiannual report required in permit condition 10.5.

12.21 Record keeping requirements for lime kilns.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7132, the owner or operator shall maintain the following records:

1. A copy of each notification and report submitted to comply with Chapter 12.0, including all documentation supporting any Initial Notification or Notification of Compliance Status;
2. The following records related to startup, shutdown, and malfunction:
 - a. When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the unit to exceed any applicable emission limit), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the Startup, Shutdown, and Malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of record keeping that confirms conformance with the Startup, Shutdown, and Malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of the occurrence and duration of each startup, shutdown, malfunction of operation and each malfunction of the air pollution control and monitoring equipment; and
 - b. If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the Startup, Shutdown, and Malfunction plan, and the unit exceeds any applicable emission limit, then the owner or operator must record the actions taken for that event; and
3. Records of performance tests, performance evaluations, and opacity and visible emission observations. In addition, the owner or operator shall maintain evidence indicating proof of current visible observer emission certification.

12.22 Record retention.

In accordance with ARSD 74:36:08:85, as referenced to 40 CFR § 63.7133, the owner or operator shall maintain all records in a form suitable and readily available for expeditious review. The owner or operator must keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The owner or operator must keep each record onsite for at least two years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The owner or operator may keep the records offsite for the remaining three years.

13.0 State Only – BACM for Fugitive Dust Sources

13.1 Unpaved road controls.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(8), the owner or operator shall apply a chemical stabilizer on all main haul roads and a chemical stabilizer or water on all secondary roads that have daily vehicular traffic or an alternative method approved by the Secretary. The frequency of applying chemical stabilizer or water will be on an as needed basis to comply with the opacity limit in permit condition 13.10. The owner or operator may pave the main haul roads or secondary roads with tack seal, asphalt, recycled asphalt, or concrete. If the main haul road or secondary haul road is paved, the owner or operator shall meet the requirements of permit condition 13.2. A main haul road is defined as a passageway between the mining area and the processing facility or between the processing facility and the storage area in which material is transferred on a road. A secondary haul road is defined as a passageway in which there is daily vehicular traffic on normal working days other than the main haul roads.

13.2 Paved road and parking area controls.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(8), the owner or operator shall use a mechanical sweeper that collects particulate matter and is equipped with wet suppressions, a vacuum sweeper, or water flush all paved roads and parking areas to remove particulate matter that has the potential to be re-suspended during the spring, summer, and fall. During the winter months or during freezing weather, the paved roads and parking lots shall be cleaned with the mechanical sweeper that collects particulate matter and is equipped with wet suppressions or a vacuum sweeper. The frequency of cleaning will be on an as needed basis to comply with the opacity limit in permit condition 13.10.

13.3 Track out area controls.

A track out area is defined as the driving surface from the owner's or operator's facility to a paved public roadway upon which particulate matter may be deposited by transport vehicles. In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall pave (asphalt or concrete) a track out area to maintain a stabilized surface starting from the point of intersection with the public paved surface into the facility boundary for a total distance of at least 100 feet and a width of at least 20 feet or install a wash station and require all haul truck vehicles leaving the facility to remove track out materials through the use of water. For temporary track out areas (in use for less than 60 days in a calendar year), techniques and/or controls shall be implemented so as to prevent particulate matter from becoming entrained in violation of the opacity limit in permit condition 13.10.

13.4 Reclamation plan.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall implement the reclamation plan approved by the Secretary. The owner or operator may propose modifications to the approved reclamation plan by written notice to the Secretary. The Secretary shall notify the owner or operator within 90 days after receipt of a modification to a reclamation plan on if the proposed modification is approved or disapproved. If the proposed modification is disapproved, the Secretary will provide the reason why the proposed modification was not

approved and what is required for the proposed modification to be approved. The owner or operator shall resubmit the revised modification within 90 days of receiving the Secretary's notification. Lands which have been reclaimed and approved by the Secretary shall no longer be subject to the reclamation plan requirements as long as they remain reclaimed.

13.5 Open storage pile control.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(8), the owner or operator shall sample and analyze the silt content of open storage piles that have a height greater than or equal to three feet and have a total surface area greater than or equal to 150 square feet. The analysis shall be conducted once per calendar year and in accordance with ASTM C-136 or another equivalent method approved by the Secretary. Open storage pile controls shall be applied to each open storage pile that has a silt content of four percent by weight or greater. Silt is defined as any material with a particulate size less than 74 micrometers in diameter and passes through a number 200 sieve. Open storage pile controls shall be applied or constructed in a manner that maintains compliance with the opacity limit in permit condition 13.10. Open storage pile controls shall consist of at least one of the following:

1. Apply chemical stabilizer to the surface area of all open storage piles;
2. Apply water to the surface area of all open storage piles;
3. Install at least a two-sided enclosure with walls extending, at a minimum, to the top of the open storage pile; or
4. An alternative method approved by the Secretary

13.6 Waste pit controls.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall apply a soil cement, water spray, or similar application to create a crusted surface over the entire waste pit or implement a combination of wind protection (i.e., wind-fence, wind-screen, three wall enclosure, etc.) and water spray application. Waste pit controls shall be applied or constructed in a manner that maintains compliance with the opacity limit in permit condition 13.10.

13.7 Blasting controls.

In accordance with ARSD 74:36:05:16.01(8), no owner or operator shall blast during a high wind dust alert that is in effect except if the detonation charges have been set in the blasting holes prior to being notified of the high wind dust alert.

13.8 Crusher control options.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall enclose any primary, secondary or tertiary rock crusher that is stationary. A stationary crusher is defined as a crusher that is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock. The enclosure shall include the associated screens, conveyor belts, and transfer points, except for transfer points that drop material onto an open stock pile or onto a conveyor system that transports limestone ore from the quarry to the processing facility. Any captured particulate shall be disposed of in a manner that will not allow the captured particulate to become re-entrained into the ambient air.

The term "enclosure" shall be defined to be either a complete enclosure around one or more

pieces of equipment or an enclosure of those points on the equipment from which particulate is emitted. To qualify as an enclosure, the enclosure shall:

1. Be constructed of materials impermeable to air. The actual shell of a piece of equipment may be considered as the enclosure or part of the enclosure;
2. Be designed and constructed to minimize the number and size of openings through which air may enter or exit the building or enclosure. Openings shall be covered by a curtain or other method to minimize the opening to the size reasonably needed for the movement of materials, equipment, personnel, and air necessary for operation and ventilation of occupied areas;
3. Be designed and constructed so that the discharge of air from the building or enclosed structure on the unit associated with movement of materials shall be minimized as much as is reasonably possible;
4. Include a method of controlling particulate emissions based on the type of enclosure. If the process is enclosed by a building, the owner or operator shall treat, capture, or remove particulate emissions generated from the material being processed with wet suppression, a baghouse or a wet scrubber. If the enclosure just covers the emission point, the owner or operator shall capture or remove particulate emissions generated from the material being processed with a baghouse or wet scrubber. The particulate emission control device shall be used at all times during the operation of the process equipment;
5. Whenever reasonably possible, the enclosure shall be designed so the enclosure and control have a negative pressure; and
6. Be designed and constructed together with the controls to allow for the removal of particulate emissions which have settled out of the air inside the enclosure or have been removed from the air by controls.

The owner or operator has the option of enclosing and controlling particulate emissions or applying wet suppression to control particulate emissions from a crusher that is mobile or a portable crusher that is moved in an area on a temporary basis. The enclosure and control device or wet suppression shall include the associated screens, conveyor belts, and transfer points, except for transfer points that drop material onto an open stock pile. An enclosure for a mobile or portable crusher shall meet the requirements specified above for a stationary crusher.

A portable crusher is defined as a crusher that is located and operated in the west Rapid City area for no more than 90 days per calendar year. An owner or operator that moves a portable crusher into the west Rapid City area is required to document the date the unit was moved in, the days the unit was operated, and the date the unit was moved out of the west Rapid City area. Once a portable crusher is operated in the west Rapid City area for 90 days in a calendar year, the portable crusher must be shutdown for the calendar year or moved to another location outside the west Rapid City area.

Air emissions from the enclosure shall be subject to the opacity limit in permit condition 13.10 or the applicable New Source Performance Standard for the crusher. Limitations in sealing off enclosures from airflow that will impact worker safety and health standards for indoor particulate emission limits will be considered when reviewing the plans. In the event of freezing conditions and where the wet suppression equipment is inoperable, the owner and operator may operate the

crusher and associated equipment without wet suppression provided the crusher and associated equipment can comply with the applicable opacity standard.

13.9 Wash out concrete truck area.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator is not required to add controls to the washout concrete truck area provided the area stays in compliance with the opacity limit in permit condition 13.10.

13.10 Opacity limit for fugitive sources.

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not discharge a visible emission to the ambient air of a density equal to or greater than 20 percent opacity from an unpaved road, paved road or parking lot, crushing operation, open storage pile, track out area, or waste pit. The 20 percent opacity reading is based on a series of two minutes averages with a minimum observation period of six minutes. The opacity reading shall be determined by Tennessee Visual Emissions Method 1 as approved by EPA in 40 CFR §52.2220 or by 40 CFR Part 60, Appendix A, Method 9.

If an operation exceeds the opacity limit, the Secretary will allow the owner or operator two opportunities to correct the exceedance with existing controls and/or control measures. In the event of a third exceedance from the same operation, the Secretary will notify the owner or operator that the Best Available Control Measure (BACM) for that operation must be reevaluated. The owner or operator shall reevaluate BACM for that operation and submit a written proposal to the Secretary on the proposed new BACM for the operation within 60 days of receiving the Secretary's notification. The Secretary shall approve or disapprove the proposed new BACM within 60 days of receiving the proposal from the owner or operator. Once the proposed new BACM is approved by the Secretary, the permit will be revised to include the new BACM using the appropriate permit revision method identified in Chapter 3.0.

13.11 Opacity readings during a high wind dust alert.

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(8), opacity readings documenting an exceedance during a high wind air pollution alert shall not be considered an exceedance of the opacity limit in permit condition 13.9. A high wind air pollution alert is based upon the following weather conditions:

1. Winds equal to or greater than 20 miles per hour on an hourly average occurring for two or more consecutive hours;
2. Peak winds of 40 miles per hour (one minute average) or greater; and
3. The above wind conditions with three or more days of low precipitation (less than 0.02 inches).

14.0 Coal Preparation and Processing Plant

14.1 Visible emission limit for coal silo.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.254(b)(1), on or after the date on which the initial performance test required in permit condition 14.2 is conducted, the

owner or operator of the coal silo (T-291) shall not cause to be discharged into the atmosphere from the coal silo any gases which exhibit 10 percent opacity or greater.

14.2 Periodic testing for opacity.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.255(b)(2), within 60 days after achieving the maximum production rate at which the coal silo (T-291) will be operated, but not later than 180 days after initial startup, the owner or operator shall conduct an initial performance test to demonstrate compliance with permit condition 14.1. Thereafter, a new performance test must be conducted according to the following requirements, except as allowed in permit condition 14.3:

1. If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed; and
2. If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

14.3 Alternative opacity testing.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.255(f), the owner or operator may elect to comply with the following alternative opacity testing requirements instead of the requirements in permit condition 14.2:

1. Monitor visible emissions from the coal silo to the following requirements:
 - a. Conduct one daily 15-second observation each operating day (during normal operation) when the coal silo is being filled or coal is being removed from the silo. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in § 2.3 of Method 22, Appendix A-7 of 40 CFR Part 60. If visible emissions are observed during any 15-second observation, the owner or operator must adjust operations and demonstrate within 24 hours that no visible emissions are observed from the coal silo. If visible emissions are observed, a Method 9, of Appendix A-4 of 40 CFR Part 60, performance test must be conducted within 45 operating days;
 - b. Conduct monthly visual observations of the coal silo. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible; and
 - c. Conduct a performance test on the coal silo using Method 9, of Appendix A-4 of 40 CFR Part 60, at least once every 5 calendar years.
2. Prepare and implement a written site-specific monitoring plan for a digital opacity compliance system for approval by the Secretary. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period.

14.4 Opacity testing methods.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.257(a)(1) and (2), the

owner or operator shall determine compliance with permit condition 14.1 as specified below:

1. 40 CFR Part 60, Appendix A-4, Method 9 shall be used to determine opacity with the following exceptions:
 - a. The duration of the performance test shall be 1 hour (ten 6-minute averages); and
 - b. If during the initial 30 minutes of observation, all of the 60minute average opacity readings are less than or equal to half the applicable opacity limit, thee observations period may be reduce to 30 minutes instead of 1 hour.
2. The following requirements must be followed for determining compliance:
 - a. The minimum distance between the observer and the coal silo (T-291) shall be 5.0 meters (16 feet) and the sun shall be oriented in the 140-degree sector of the back;
 - b. The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction; and
 - c. The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

14.5 Opacity logbook.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.258(a)(2), (3), and (8), the owner or operator shall maintain a written or electronic logbook on-site that contains the following:

1. The date and time of periodic visual observations, noting when visible emissions occur, what corrective actions were taken to reduce visible emissions, and the results of those actions;
2. The amount and type of coal processed each calendar month; and
3. If applicable, a copy of the monitoring plan for a digital opacity compliance system and monthly certification the plan was implemented as described. Any variance from plan, if any, shall be noted.

14.6 Semiannual report – Coal silo.

In accordance with ARSD 74:36:07:16, as referenced to 40 CFR § 60.258(b)(3), the owner or operator shall submit a semiannual excess emissions report to the Secretary. Excess emissions are defined as all 6-minute average opacities that exceed the opacity limit in permit condition 14.1.

The semiannual report must be postmarked no later than 30 days after the end of the reporting period (e.g., July 30th and January 30th). The owner or operator may combine the reporting requirements in this condition with any other semiannual reports required by this permit.

15.0 Best Available Control Technology (BACT) Limits

15.1 BACT limits for sulfur dioxide.

In accordance with ARSD 74:36:09:02, as referenced to 40 CFR §52.21(j)(3), the owner or operator shall not allow Unit #45 (Kiln #2) to emit sulfur dioxide in excess of 45.0 pounds per

hour based on a 3-hour rolling average, excluding startup, shutdown and malfunctions; 0.60 pounds per ton of stone feed based on a 30-day rolling average, excluding startup, shutdown and malfunctions; and 131.4 tons per 12-month rolling period, including startup, shutdown and malfunctions. Compliance with the emission limits shall be based on a continuous emission monitoring system.

15.2 BACT limits for nitrogen oxides.

In accordance with ARSD 74:36:09:02, as referenced to 40 CFR § 52.21(j)(3), the owner or operator shall not allow Unit #45 (Kiln #2) to emit nitrogen oxides in excess of 100.0 pounds per hour based on a 24-hour rolling average, excluding startup, shutdown and malfunctions; 2.0 pounds per ton stone feed based on a 24-hour rolling average, excluding startup, shutdown and malfunctions; and 438.0 tons per 12-month rolling period, including startup, shutdown and malfunctions. Compliance with the emission limits shall be based on a continuous emission monitoring system.

15.3 BACT limits for carbon monoxide.

In accordance with ARSD 74:36:09:02, as referenced to 40 CFR § 52.21(j)(3), the owner or operator shall not allow Unit #45 (Kiln #2) to emit carbon monoxide in excess of 80.0 pounds per hour based on a 24-hour rolling average, excluding startup, shutdown and malfunctions; 1.60 pounds per ton stone feed based on a 24-hour rolling average, excluding startup, shutdown and malfunctions; 350.4 tons per 12-month rolling period, including startup, shutdown and malfunctions. Compliance with the emission limits shall be based on a continuous emission monitoring system.