



Environmental Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

2/9/2011

Certified Mail

Eric Dombrowski  
DiGeronimo Aggregates LLC  
8900 Hemlock Rd  
Independence, OH 44131

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 1318270383  
Permit Number: P0107238  
Permit Type: Administrative Modification  
County: Cuyahoga

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Plain Dealer. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, Ohio 43216-1049

and Cleveland Division of Air Quality  
2nd Floor  
75 Erieview Plaza  
Cleveland, OH 44114

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,

  
Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 - Via E-Mail Notification  
CDAQ; Pennsylvania; Canada





Permit Strategy Write-Up

1. Check all that apply:

[x] Synthetic Minor Determination

[ ] Netting Determination

2. Source Description: Rotary kiln for processing shale, primarily fueled by coal.

3. Facility Emissions and Attainment Status: DiGeronimo Aggregates LLC reporting the following total emissions for 2009 in tons per year (TPY). SO2: 427.59, NOX: 60.78, OC: 0.41, PM(Filterable Portion Only):85.4, PM10(Filterable Portion Only): 63.91, PM2.5 (Filterable Portion Only): 63.91, VOC: 0.41, CO: 53.99.

Cuyahoga County is currently non-attainment for PM2.5.

4. Source Emissions: This administrative modification to PTI 13-04605 will restrict facility-wide NOx emissions below 99 tons/yr to avoid OAC rule 3745-110 (NOx RACT Rule). As stated, coal use for the rotary kiln will be limited to 14,754 TPY. The emissions from this source are as followed: NOx: 90.0 TPY, CO:82.18 TPY, SO2: 797.84 TPY, PM: 121.13 TPY, OC/VOC: 1.1 TPY, HCl: 0.89 TPY.

5. Conclusion: The maximum annual coal firing rate for emissions unit P901 shall not exceed 14,754 tons coal per year, based on a rolling, 12-month summation of the coal firing rates. Recordkeeping of coal and federally enforceable limitations prevents triggering Modeling, PSD, NNSR and OAC rule 3745-110 (NOx RACT).

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Table with 2 columns: Emissions, P901. Rows include NOx (90.00 TPY), CO (82.18 TPY), SO2 (797.84 TPY), PM (121.13 TPY), OC/VOC (1.1 TPY), HCl (0.89 TPY).



PUBLIC NOTICE  
Issuance of Draft Air Pollution Permit-To-Install  
DiGeronimo Aggregates LLC

Issue Date: 2/9/2011  
Permit Number: P0107238  
Permit Type: Administrative Modification  
Permit Description: This is an administrative modification to PTI 13-04605, issued 8/29/2006 to establish synthetic minor permit limitations to restrict facility-wide NOx emissions below 99 tons/yr to avoid OAC rule 3745-110 (NOx RACT Rule).  
Facility ID: 1318270383  
Facility Location: DiGeronimo Aggregates LLC  
8900 Hemlock Road,  
Independence, OH 44131-0000  
Facility Description: All Other Nonmetallic Mineral Mining

Scott J. Nally, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio, has issued a draft action of an air pollution control permit-to-install (PTI) for an air contaminant source at the location identified above on the date indicated. Installation of the air contaminant source may proceed upon final issuance of the PTI. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to David Hearne at Cleveland Division of Air Quality, 2nd Floor 75 Erieview Plaza, Cleveland, OH 44114 or (216)664-2297. The permit can be downloaded from the Web page: [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc)





**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install  
for  
DiGeronimo Aggregates LLC**

Facility ID: 1318270383  
Permit Number: P0107238  
Permit Type: Administrative Modification  
Issued: 2/9/2011  
Effective: To be entered upon final issuance





Division of Air Pollution Control
Permit-to-Install
for
DiGeronimo Aggregates LLC

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## Authorization

Facility ID: 1318270383  
Facility Description: Mining and processing of raw shale to expanded shale -- Haydite.  
Application Number(s): A0040356  
Permit Number: P0107238  
Permit Description: This is an administrative modification to PTI 13-04605, issued 8/29/2006 to establish synthetic minor permit limitations to restrict facility-wide NOx emissions below 99 tons/yr to avoid OAC rule 3745-110 (NOx RACT Rule).  
Permit Type: Administrative Modification  
Permit Fee: \$450.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 2/9/2011  
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

DiGeronimo Aggregates LLC  
8900 Hemlock Road  
Independence, OH 44131-0000

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality  
2nd Floor  
75 Erieview Plaza  
Cleveland, OH 44114  
(216)664-2297

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally  
Director



## **Authorization (continued)**

Permit Number: P0107238

Permit Description: This is an administrative modification to PTI 13-04605, issued 8/29/2006 to establish synthetic minor permit limitations to restrict facility-wide NOx emissions below 99 tons/yr to avoid OAC rule 3745-110 (NOx RACT Rule).

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	#4 ROTARY KILN
Superseded Permit Number:	13-04605
General Permit Category and Type:	Not Applicable



## **A. Standard Terms and Conditions**



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

**Effective Date:** To be entered upon final issuance

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

#### 4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Cleveland Division of Air Quality.
  - (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations,

excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Cleveland Division of Air Quality. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

- (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Cleveland Division of Air Quality every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## 5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Cleveland Division of Air Quality in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## 6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

**Effective Date:** To be entered upon final issuance

- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Cleveland Division of Air Quality concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

## **8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

## **9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Cleveland Division of Air Quality.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Cleveland Division of Air Quality. If no deviations occurred during a calendar quarter, the permittee shall submit a

quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All

records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## 12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

## 13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

## 14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

## 15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

**18. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

**19. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

## **B. Facility-Wide Terms and Conditions**

**Effective Date:** To be entered upon final issuance

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.

## **C. Emissions Unit Terms and Conditions**



1. P901, #4 ROTARY KILN

Operations, Property and/or Equipment Description:

Rotary kiln for processing shale, primarily fueled by coal.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Particulate emissions (PE) and particulate matter emissions less than 10 microns in diameter (PM<sub>10</sub> emissions), filterable plus condensable, from the baghouse stack serving this emissions unit shall not exceed 32.94 lb/hour and 121.13 tons per rolling, 12-months.</p> <p>Visible emissions of fugitive dust shall not exceed 10% opacity as a 6-minute average from any non-stack egress point at this emissions unit.</p> <p>The permittee shall employ best available control measures to minimize or eliminate visible emissions of fugitive dust. See b)(2)a below.</p> <p>Nitrogen oxides emissions from this emissions unit shall not exceed 45.0 lb/hr.</p> <p>Carbon monoxide emissions from this emissions unit shall not exceed 41.1 lb/hr.</p> <p>Organic and volatile organic compound emissions from this emissions unit shall not exceed 0.50 lb/hr.</p> <p>Emissions of hydrogen chloride (HCl) from this emissions unit shall not exceed</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.44 lb/hr.  The requirements of this rule also includes compliance with the requirements of OAC rule 3745-18 06(E)(1), OAC rule 3745-31-05(D), and 40 CFR Part 60, Subpart UUU.  See c)(1) below.
b.	OAC rule 3745-17-07(A)(1)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to NSPS 40 CFR 60 Subpart UUU.
c.	OAC rule 3745-17-07(B)(1)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-08(B)	The control requirements specified or established by this rule are equivalent to or less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-11(B)(1)	The PE limitation specified in this rule is less stringent than the particulate emission limitations established pursuant to 40 CFR Part 60, Subpart UUU and OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-06(E)(1)	Sulfur dioxide emissions from this emissions unit shall not exceed 270.2 lb/hr.
g.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Modeling, PSD, Nonattainment NSR and OAC rule 3745-110 (NO <sub>x</sub> RACT Rule).	797.84 tons SO <sub>2</sub> /rolling, 12-months; 90.0 tons NO <sub>x</sub> /rolling, 12-months; 82.18 tons CO/ rolling, 12-months; 1.1 ton OC/VOC/rolling, 12-months; 0.89 ton HCl/rolling, 12-months.  See c)(3) and c)(4) below.
h.	40 CFR Part 60, Subpart UUU	PE/PM <sub>10</sub> (filterable) shall not exceed 0.040 gr/dscf; and  Visible particulate emissions from the baghouse stack shall not exceed 10% opacity as a 6-minute block average.

(2) Additional Terms and Conditions

- a. Best available control measures consisting of sufficient air flow pulled from the downstream end of the rotary kiln to achieve 99% or better capture of fugitive emissions. The permittee shall operate and maintain a system for the capture and collection of particulate emissions from this emissions unit that shall be sufficient to minimize or eliminate visible emissions of fugitive dust from this emissions unit.
- b. With the exception of OC/VOC emissions, the emission limits established above are based on burning coal which is the worst-case fuel that generates the highest emissions. The OC/VOC emission limit was established based on burning natural gas which results in the highest emission rate.

c) Operational Restrictions

- (1) The permittee shall employ pulverized coal to fire the burners associated with this emissions unit at a rate that shall not exceed 3.69 tons/hour, in order to comply with OAC rule 3745-18-06(E).
- (2) The sulfur content of the coal burned shall not exceed 2.5% by weight dry basis. Compliance with this specification shall be determined by using the analytical results proved by the permittee or coal supplier on a grab sample taken per shipment and analyzed as part of a monthly composite analysis.
- (3) The maximum annual coal firing rate for emissions unit P901 shall not exceed 14,754 tons coal per year, based on a rolling, 12-month summation of the coal firing rates.
  - a. To ensure enforceability during the first twelve months of operation following issuance of this permit, the permittee shall not exceed the coal firing levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Coal Fired: (Tons of Coal)</u>
1	2,657
1-2	5,314
1-3	7,971
1-4	10,628
1-5	13,285
1-6	14,754
1-7	14,754

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1-8	14,754
1-9	14,754
1-10	14,754
1-11	14,754
1-12	14,754

- b. After the first 12 calendar months of operation, compliance with the annual coal firing rate limitation of 14,754 tons of coal for P901 shall be based on a rolling, 12-month summation of the coal firing rates.
- (4) The maximum annual rate of processing shale for emissions unit P901 shall not exceed 350,000 tons shale per year, based on a rolling, 12-month summation of the shale processing rates.
  - (5) The pressure drop across the baghouse shall be maintained within the range of 0.50 to 10.0 inches of water while the emissions unit is in operation.
  - (6) The permittee shall maintain the forced draft fan at the shale charging chute to the kiln and the baghouse fan in good working order to prevent shale fines from becoming airborne.
  - (7) The lime injection rate shall be continuously maintained, while the emissions unit is operating, on a monthly average basis at 300 lb/hr or at a pounds/hour of lime established during the most recent SO<sub>2</sub> compliance test that demonstrated compliance.
  - (8) The permittee shall use only lime slurry as a wet sorbent in this emissions unit.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall monitor and record the coal firing rate either electronically or in an operations log on an hourly basis or properly install, operate and maintain equipment to monitor the coal firing rate while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).
  - (2) **Requirements for the Sampling and Analysis of the Coal Burned:** The permittee shall collect or require the coal supplier to collect a representative grab sample of each shipment of coal that is received for burning in this emissions unit. The permittee or the coal supplier shall collect monthly composite testing of grab samples taken per shipment during the previous month. The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Collection of a Gross Sample of Coal, and analyze the coal sample for sulfur content (percent by weight) and heat content (Btu/pound of coal) for each shipment of coal. The analytical methods to be used to determine the sulfur content and heat content shall be: ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in

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the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Isooperibol Calorimeters, respectively. Alternative, equivalent methods may be used upon written approval by the Cleveland Division of Air Quality.

- (3) Record Keeping Requirements for Coal Usage and Quality:
- For each shipment of coal received for burning in this emissions unit, the permittee shall maintain records of the total quantity of coal received, and the permittee's or coal supplier's analyses for sulfur content.
- (4) The permittee shall collect and record the following information each month for emissions unit P901:
- the tons of coal fired into the kiln daily and the total tons per month;
  - during the first 12 calendar months of operation, the cumulative coal firing rate, for each calendar month, in tons;
  - beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the coal fired, in tons.
- (5) The permittee shall collect and record the following information each month for emissions unit P901:
- the weight of shale processed, in tons, and the total tons per month;
  - during the first 12 calendar months of operation, the cumulative shale processing rate, for each calendar month, in tons;
  - beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the shale processed, in tons.
- (6) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendation, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
- (7) The permittee shall maintain records when the forced draft fan at the shale charging chute to the kiln or the baghouse fan did not operate while the emissions unit was in operation.
- (8) The permittee shall collect and record the following information each month for this emissions unit:
- the number of hours the emissions unit was in operation;
  - the total monthly feed rate of lime, in pounds; and

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- c. the average hourly feed rate of lime calculated as the total monthly feed rate of lime divided by the number of hours the emissions unit was in operation.
- (9) For each day during which the permittee uses a wet sorbent other than lime slurry, the permittee shall maintain a record of the type and quantity of wet sorbent used in this emissions unit.
- (10) The permittee shall perform weekly checks, when the emissions unit is processing materials and when the weather conditions allow, for any visible emissions of fugitive dust (excluding uncombined water vapor) from the non-stack egress points serving this emissions unit. The presence or absence of any visible emissions shall be recorded electronically or in an operations log. If visible emissions are observed, the permittee shall also record the following:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (11) Pursuant to 40 CFR 60.734(a), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the stack of the baghouse. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR 60.13.

Prior to the installation of the continuous opacity monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 1 for approval by the Ohio EPA, Central Office.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

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- (12) Within 60 days of the effective date of this permit or modification to the system, the permittee shall install, operate, and maintain a continuous opacity monitoring system to continuously monitor and record the opacity of the particulate emissions from this emissions unit. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60. The permittee shall maintain records of data obtained by the continuous opacity monitoring system including, but not limited to:
- a. percent opacity on an instantaneous (one-minute) and 6-minute block average basis;
  - b. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
  - c. hours of operation of the emissions unit, continuous opacity monitoring system, and control equipment;
  - d. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous opacity monitoring system;
  - e. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous opacity monitoring system; as well as,
  - f. the reason (if known) and the corrective actions taken (if any) for each such event in (d) and (e).

Pursuant to 40 CFR 60.735(a), records of the measurements required in 40 CFR 60.734 (continuous opacity monitoring system) shall be retained for at least two (2) years.

- (13) The permittee shall collect and record the following information each month during which coal was burned for this emissions unit:
- a. the number of hours the emissions unit was in operation;
  - b. the total monthly amount of shale processed and the coal fired, in tons; and
  - c. the average hourly SO<sub>2</sub> emission rate calculated in accordance with the following equation:

$$\text{lb SO}_2/\text{hr} = [\text{tons shale processed} \times \text{lb SO}_2/\text{ton shale} + \text{tons coal fired} \times 100 \text{ lb SO}_2/\text{ton coal}] / (\text{hours of operation}) \times (1 - \text{control efficiency})$$

The uncontrolled emission factor for shale shall be calculated using the difference in sulfur content between the shale and the finished product in accordance with the test methods identified in term d)(15) below and the following equation:

$$\text{lb SO}_2/\text{ton shale} = [\text{sulfur content of raw shale} - \text{sulfur content of finished product}] \times 2000 \text{ lb/ton} \times 64 \text{ lb SO}_2/\text{mole} / 32 \text{ lb sulfur/mole}$$

The uncontrolled emission factor for coal was calculated assuming that all of the sulfur in the coal is oxidized to SO<sub>2</sub>. The permittee shall use the control efficiency determined

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from the most recent stack test that demonstrated compliance with the allowable hourly emission rate.

- (14) The permittee shall collect and record the following information each month, during which re-refined used #4 oil and/or natural gas is burned, for this emissions unit:
- a. the number of hours the emissions unit was in operation;
  - b. the total monthly amount of shale processed (tons), and the amount of natural gas (mmcf) and/or re-refined used #4 oil (gallons) ; and
  - c. the average hourly SO<sub>2</sub> emission rate calculated in accordance with the following equation:

for natural gas:

$$\text{lb SO}_2/\text{hr} = [\text{tons shale processed} \times \text{lb SO}_2/\text{ton shale} + \text{mmcf natural gas fired} \times 0.6 \text{ lb SO}_2/\text{mmcf}] / (\text{hours of operation}) \times (1 - \text{control efficiency})$$

for re-refined used #4 oil:

$$\text{lb SO}_2/\text{hr} = [\text{tons shale processed} \times \text{lb SO}_2/\text{ton shale} + \text{gals \#4 oil fired} \times 113 \text{ lb SO}_2/1000 \text{ gals}] / (\text{hours of operation}) \times (1 - \text{control efficiency})$$

The uncontrolled emission factor for shale shall be calculated using the difference in sulfur content between the shale and the finished product in accordance with the test methods identified in term d)(15) below and the following equation:

$$\text{lb SO}_2 / \text{ton shale} = [\text{sulfur content of raw shale} - \text{sulfur content of finished product}] \times 2000 \text{ lb/ton} \times 64 \text{ lb SO}_2/\text{mole} / 32 \text{ lb sulfur/mole}$$

The permittee shall use the control efficiency determined from the most recent stack test that demonstrated compliance with the allowable hourly emission rate.

- (15) The weighted average sulfur content of the raw and expanded (Haydite) shale processed in the kiln shall be determined not less than once per month and compliance with the SO<sub>2</sub> emission limit verified by using the analytical results obtained. The permittee shall use analytical methods EPA Method 6010B or ASTM method D4292 to determine the sulfur content.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly coal firing rate deviation (excursion) reports that identify all periods of time during which the hourly coal firing rate did not comply with the allowable rate specified above. The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
  - (2) Reporting Requirements for the Coal Usage and Quality Data:

The permittee shall submit, on a quarterly basis, copies of the permittee's or coal supplier's analyses (wet and/or dry) for each shipment of coal that is received for burning in this emissions unit. The permittee's or coal supplier's analyses shall document the

sulfur content (percent by weight) and heat content (btu/lb) of each shipment of coal. The following information shall also be included with the copies of the permittee's or coal supplier's analyses:

- a. the total quantity of coal received in each shipment (tons); and
- b. the weighted\* average sulfur content.

\* In proportion to the quantity of coal received in each shipment during the calendar month.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the coal shipments received during the previous calendar quarters.

- (3) The permittee shall submit deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify all exceedances of the rolling, 12-month coal firing rate limitation for P901 and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative coal firing levels for P901. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall submit deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify all exceedances of the rolling, 12-month shale processing rate limitation for P901 and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative shale processing levels for P901. Each report shall be submitted within 30 days after the deviation occurs.
- (5) The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (6) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the forced draft fan at the shale charging chute and/or the baghouse fan did not operate while the emissions unit was in operation. The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (7) The permittee shall submit deviation (excursion) reports that identify each month during which the average hourly feed rate of the lime was not maintained at or above the required level specified above. Each report shall be submitted within 30 days after the deviation occurs.
- (8) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a wet sorbent other than lime slurry was used in this emissions unit.
- (9) The permittee shall submit semiannual written reports that:
  - a. identify all days during which any visible emissions of fugitive dust were observed from the non-stack egress points serving this emissions unit; and

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- b. describe any corrective actions taken to eliminate the visible emissions.

These reports shall be submitted to the Cleveland DAQ by January 31 and July 31 of each year and shall cover the previous 6-month calendar period.

- (10) The permittee shall submit quarterly written reports of exceedances of control device operating parameters required to be monitored by 40 CFR 60.734 of Subpart UUU. For the purpose of these reports, exceedances are defined as follows: all 6-minute block averages during which the average opacity from dry control devices is greater than 10 percent.

The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous opacity monitoring system:

- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Cleveland Division of Air Quality, documenting all instances of opacity values in excess of any limitation specified in this permit, 40 CFR Part 60, OAC rule 3745-17-07, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude (percent opacity) of each 6-minute block average exceeding the applicable opacity limitation(s), as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance. If there are no exceedances during the calendar quarter, the permittee shall submit a statement to that effect.
- b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:
- i. the facility name and address;
  - ii. the manufacturer and model number of the continuous opacity monitor;
  - iii. the location of the continuous opacity monitor;
  - iv. the exceedance report as detailed in (a) above;
  - v. the total operating time (hours) of the emissions unit;
  - vi. the total operating time of the continuous opacity monitoring system while the emissions unit was in operation;
  - vii. the date, time, and duration of any/each malfunction\* of the continuous opacity monitoring system, emissions unit, and/or control equipment;
  - viii. the date, time, and duration of any downtime\* of the continuous opacity monitoring system and/or control equipment while the emissions unit was in operation; and
  - ix. the reason (if known) and the corrective actions taken (if any) for each event in e)(7) and e)(8) .

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Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* Each downtime and malfunction event shall be reported regardless if there is an exceedance of the opacity limit.

- (11) The permittee shall submit quarterly deviation (excursion) reports that identify any month during which the average hourly SO<sub>2</sub> emission rate (section d)(13) and d)(14)) exceeded 270.2 pounds SO<sub>2</sub> per hour and the actual average hourly SO<sub>2</sub> emission rate for each such month. The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (12) The permittee shall submit annual reports to the Cleveland DAQ that specify, for the baghouse stack, the total particulate and PM10 emissions, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfur dioxide, and HCl emissions, in tons, from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emissions Report.
- (13) The permittee shall submit, on a quarterly basis, copies of the permittee's sulfur analysis of the shale for each month in the quarter. The permittee's sulfur analyses shall document the sulfur content (percent) of both the raw shale and the expanded (Haydite) shale for each month. The following information shall also be included with the copies of the permittee's sulfur analyses:
  - a. the total quantity of raw shale processed (tons) during each calendar month;
  - b. the weighted\* average sulfur content (percent) of the raw shale processed during each calendar month; and
  - c. the weighted\* average sulfur content (percent) of the Haydite produced during each calendar month.

\* Determined in accordance with term d)(15).

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September) and shall cover the shale processed, unless an alternative schedule has been established and approved by the Director (the Cleveland Division of Air Quality).

- (14) The permittee shall submit all reports in accordance with the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in Section b)(1) of these terms and conditions shall be determined in accordance with the following method(s):
    - a. Emission Limitations:

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PE and PM<sub>10</sub> emissions (filterable plus condensible) from the baghouse stack serving this emissions unit shall not exceed 32.94 lb/hour (assume all PE is PM<sub>10</sub>).

Applicable Compliance Method:

The pound per hour limit was established in accordance with the following calculation:

$$\text{PE (filterable + condensible) (lb/hr)} = (200 \text{ lb PE/ton coal} \times 3.69 \text{ tons coal/hr} + 130 \text{ lb PE/ton shale} \times 45 \text{ tons/hr}) \times (1 - 99.5/100) = 32.94 \text{ lb/hr}$$

Compliance shall be determined by performing a stack test using USEPA methods 1 through 5, 201 OR 201A, and Method 202 (as appropriate) of 40 CFR Part 60, Appendix A for particulates.

Alternatively, compliance may be determined using an emission factor determined from the most recent stack test which demonstrated compliance with the pound/hour limitation.

The potential to emit PE when burning natural gas or #4 re-refined used oil is less than the allowable limit established; therefore, compliance will be assumed when burning these fuels. The emission factor for natural gas is 7.6 lb PE/mmcf and the emission factor for #4 fuel oil is 8.3 lb PE/1000 gallons (filterable + condensible). These emission factors were obtained from AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998) Sections 1.3 and 1.4 respectively. If required, when burning natural gas or #4 re-refined used oil, compliance shall be determined by performing a stack test using USEPA methods 1 through 5, 201 or 201A, and Method 202 (as appropriate) of 40 CFR Part 60, Appendix A for particulates.

b. Emission Limitations:

PE and PM<sub>10</sub> (filterable plus condensible) emissions from the baghouse stack serving this emissions unit shall not exceed 121.13 TPY (assume all PE is PM<sub>10</sub>).

Applicable Compliance Method:

The annual emission limitations were established by using the following equation:

$$\text{PE (TPY)} = (200 \text{ lb PE/ton coal} \times 14,754 \text{ tons coal/yr} + 130 \text{ lb PE/ton shale} \times 350,000 \text{ tons shale/yr}) \times (1 - 99.5/100) / 2000 \text{ lb/ton} = 121.13 \text{ TPY}$$

Compliance shall be determined based on the recordkeeping and reporting for the annual coal and shale usage and emission factors developed from the most recent stack test that demonstrated compliance (if available).

The potential to emit PE when burning natural gas or #4 re-refined used oil at the restricted annual shale processing rate is less than the allowable limit established; therefore, compliance with the annual limit will be assumed when burning these fuels provided compliance is maintained with the annual restriction on shale processed

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- c. Emission Limitation:  
Visible emissions of fugitive dust shall not exceed 10% opacity as a 6-minute block average from any non-stack egress point.

## Applicable Compliance Method:

Compliance with the visible fugitive emission limitations shall be determined by performing an opacity performance test using USEPA Method 9 of 40 CFR Part 60, Appendix A by observing the non-stack egress points serving this emissions unit.

- d. Emission Limitation:  
Nitrogen oxides emissions from this emissions unit shall not exceed 45.0 lb/hr.

## Applicable Compliance Method:

The pound per hour emission limit was established using the maximum coal burning rate from the following equation:

$$\text{NO}_x \text{ (lb/hr)} = 12.2 \text{ lb NO}_x\text{/ton coal} \times 3.69 \text{ tons coal/hr} = 45.0 \text{ lb NO}_x\text{/hr.}$$

where the emission factor of 12.2 lb NO<sub>x</sub>/ton of coal is provided by the burner manufacturer. The potential to emit NO<sub>x</sub> for natural gas and #4 fuel oil are each less than for coal; therefore, compliance will be assumed when burning these fuels. The emission factor for natural gas is 50 lb NO<sub>x</sub>/mmcf and the emission factor for #4 fuel oil is 20 lb NO<sub>x</sub>/1000 gallons. These emission factors were obtained from AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998) Sections 1.3 and 1.4 respectively.

Compliance shall be determined by performing a stack test using USEPA test methods 1 through 4 and 7 or 7E of 40 CFR Part 60, Appendix A.

- e. Emission Limitation:  
Carbon monoxide emissions from this emissions unit shall not exceed 41.1 lb/hr.

## Applicable Compliance Method:

Compliance shall be determined in accordance with the following equation:

$$\text{CO (lb/hr)} = 11.14 \text{ lb CO/ton coal} \times 3.69 \text{ tons coal/hr} = 41.1 \text{ lb CO/hour.}$$

where the emission factor of 11.14 lb CO/ton of coal is based on the October 14, 2005 stack test. The stack test determined that for natural gas and oil 1.50 moles of CO are emitted per mole of NO<sub>x</sub>. It is assumed that the same ratio will hold true for coal. Therefore, the CO emission factor is calculated as follows:

$$\text{CO (lb/ton coal)} = 12.2 \text{ lb NO}_x\text{/ton coal} \times 1.5 \text{ mole CO/mole NO}_x \times 28 \text{ lb CO/mole CO} / 46 \text{ lb NO}_x\text{/mole NO}_x = 11.14 \text{ lb CO/ton of coal}$$

The potential to emit CO for natural gas and #4 fuel oil are each less than for coal; therefore, compliance will be assumed when burning these fuels. The emission factor for natural gas is 84 lb CO/mmcf and the emission factor for #4 fuel oil is 5 lb CO/1000 gallons. These emission factors were obtained from AP-

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42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998) Sections 1.3 and 1.4 respectively.

Compliance shall be determined by performing a stack test using USEPA test methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A.

- f. Emission Limitation:  
Organic and volatile organic compound emissions from this emissions unit shall not exceed 0.50 lb/hr.

Applicable Compliance Method:

The only significant amount of OC/VOC produced is in the combustion of natural gas. The pound per hour limit was established from the AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998), Table 1.4-2, Section 1.4 emission factor (5.5 lb VOC/mmcf) for VOC in natural gas combustion in accordance with the following calculation:

$$\text{VOC (lb/hr)} = 5.5 \text{ lb VOC/mmcf} \times 0.09 \text{ mmcf/hr} = 0.50 \text{ lb VOC/hr}$$

The potential to emit OC/VOC for coal and #4 fuel oil are each less than for natural gas; therefore, compliance will be assumed when burning these fuels. The emission factor for coal is 0.05 lb OC/ton coal and the emission factor for #4 fuel oil is 0.252 lb OC/1000 gallons. These emission factors were obtained from AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998) Sections 1.1 and 1.4 respectively.

If required, compliance shall be determined by performing a stack test using USEPA test methods 1 through 4 and 25 or 25A of 40 CFR Part 60, Appendix A.

- g. Emission Limitation:  
Hydrogen Chloride (HCl) emissions from this emissions unit shall not exceed 0.44 lb/hr.

Applicable Compliance Method:

The only significant amount of HCl produced is in the combustion of coal. The pound per hour and tons per year limits were established from the AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Fifth Edition, (July 1998), Table 1.1-15, Section 1.1, Page 1.1-36 emission factor for HCl in coal combustion in accordance with the following calculations:

$$\text{HCl (lb/hr)} = 1.2 \text{ (lb Unc. HCl/ton coal)} * 3.69 \text{ (tons coal/hr)}(0.1) = 0.44 \text{ lb HCl/hr.}$$

There are no HCl emission factors for natural gas and #4 fuel oil combustion; therefore, compliance will be assumed when burning these fuels.

If required, compliance shall be determined by performing a stack test using USEPA test methods 1 through 4 and 26 or 26A of 40 CFR Part 60, Appendix A.

- h. Emission Limitation:  
Sulfur dioxide emissions from this emissions unit shall not exceed 270.2 lb/hr.



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Applicable Compliance Method:

Compliance shall be based on the record keeping specified in section d)(13) and d)(14) of these terms and conditions.

In addition, compliance shall also be determined by performing a stack test using USEPA test methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A.

i. Emission Limitation for P901

- 797.84 tons SO<sub>2</sub>/rolling, 12-months;
- 90.0 tons NO<sub>x</sub>/rolling, 12-months;
- 82.18 tons CO/rolling, 12-months;
- 1.1 ton OC/VOC/rolling, 12-months;
- 0.89 ton HCl/rolling, 12-months;

Applicable Compliance Method:

Compliance shall be determined based on the record keeping and reporting in d)(3) and d)(4) and e)(2) and e)(3) respectively for the total annual coal fired and shale processed and using the following equations:

$$\text{tons SO}_2 = [100 \text{ lb SO}_2/\text{ton coal} \times \text{tons coal/year} + \text{lb SO}_2/\text{ton shale} \times \text{tons shale/year}] (1 - \text{control efficiency}) / 2000 \text{ lb/ton}$$

$$\text{tons NO}_x = 12.2 \text{ lb NO}_x / \text{ton coal} \times \text{tons coal/year} / 2000 \text{ lb/ton}$$

$$\text{tons CO} = 11.14 \text{ lb CO/ton coal} \times \text{tons coal/year} / 2000 \text{ lb/ton}$$

$$\text{tons OC/VOC} = 5.5 \text{ lb OC/VOC/mmcf gas} \times \text{mmcf gas/year} / 2000 \text{ lb/ton}$$

$$\text{tons HCl} = 1.2 \text{ lb HCl/ton coal} \times \text{tons coal/year} (0.1) / 2000 \text{ lb/ton}$$

Where:

tons coal/year = the actual amount of coal burned during any rolling, 12-month period;

The uncontrolled SO<sub>2</sub> emission factor for shale shall be calculated using the difference in sulfur content between the shale and the finished product in accordance with the test methods identified in term d)(15) and the following equation:

$$\text{lb SO}_2 / \text{ton shale} = [\text{sulfur content of raw shale} - \text{sulfur content of finished product}] \times 2000 \text{ lb/ton} \times 64 \text{ lb SO}_2/\text{mole} / 32 \text{ lb sulfur/mole}$$

The permittee shall use the control efficiency determined from the most recent stack test that demonstrated compliance with the allowable hourly emission rate.

Alternatively, except for SO<sub>2</sub>, compliance may be determined using an emission factor (in lb/ton coal burned) for each pollutant above that was determined from the most recent stack test which demonstrated compliance with the hourly emission limits for each pollutant.

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Except for OC/VOC, the potential to emit for natural gas and #4 fuel oil are each less than for coal; therefore, compliance will be assumed when burning these fuels. The potential to emit OC/VOC for coal and #4 fuel oil are each less than for natural gas; therefore, compliance will be assumed when burning these fuels.

- j. Emission Limitations:  
PE/PM<sub>10</sub> shall not exceed 0.040 gr/dscf (filterable)

Applicable Compliance Method:

Compliance shall be determined by performing a stack test using USEPA methods 1 through 4 and Methods 5 of 40 CFR Part 60, Appendix A for particulates.

- k. Emission Limitations:  
Visible PE emissions shall not exceed 10% opacity as a 6-minute block average at any time for stack emissions.

Applicable Compliance Method:

Compliance with the visible emission limitations shall be determined from the results of the continuous opacity monitor or by performing an opacity performance test using USEPA Method 9 of 40 CFR Part 60, Appendix A.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months after beginning full-time operation of the emissions unit while burning coal following this modification and no less frequently than every five years thereafter.

The emission testing shall be conducted to demonstrate compliance with the allowable particulate (filterable plus condensable), opacity (stack and fugitive), SO<sub>2</sub>, NO<sub>x</sub> and CO emission limitations.

The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulate, opacity (stack and fugitive), SO<sub>2</sub>, NO<sub>x</sub>, and CO:

Particulate: methods 1 through 5, 201 or 201A and Method 202 (as appropriate) of 40 CFR Part 60, Appendix A;

SO<sub>2</sub>: methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;

NO<sub>x</sub>: methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;

Opacity: pursuant to 40 CFR Part 60.736 (b)(2), method 9 of 40 CFR Part 60, Appendix A and the procedures in paragraph 60.11; and

CO: methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

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The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Cleveland Division of Air Quality (Cleveland DAQ). The minimum sample volume collected during each run shall be 60 dscf. The temperature of the kiln shall be monitored and recorded during each test run. The stack test shall be performed in accordance with the requirements established in 40 CFR Part 60.736.

Pursuant to 40 CFR Part 60.736, the sampling time and volume for each test run in Method 5 shall be at least 2 hours and 1.70 dscm (60.03 dscf) and method 9 and the procedures in paragraph 60.11 shall be used to determine opacity from stack emissions.

The type of coal used for the stack tests shall be of the same type (specially content of fines in the coal) and in the same condition as that was used prior to the tests and that will be used after the tests.

Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

The permittee has satisfied the initial stack testing requirements by conducting tests on August 28, 2008.

g) **Miscellaneous Requirements**

- (1) The continuous opacity monitoring system must meet the testing requirements of 40 CFR Part 60.

Within 60 days after installation of the opacity monitor, the permittee shall conduct certification tests on the continuous opacity monitoring system equipment pursuant to 40 CFR Part 60, Appendix B, Performance Specification 1 and ORC section 3704.03(l).

Personnel from the Ohio EPA Central Office and the Cleveland Division of Air Quality shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Cleveland DAQ and one copy to Ohio

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EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous opacity monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1; ORC section 3704.03(I); and ASTM D 6216-98. The letter/document of certification of the continuous opacity monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Cleveland Division of Air Quality upon request.

Ongoing compliance with the opacity limitation contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

- (2) Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous opacity monitoring system, designed to ensure continuous valid and representative readings of opacity and compliance with 40 CFR Part 60. The plan shall include, at a minimum, procedures for conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous opacity monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring that Performance Specification 1 is maintained on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous opacity monitoring system must be kept on site and available for inspection during regular office hours.
- (3) If DiGeronimo demonstrates marginal compliance with the allowable hourly SO<sub>2</sub> emission limitation, then DiGeronimo shall install, operate and maintain an SO<sub>2</sub> continuous emission monitor (CEM) within 180 days after completion of the stack test report. For purposes of this requirement, marginal compliance shall be defined as the actual emission rate determined from stack testing that is greater than 90% of the allowable mass rate of emission. Given the variability of the sulfur content of coal and shale, a demonstration of marginal compliance shall result in continuous emission monitoring that is necessary to ensure that the emissions unit is routinely operating in compliance with an applicable mass emission limitation.

Prior to the installation of the continuous SO<sub>2</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous SO<sub>2</sub> monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the Cleveland Division of Air Quality upon request.

In the event that an SO<sub>2</sub> CEM is needed, the terms and conditions of this permit and the Title V permit, if needed, shall be modified to reflect the installation and operation of an SO<sub>2</sub> CEM.



**Environmental  
Protection Agency**

**Draft Permit-to-Install**  
DiGeronimo Aggregates LLC  
**Permit Number:** P0107238  
**Facility ID:** 1318270383

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