



4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 • FAX/377-7158

KA 263-08-06
February 22, 2010

RECEIVED

FEB 24 2010

BUREAU OF AIR REGULATION

Mr. Al Linero
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

**RE: AC Permit Application for Short Term Trial Test of Alternative Fuel Materials in Kiln
Cemex Construction Material Florida LLC; Facility ID: 0250014**

Dear Mr. Linero:

Enclosed please find four (4) copies of an air construction (AC) permit application for Cemex Construction Materials Florida LLC, Miami Cement Plant. Following our meeting on February 3, 2010, the AC permit application is to request authorization to evaluate clean woody biomass in the cement kiln.

Please feel free to contact me at (352) 377-5822 or mlee@koooglerassociates.com or Charles Walz, Cemex Construction Materials LLC at (305) 229-2955 or charles.walz@cemex.com, if you have any questions regarding this submittal. I sincerely appreciate your time and consideration for this innovative project.

Regards,

Max Lee, PhD., P.E.
Senior Engineer
KOOGLER AND ASSOCIATES, INC.

Enclosure: Application Form

cc: Charles Walz, Cemex Construction Materials LLC



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

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BUREAU OF AIR REGULATION

Identification of Facility

1. Facility Owner/Company Name: CEMEX Construction Materials Florida, LLC	
2. Site Name: Miami Cement Plant	
3. Facility Identification Number: 0250014	
4. Facility Location... Street Address or Other Locator: 1200 NW 137 Avenue City: Miami County: Miami-Dade Zip Code: 33182-1803	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Max Lee, Ph.D., P.E.	
2. Application Contact Mailing Address... Organization/Firm: Koogler and Associates, Inc. Street Address: 4014 NW 13th Street City: Gainesville State: Florida Zip Code: 32609	
3. Application Contact Telephone Numbers... Telephone: (352) 377-5822 ext.13 Fax: (352) 377-7158	
4. Application Contact E-mail Address: MLee@kooglerassociates.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 2/24/10	3. PSD Number (if applicable):
2. Project Number(s): 0250014-031-AC4	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Application is for a 120-day trial period of kiln operating days to burn in the cement kiln precalciner (below stage 5 cyclone), clean woody biomass processed fuel that is supplied by the Miami Dade County Resource Recovery Facility. The trial period will allow Cemex to determine the feasibility to use this processed fuel. Cemex requests to conduct the 120-day trial of up to 5000 tons of biomass processed fuel and will monitor emissions to determine the effect of the fuel on emissions. In the event of operational problems, it is requested that Cemex be allowed to ask for an additional 2000 tons of biomass processed fuel to complete the trial.

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Mr. Robert Rogers, Plant Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: CEMEX Construction Materials Florida, LLC Street Address: 1200 NW 137 Avenue City: Miami State: Florida Zip Code: 33182-1803
3. Owner/Authorized Representative Telephone Numbers... Telephone: (305) 229 – 2962 ext. Fax: (305) 229 - 8015
4. Owner/Authorized Representative E-mail Address: RRogers@cemexusa.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i> _____ Signature _____ Date

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Mr. Robert Rogers, Plant Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: CEMEX Construction Materials Florida, LLC Street Address: 1200 NW 137 Avenue City: Miami State: Florida Zip Code: 33182-1803
3. Owner/Authorized Representative Telephone Numbers... Telephone: (305) 229 - 2962 ext. Fax: (305) 229 - 8015
4. Owner/Authorized Representative E-mail Address: RRogers@cemexusa.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>  Signature  Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Max Lee, Ph.D., P.E. Registration Number: 58091
2. Professional Engineer Mailing Address... Organization/Firm: Koogler and Associates, Inc. Street Address: 4014 NW 13th Street City: Gainesville State: Florida Zip Code: 32609
3. Professional Engineer Telephone Numbers... Telephone: (352) 377-5822 ext.13 Fax: (352) 377-7158
4. Professional Engineer E-mail Address: Mlee@kooglerassociates.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i> Signature _____ Date <u>2/22/10</u> (seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 558.20 North (km) 2851.20		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 25/46/45 Longitude (DD/MM/SS) 80/25/10	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 32	6. Facility SIC(s): 3241, 4953, 3271
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: Lillian DePrimo, Environmental Director
2. Facility Contact Mailing Address... Organization/Firm: CEMEX, Inc. Street Address: 6212 Cement Plant Road City: Knoxville State: TN Zip Code: 37924
3. Facility Contact Telephone Numbers: Telephone: (865) 541-5506 ext. Fax: (865) 541-5595
4. Facility Contact E-mail Address: lillianf.deprimo@cemex.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -
4. Facility Primary Responsible Official E-mail Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
<p>12. Facility Regulatory Classifications Comment: The Miami Cement Plant, is subject to 40 CFR 60, Subpart Y: Standards of Performance for Coal Preparation Plants; 40 CFR 60, Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants; 40 CFR 63, Subpart LLL: National Emission Standards for Hazardous Air Pollutants from Portland Cement Industry.</p>	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter – PM	A	N
Particulate Matter – PM ₁₀	A	N
SO ₂	A	N
NO _x	A	N
CO	A	N
VOC	A	N
SAM	B	N
H114 (Mercury)	A	N
PB	B	N
DIOX (Dioxins/Furans)	B	N
HAPs – Total	A	N

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: April 2005
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: April 2005
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: April 2005

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: A
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: A
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications N/A

1. List of Exempt Emissions Units:
 Attached, Document ID: _____ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications N/A

1. List of Insignificant Activities: (Required for initial/renewal applications only)
 Attached, Document ID: _____ Not Applicable (revision application)
2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
 Attached, Document ID: _____
 Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
 Attached, Document ID: _____
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____
 Equipment/Activities Onsite but Not Required to be Individually Listed
 Not Applicable
5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
 Attached, Document ID: _____ Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable (not a Hg Budget unit)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: **Raw Mill, Kiln, PH/PC and Clinker Cooler**

3. Emissions Unit Identification Number: **018**

4. Emissions Unit Status Code:
A

5. Commence Construction Date:

6. Initial Startup Date: **9/30/2000**

7. Emissions Unit Major Group SIC Code: **32**

8. Federal Program Applicability: (Check all that apply) **N/A**

- Acid Rain Unit
- CAIR Unit
- Hg Budget Unit

9. Package Unit:
Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: Baghouse – High Temperature

2. Control Device or Method Code: 016

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 267 TPH (1-hr) dry preheater feed rate
2. Maximum Production Rate: 162 TPH (1-hr) clinker; 1,300,000 tons/consecutive 12-mo.
3. Maximum Heat Input Rate: million Btu/hr 485
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: Based on Permit No. 0250014-028-AV.

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Kiln		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 359 feet	7. Exit Diameter: 8 feet	
8. Exit Temperature: 464°F (mill operating)	9. Actual Volumetric Flow Rate: 485,168 acfm (mill operating)	10. Water Vapor: 6 %	
11. Maximum Dry Standard Flow Rate: Dscfm 260,600		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Common baghouse for raw mill, kiln, and clinker cooler. Temperature and Flow Rate based on when Raw Mill is operating.			

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; Mineral Products; Cement Manufacturing (Dry Process); Preheater Kiln		
2. Source Classification Code (SCC): 3-05-006-22		3. SCC Units: Tons Preheater Feed
4. Maximum Hourly Rate: 267	5. Maximum Annual Rate: 2,338,920	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Hourly rate is a 1-hour average. Based on Permit No. 0250014-028-AV. Annual rate is based on the hourly rate and 8,760 hours/year.		

Segment Description and Rate: Segment 2 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; Mineral Products; Cement Manufacturing (Dry Process); Clinker Cooler		
2. Source Classification Code (SCC): 3-05-006-14		3. SCC Units: Tons Clinker Produced
4. Maximum Hourly Rate: 162	5. Maximum Annual Rate: 1,300,000	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Hourly rate is a 1-hour average. Based on Permit No. 0250014-028-AV.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Bituminous Coal; Cement Kiln/Dryer – Kiln and Preheater		
2. Source Classification Code (SCC): 3-90-002-01		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 18.7	5. Maximum Annual Rate: 163,812	6. Estimated Annual Activity Factor:
7. Maximum Typical % Sulfur: 0.7	8. Maximum Typical % Ash: 7.9	9. Million Btu per SCC Unit: 26
10. Segment Comment: Hourly rate (24-hour average) based on Permit No. 0250014-028-AV. Annual rate based on the hourly rate and 8,760 hr/yr. Typical % sulfur, % ash, and MMBtu/ton burned based on average actual fuel analysis data.		

Segment Description and Rate: Segment 4 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Natural Gas; Cement Kiln/Dryer – Kiln and Preheater		
2. Source Classification Code (SCC): 3-90-006-02		3. SCC Units: Million Cubic Feet Burned
4. Maximum Hourly Rate: 0.46	5. Maximum Annual Rate: 4,046	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: negligible	8. Maximum % Ash: negligible	9. Million Btu per SCC Unit: 1,050
10. Segment Comment: Maximum rates are based on heat input rate of 485 MMBtu/hr and heat content of 1,050 Btu/scf.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 5 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Coke – Petroleum Coke in Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-008-99		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 16.3	5. Maximum Annual Rate: 142,788	6. Estimated Annual Activity Factor:
7. Maximum Typical % Sulfur: 0.5 – 1.0	8. Maximum Typical % Ash: 0.5 – 5.0	9. Million Btu per SCC Unit: 26.6
10. Segment Comment: Hourly rate (24-hr avg.) based on Permit No. 0250014-028-AV. Annual rate based on the hourly rate and 8,760 hr/yr. Typical % sulfur, % ash, and MMBtu/ton burned based on AP-42 Appendix A.		

Segment Description and Rate: Segment 6 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Liquefied Petroleum Gas – Propane in Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-006-02		3. SCC Units: 1,000 Gallons
4. Maximum Hourly Rate: 5.16	5. Maximum Annual Rate: 45,198	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: negligible	8. Maximum % Ash: negligible	9. Million Btu per SCC Unit: 94
10. Segment Comment: Maximum rates are based on heat input rate of 485 MMBtu/hr and heat content of 94,000 Btu/gal.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 7 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Distillate Oil; Cement Kiln/Dryer – No. 2 Fuel Oil in Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-005-02		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 3.46	5. Maximum Annual Rate: 30,310	6. Estimated Annual Activity Factor:
7. Maximum Typical % Sulfur: 0.2-1.0	8. Maximum % Ash: negligible	9. Million Btu per SCC Unit: 140
10. Segment Comment: Based on 485 MMBtu/hr and heat content of 140,000 Btu/gal. Typical % sulfur, % ash, and MMBtu/1,000 gallons burned based on AP-42 Appendix A.		

Segment Description and Rate: Segment 8 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Residual Oil; Cement Kiln/Dryer – Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-004-02		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 3.23	5. Maximum Annual Rate: 28,295	6. Estimated Annual Activity Factor:
7. Maximum Typical % Sulfur: 0.5-4.0	8. Maximum Typical % Ash: 0.05-0.1	9. Million Btu per SCC Unit: 150
10. Segment Comment: Maximum rates are based on heat input rate of 485 MMBtu/hr and heat content of 150,000 Btu/gal. Typical % sulfur, % ash, and MMBtu/1,000 gallons burned based on AP-42 Appendix A.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 9 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Liquid Waste – On-Spec and Off-Spec Used Oil and Oily Wastewater in Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-013-89		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 3.34	5. Maximum Annual Rate: 31,886	6. Estimated Annual Activity Factor:
7. Maximum Typical % Sulfur: 0.2-4.0	8. Maximum Typical % Ash: 0.05-0.1	9. Million Btu per SCC Unit: 145
10. Segment Comment: Maximum rates are based on heat input rate of 485 MMBtu/hr and heat content of 145,000 Btu/gal. Annual rate based on Permit No. 0250014-009-AV. Typical % sulfur, % ash, and MMBtu/ton burned based on AP-42 Appendix A.		

Segment Description and Rate: Segment 10 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Solid Waste – Kiln and Precalciner		
2. Source Classification Code (SCC): 3-90-012-89		3. SCC Units: Tons Burned
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Segment represents non-hazardous solid waste including tires, tire-derived fuels, oil filters, booms and rags from spill clean up, generated onsite solid waste, unused paper by-products, and clean non-chlorinated plastic by-products.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 11 of 11

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Solid Waste; Clean Woody Biomass (a processed fuel)		
2. Source Classification Code (SCC): 3-90-009-89		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 18.2	5. Maximum Annual Rate: *	6. Estimated Annual Activity Factor:
7. Typical Maximum % Sulfur: 0.13	8. Typical Maximum % Ash: 4.3	9. Million Btu per SCC Unit: 8
10. Segment Comment: * During this feasibility study, the maximum hourly rate of a processed fuel consisting of clean woody biomass will be determined during the 120-day of kiln operation trial period. The heat substitution of the kiln fuel will be less than 30% of 485 mmbtu/hr (24-hr average). This substitution rate of 30% heat input equates to a mass of 18.2 tons per hour (0.3 x 18.7 tons of coal/hr x 26/8 (mmbtu/ton ratio)) of clean woody biomass that will be used during the trial, based on a biomass (wet) heat content of 8 mmbtu/ton. A total of 5000 tons of the process fuel is requested for the trial period. This fuel will be supplied by the Miami-Dade Resource Recovery Facility (see Att. A). Cemex requests that if operational difficulties are experienced, an additional 2,000 tons can be requested in writing to the Department. See Att. C for analyses.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

In-Line Kiln/Raw Mill & Clinker Cooler

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

<p>1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>April 2005</u></p>
<p>2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>April 2005</u></p>
<p>3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>April 2005</u></p>
<p>4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable (construction application)</p>
<p>5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>April 2005</u></p> <p><input type="checkbox"/> Not Applicable</p>
<p>6. Compliance Demonstration Reports/Records:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> Previously Submitted, Date: _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> To be Submitted, Date (if known): _____</p> <p>Test Date(s)/Pollutant(s) Tested: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p> <p>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.</p>
<p>7. Other Information Required by Rule or Statute:</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unregulated shredder and screen Unit

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unregulated shredder and screen Unit

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: **Shredder and Screen**

3. Emissions Unit Identification Number: **xxx**

4. Emissions Unit Status Code: C	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 32
--------------------------------------------	--------------------------------	--------------------------	---------------------------------------------------

8. Federal Program Applicability: (Check all that apply) **N/A**

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:
Request this temporary unit to be unregulated.

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unregulated shredder and screen Unit

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unregulated shredder and screen Unit

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): Diesel Fuel usage Internal Combustion Engine		
2. Source Classification Code (SCC): 20200102		3. SCC Units: 1000 gallons
4. Maximum Hourly Rate: 0.0331	5. Maximum Annual Rate: 4.634	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 137
10. Segment Comment: 630 hp (shredder)+100 hp (screen) = 730hp Shredder fuel max intake= 28.5 gal/hr (Manufact. Spec. sheet-Att B), screen (100 hp) 0.25mmbtu/hr x 1000 gal/137 mmbtu x1/0.4(efficiency estimate) = 4.6 gal/hr 28.5 +4.6 = 33.1 gal/hr ÷ 50 ton/hr x 7000 ton = 4634 gallons Unit engine is capable of at least 50 tons per hour of grinding wood		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Industrial Processes; In-Process Fuel Use; Clean Woody Biomass (a processed fuel) (wet)		
2. Source Classification Code (SCC): 3-90-012-99		3. SCC Units: tons
4. Maximum Hourly Rate: 18.2 *	5. Maximum Annual Rate: *	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.13	8. TypicalMaximum % Ash: 4.3	9. Million Btu per SCC Unit: 8
10. Segment Comment: * see segment comment for EU 018 for biomass and Att. C for analyses		

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unregulated shredder and screen Unit

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>1</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>1</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>1</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:

Attached, Document ID: _____ Not Applicable

ATTACHMENT A
DESCRIPTION OF PROPOSED PROJECT

ATTACHMENT A

DESCRIPTION OF PROPOSED PROJECT

CEMEX Construction Materials Florida LLC operates a cement plant located in Miami, Florida. The cement plant consists of a dry-process kiln with preheater, precalciner, and clinker cooler capable of producing up to 1,300,000 tons per year of clinker. The cement kiln is permitted to use coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on- and off-specification used oil, tires, and non-hazardous solid waste as fuels. CEMEX is requesting a first-stage air construction permit to determine the feasibility through a trial burn if a processed fuel consisting of clean woody biomass material is a viable fuel option. If this trial testing is successful, a more permanent system would be permitted and constructed.

Cemex is requesting to trial burn up to 5,000 tons of a processed fuel consisting of clean woody biomass as an alternative fuel for the kiln to replace less than 30% of the current total allowed heat input to the kiln (485 mmbtu/hr, 24-hour average) per permit 0250014-028-AV. The trial burn would last up to 120 days of kiln operation. Cemex is requesting the permit be issued for a one year period to complete the trial burn.

The biomass will be a processed fuel provided by the Miami-Dade County Resource Recovery Facility (MDCRRF). Cemex requests that if it later determines that the 5000 tons is insufficient to complete the trial burn, the permittee may fire an additional 2000 tons after providing written notification to the Bureau of Air Regulation and the Compliance Authority. Total biomass shall not exceed 7,000 tons.

Cemex believes this project is beneficial to Cemex, the State of Florida, and Dade County. The benefits of the project include:

- 1) Promote a more diverse energy supply,
- 2) Increase the availability and stability of energy sources through use of a locally-generated energy source,

- 3) Reduce greenhouse gas emissions by using a renewable energy source,
- 4) Create more demand for reclaimed biomass which encourages an increase in biomass processing for use as fuel. This increased supply matches the goals of County and State efforts to increase waste diversion and recycling:
<http://www.dep.state.fl.us/waste/recyclinggoal75/default.htm>,
- 5) Promote the goals of the Cemex Sustainable Development Initiative:
http://www.cemex.com/CEMEX_SDR2008/eng/pdf/CEMEX_sdr2008.pdf , and
- 6) Promote related recycling business activities (i.e., employment) in the county and State.

The biomass will be injected pneumatically through an injection port into the bottom section of the precalciner. The installation of the temporary port into the precalciner is proposed during the next planned kiln outage this spring of 2010. If it is determined the biomass sizing is too large to be pneumatically conveyed to the precalciner, Cemex requests the option to grind the processed fuel provided by MDCRRF at the Miami Cement Plant.

Biomass Description – Miami-Dade County Resource Recovery Facility

The MDCRRF operates at 6990 NW 97th Ave., Miami Florida. The 40-acre facility is a part of the Miami-Dade County (County) Integrated Solid Waste Transfer and Disposal System that processes solid waste including clean woody biomass (biomass). Covanta Energy operates the facility per agreement with the County. The facility operates under Title V permit: 0250348-009-AV and Power Plant Site Certification PA 77-08E. The facility has ISO 140001 Certification. The on-site waste streams consist of separately stored, handled, and processed streams of municipal solid waste and biomass. The biomass processing system is completely separate from the municipal solid waste system as highlighted in Figure 1. The biomass is supplied as a processed fuel to several different electric power generating sources throughout the State of Florida. Biomass processing at MDCRRF has been operational for over eleven years. Only a processed fuel consisting of biomass will be provided to Cemex.

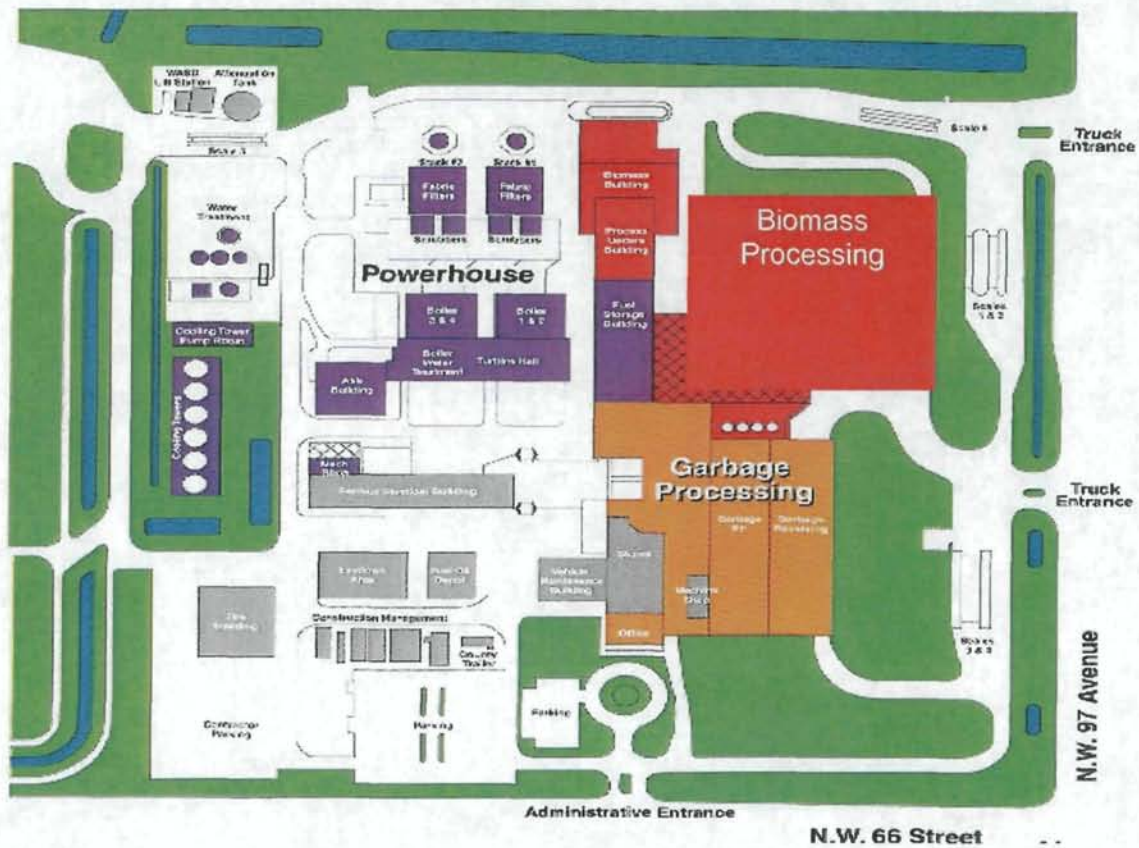


Figure 1. MDCRRF Layout

Biomass- Incoming material to MDCRRF.

The clean woody biomass is delivered to the MDCRRF by Dade County government or government- contracted service related activities such as vegetative storm debris, tree trimmings, and other vegetative maintenance/clean-up activities. Definition of non-processable and hazardous wastes are found in the Operation and Management Agreement (OMA) between Covanta and the County and from the facility Title V permit

Biomass- processing at MDCRRF

The MDCRRF receives up to 400,000 tons per year of biomass, which is converted into processed fuel though the Recycled Trash Improvements (RTI) process (shown below). The processing removes any potential large bulky waste, metals, painted or treated materials to produce a renewable fuel that is exported off-site for use in combustion units, and soils that are removed and typically exported as landfill cover. Extensive procedures are followed, as

described below, to ensure the final product is a processed fuel consisting only of clean woody biomass. The material handling procedures that have been implemented for more than 10 years ensure non-processable, non-organic and hazardous waste do not enter the production system and provide reasonable assurance to the Department that the outgoing processed biomass fuel from MDCRRF is considered clean woody biomass. The MDCRRF handling procedures are outlined below:

A. Five-step Incoming material Inspection Process

1. **Loader Operator Inspection.** Loader operators inspect incoming material during unloading for any unacceptable materials. If the load has unexpected materials the loader operator removes them from the waste stream prior to pushing the organic material into the storage pit.
2. **Tipping Floor Attendant Inspection.** The floor attendant inspects each load of delivered material as it is dumped on the tipping floor. Non-processable wastes are removed from the waste stream using a skid loader or by the front-end loader operator. Tires are also removed from the waste stream and sent to the tire bunker. Non-processable wastes are stored against the north push wall on the RTI sorting floor in the designated area. Non-processable wastes are loaded into trucks on the sorting floor and returned to the county.
3. **Crane Operator Inspection.** These operators inspect the material as the material is moved from the material pit. If unacceptable material is observed, the crane operator removes the material by crane.
4. **Picker Inspection.** Pickers observe and remove unacceptable material coming out of the pit. The unacceptable material is removed from the biomass processing area either by transporting the material to the municipal solid waste area or to the other acceptable locations.
5. **Personnel Inspection/Manual Sorting.** Additional persons are trained to inspect materials. These inspectors are stationed alongside the conveying process to remove all non-organics. These non-organics are returned to the County for land-filling.

- B. Dual mechanical metal removal system. Metal removal systems are in place on each of three parallel shredders that process material. The shredded material is conveyed to a single stream and a final metal removal system is located on the single stream.
- C. Final Biomass Product Inspection Process. Final biomass products are inspected and quartered for quality.
- D. In-place procedures for sampling. Sampling of the material is performed to indentify the general categories of materials in the resulting biomass.
- E. Mechanical Soil Removal Process. The soils are used as landfill cover at the County landfill.
- F. Radiation Monitoring. Per the requirements of the title V permit, radiation monitoring is in place to prevent radioactive materials from entering the final product.
- G. Employee Training. Training is conducted for all new employees and repeated annually. This training provides knowledge of acceptable materials allowed into the waste stream and final biomass product.

The following figure displays the key components of the handling procedures.

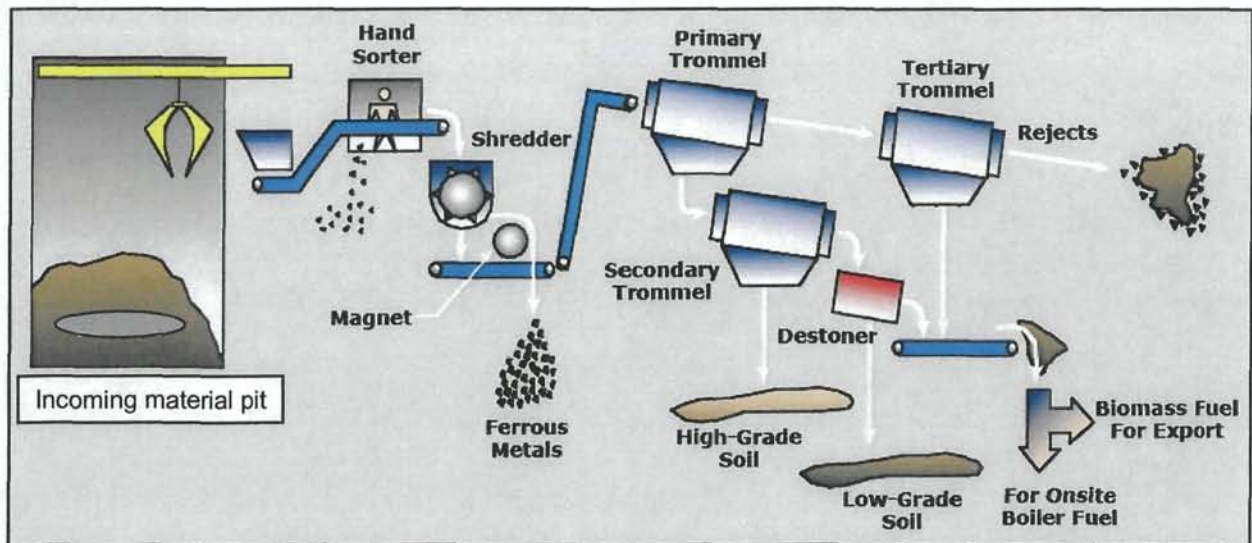


Figure 2. MDCRRF Biomass Processing Procedures.

Biomass- Processed Fuel from MDCRRF

The MDCRRF creates up to 1,200 tons per day of processed biomass fuel. The material is currently delivered by covered trucks to several base-load electric generating units throughout the

State of Florida. In some instances, ash created from burning the biomass at these electric generating units is returned to Dade County. Material analyses have been performed on the processed fuel material by Cemex (Attachment C). Results of the analyses are provided and discussed in the Expected Emissions section.

Transport to the Cemex facility.

The processed fuel will be delivered to the Cemex Miami cement plant by covered truck from the MDCRRF; a distance of less than 20 miles. Each delivery truck carries approximately 23 tons of material. Cemex is requesting to trial test up to 7000 tons of material (5,000 tons initial allowance with a caveat to request an additional 2,000 tons). The average number of trucks delivering the fuel during a 120 day period of kiln operation would be 2.5 trucks per day. Because the material significantly biologically degrades (losing significant heat content) in less than two weeks, Cemex will only receive and store up to 500 tons at any time.

Handling and Storage of biomass at Cemex

Cemex will follow the best management practices defined below for storage and handling of incoming biomass fuel. The following image describes the layout of the facility and the location where biomass will be stored (West Hall Building). The West Hall is normally used to store bulk materials.

Because the material significantly degrades in heat content in less than two weeks, Cemex expects to limit the stored material to no more than the amount expected to be used during a week period. Based on the size of the storage area and the biological degradation of biomass, the amount to be stored will be limited to 500 tons. Cemex will conduct storage operations and use of material on a first-in first-out basis.

Processed biomass fuel will be off-loaded from covered trucks in the West Storage hall in accordance with best management practices as described below.

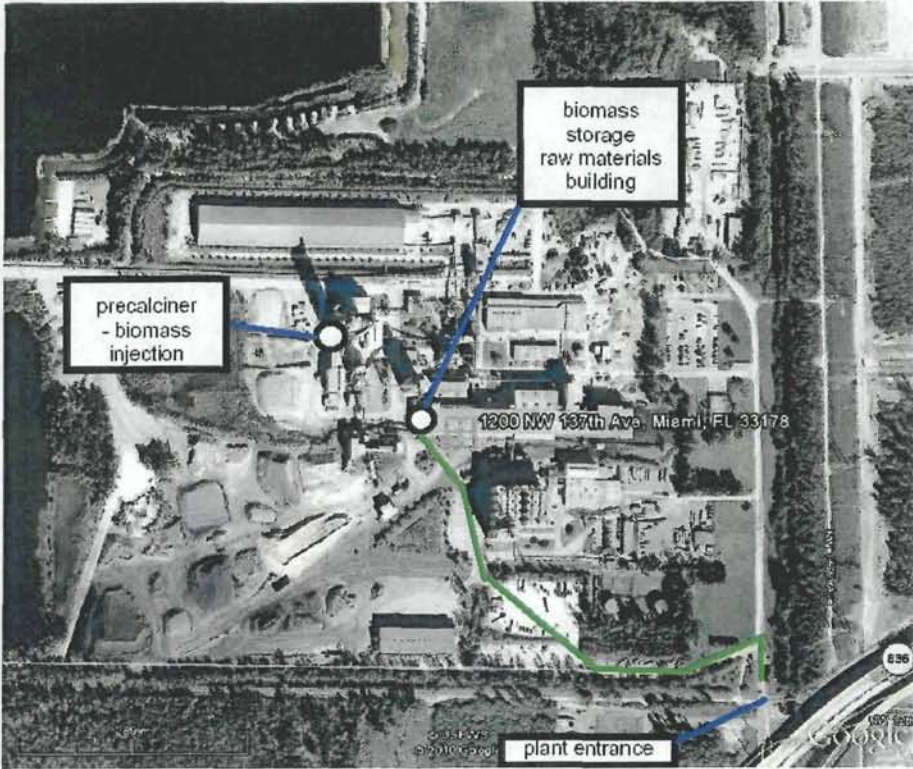


Figure 3. Miami Cement Plant Layout and Locations of Biomass Storage and Handling.

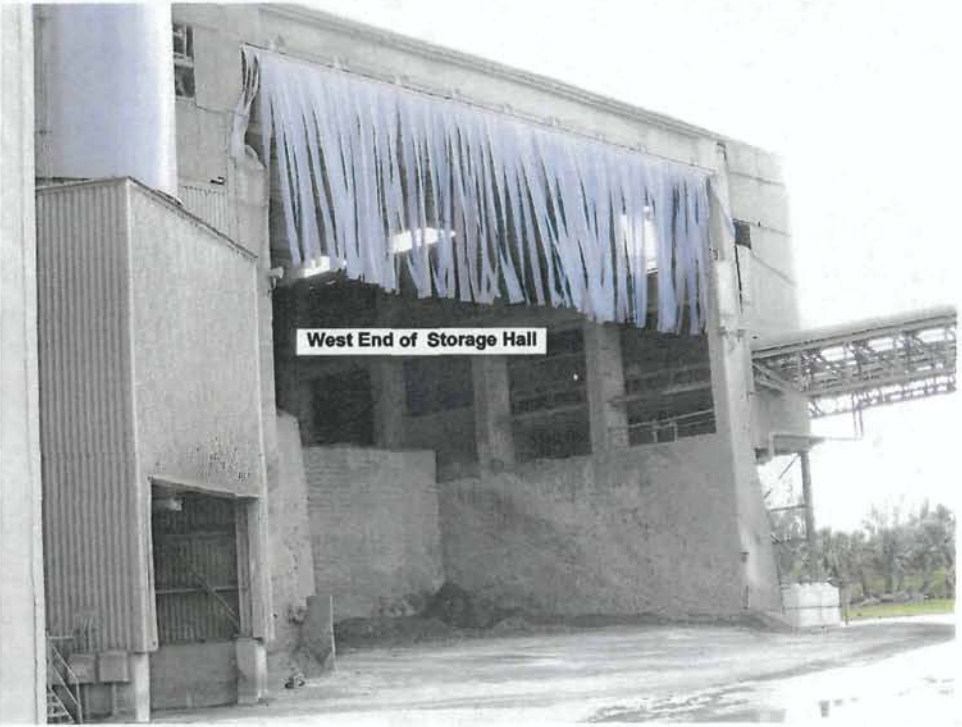


Figure 4. West Hall building – Biomass Storage location.

Cemex - Best Management Practices for Processed Biomass Fuel

The following best management practices are proposed for the trial burn of biomass fuel at the Cemex Miami Cement Plant.

BEST MANAGEMENT PRACTICES (BMP) PLAN FOR MINIMIZATION OF FUGITIVE DUST, PILE MANAGEMENT AND FIRE PREVENTION

Practice	Description
Minimization of Fugitive Dust	<p>1) Drop points to woody biomass storage areas shall be designed to minimize the overall exposed (or exposed to atmosphere) drop height.</p> <p>2) Periodic equipment maintenance shall be performed to maintain conveyor systems and associated drop point integrity. Appropriate plant records shall be maintained on equipment maintenance performed.</p> <p>3) Daily observations of the conveyor systems and associated drop point integrity to identify any equipment abnormalities.</p> <p>4) Plant personnel shall be trained on identification of warning signs for potential equipment malfunction.</p> <p>5) Signs shall be posted identifying potential warning signs of equipment malfunction.</p> <p>6) Plant personnel shall visually observe truck unloading operations and if excessive fugitive dust is detected appropriate fugitive dust minimization techniques shall be implemented including water spray. Plant personnel shall be trained on procedures for defining and minimizing excessive dust from the truck unloading operations.</p>
Storage Pile Management	<p>1) Woody biomass storage areas shall be managed to avoid excessive wind erosion.</p> <p>2) Mechanical moving of woody biomass by front end loaders and other supporting equipment shall be minimized on high wind event days.</p> <p>3) Objectionable odor is prohibited with first in first out biomass utilization implemented to minimize odors.</p> <p>4) Daily visual observations of the woody biomass storage areas shall be performed and if conditions are right for fugitive dust formation, procedures from the fugitive dust plan shall be implemented including water spray.</p>

<p>Fire Prevention /Spontaneous Combustion Minimization</p>	<p>1) The current Emergency Response Plan includes: a) requirement to train onsite personnel to handle incipient fires and training on the identification of potential fire hazards; and, b) install and maintain equipment for plant personnel to handle incipient fires.</p> <p>2) Daily observations of the woody biomass storage areas shall be performed by plant personnel to identify potential fire hazards. Plant personnel shall be trained on identification of potential fire hazards.</p> <p>3) Trial test biomass being used shall maximize the use of older biomass.</p> <p>4) Compaction of woody biomass materials in the storage areas shall be minimized.</p>
<p>Quality Assurance of Clean Woody Biomass</p>	<p>1) The woody biomass feedstock will be delivered to the Plant in vehicles designed to prevent release.</p> <p>2) For each shipment of woody biomass, the permittee shall record the date, quantity and a description of the material received.</p> <p>3) The permittee shall inspect each shipment of woody biomass. If the permittee identifies any such material that is not woody biomass as defined above, the material shall be rejected and returned to the MDCRRF. Rejected materials shall be moved off site in a logistically reasonable time period.</p> <p>4) The permittee shall maintain records of rejected shipments and disposition thereof. Such records shall be made available to the Department upon request.</p>

Optional Grinding of Biomass Fuel at Cemex

The processed biomass fuel may need to be further shredded at the cement plant because of the sizing as received and the limitations of the pneumatic injection system (see Injection to Kiln section). The biomass fuel is typically of 1-3” nominal diameter. The injection system will use a nominal 8-inch diameter line to pneumatically blow the biomass into the kiln. Cemex is requesting the option to shred the biomass to a smaller size if the biomass is shown to plug the injection system. The grinding system proposed will be a Vermeer model HG6000 grinder and screen or equivalent. The Vermeer grinder system is shown in Figure 5 and specifications are found in Attachment B. Calculations of emissions from grinding operation are included in the Emissions section. The material typically has a moisture content of greater than 30 percent so

grinding of the biomass should be considered a wet process (in comparison to crushed stone per AP-42, 11.19.2.2).

The biomass will be delivered to a live bottom hopper by loader which feed the temporary feeder system. The grinding (if necessary) will occur at the West Hall building where the stored unprocessed biomass fuel will be loaded into the grinder. The ground fuel will drop into a secondary pile and stored separately in the West Hall. The best management practices will be followed in this process. Based on the estimated emissions in the Expected Emissions section, it is requested that the grinding system be considered a temporary and unregulated emissions unit.



Figure 5. Biomass Grinder

Transport to the Precalciner

The biomass will be transported to a staging area next to the precalciner, as shown in Figure 6, by front end loader or truck which can nominally carry 20 tons of material. Cemex will transport biomass to the staging area in quantities dependent on various factors including expected maximum kiln input rates, expected weather conditions, and injection equipment limitations.

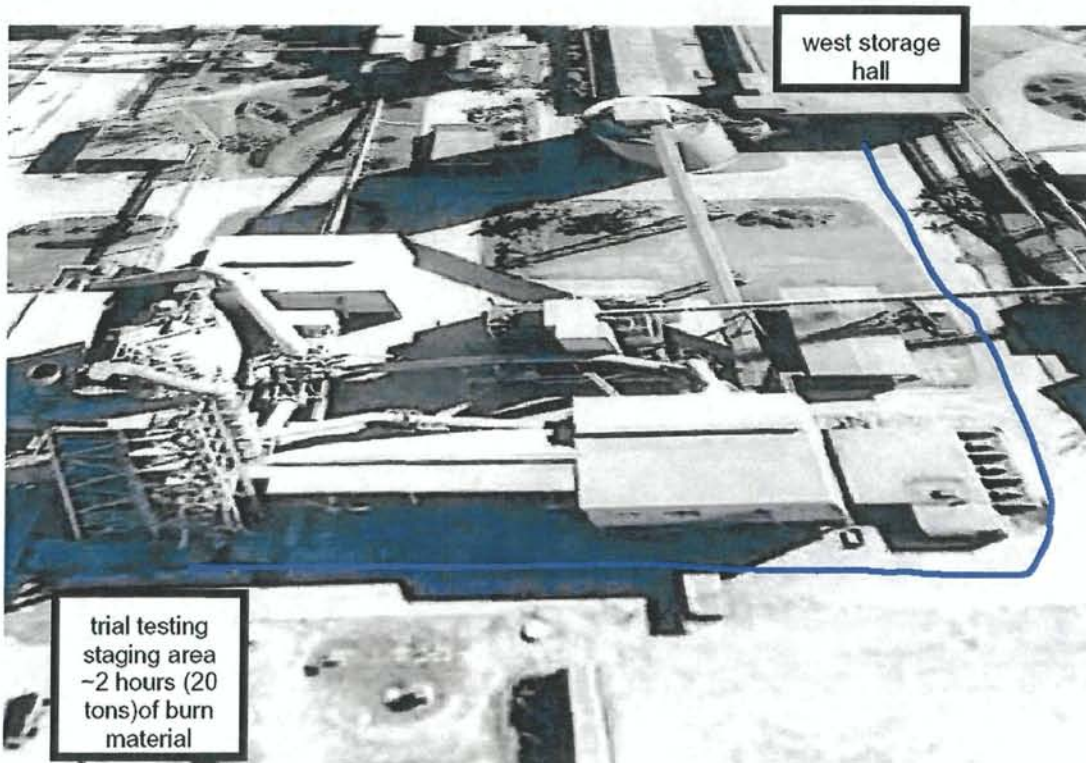


Figure 6. Biomass transport to trial staging area at Precalciner.

Injection to the Kiln System

The biomass feeder system for injecting the biomass to the precalciner will be a Schenk Accurate pneumatic blower or equivalent. The Schenk feeder is capable of feeding up to 15 to 20 tons per hour of biomass fuel having a density of 20 lb/ft³ using forced air at a rate of 2200 cfm and an 8-inch diameter flexible line. A potential alternative feeder system is the FINN, model 1240 electric powered feeder capable of 8 tons per hour having air flow of 8000 cfm. Two images of the FINN blower system are shown below. These systems are electrically powered. Calculation of non-engine emissions from the feeder system are provided in the Expected Emissions section. Based on these values, it is requested that the system be considered an unregulated emissions unit.

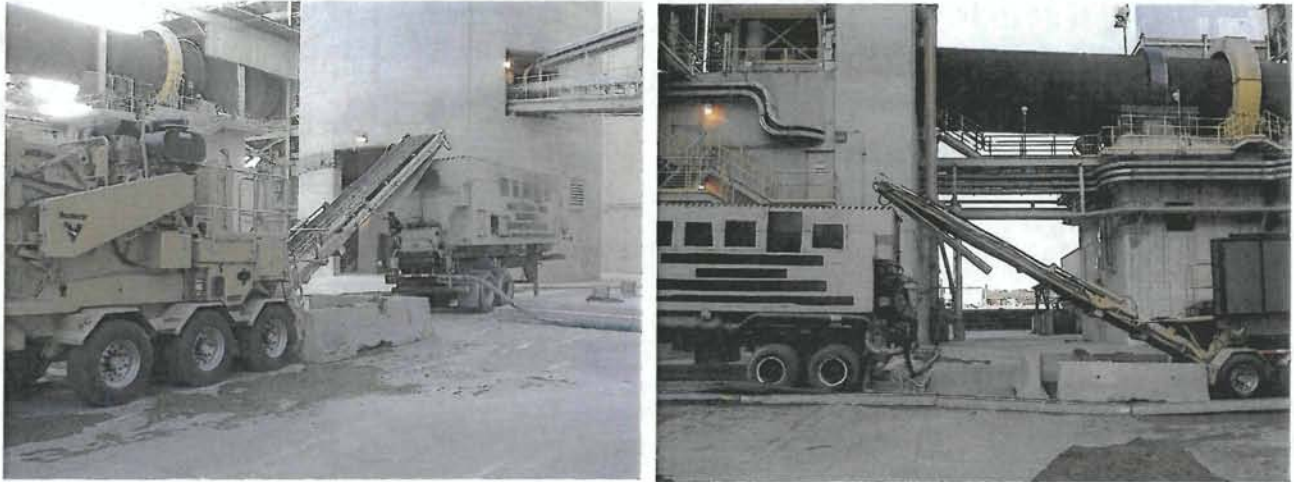


Figure 7. Typical Feeder system to Precalciner.

The temporary port to be installed in the precalciner tower will be matched to the pneumatic system sizing which is typically 8-inches in diameter. Cemex plans to use fluid dynamic modeling of the precalciner to determine the most effective injection location for the biomass fuel to maximize efficient burning of the biomass. Determining the best location to maximize burning is in the interest to both maximize fuel usage and reduce air emissions.

Expected Emissions

It should be noted that this trial burn is focused on determining the feasibility of whether a more permanent system should be permitted and constructed for assessment of emissions increases or decreases. Cemex has conducted material analyses of the MDCRRF processed biomass fuel to evaluate the expected emissions (Attachment C) during this first-phase trial burn.

Emissions are calculated below for CO₂, NAAQS pollutants, and various metals for up to 7,000 tons of biomass and an equivalent amount of coal. The NAAQS pollutant emissions factors are based on AP-42 factors while the metals are based on biomass analyses and referenced documentation of estimated capture efficiency of metals in cement kilns. Note the any mercury is assumed to be emitted. It should be noted that the CO emissions can be controlled as discussed below. Expected emissions are calculated below based on AP-42 factors for wood and coal burning in boilers. Factors were not available for wood and coal burning in cement kiln precalciner.

Carbon Monoxide Emissions

CO emissions are not expected to increase since they can be controlled. In order to control CO emissions, Cemex will closely monitor the combustion of all alternate fuels to ensure there is no partial combustion of the alternate fuels which could create constituents of partial combustion such as CO emissions. The Cemex preheater/calcliner is designed for the use of alternate fuels with reduced volatile content and large particle sizing by having the addition of a separate precalcliner chamber. This calcliner allows for the introduction of alternate fuels along with kiln feed, tertiary air (ambient air/combustion air) and mixing with other fuels (fine coal) to insure proper ignition with retention in a high temperature atmosphere to initiate combustion of the alternate fuel.

In addition, the preheater is designed to extend retention time to provide long residence time at high temperatures to complete the combustion process. Cemex operates with an oxygen rich combustion environment through the calcliner and preheater assisting in the combustion process.

In addition, Cemex monitors CO with process monitors in various stages of the kiln system and preheater to insure proper combustion. Cemex will control the proper combustion through process controls such as changes in the location of the introduction of tertiary air, increase process draft and oxygen content through the process, changes in fine coal feed rates into the precalcliner and/or changes in the kiln feed rates.

Through monitoring of the alternate fuel combustion and process adjustments, Cemex will be able to ensure proper and complete combustion of the alternate fuel with minimal generation of constituents of partial combustion such as CO.

Cemex Construction Materials Florida, LLC, Miami cement plant

Potential Emissions from Kiln - Coal and Biomass

Biomass from from Miami-Dade County Resource Recovery Facility

	coal (wet)	biomass (wet) *
moisture content =	1.7 (2008 plant avg.)	49.4
heat content =	13000	3991
heat content =	26	7.98
sulfur percent =	1.0	0.13
Ash percent =	1.0	4.31
maximum heat input =	485	145.5
maximum fuel input =	18.7	
30% of max. fuel input =	5.60	18.23
Trial Burn amount =		7000

* see Att. C for analyses
percent
btu/lb
mmbtu/ton
percent
percent
mmbtu/hr
ton/hr
ton/hr
tons

		Estimated Trial Testing Emissions				Difference of Emissions	COMMENTS
		Fuel Quantity biomass Fuel	equivalent coal	Emission Factor	maximum Emissions		
Green House Gas - based only on combustion		tons	tons	lb/mmbtu	tons	tons	
CO2	coal		2149	185	5168	-5168	Ap-42, Table 1.1-20, 66% carbon Biomass does not generate GHG as a renewable energy source
	biomass	7000		0	0		
NAAQS Gases							
SO2	coal		2149	1.346	38	-36.9	Ap-42, Table 1.1-3, 1-01-002-22, EF=35S, S=1.0 Ap-42, Table 1.6-2, majority of biomass is wood
	biomass	7000		0.025	1		
NOx	coal		2149	0.462	13	0.8	Ap-42, Table 1.1-3, EF = 12 lb/ton Ap-42, Table 1.6-2, majority of biomass is wood
	biomass	7000		0.490	14		
CO	coal		2149	0.019	1	16.2	Ap-42, Table 1.1-3 Ap-42, Table 1.6-2, majority of biomass is wood
	biomass	7000		0.600	17		
THC	coal		2149	0.0038	0	1.0	Ap-42, Table 1.1-19, EF = 0.04 + 0.06 = 0.1 lb/ton Ap-42, Table 1.6-3, TOC
	biomass	7000		0.039	1		

* To obtain equivalent emission factors data - use raw fuel burning emission factors instead of cement plant emissions factors.

		metal concentration		percent captured		Estimated Trial Testing Emissions				comments
		ppm	percent*	Fuel Quantity biomass Fuel	equivalent coal	maximum Emissions	Difference of Emissions			
METALS				tons	tons	lbs	lbs			
Mercury	coal	0.155	0.00		2149	0.7	-0.10	Conc. based on Cemex Miami plant, coal monthly analysis for 2008. Assume all Hg emitted. Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	0.04		7000		0.6				
Arsenic	coal	1.13	99.90		2149	0.0	0.00	concentration: EPA 745-B-00-04, pg. 46, TRI Guidance. Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	0.250		7000		0.0				
Cadmium	coal	0.98	99.90		2149	0.0	0.00	EPA 745-B-00-04, TRI Guidance Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	0.010		7000		0.0				
Chromium	coal	12.66	99.90		2149	0.1	0.09	EPA 745-B-00-04, TRI Guidance Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	10		7000		0.1				
Lead	coal	24.51	90.00		2149	10.5	-10.46	EPA 745-B-00-04, TRI Guidance Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	0.050		7000		0.1				
Selenium	coal	1.72	99.90		2149	0.0	0.00	EPA 745-B-00-04, TRI Guidance Concentration BDL for 3 sample analysis. Use 1/2 DL. See Att. C		
	biomass**	0.200		7000		0.0				

*Percent capture based on reference (Trace metal report, VDZ) and estimated the same for both fuels.

** Three samples of biomass, all analyses < detection limit. Apply 1/2 DL. Att. C.

Emissions Estimate of Biomass Grinding/Handling/Injecting

Cemex Construction Materials Florida, LLC, Miami cement plant

STEP	Action/Tasks	generic description	% of Total Throughput	PM Emission Factor ^b	PM ₁₀ Emission Factor ^b	PM	PM ₁₀	Emission Factors ^c	hours	SO ₂	CO	NO _x +NMHC
						Emissions tons	Emissions tons			Emissions tons	Emissions tons	Emissions tons
1	Receive materials by covered truck. Fugitive emissions: 4000 ft/trip (2 x route-plant entrance to West Hall) x 7,000 tons/trip x 1 mile/5280ft= 240 miles. Assume PM10 = PM. EF = 0.524 lb/VMT (see next page)	transporting	100	0.524 lb/VMT		0.063	0.063					
2	Store under cover (to prevent stormwater runoff and fugitives).	<i>negligible when stored under cover (West Hall building)</i>										
3	Load material by frontend loader into optional grinder hopper. ^a	loading	100	8.74E-05 lb/ton	4.134E-05 lb/ton	0.00031	0.00014					
4	Grinder ^b	grinding	100	0.0012 lb/ton	0.00054 lb/ton	0.00420	0.00189					
	Grinder engine emissions	engine				0.04768	0.01656	0.15 gr/bhp.hr				
	630 horse power engine operating for 1400 hours (7,000 tons @ 50 tons/hr)							0.929 gr/bhp.hr	1400	0.861		
								3.7 gr/bhp.hr	1400		3.430	
								3.0 gr/bhp.hr	1400			2.828
	Screen ^a	screening	100	0.00014 lb/ton	0.000046 lb/ton	0.00049	0.00016					
	Screener engine emissions	engine				0.06358	0.02208	0.2 gr/bhp.hr				
	100 horse power engine operating for 1400 hours (7,000 tons @ 50 tons/hr)							0.929 gr/bhp.hr	1400	0.144		
								2.6 gr/bhp.hr	1400		0.402	
								3.0 gr/bhp.hr	1400			0.464
5	Half (1/2) inch or less material transported to precalciner staging area, 1000 ft/trip x 7,000 tons/trip x 1 mile/5280ft= 60 miles EF = 0.524 lb/VMT (see next page)	transporting	100	0.524 lb/VMT		0.016	0.016					
6	Prepared material loaded by frontend loader into the pneumatic feed hopper. ^a	loading without cover	100	8.74E-05 lb/ton	4.134E-05 lb/ton	0.00031	0.00014					
7	Pneumatic biomass feeder system emissions	electric engine										
Total =						0.195	0.120			1.005	3.832	3.291

Based on process rates of: **total = 7,000 tons of Biomass**

Notes:

- ^a This screen will operate as a wet screen most of the time. However since it may operate without water sprays, emissions are calculated for this emissions point. PM Emissions factor calculated below.
- ^b Emission factors of screening, crushing, and conveying based on AP-42 Table 11.19.2-2. Alternate fuel PM factors assumed to have similar emissions as aggregate operation. Controlled emission factors are used since the moisture content of the raw material is estimated to be >1.5% (AP-42 basis for "controlled" emissions).
- ^c Schenk Shredder, shredding at minimum of 50 tn/hr of biomass having diesel engine maximum size 630 (grinder) and 100 (screen) horse power. Total shredding requires 1400 hours. 100 and 630 HP Tier 3 engine emission factors stated below. SO₂ EF based on AP-42, 3.3-1 emission factor = 0.929gr/bhp*hr-SO_x.

Engine Power	Tier	Year	CO	HC	NMHC+NO _x	NO _x	PM
(100 ≤ hp < 175)	Tier 2	2003	3.70	-	4.90	-	0.22
	Tier 3	2007	3.70	-	3.00	-	-†
(600 ≤ hp < 750)	Tier 2	2002	2.60	-	4.80	-	0.15
	Tier 3	2006	2.60	-	3.00	-	-†

Emission Factors For Process Fugitive Emissions

Material Transfer Operations

$$E = k (0.0032) (U/5)^{**1.3} / (M/2)^{**1.4} \quad \text{Reference: AP-42 Section 13.2.4}$$

k =	0.74 TSP	Factor	1.000 Ratio/TSP
	0.35 PM10		0.473 Ratio/TSP
	0.11 PM2.5		0.149 Ratio/TSP
U =	7.3 MPH	Average Wind Speed	

Material	Condition	Moisture M, %	Emission Factor, E		
			TSP Lbs./Ton	PM10 Lbs./Ton	PM2.5 Lbs./Ton
biomass	Normal	30	0.00009	0.00004	0.00001

Moisture content selected as conservative estimate. Analytical data shows moisture of higher values.

Truck Traffic

Potential PM emissions from truck traffic from paved roads are calculated based on AP- 42 factors in 13.2.1-1 and -2 and Equation 2, as follows:

$$E = (k \times (sL/2)^{**0.65} \times (W/3)^{**1.5} - C) \times (1 - (p/4N)) \text{ lb/VMT}$$

Where from AP-42 and references, k=0.082, sL=0.4, W=22, C=0.00047, p =120.

$$E = (0.082 \times (0.4/2)^{**0.65} \times (22/3)^{**1.5} - 0.00047) \times (1 - (120/4 \times 365))$$

= 0.524 lb/VMT (paved roads)

Monitoring of Emissions

CEMEX will monitor emissions during the feasibility trial burn using the Continuous Emissions Monitoring Systems (CEMS) for the following pollutants to determine the effect of burning processed biomass fuel on emissions:

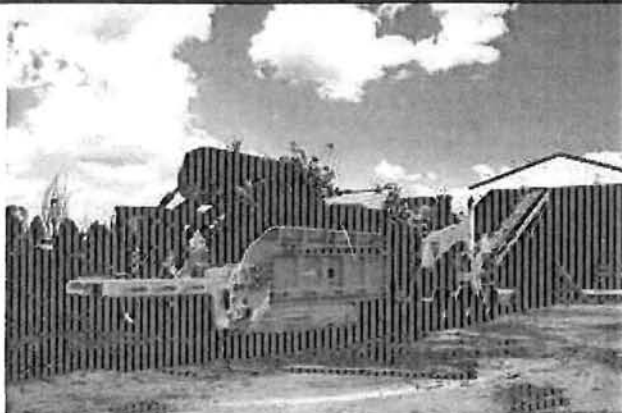
- SO₂ – CEMS
- NO_x – CEMS
- CO – process CEMS
- VOC (THC) – CEMS

It is estimated that up to 18.2 tons per hour (TPH) of biomass will be burned in the kiln during the trial period. The heat substitution of the biomass fuel in the kiln is up to 30% of the total heat input (485 mmbtu/hr, based on 24-hour average).

There will not be any change in kiln production rate as a result of this project. As discussed in the Expected Emissions section, it is not expected that the emission rate of any pollutant will increase due to the use of biomass fuel in the kiln. In fact, it is expected that greenhouse gas emissions will be reduced by substituting the fossil fuels that are currently used as kiln fuel with an alternative fuel. In addition, wood and agricultural waste is a renewable source of fuel for the kiln. Following completion of the trials and all testing results will be reported to the Department in a Trial Burn report.

ATTACHMENT B
GRINDER SPECIFICATIONS

HG6000 - Full Specifications



Reduce, Recycle, Return on Investment. Another generation of organic waste recycling technology has arrived with the HG6000 horizontal grinder from Vermeer. Building on nearly a decade of grinder research and development, the HG6000 is one model in a series of grinders loaded with performance-enhancing features. The HG6000 packages innovation and power for large-scale reduction and recycling of waste and storm debris.

General		
Weight	56000 lbs	25401.2 kg
Transportation Length	44 ' "	13.4 m
Width	8' 2"	
Height	161 "	409 cm
Ground Clearance	15 "	38 cm
Sound Level-Operator Ear	100.0 dB(A)	
Engine		
Model	C16 Tier II Caterpillar	
Gross HP at Full RPM	630 HP	469.8 kw
Fuel Consumption	28.5 gph	107.9 lph
Fuel Tank Capacity	300 gal	1135.62 L
Operating Range	12 hrs	
Electrical System	24 Volt starting	
Infeed System		
Feed Table Width	60 "	152 cm
Feed Roller Diameter	36 "	91 cm
Feed Table Length (Option 2)	20 ' "	6.1 m
Feed Throat Height	32 "	81 cm

[Environmental Equipment >> Horizontal Grinders >> HG6000 >> Full Specs](#)

[Full Specs](#)

[Model Comparisons](#)

[Literature](#)

[Job Stories](#)

Features & Benefits

Feature: Duplex Drum

Benefit: The Duplex Drum cutting system offers optimum cutting performance and simplified maintenance. The reversible hammers and cutter blocks offer nearly double the life of single sided designs.

Feature: Easy Access Screens

Benefit: This allows the operator to change screens more easily and in less time than side loading screens.

Feature: SmartGrind

Benefit: This feature can increase machine and jobsite productivity by reducing operator interface. SmartGrind can also help reduce wear to vital engine components by constantly monitoring rpm levels.

Feature: Super Single Wheel Assemblies

Benefit: Provides improved site and transport mobility and increased ground clearance.

Feature: Removable Anvil

Benefit: With the easily removable design, all anvil maintenance can be performed outside of the machine.

Feed Roller Down Pressure	Yes	
Feed Table Type	Formed Alloy slat and chain	
Hopper Load Height	98" including Replaceable extensions	
Hydraulic System		
Implement Type	Pressure flow compensated	
Oil Tank Capacity	100	
Oil Type	HyPower 68	
Fan Drive Type	Hydraulic Open loop	
Discharge		
Belly Conveyer Width	48 "	122 cm
Secondary Conveyer Width	30 "	76 cm
Secondary Conveyer Length	28 '	8.6 m
Discharge Height	17 '	5.2 m
Hammermill		
Rotor Tip Diameter	37 "	94 cm
Rotor Cutting Length	62 "	157 cm
Hammers	10 with 20 cutters	
Hammer Tooth Option	Wide Block only (20)	
Screens		
Trailer		
Axle Rating	25000 lbs	11339.8 kg
Number of Axles	3	
Tires	(6) Super Singles w/aluminum wheels-385/65R22.5	
Brakes	Air Actuated spring applied	
Tongue Weight	12000 lbs	5443.1 kg
Hitch Type	5th Wheel	
Stabilizer	Single front hydraulically actuated	
Drive Line		
Clutch	Hydraulic Operated wet clutch with PTO	2:1 Belt Drive reduction

Controls		
Stationary	Full Function Operators station	
Remote	Standard	
System Voltage	24 Volt	
System Controls	ACS MRC Microprocessor control	
Optional		
Reversible Fan	Optional	
Magnetic Head Pulley and Tray	Optional	
Screen Sizes	Various	
Fuel Chip Attachment		
Number of Rings	10	
Tip Diameter	36 "	91.4 cm
Length	62 "	157.5 cm
Number of Knives	20	
Size	5 " x 3.5 " (12.7 cm x 8.9 cm)	
Usable Knife Edges	2	
Material	A8 modified chipper steel	
Thickness	.63 "	1.6 cm
Number of bolts per knife	2	
Bolt Size	0.625 " - 11 " x 4.5 " (27.9 cm x 11.4 cm grade 8)	
Total weight of Fuel Chip Attachment	1300 lbs	589.7 kg
Number of replaceable wear plates per ring	4	
Material Capacity	25 "	63.5 cm

Specifications Last Revised: 03/09/2006

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Privacy Policy



ATTACHMENT C
BIOMASS ANALYSES



September 01, 2009

Rinker Materials Corp.
P.O. Box 650679
Miami, FL 33265
USA

Client Sample ID: Veolia Miami/Biomass **Date Sampled :** 8/12/2009
Date Received: 08/13/2009
Matrix: Wood
Net Sample Weight: 230.20 g

SGS Sample ID: 072-40854-001

		<u>As Received</u>	<u>Dry</u>	<u>MAF</u>
% Moisture, Total	[ASTM D 3302]	49.39		
% Ash	[ASTM D 3174/5142]	4.31	8.51	
% Volatile Matter	[ASTM D 5142]	32.09	63.41	69.31
% Fixed Carbon	[ASTM D 3172]	14.21	28.08	30.69
Gross Calorific Value (Btu/lb)	[ASTM D 5865]	3991	7885	8618
% Sulfur	[ASTM D 4239]	0.13	0.25	
% Carbon	[ASTM D 5373]	24.01	47.44	
% Hydrogen	[ASTM D 5373]	2.82	5.57	
% Nitrogen	[ASTM D 5373]	0.23	0.45	
% Oxygen (Calc)	[ASTM D 3176]	19.11	37.78	
<u>Analyte</u>		<u>Result</u>	<u>Method</u>	
Pounds of Ash/mm Btu		10.79 lb		
Pounds of Sulfur/mm Btu		0.32 lb		
Pounds of SO2/mm Btu		0.63 lb		

Respectfully submitted,
SGS NORTH AMERICA INC.

Tony Steyer
Denver Laboratory

Page 1 of 2



September 01, 2009

Rinker Materials Corp.
P.O. Box 650679
Miami, FL 33265
USA

Client Sample ID:	Veolia Miami/Biomass	Date Sampled :	8/12/2009
Date Received:	08/13/2009		
Matrix:	Wood		
Net Sample Weight:	230.20 g		

SGS Sample ID: 072-40854-001

<u>Analyte</u>	<u>Result</u>	<u>Method</u>
Ash Analysis Basis	Dry	ASTM D 4326
Silicon Dioxide SiO ₂	2.07 %	ASTM D 4326
Aluminum Oxide Al ₂ O ₃	0.19 %	ASTM D 4326
Titanium Dioxide TiO ₂	0.05 %	ASTM D 4326
Iron Oxide Fe ₂ O ₃	0.11 %	ASTM D 4326
Calcium Oxide CaO	3.42 %	ASTM D 4326
Magnesium Oxide MgO	0.31 %	ASTM D 4326
Potassium Oxide K ₂ O	0.40 %	ASTM D 4326
Sodium Oxide Na ₂ O	0.37 %	ASTM D 4326
Sulfur Trioxide SO ₃	0.49 %	ASTM D 4326
Phosphorus Pentoxide P ₂ O ₅	0.23 %	ASTM D 4326
Strontium Oxide SrO	0.01 %	ASTM D 4326
Barium Oxide BaO	<0.01 %	ASTM D 4326
Manganese Oxide MnO ₂	<0.01 %	ASTM D 4326
Chlorine, Dry	5800 ug/g	ASTM D 6721
Loss on Ignition	92.33 %	ASTM D 3174

Respectfully submitted,
SGS NORTH AMERICA INC.

Denver Laboratory

Page 2 of 2

AC & S, Incorporated

Serving the chemical industry since 1986

Specialty Chemical - Laboratory Services - Rail Tank Cleaning

Report of Analysis

Name: Cemex-Houston
Arnold Aponte
920 Memorial City Way, Suite 100
Houston, TX 77024

Sample ID#: 09973716
Sample Source: (None)
Veolia Miami Biomass
Client Sample: Biomass Fuel

Sample Date: 8/11/2009
Receipt Date: 8/13/2009 13:00
Report Date: 8/24/2009

Parameter	Sample Result	Units	MDL	Analysis Start	Analysis End (If Applicable)	Method	Analyst
Inorganic Compounds							
Total Cyanide	ND	mg/kg	4	08/17/09 16:25		SW 9014	BMW
Total Organic Halogen							
Total Halogen	2320	ug/g	0.9	08/14/09 15:08		SW 9020B	LKF
Volatile Organic							
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,1,1-Trichloroethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
1,1,2-Trichloroethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,1-Dichloroethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,1-Dichloroethene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,1-Dichloropropene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,2,3-Trichlorobenzene	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
1,2,3-Trichloropropane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,2,4-Trichlorobenzene	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
1,2,4-Trimethylbenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.005	08/21/09 14:14		SW 8260B	RLK
1,2-Dibromoethane	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
1,2-Dichloroethane	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
1,2-Dichloropropane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
1,3-Dichloropropane	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
2,2-Dichloropropane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
2-Butanone (MEK)	ND	mg/kg	0.003	08/21/09 14:14		SW 8260B	RLK
2-Chlorotoluene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
2-Hexanone	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
4-Chlorotoluene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
4-Mehtyl-2-pentanone (MIBK)	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK

Reviewed by:

Rebecca Kiser

AC&&S, Inc.
P.O. Box 335
Nitro, WV 25143
304-755-0536

ND = Not Detected
* = Above Specified Limit

Note: The test results are only valid for date sample was taken. We do not accept any liability for use of these results.

AC & S, Incorporated

Serving the chemical industry since 1986

Specialty Chemical - Laboratory Services - Rail Tank Cleaning

Report of Analysis

Name: Cemex-Houston
Arnold Aponte
920 Memorial City Way, Suite 100
Houston, TX 77024

Sample Date: 8/11/2009
Receipt Date: 8/13/2009 13:00
Report Date: 8/24/2009

Sample ID#: 09973716
Sample Source: (None)
Veolia Miami Biomass
Client Sample Biomass Fuel

Parameter	Sample Result	Units	MDL	Analysis Start	Analysis End (If Applicable)	Method	Analyst
Volatile Organic							
Acetone	1.8	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Benzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Bromobenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Bromochloromethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Bromodichloromethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Bromoform	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Bromomethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Carbon Disulfide	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Carbon Tetrachloride	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Chlorobenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Chloroethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Chloroform	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Chloromethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
cis-1,2-Dichloroethene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
cis-1,3-Dichloropropene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Dibromochloromethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Dibromomethane	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
Dichlorodifluoromethane	ND	mg/kg	0.005	08/21/09 14:14		SW 8260B	RLK
Ethylbenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Iodomethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Isopropylbenzene	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
m/p-Xylenes	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
Methylene Chloride	ND	mg/kg	0.005	08/21/09 14:14		SW 8260B	RLK
n-Butylbenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
n-Propylbenzene	ND	mg/kg	0.002	08/21/09 14:14		SW 8260B	RLK
o-Xylene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK

Reviewed by:

Rebecca Kiser

AC&S, Inc.
P.O. Box 335
Nitro, WV 25143
304-755-0536

ND = Not Detected
* = Above Specified Limit

Note: The test results are only valid for date sample was taken. We do not accept any liability for use of these results.

AC & S, Incorporated

Serving the chemical industry since 1986

Specialty Chemical - Laboratory Services - Rail Tank Cleaning

Report of Analysis

Name: Cemex-Houston
Arnold Aponte
920 Memorial City Way, Suite 100
Houston, TX 77024

Sample ID#: 09973716
Sample Source: (None)
Veolia Miami Biomass
Client Sample Biomass Fuel

Sample Date: 8/11/2009
Receipt Date: 8/13/2009 13:00
Report Date: 8/24/2009

Parameter	Sample Result	Units	MDL	Analysis Start	Analysis End (If Applicable)	Method	Analyst
Volatile Organic							
p-Isopropyltoluene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
sec-Butylbenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Styrene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
tert-Butylbenzene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Tetrachloroethene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Toluene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Total Xylenes	ND	mg/kg	0.003	08/21/09 14:14		SW 8260B	RLK
trans-1,2-Dichloroethene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
trans-1,3-Dichloropropene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.005	08/21/09 14:14		SW 8260B	RLK
Trichloroethene	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Trichlorofluoromethane	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK
Vinyl Chloride	ND	mg/kg	0.001	08/21/09 14:14		SW 8260B	RLK

Reviewed by:

Rebecca Kiser

AC&S, Inc.
P.O. Box 335
Nitro, WV 25143
304-755-0536

ND = Not Detected
* = Above Specified Limit

Note: The test results are only valid for date sample was taken. We do not accept any liability for use of these results.



CEMEX
Environmental Services

Materials Analysis Report

REPORT DATE	8/19/2009	DATE SAMPLED	
SAMPLE SOURCE	Veolia	TIME SAMPLED	
SAMPLE LOCATION	Miami, Florida	DATE RECEIVED	8/17/2009
COLLECTED BY	Veolia	C.E.S. NUMBER	30123
SAMPLE TYPE	Biomass Fuel	TRIPLICATE #	3

SAMPLE TYPE	RESULT	UNITS	METHOD	DETECTION LIMITS	ANALYSIS DATE	ANAL. INITIAL
Arsenic	BDL	mg/kg	7060	0.5	8/18/2009	AP
Barium	BDL	mg/kg	7081	0.9	8/18/2009	AP
Cadmium	BDL	mg/kg	7131	0.02	8/18/2009	AP
Chromium	BDL	mg/kg	7191	0.8	8/18/2009	AP
Lead	BDL	mg/kg	7421	0.1	8/18/2009	AP
Mercury	BDL	mg/kg	7470A	0.08	8/18/2009	AP
Selenium	BDL	mg/kg	7740	0.4	8/18/2009	AP
Silver	BDL	mg/kg	7761	0.1	8/18/2009	AP

All analyses were performed, unless otherwise indicated, at:

CEMEX Environmental Services Laboratory, 1200 NW 137th Avenue, Miami, Florida 33182

All analyses were performed using EPA, ASTM, USGS, or Standard Methods.

All analyses were performed within EPA holding times unless otherwise noted.

Analyses are reported in wet weight.

Test results have an estimated uncertainty of 10% unless otherwise indicated.



Materials Analysis Report

REPORT DATE	8/19/2009	DATE SAMPLED	
SAMPLE SOURCE	Veolia	TIME SAMPLED	
SAMPLE LOCATION	Miami, Florida	DATE RECEIVED	8/17/2009
COLLECTED BY	Veolia	C.E.S. NUMBER	30123
SAMPLE TYPE	Biomass Fuel	TRIPLICATE #	1

SAMPLE TYPE	RESULT	UNITS	METHOD	DETECTION LIMITS	ANALYSIS DATE	ANAL. INITIAL
Arsenic	BDL	mg/kg	7060	0.5	8/18/2009	AP
Barium	BDL	mg/kg	7081	0.9	8/18/2009	AP
Cadmium	BDL	mg/kg	7131	0.02	8/18/2009	AP
Chromium	10.0	mg/kg	7191	0.8	8/18/2009	AP
Lead	BDL	mg/kg	7421	0.1	8/18/2009	AP
Mercury	BDL	mg/kg	7470A	0.08	8/18/2009	AP
Selenium	BDL	mg/kg	7740	0.4	8/18/2009	AP
Silver	BDL	mg/kg	7761	0.1	8/18/2009	AP

All analyses were performed, unless otherwise indicated, at:

CEMEX Environmental Services Laboratory, 1200 NW 137th Avenue, Miami, Florida 33182

All analyses were performed using EPA, ASTM, USGS, or Standard Methods.

All analyses were performed within EPA holding times unless otherwise noted.

Analyses are reported in wet weight.

Test results have an estimated uncertainty of 10% unless otherwise indicated.



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT CEMEX, Inc. (13093)
ATTN: Arnold Aponte
920 Memorial City Way
Suite 100
Houston, TX 77024

LAB REQUEST 239357

REPORTED 08/28/2009

RECEIVED 08/13/2009

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.

1015470

1015471

Client Sample Identification

Veolia Miami / Biomass

Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Bohere, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 1015470

Client: CEMEX, Inc.

Matrix: SOLID

Client Sample ID: Veolia Miami / Biomass

Date Sampled: 08/11/2009

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
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6020 Metals by ICP/MS

Chromium	5.75	0	0.4	mg/Kg	08/24/09 CEL
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7199 Hexavalent Chromium by IC

Hexavalent Chromium	244	10	100.0	ug/Kg	08/18/09 WW
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DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report



Order #: 1015471

Client: CEMEX, Inc.

Matrix: SOLID

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
6020 Metals by ICP/MS					
Chromium	ND	0	0.4	mg/Kg	08/24/09 CEL

7199 Hexavalent Chromium by IC

Hexavalent Chromium	ND	1	10	ug/Kg	08/18/09 WW
---------------------	----	---	----	-------	-------------

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report



**ASSOCIATED LABORATORIES
QA REPORT FORM**

QC Sample : LR239254-1015163

Matrix: SOLID

Prep.Date: August 18, 2009

Analysis Date: August 18, 2009

Lab ID#'s in Batch: 239254, 239357

REPORTING UNITS = µg/Kg

SAMPLE DUPLICATE RESULT

Test	Method	Sample Result	Sample Duplicate	%RPD	Limit %RPD
Cr +6	7199	81	77	5	20

RPD = Relative Percent Difference of Sample and Sample Extraction Dup

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Test	Method	Result	Added	MS	MSD	% MS	%MSD	%RPD
Cr +6	7199	81	800	881	842	100	95	5

* = Post extraction spk recovery 100%

Matrix interference indicated

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%Recovery Limits: 75 - 125%

%RPD Limit: 20 %

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP BLK		LCS			
		Value	Result	True	%Rec	L.Limit	H.Limit
Cr +6	7199	ND	439	400	110	80%	120%

VALUE = Preparation Blank Value; ND = Not-Detected

LCS = Lab Control Sample Results

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

**Calscience
Environmental
Laboratories, Inc.**

August 27, 2009

Danielle Roberts
Associated Laboratories
806 North Batavia
Orange, CA 92868-1242

Subject: **Calscience Work Order No.: 09-08-1741**
Client Reference: **LR 239357**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/20/2009 and analyzed in accordance with the attached chain-of-custody.

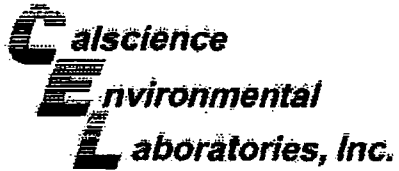
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Ranjit Clarke
Project Manager



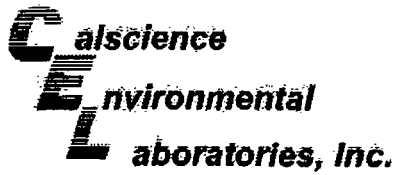
Work Order Case Narrative

Project Name: LR 239357
Calscience Work Order Number: 09-08-1741

1: Metals - EPA 6020:

Calscience received the sample for this project already digested. PDS/PDSO was reported in place of MS/MSD for the QC.

A handwritten signature in black ink, appearing to be "Michael", is located at the bottom left of the page.



Analytical Report

Associated Laboratories
806 North Batavia
Orange, CA 92868-1242

Date Received: 08/20/09
Work Order No: 09-08-1741
Preparation: N/A
Method: EPA 6020

Project: LR 239357

Page 1 of 1

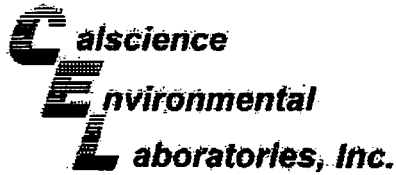
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
1015470	09-08-1741-1-A	08/11/09 00:00	Solid	ICP/MS 03	N/A	08/24/09 23:34	090824L03A

Parameter	Result	RL	DF	Qual	Units
Chromium	5.75	0.400	0.2		mg/kg

Method Blank	090-10-002-1,579	N/A	Solid	ICP/MS 03	N/A	08/24/09 15:37	090824L03A
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Parameter	Result	RL	DF	Qual	Units
Chromium	ND	0.400	0.2		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - PDS / PSD

Associated Laboratories
 806 North Batavia
 Orange, CA 92868-1242

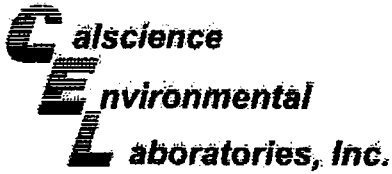
Date Received 08/20/09
 Work Order No: 09-08-1741
 Preparation: EPA 3050B
 Method: EPA 6020

Project: LR 239357

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PSD Batch Number
09-08-1824-1	Solid	ICP/MS 03	08/24/09	08/24/09	090824803

Parameter	PDS %REC	PSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Chromium	94	91	75-125	1	0-15	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate

Associated Laboratories
806 North Batavia
Orange, CA 92868-1242

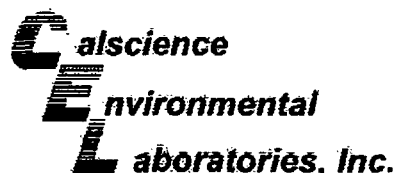
Date Received: N/A
Work Order No: 09-08-1741
Preparation: N/A
Method: EPA 6020

Project: LR 239357

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
096-10-002-1,575	Solid	ICP/MS-03	N/A	08/24/09	090824L03A

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Chromium	101	100	80-120	1	0-20	

RPD - Relative Percent Difference, CL - Control Limit



Glossary of Terms and Qualifiers

Work Order Number: 09-08-1741

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.