

DEP ROUTING AND TRANSMITTAL SLIP

TO: (NAME, OFFICE, LOCATION)

1. Cindy Phillips  
2. BAR

3. \_\_\_\_\_  
4. MS 5505  
5. \_\_\_\_\_

PLEASE PREPARE REPLY FOR:

- SECRETARY'S SIGNATURE
- DIV/DIST DIR SIGNATURE
- MY SIGNATURE
- YOUR SIGNATURE
- DUE DATE \_\_\_\_\_

ACTION/DISPOSITION

- DISCUSS WITH ME
- COMMENTS/ADVISE
- REVIEW AND RETURN
- SET UP MEETING
- FOR YOUR INFORMATION
- HANDLE APPROPRIATELY
- INITIAL AND FORWARD
- SHARE WITH STAFF
- FOR YOUR FILES

COMMENTS:

Subpart DDDDD  
HBCA for  
Sawfit Stone

0890003

RECEIVED

SEP 18 2006

BUREAU OF AIR REGULATION

FROM:

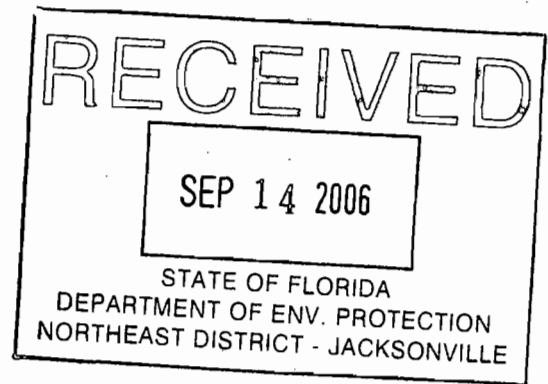
Rita Smith

DATE:

9/14/06

PHONE:

804-3237



**NESHAPS SUBPART DDDDD  
HEALTH-BASED COMPLIANCE ALTERNATIVE DEMONSTRATION  
FOR  
SMURFIT-STONE CONTAINER ENTERPRISES,  
FERNANDINA BEACH MILL, FLORIDA**

**Prepared For:**

**Smurfit-Stone Container Enterprises  
North 8<sup>th</sup> Street  
Fernandina Beach, FL 32034**

**Prepared By:**

**Golder Associates Inc.  
6241 NW 23rd Street, Suite 500  
Gainesville, Florida 32653-1500**

**September 2006**

**0637612**

**TABLE OF CONTENTS**

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	1-1
2.0 GENERAL DESCRIPTION OF THE FACILITY .....	2-1
2.1 GENERAL FACILITY INFORMATION .....	2-1
2.2 BOILER CHARACTERIZATION .....	2-1
3.0 HBCA – SITE-SPECIFIC DEMONSTRATION.....	3-1
3.1 BASIS FOR WORST-CASE EMISSIONS .....	3-1
3.2 HCL-EQUIVALENT EMISSIONS .....	3-3
3.3 RISK-ASSESSMENT METHODOLOGY.....	3-3
3.3.1 MODEL SELECTION.....	3-4
3.3.2 BUILDING DOWNWASH EFFECTS.....	3-5
3.3.3 METEOROLOGICAL DATA.....	3-5
3.3.4 MODEL RECEPTOR GRID .....	3-6
3.4 DISPERSION MODELING RESULTS .....	3-6
4.0 TITLE V PERMIT PARAMETERS.....	4-1

**TABLE OF CONTENTS**

(Cont'd)

**LIST OF TABLES**

- 1-1 Cross-Reference of Demonstration Requirements
- 2-1 Affected Boilers Addressed in the HBCA Demonstration
- 2-2 Stack and Operating Parameters and Locations Used in the HBCA Modeling Analysis
- 3-1 Maximum Annual HCl-Equivalent Emissions
- 3-2 AERMOD Model Features
- 3-3 Maximum Predicted HCl-Equivalent Impacts
- 4-1 Title V Permit Limits for Subpart DDDDD Sources
- A-1 Bark Fuel Analysis from Power Boiler No. 5
- A-2 Bark/Sludge Fuel Analysis from Power Boiler No. 5
- A-3 No. 6 Fuel Oil Analysis for Power Boiler No. 5
- A-4 Coal/Fly Ash and Coal Fuel Analysis from Power Boiler No. 7
- A-5 Summary of January 12, 2005 Boiler MACT Test Results for Power Boiler No. 5
- A-6 Summary of November 10, 2004 Boiler MACT Test Results for Power Boiler No. 7
- A-7 Boiler MACT Final Rule Analytical Procedures
- A-8 Comparison of Subpart DDDDD Fuel Analysis Methods with Smurfit-Stone Container Enterprises Methods

**LIST OF FIGURES**

- 2-1 Plot Plan of Facility
- 2-2 Aerial Map of Facility
- 3-1 Source and Building Locations Used in Downwash
- 3-2 Receptor Grid Locations Overlaid on an Aerial Photograph

**LIST OF APPENDICES**

- A Fuel Analysis
- B Model Input/Output Data
- C Title V Revision Application Pages

## 1.0 INTRODUCTION

Smurfit-Stone Container Enterprises, Inc. (SSCE) operates a Kraft pulp mill located in Fernandina Beach, Nassau County, Florida. SSCE operates two power boilers subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT). This report, entitled "*Health-Based Compliance Alternative Demonstration for Smurfit-Stone Container Enterprises*", supports the determination that this facility meets the requirements established in *Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives*.

This report addresses the Health-Based Compliance Alternative (HBCA) for hydrogen chloride (HCl) in order to demonstrate compliance with the HCl emission limit contained in Subpart DDDDD. The HCl emission limit in Subpart DDDDD is 0.09 pound per million British thermal units (lb/MMBtu) for existing boilers and 0.02 lb/MMBtu for new boilers. The methodology used in the demonstration includes two options for showing compliance. The first method is to conduct a look-up table analysis using the maximum hourly emissions from each emission unit subject to Subpart DDDDD that emits HCl and/or chlorine gas (Cl<sub>2</sub>). The second method is to conduct a site-specific demonstration using annual emissions and an acceptable risk assessment model. SSCE will utilize the site-specific demonstration to show compliance with the HCl HBCA to account for building downwash, which may affect emissions from the boiler stacks.

The site-specific demonstration, as described in Appendix A of Subpart DDDDD, includes using a scientifically-accepted peer-reviewed risk assessment methodology; examples of which are found on U.S. Environmental Protection Agency's (EPA) Air Toxics Website ([http://www.epa.gov/ttn/fera/risk\\_atoxic.html](http://www.epa.gov/ttn/fera/risk_atoxic.html)). Risk assessment modeling is performed to demonstrate that the maximum hazard index (HI) for HCl and Cl<sub>2</sub> from all Subpart DDDDD sources is less than or equal to 1.0.

To demonstrate compliance with the site-specific HCl HBCA, the toxicity-weighted emission rate from each source subject to Subpart DDDDD that emits HCl and/or Cl<sub>2</sub> must be determined according to Equation 2 in Appendix A of Subpart DDDDD. The hazard quotient (HQ) is the ratio of the predicted concentration of a pollutant to the concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the reference concentration, also known as the reference value (RV). The HI is the sum of more than

one HQ for multiple substances and/or multiple exposure pathways. By demonstrating that the HI for HCl and Cl<sub>2</sub> is less than or equal to 1.0, the facility may meet the HBCA for HCl instead of the Boiler MACT HCl emission limit when showing compliance with Boiler MACT.

SSCE will meet the Boiler MACT emission limit for manganese (Mn) through fuel analysis, which is why the HBCA for Mn will not be utilized in this demonstration.

For ease of reference, the required elements for the look-up table analysis and site-specific demonstration (specified in Section 8 of Appendix A to Subpart DDDDD) are cross-referenced in Table 1-1. The fuel sampling and analysis results are attached in Appendix A of this document.

**TABLE 1-1**  
**CROSS-REFERENCE OF DEMONSTRATION REQUIREMENTS, 40 CFR 63,**  
**SUBPART DDDDD, APPENDIX A, SECTION 8**

<b>Requirement</b>	<b>Description</b>	<b>Report Section/Table/Figure Number</b>
<b>Site-Specific Compliance Demonstration</b>		
(a) (1)	Identification of each appropriate emission point and the maximum rated capacity of each.	Table 2-1
(a) (2) (i)	Emission release type.	Table 2-1
(a) (2) (ii)	Stack height, stack area, stack gas temperature, and stack gas velocity.	Table 2-2
(a) (2) (iii)	Plot plan showing all emission points, nearby residences, and fenceline.	Figure 2-1, Figure 2-2
(a) (2) (iv)	Identification of any control devices used to reduce emissions from each emission point.	Table 2-1
(a) (3)	Emission test reports and the test methods, including a description of the worst-case process parameters. Fuel analysis for each fuel and emission point, including collection and analytical methods used.	Section 3.1, Appendix A
(a) (4)	Identification of the RV values used.	Section 3.1
(a) (5)	Calculations used to determine the HCl-equivalent or Mn emission rates.	Section 3.2, Table 3-1
(a) (6)	Identification of the controlling process factors that will become Federally enforceable permit conditions.	Table 4-1
(c) (1)	Identification of the risk assessment methodology used.	Section 3.3
(c) (2)	Documentation of the fate and transport model used.	Section 3.3.1
(c) (3)	Documentation of the fate and transport model inputs including the information in (a) (1) through (a) (5) and all the following that apply: meteorological data, building, land use, and terrain data; receptor locations and population data; and other facility-specific parameter inputs.	Appendix B
(c) (4)	Documentation of the fate and transport model outputs.	Appendix B
(c) (5)	Documentation of any exposure assessment and risk characterization calculations.	Not Applicable
(c) (6)	Comparison of the HQ or HI to the limit of 1.0.	Table 3-3
(d)	Submittal of parameters for incorporation into Title V permit as federally enforceable limits.	Table 4-1, Appendix C

## **2.0 GENERAL DESCRIPTION OF THE FACILITY**

### **2.1 General Facility Information**

SSCE owns and operates a Kraft pulp mill located in Fernandina Beach, Nassau County, Florida that currently operates under Title V Permit No. 0890003-012-AV. Two power boilers operate at SSCE to provide steam to the pulp and paper manufacturing operations. Each of the boilers are subject to 40 CFR Part 63, Subpart DDDDD (Boiler MACT). The boilers at the facility that are subject to Boiler MACT are shown in Table 2-1.

### **2.2 Boiler Characterization**

Stack and operating parameters for each boiler subject to Boiler MACT are provided in Table 2-2. These parameters are used in the risk assessment modeling for each boiler. Stack data are based on the Title V renewal application (April 2005).

Figure 2-1 is a scale drawing showing the plot plan for the facility, including location of the emission points for each Boiler MACT boiler and the property boundary of the facility. Figure 2-2 is an aerial map of the facility.



**TABLE 2-1  
AFFECTED BOILERS ADDRESSED IN THE HBCA DEMONSTRATION, SMURFIT STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Emission Unit	Model ID	Description	Maximum 1-Hour Heat Input Capacity (MMBtu/hr)	Maximum 24-Hour Heat Input Capacity (MMBtu/hr)	Fuel(s)	Control Device(s)
Power Boiler No. 5	PB5	Combination boiler	805	805	Any combination of No. 6 fuel oil and carbonaceous fuel <sup>a</sup>	Multiple cyclone, electrostatic precipitator (ESP)
			657.8	573.4	100% No. 6 fuel oil	
			--	457	100% carbonaceous fuel <sup>a</sup>	
Power Boiler No. 7	PB7	Combination boiler	--	1,021	Coal	ESP

<sup>a</sup> Carbonaceous fuel includes bark, wood, sawdust, wastewater wood fiber residuals, and bark ash.

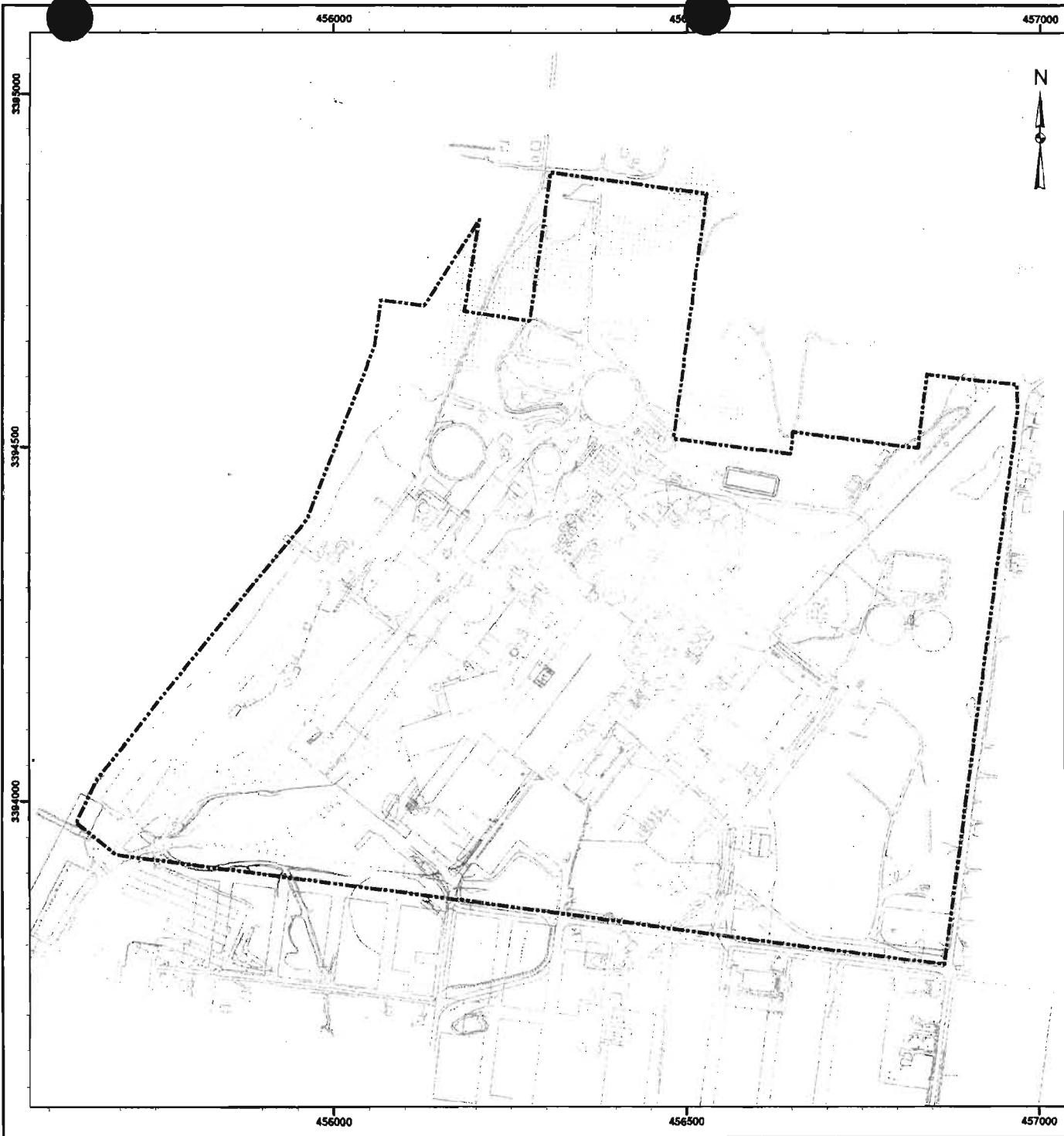
**TABLE 2-2  
STACK AND OPERATING PARAMETERS AND LOCATIONS USED IN THE HBCA MODELING ANALYSIS, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Emission Unit	Model ID	UTM Coordinates <sup>a</sup>		Stack Data <sup>b</sup>						Operating Data <sup>c</sup>					
		East (m)	North (m)	Height		Diameter		Area		Heat Input (MMBtu/hr)	Temperature		Gas Flow (acfm)	Velocity	
				ft	m	ft	m	ft <sup>2</sup>	m <sup>2</sup>		°F	°K		ft/s	m/s
Power Boiler No. 5	PB5	456,274.5	3,394,248.9	257	78.3	11.0	3.35	95.03	8.83	802	450	505	235,000	41.2	12.6
Power Boiler No. 7	PB7	456,255.9	3,394,207.8	340	103.6	14.8	4.51	172.03	15.98	1,021	410	483	390,000	37.8	11.5

<sup>a</sup> Universal transverse mercator (UTM) coordinates, Zone 17, NAD 27.

<sup>b</sup> Stack data based on Title V application (December 2002) most recent stack tests.

<sup>c</sup> Operating data based on most recent stack tests.

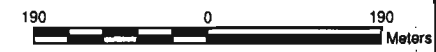


**LEGEND**

 Property Boundary

**REFERENCE**

Projection: Transverse Mercator Datum: NAD 27 Coordinate System: UTM Zone 17



PROJECT  
Health-based Compliance Alternative Demonstration for the  
Smurfit-Stone Container Enterprises, Fernandina Beach Mill

TITLE  
**Plot Plan of Facility**



PROJECT No.		SCALE AS SHOWN	REV. 0
DESIGN	AS 08 Sept. 2006		<b>FIGURE 2-1</b>
GIS	AS 08 Sept. 2006		
CHECK	CS 08 Sept. 2006		
REVIEW	CS 08 Sept. 2006		



**LEGEND**

**REFERENCE**

Projection: Transverse Mercator Datum: NAD 27 Coordinate System: UTM Zone 17



PROJECT  
Health-based Compliance Alternative Demonstration for the  
Smurfit-Stone Container Enterprises, Fernandina Beach Mill

TITLE  
**Aerial Map of Facility**



PROJECT No.		SCALE AS SHOWN	REV. 0
DESIGN	AB 12 Sept. 2003		<b>FIGURE 2-2</b>
GIS	AB 12 Sept. 2004		
CHECK	CB 15 Sept. 2004		
REVIEW	DB 12 Sept. 2005		

### 3.0 HBCA – SITE-SPECIFIC DEMONSTRATION

In accordance with 40 CFR 63, Subpart DDDDD, Appendix A, the site-specific demonstration estimates the long-term inhalation exposure of HCl-equivalents by estimating annual or multi-year average ambient concentrations for the individual most exposed to the facility's emissions. The corresponding chronic inhalation dose-response values (RV) for HCl and Cl<sub>2</sub> are used in this HBCA demonstration.

#### 3.1 Basis for Worst-Case Emissions

Fuel analysis data are attached, which are the basis of the emissions estimation for each boiler (see Appendix A):

- HCl HBCA
  - Emissions based on fuel analyses for HCl and Cl<sub>2</sub> for the following boilers:
    - Power Boiler No. 5
    - Power Boiler No. 7

Appendix A includes the following information related to the fuel analysis:

- Collection and analytical methods used;
- Fuel analysis data; and
- Calculation of the 90<sup>th</sup> percentile emission rate from the fuel analysis data.

The worst-case fuel for HCl emissions from Power Boiler No. 5 is the combination of bark/sludge with remainder due to No. 6 fuel oil. Fuel analysis results for Power Boiler No. 5 for bark, bark/sludge, and No. 6 fuel oil are shown in Tables A-1 through A-3 in Appendix A. The potential HCl emission rate from these fuels is 0.014 lb/MMBtu for bark, 0.025 lb/MMBtu for bark/sludge, and  $6.7 \times 10^{-4}$  lb/MMBtu for No. 6 fuel oil. Emissions for Power Boiler No. 5 are based on maximum bark/sludge burning with remainder due to No. 6 fuel oil burning. The emission factor for bark/sludge of 0.05 lb/MMBtu was determined by using the 90<sup>th</sup> percentile of fuel analysis data with an applied safety factor of 2. The emission factor for No. 6 fuel oil of  $6.7 \times 10^{-4}$  lb/MMBtu was determined by the 90<sup>th</sup> percentile of fuel analysis data with no applied safety factor. The

90<sup>th</sup> percentile value is required by the Boiler MACT regulations, and was calculated according to Equation 8 in 40 CFR 63.7530(d).

Recent stack test results for Power Boiler No. 5 measured HCl emissions of  $7.7 \times 10^{-4}$  lb/MMBtu while burning bark (see Table A-5). This stack test was conducted on January 12, 2005, and also measured Cl<sub>2</sub> emissions of  $6.9 \times 10^{-4}$  lb/MMBtu. Based on this stack test, of the total chlorine emitted (HCl plus Cl<sub>2</sub>), only 47-percent of chlorine is emitted as Cl<sub>2</sub>.

The worst-case fuel for HCl emissions from Power Boiler No. 7 is coal. Fuel analysis results for Power Boiler No. 7 for coal and coal with fly ash are shown in Table A-4 in Appendix A. Potential HCl emissions from these fuels are 0.072 lb/MMBtu for coal and 0.070 lb/MMBtu for coal with fly ash. An emission factor of 0.144 lb/MMBtu, which is based on the 90<sup>th</sup> percentile of fuel analysis data for coal, with an applied safety factor of 2, was used in the site-specific demonstration. The 90<sup>th</sup> percentile value is required by the Boiler MACT regulations, and was calculated according to Equation 8 in 40 CFR 63.7530(d).

Recent stack test results for Power Boiler No. 7 measured HCl emissions at 0.106 lb/MMBtu while burning coal (see Table A-6). This stack test was conducted on November 10, 2004 and also measured Cl<sub>2</sub> emissions at  $1.1 \times 10^{-3}$  lb/MMBtu while burning coal. Based on this stack test, of the total chlorine (HCl plus Cl<sub>2</sub>) emitted, only 1-percent of chlorine is emitted as Cl<sub>2</sub>.

The Boiler MACT final rule fuel analysis methods are presented in Table A-7, and the specific methods utilized by SSCE as compared to the final Boiler MACT rule are presented in Table A-8.

It is noted that the fuel sampling/analysis procedures and methods met the Boiler MACT requirements except for a few minor deviations (see Table A-8). Equivalent analytical methods for heat content, mercury, total selected metals (TSM), and chlorine concentration, as allowed by the Boiler MACT rule, were utilized in the SSCE fuel analyses for bark/sludge and coal from Power Boiler Nos. 5 and 7, respectively. The heat content for coal was determined by using an equivalent method, ASTM D2015. The moisture content for coal was determined by analyzing the percent total solids, EPA Method 160.3, and subtracting the result from 100-percent. The mercury concentration was determined by using EPA Method 1631E, which is an equivalent method and can provide minimum reporting levels of 1-2 parts per billion (ppb) in solids. The TSM concentration was determined by using an equivalent method, SW-846-6010B, for bark/sludge and coal. SW-846-6010B is the industry standard and has lower detection limits than the Boiler MACT

method, ASTM 885-88 (1996). The chlorine concentration was determined by using an equivalent method, EPA Method 9056, for bark/sludge and coal.

### 3.2 HCl-Equivalent Emissions

The toxicity-weighted emission rate for HCl is expressed according to the equation below:

$$TW_s = E_{HCl,s} + E_{Cl_2,s} \left( \frac{RV_{HCl}}{RV_{Cl_2}} \right)$$

where:  $TW_s$  is the toxicity-weighted emission rate (HCl-equivalent) for each emission point in pounds per hour (lb/hr),

$E_{HCl,s}$  is the maximum hourly emission rate for HCl in lb/hr,

$E_{Cl_2,s}$  is the maximum hourly emission rate for  $Cl_2$  in lb/hr,

$RV_{HCl}$  is the reference value for HCl,

$RV_{Cl_2}$  is the reference value for  $Cl_2$ , and

“s” represents the individual emission points.

The RV is an estimate of a continuous inhalation exposure to the human population without causing deleterious effects during a lifetime. RV values for various chemicals are found in Table 1, Prioritized Chronic Dose-Response Values (2/28/05), published by the U.S. Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) at <http://www.epa.gov/ttn/atw/toxsource/summary.html>. Table 1 presents values for long-term (chronic) inhalation and oral exposures. Based on these values, the RV for HCl is 20 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and the RV for  $Cl_2$  is  $0.2 \mu\text{g}/\text{m}^3$  based on non-cancer chronic inhalation.

The HCl-equivalent emission rates for Power Boiler Nos. 5 and 7 are presented in Table 3-1. The total HCl-equivalent emission rate is 1,389.7 lb/hr.

### 3.3 Risk-Assessment Methodology

This section documents the air quality dispersion modeling analysis to support the site-specific inhalation risk assessment for the low-risk demonstration in accordance with Appendix A of Subpart DDDDD. The risk assessment and dispersion analysis methods follow the procedures

established by the *Air Toxics Risk Assessment Reference Library, Volume 2: Facility-Specific Assessment* and EPA's *Guideline on Air Quality Models (Appendix W to 40 CFR Part 51)*.

A more detailed description of the model, along with a discussion of the emissions inventory, model selection, building downwash effects, meteorological data, receptor locations, and other model input data, is presented in the following sections.

### 3.3.1 Model Selection

The American Meteorological Society and EPA Regulatory Model (AERMOD) dispersion model was used in the air quality modeling analysis to assess long-term off-site exposure due to manganese emissions from all Subpart DDDDD boilers at the SSCE Fernandina Beach Mill.

On November 9, 2005, the EPA implemented AERMOD into its *Guideline of Air Quality Models (Appendix W to 40 CFR Part 51)* as the recommended model for regulatory modeling applications. The FDEP is allowing the use of AERMOD for air permitting projects as a replacement for the Industrial Source Complex Short-Term Model (ISCST3). The ISCST3 model will no longer be in effect as of November 9, 2006.

The AERMOD dispersion model (Version 04300) is available on the EPA's Internet web site, Support Center for Regulatory Air Models (SCRAM), within the Technical Transfer Network (TTN). A listing of AERMOD model features is presented in Table 3-2.

The EPA and FDEP recommend that the AERMOD model be used to predict pollutant concentrations at receptors located within 50 kilometers (km) from a source. The AERMOD model calculates hourly concentrations based on hourly meteorological data. The AERMOD model is applicable for most applications since it is recognized as containing the latest scientific algorithms for simulating plume behavior in all types of terrain. For evaluating plume behavior within the building wake of structures, the AERMOD model incorporates the Plume Rise Model Enhancement (PRIME) downwash algorithm developed by the Electric Power Research Institute (EPRI). AERMOD can predict pollutant concentrations for averaging times of annual and 24-, 8-, 3-, and 1-hours.

The AERMOD model was used to predict the maximum pollutant concentrations in nearby areas surrounding the SSCE facility. The predicted concentrations were then compared to the HI for HCl and Cl<sub>2</sub>.



For this analysis, the EPA regulatory default options were used to predict all maximum impacts. These options include:

- Final plume rise at all receptor locations,
- Stack-tip downwash,
- Buoyancy-induced dispersion,
- Default wind speed profile coefficients,
- Default vertical potential temperature gradients, and
- Calm wind processing.

### **3.3.2 Building Downwash Effects**

Based on the building dimensions associated with buildings and structures at SSCE, all stacks will comply with the good engineering practice (GEP) stack height regulations (i.e., the stacks do not exceed GEP height). However, these stacks are less than GEP height. Therefore, the potential for building downwash to occur was considered in the air modeling analysis for these stacks.

The location of the buildings used in downwash and the boiler stacks are presented in Figure 3-1. All direction-specific building parameters were calculated with the Building Profile Input Program (BPIP), Version 04274.

### **3.3.3 Meteorological Data**

Meteorological data used in the AERMOD model to determine air quality impacts consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) office located at the Jacksonville International Airport. Concentrations were predicted using 5 years of hourly meteorological data from 2001 through 2005. The NWS office at the Jacksonville International Airport is located approximately 31 km (19 miles) southwest of the site and is the closest primary weather station to the study area considered to have meteorological data representative of the site.

The data for these stations were processed into a format that can be input to the AERMOD model using the meteorological preprocessor program AERMET. The data were acquired and processed by FDEP.

A unique feature of AERMOD is its incorporation of land use parameters for the processing of boundary layer parameters used for the dispersion. Based on the most recent regulatory guidance,

the land use parameters should be representative of the data measurement site (i.e., Jacksonville International Airport). Land use data, representing the average surface roughness, albedo, and Bowen ratio that exist within a 3-km radius of the NWS station at Jacksonville International Airport were extracted from 1-degree land use files from the U.S. Geographical Survey (USGS) using the AERSURFACE program. AERSURFACE currently extracts land use data in 12 wind direction sectors covering 360 degrees. The land use values for each wind direction sector were input into Stage 3 of the AERMET preprocessor program to create the surface and profile meteorological files that AERMOD requires.

### **3.3.4 Model Receptor Grid**

For predicting maximum concentrations in the vicinity of the Mill, more than 1,100 receptors were located at the Mill's restricted property line and at offsite receptors and are presented in Figure 3-2. The receptors were modeled using the Universal Transverse Mercator (UTM) coordinate system from 17, North American Datum 1927 (NAD27).

Nested Cartesian receptor grids were used in addition to discrete Cartesian receptors along the Mill fence line. The impact analysis used the following receptor spacing:

- 50-m intervals along the fence line,
- 100-m intervals beyond the fence line to 2 km from the Mill, and
- 500-m intervals beyond the fence line to 4 km from the Mill.

Receptor elevations and hill scale heights for all receptors were obtained from 7.5-minute USGS Digital Elevation Model (DEM) data using the AERMOD terrain preprocessor program AERMAP, Version 04300.

### **3.4 Dispersion Modeling Results**

To evaluate long-term non-carcinogenic impacts, AERMOD was run for each of the 5 years of meteorological data and the predicted annual average concentrations for each year were evaluated. These results were used to determine the maximum annual HCl-equivalent concentration at any receptor over the 5-year period.

The results of the dispersion modeling are provided in Table 3-3. The HI for HCl is computed by dividing the modeled concentration by the respective RV. Table 3-3 indicates that that the HI for

HCl/Cl<sub>2</sub> is less than 1.0 for all 5 years modeled. Therefore, the HCl HBCA risk requirement is achieved.

**TABLE 3-1  
MAXIMUM ANNUAL HCl-EQUIVALENT EMISSIONS, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Boiler ID	Model ID	Emission Estimation Method <sup>a</sup>	Heat Input (MMBtu/hr)	Hours of Operation (hr/yr)	Chlorine Emission Factor (lb/MMBtu) <sup>b</sup>	HCl Hourly Emission Rate (lb/hr) <sup>c</sup>	Cl <sub>2</sub> Hourly Emission Rate (lb/hr) <sup>c</sup>	Toxicity-Weighted Emission Rate (HCl-Equivalents)		Maximum Annual Emissions (TPY)
								lb/hr <sup>d</sup>	g/s	
Power Boiler No. 5	PB5	Bark/Sludge Fuel Analysis	457	8,760	0.05	12.11	10.74			
Power Boiler No. 5	PB5	No. 6 Fuel Oil Fuel Analysis	805	8,760	6.7E-04	0.12	0.11	1,097.1	138.24	4,805.5
Power Boiler No. 7	PB7	Coal Fuel Analysis	1,021	8,760	0.144	145.55	1.47	292.6	36.86	1,281.5
							<b>Total</b>	<b>1,389.72</b>	<b>175.10</b>	<b>6,087.0</b>

<sup>a</sup> Based on worst-case fuel. Worst-case fuel for Power Boiler No. 5 is maximum bark/sludge with the remainder No. 6 fuel oil (see Tables A-1 through A-3) and worst-case fuel for Power Boiler No. 7 is coal (see Table A-4).

<sup>b</sup> Based on the 90th percentile of historical fuel analysis data with a safety factor of 2 (see Table A-2 and A-4).

<sup>c</sup> Emissions for Power Boiler No. 5 are based on maximum bark/sludge burning and remainder due to No. 6 fuel oil. While burning bark in Power Boiler No. 5, 47% of the total chlorine is emitted as Cl<sub>2</sub> (see Table A-5). While burning coal in Power Boiler No. 7, 1% of the total chlorine is emitted as Cl<sub>2</sub> (see Table A-6).

<sup>d</sup> Based on Equation 2 in Appendix A (Subpart DDDDD).  $RV_{HCl}$  is 0.02 mg/m<sup>3</sup> and  $RV_{Cl_2}$  is 0.0002 mg/m<sup>3</sup>.

TABLE 3-2

## MAJOR FEATURES OF THE AERMOD MODEL, VERSION 04300

## AERMOD Model Features

- Plume dispersion/growth rates are determined by the profile of vertical and horizontal turbulence, vary with height, and use a continuous growth function.
- In a convective atmosphere, uses three separate algorithms to describe plume behavior as it comes in contact with the mixed layer lid; in a stable atmosphere uses a mechanically mixed layer near the surface.
- Polar or Cartesian coordinate systems for receptor locations can be included directly or by an external file reference.
- Urban model dispersion is input as a function of city size and population density; sources can also be modeled individually as urban sources.
- Stable plume rise: uses Briggs equations with winds and temperature gradients at stack top up to half-way up to plume rise. Convective plume rise: plume superimposed on random convective velocities.
- Procedures suggested by Briggs (1974) for evaluating stack-tip downwash.
- Has capability of simulating point, volume, area, and multi-sized area sources.
- Accounts for the effects of vertical variations in wind and turbulence (Brower *et al.*, 1998).
- Uses measured and computed boundary layer parameters and similarity relationships to develop vertical profiles of wind, temperature, and turbulence (Brower *et al.*, 1998).
- Concentration estimates for 1-hour to annual average times.
- Creates vertical profiles of wind, temperature, and turbulence using all available measurement levels.
- Terrain features are depicted by use of a controlling hill elevation and a receptor point elevation.
- Modeling domain surface characteristics are determined by selected direction and month/season values of surface roughness length, Albedo, and Bowen ratio.
- Contains a mechanical and convective mixed layer height, the latter based on the hourly accumulation of sensible heat flux.
- The method of Pasquill (1976) to account for buoyancy-induced dispersion.
- A default regulatory option to set various model options and parameters to EPA-recommended values.
- Contains procedures for calm-wind and missing data for the processing of short term averages.

Note: AERMOD = the American Meteorological Society and Environmental Protection Agency Regulatory Model.

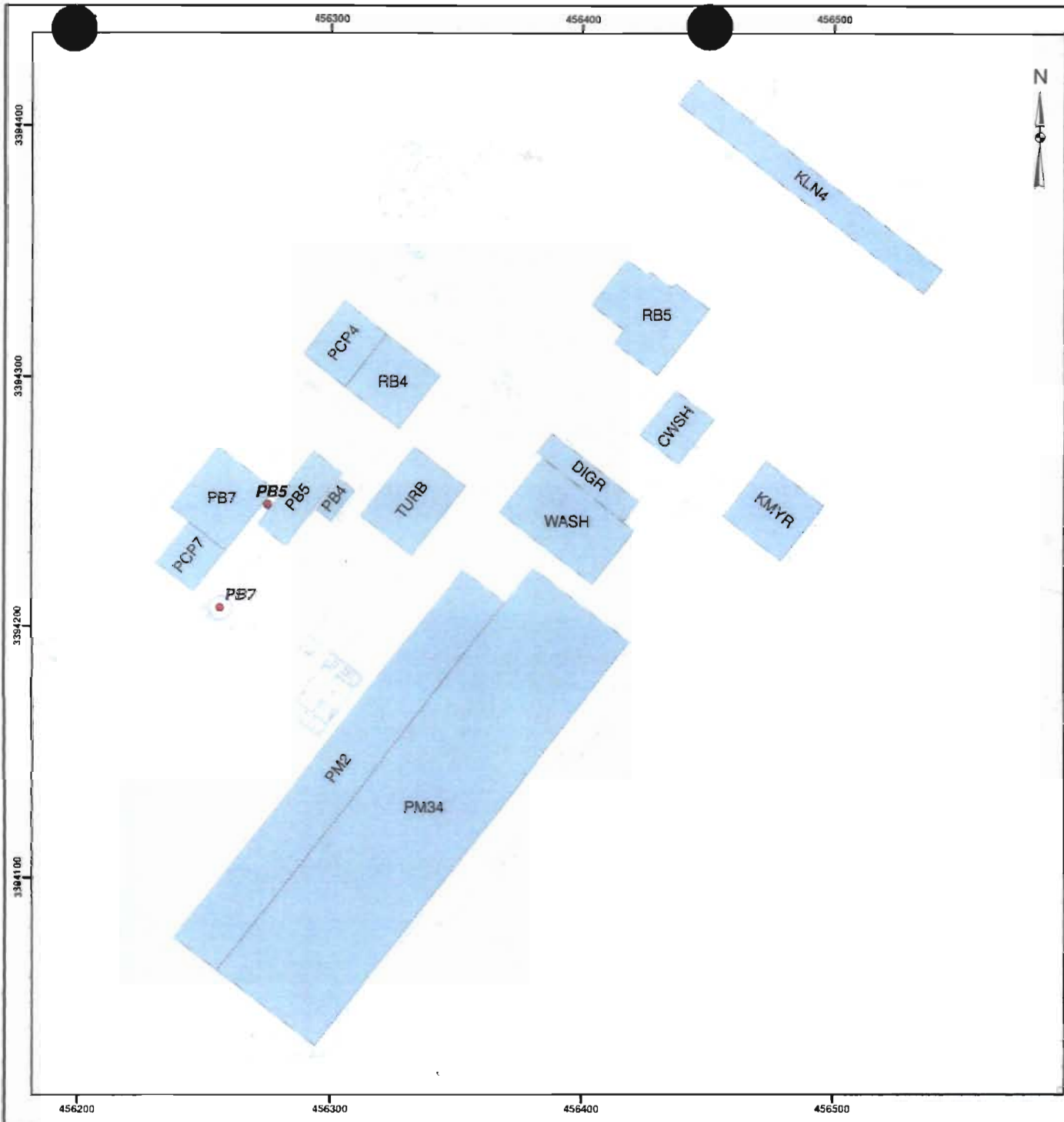
Source: Paine *et al.*, 2004.

**TABLE 3-3  
MAXIMUM PREDICTED HCL-EQUIVALENT IMPACTS,  
SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Averaging Period	Year	Maximum Predicted HCl- Equivalent Impacts ( $\mu\text{g}/\text{m}^3$ )	Receptor Location		HCl Criteria ( $\mu\text{g}/\text{m}^3$ )	Hazard Index
			East (m)	North (m)		
Annual	2001	17.4	455800	3394300	20	0.87
	2002	15.4	455800	3394300		0.77
	2003	13.4	455700	3394300		0.67
	2004	12.2	456924	3394208		0.61
	2005	14.2	455800	3394300		0.71

<sup>a</sup> UTM coordinates in Zone 17

Note: Concentrations are highest predicted with AERMOD model and 5-years of meteorological data from Jacksonville, 2001-2005



**LEGEND**

- Source Location
- Building Used in Downwash
- Property Boundary

**PROPERTY BOUNDARY**



**REFERENCE**

Projection: Transverse Mercator Datum: NAD 27 Coordinate System: UTM Zone 17



**PROJECT**

Health-based Compliance Alternative Demonstration for the Smurfit-Stone Container Enterprises, Fernandina Beach Mill

**TITLE**

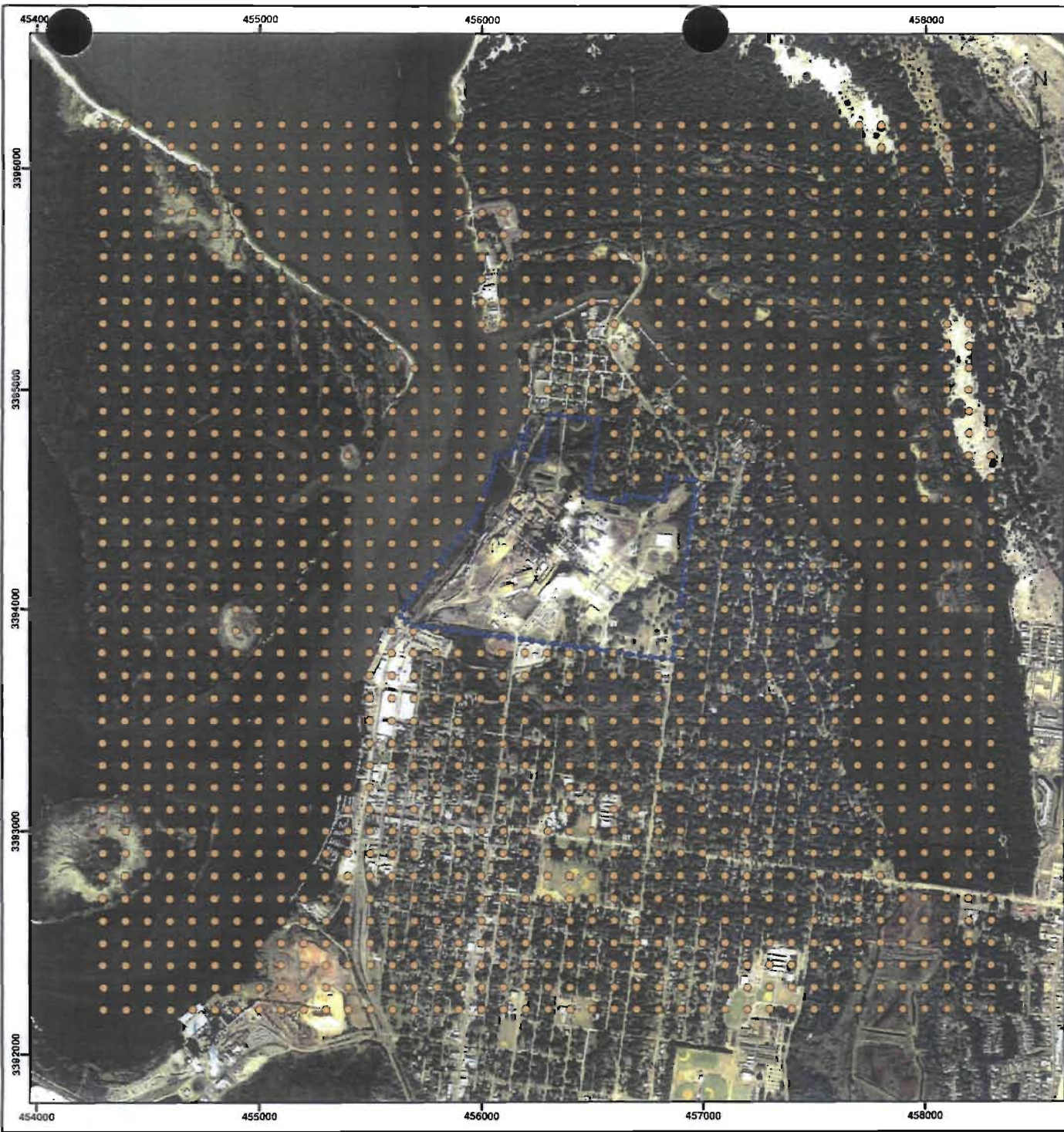
**Source and Building Locations**



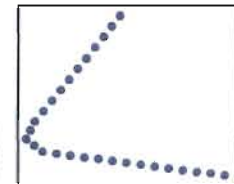
PROJECT No.		SCALE AS SHOWN	REV. #
DESIGN	AD	08 Sept. 2006	
CHECK	AD	08 Sept. 2006	
CHECK	CS	08 Sept. 2006	
REVIEW	CS	08 Sept. 2006	

**FIGURE 3-1**

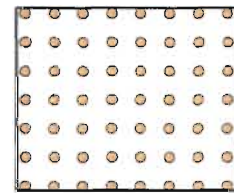




**LEGEND**



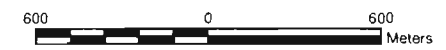
Property Boundary  
- 50m Spacing



Receptor Grid:  
- 100m Spacing

**REFERENCE**

Projection: Transverse Mercator Datum: NAD 27 Coordinate System: UTM Zone 17



PROJECT  
Health-based Compliance Alternative Demonstration for the  
Smurfit-Stone Container Enterprises, Fernandina Beach Mill

TITLE  
**Receptor Grid Locations  
Overlaid on an Aerial Photograph**



PROJECT No.		SCALE AS SHOWN	REV. 0
DESIGN	AB 11 Sept. 2006		<b>FIGURE 3-2</b>
GIS	AB 11 Sept. 2006		
CHECK	CB 11 Sept. 2006		
REVIEW	DB 11 Sept. 2006		



#### **4.0 TITLE V PERMIT PARAMETERS**

To be eligible for either health-based compliance alternative, the parameters that define the affected source as eligible for the health-based compliance alternative must be submitted to the permitting authority for incorporation into the Title V permit, as federally enforceable limits. These parameters include, fuel type, fuel mix (annual average), emission rate, type of control devices, process parameters (e.g., maximum heat input), and non-process parameters. The parameters that SSCE proposes to be incorporated into the Title V permit are listed in Table 4-1.

**TABLE 4-1  
TITLE V PERMIT LIMITS FOR SUBPART DDDDD SOURCES,  
SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Unit	Process Parameter	Limit	Units	Fuel Type	Averaging Time
Power Boiler No. 5	Maximum Heat Input	805	MMBtu/hr	Any combination of No. 6 fuel oil and carbonaceous fuel <sup>a</sup>	1-hr, 24-hr
	Maximum Heat Input	457	MMBtu/hr	100% carbonaceous fuel <sup>a</sup>	24-hr
	Chlorine Emissions	0.05	lb/MMBtu	100% carbonaceous fuel <sup>a</sup>	--
Power Boiler No. 7	Maximum Heat Input	1,021	MMBtu/hr	Coal	24-hr
	Chlorine Emissions	0.144	lb/MMBtu	Coal	--

<sup>a</sup> Carbonaceous fuel includes bark, wood, sawdust, wastewater wood fiber residuals, and bark ash.

**APPENDIX A**

**FUEL ANALYSES**

**TABLE A-1**  
**BARK FUEL ANALYSIS FROM POWER BOILER NO. 5, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Parameter	Units	Analysis Results - Bark Samples		Range <sup>a</sup>			Standard Deviation <sup>a</sup>	90% Confidence Level <sup>b</sup>
		11/11/2004	11/11/2004	Minimum	Maximum	Average <sup>a</sup>		
		Sample 1	Sample 2					
HHV	Btu/lb, dry basis	8,690	8,770	8,690	8,770	8,730	--	
Total Solids	%, wet basis	51.6	54.1	51.6	54.1	52.9	--	
Moisture	%	48.4	45.9	45.9	48.4	47.2	--	
Chloride	ppm, dry basis	43	72	43	72	58	20.5	
Chloride	lb/MMBtu	4.9E-03	8.2E-03	4.9E-03	8.2E-03	6.6E-03	2.3E-03	1.4E-02
							n = 2	
							t = 3.077684	
Hydrogen Chloride	ppm, dry basis	44.2	74.0	44	74	59	21.1	
Hydrogen Chloride	lb/MMBtu	5.1E-03	8.4E-03	5.1E-03	8.4E-03	6.8E-03	2.4E-03	1.4E-02
							n = 2	
							t = 3.077684	
Mercury	ppb, dry basis	9.7	8.5	8.5	9.7	9.1	0.8	
Mercury	lb/MMBtu	1.1E-06	9.7E-07	9.7E-07	1.1E-06	1.0E-06	1.0E-07	1.4E-06
							n = 2	
							t = 3.077684	
Arsenic	ppm, dry basis	< 1	< 1	0.50	0.50	0.50	--	
Arsenic	lb/MMBtu	< 1.2E-04	< 1.1E-04	5.7E-05	5.8E-05	5.7E-05	--	
Beryllium	ppm, dry basis	< 0.01	< 0.01	0.005	0.005	0.005	--	
Beryllium	lb/MMBtu	< 1.2E-06	< 1.1E-06	5.7E-07	5.8E-07	5.7E-07	--	
Cadmium	ppm, dry basis	0.03	0.04	0.03	0.04	0.04	--	
Cadmium	lb/MMBtu	3.5E-06	4.6E-06	3.5E-06	4.6E-06	4.0E-06	--	
Chromium	ppm, dry basis	0.71	0.63	0.63	0.7	0.7	--	
Chromium	lb/MMBtu	8.2E-05	7.2E-05	7.2E-05	8.2E-05	7.7E-05	--	
Lead	ppm, dry basis	< 0.2	< 0.2	0.10	0.10	0.10	--	
Lead	lb/MMBtu	< 2.3E-05	< 2.3E-05	1.1E-05	1.2E-05	1.1E-05	--	
Manganese	ppm, dry basis	15.5	13.6	13.6	15.5	14.6	--	
Manganese	lb/MMBtu	1.8E-03	1.6E-03	1.6E-03	1.8E-03	1.7E-03	--	
Nickel	ppm, dry basis	1.36	1.18	1.2	1.4	1.3	--	
Nickel	lb/MMBtu	1.6E-04	1.3E-04	1.3E-04	1.6E-04	1.5E-04	--	
Selenium	ppm, dry basis	< 1	< 1	0.50	0.50	0.50	--	
Selenium	lb/MMBtu	< 1.2E-04	< 1.1E-04	5.7E-05	5.8E-05	5.7E-05	--	
8-Metals Total	ppm, dry basis	18.7	16.6	16.6	18.7	17.6	1.5	
8-Metals Total	lb/MMBtu	2.2E-03	1.9E-03	1.9E-03	2.2E-03	2.0E-03	1.9E-04	2.6E-03
							n = 2	
							t = 3.077684	
8-Metals w/o Mn	ppm, dry basis	3.2	3.0	3.0	3.2	3.1	0.2	
8-Metals w/o Mn	lb/MMBtu	3.7E-04	3.4E-04	3.4E-04	3.7E-04	3.5E-04	2.3E-05	4.2E-04
							n = 2	
							t = 3.077684	
Manganese	ppm, dry basis	15.5	13.6	13.6	15.5	14.6	1.3	
Manganese	lb/MMBtu	1.8E-03	1.6E-03	1.6E-03	1.8E-03	1.7E-03	1.6E-04	2.2E-03
							n = 2	
							t = 3.077684	

Notes: % = percent  
 Btu/lb = British thermal unit per pound  
 HHV = higher heating value  
 lb/MMBtu = pound per million British thermal units  
 ppm = parts per million  
 ppb = parts per billion

<sup>a</sup> For concentrations that are reported as below detection limit the minimum, maximum, average, and standard deviation were calculated by taking one-half of detection limit.

<sup>b</sup> 90% confidence level calculated based on the following equation [40 CFR 63.7530(d)(2)]:

$P_{90} = \text{mean} + (\text{SD} * t)$ ; where:  
 $P_{90}$  = 90% confidence level pollutant concentration (lb/MMBtu)  
 mean = average of fuel samples analyzed (lb/MMBtu)  
 SD = standard deviation of pollutant concentrations (lb/MMBtu)  
 $t$  = t distribution critical value for 90% confidence probability (0.1) for n-1 degrees of freedom  
 n = number of samples

**TABLE A-2  
BARK/SLUDGE FUEL ANALYSIS FROM POWER BOILER NO. 5, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Parameter	Units	Analysis Results - Bark/Sludge Samples						Standard Deviation <sup>a</sup>	90% Confidence Level <sup>b</sup>
		1/12/2005	1/12/2005	1/12/2005	Range <sup>a</sup>		Average <sup>a</sup>		
		Sample 1	Sample 2	Sample 3	Minimum	Maximum			
HHV	Btu/lb, dry basis	9,060	9,120	9,230	9,060	9,230	9,137	--	
Total Solids	%, wet basis	49.4	50.4	49.5	49.4	50.4	49.8	--	
Moisture	%	50.6	49.6	50.5	49.6	50.6	50.2	--	
Chloride	ppm, dry basis	161	194	131	131	194	162	66.7	
Chloride	lb/MMBtu	0.018	0.021	0.014	0.014	0.021	0.018	0.004	0.024
								n = 3	
								t = 1.885618	
Hydrogen Chloride	ppm, dry basis	165.5	199.4	134.7	135	199	167	68.6	
Hydrogen Chloride	lb/MMBtu	0.018	0.022	0.015	0.015	0.022	0.018	0.004	0.025
								n = 3	
								t = 1.885618	
Mercury	ppb, dry basis	9.7	11.4	11.1	9.7	11.4	10.7	0.9	
Mercury	lb/MMBtu	1.1E-06	1.3E-06	1.2E-06	1.1E-06	1.3E-06	1.2E-06	9.3E-08	1.3E-06
								n = 3	
								t = 1.885618	
Arsenic	ppm, dry basis	< 1.0	< 1.0	< 1.0	0.5	0.5	0.5	--	
Arsenic	lb/MMBtu	< 1.1E-04	< 1.1E-04	< 1.1E-04	5.4E-05	5.5E-05	5.5E-05	--	
Beryllium	ppm, dry basis	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	--	
Beryllium	lb/MMBtu	< 1.1E-06	< 1.1E-06	< 1.1E-06	5.4E-07	5.5E-07	5.5E-07	--	
Cadmium	ppm, dry basis	0.12	0.13	0.07	0.07	0.13	0.11	--	
Cadmium	lb/MMBtu	1.3E-05	1.4E-05	7.6E-06	7.6E-06	1.4E-05	1.2E-05	--	
Chromium	ppm, dry basis	2.5	3.0	2.2	2.2	3.0	2.6	--	
Chromium	lb/MMBtu	2.8E-04	3.3E-04	2.4E-04	2.4E-04	3.3E-04	2.8E-04	--	
Lead	ppm, dry basis	< 0.4	< 0.4	< 0.2	0.1	0.2	0.2	--	
Lead	lb/MMBtu	< 4.4E-05	< 4.4E-05	< 2.2E-05	1.1E-05	2.2E-05	1.8E-05	--	
Manganese	ppm, dry basis	59.4	60.4	48.4	48.4	60.4	56.1	--	
Manganese	lb/MMBtu	6.6E-03	6.6E-03	5.2E-03	5.2E-03	6.6E-03	6.1E-03	--	
Nickel	ppm, dry basis	6.3	7.3	4.6	4.6	7.3	6.1	--	
Nickel	lb/MMBtu	7.0E-04	8.0E-04	5.0E-04	5.0E-04	8.0E-04	6.6E-04	--	
Selenium	ppm, dry basis	< 1	< 1	< 1	0.5	0.5	0.5	--	
Selenium	lb/MMBtu	< 1.1E-04	< 1.1E-04	< 1.1E-04	5.4E-05	5.5E-05	5.5E-05	--	
8-Metals Total	ppm, dry basis	69.5	72.0	56.4	56.4	72.0	66.0	8.4	
8-Metals Total	lb/MMBtu	7.7E-03	7.9E-03	6.1E-03	6.1E-03	7.9E-03	7.2E-03	9.8E-04	9.1E-03
								n = 3	
								t = 1.885618	
8-Metals w/o Mn	ppm, dry basis	10.1	11.6	8.0	8.0	11.6	9.9	1.8	
8-Metals w/o Mn	lb/MMBtu	1.1E-03	1.3E-03	8.6E-04	8.6E-04	1.3E-03	1.1E-03	2.1E-04	1.5E-03
								n = 3	
								t = 1.885618	
Manganese	ppm, dry basis	59.4	60.4	48.4	48.4	60.4	56.1	6.7	
Manganese	lb/MMBtu	6.6E-03	6.6E-03	5.2E-03	5.2E-03	6.6E-03	6.1E-03	7.8E-04	7.6E-03
								n = 3	
								t = 1.885618	

Notes: % = percent

- Btu/lb = British thermal unit per pound
- HHV = higher heating value
- lb/MMBtu = pound per million British thermal units
- ppm = parts per million
- ppb = parts per billion

\* For concentrations that are reported as below detection limit the minimum, maximum, average, and standard deviation were calculated by taking one-half of detection limit.

<sup>b</sup> 90% confidence level calculated based on the following equation [40 CFR 63.7530(d)(2)]:

$P_{90} = \text{mean} + (\text{SD} * t)$ ; where:  
 $P_{90}$  = 90% confidence level pollutant concentration (lb/MMBtu)  
 mean = average of fuel samples analyzed (lb/MMBtu)  
 SD = standard deviation of pollutant concentrations (lb/MMBtu)  
 $t$  = t distribution critical value for 90% confidence probability (0.1) for n-1 degrees of freedom  
 n = number of samples

**TABLE A-3**  
**NO. 6 FUEL OIL ANALYSIS FOR POWER BOILER NO. 5,**  
**SMURFIT-STONE CONTAINER ENTERPRISES,**  
**FERNANDINA BEACH MILL**

Parameter	No. 6 Fuel Oil
Dry Basis:	
Btu/lb	18,415
lb/gal	8.2
Btu/gal	151,000
Average Ultimate Analysis (Dry Basis %)	
Carbon	87.3
Hydrogen	10.5
Nitrogen	0.28
Oxygen	0.64
Sulfur	1
Ash	0.1
Average Trace Element Concentrations	
Chlorine, ppm	12
Chlorine, lb/MMBtu	6.5E-04
Hydrogen Chloride, ppm	12.3
Hydrogen Chloride, lb/MMBtu	6.7E-04
Manganese, ppm	1.33
Manganese, lb/MMBtu	7.2E-05
Mercury, ppm	0.04
Mercury, lb/MMBtu	2.2E-06

Source: Perry's Chemical Engineers' Handbook. Sixth Edition

TABLE A-4  
COAL AND COAL/FLY ASH FUEL ANALYSES FROM POWER BOILER NO. 7, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL

Parameter	Units	Analysis Results - Coal/Fly Ash Samples							Analysis Results - Coal Samples								
		11/9/2004	11/9/2004	11/9/2004	Range <sup>a</sup>		Average <sup>a</sup>	Standard	90% Confidence	11/10/2004	11/10/2004	11/10/2004	Range <sup>a</sup>		Average <sup>a</sup>	Standard	90% Confidence
		Sample 1	Sample 2	Sample 3	Minimum	Maximum		Deviation <sup>a</sup>	Level <sup>b</sup>	Sample 1	Sample 2	Sample 3	Minimum	Maximum		Deviation <sup>a</sup>	Level <sup>b</sup>
Fuel Type		Coal/Fly Ash <sup>c</sup>	Coal/Fly Ash <sup>c</sup>	Coal/Fly Ash <sup>c</sup>						Coal	Coal	Coal					
HHV	Btu/lb, dry basis	12,700	13,200	12,700	12,700	13,200	12,867	--		12,900	12,800	12,900	12,800	12,900	12,867	--	
Total Solids	%, wet basis	100	100	100	100	100	100	--		99.8	100	99.8	99.8	100	100	--	
Moisture	%	0	0	0	0	0	0	--		0.2	0	0.2	0	0.2	0.1	--	
Chloride	ppm, dry basis	840	803	764	764	840	802	38		813	858	865	813	865	845	28	
Chloride	lb/MMBtu	0.066	0.061	0.060	0.060	0.066	0.062	0.003	0.069	0.063	0.067	0.067	0.063	0.067	0.066	0.002	0.070
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	
Hydrogen Chloride	ppm, dry basis	863.5	825.5	785.4	785	864	825	39		835.8	882.0	889.2	836	889	869	29	
Hydrogen Chloride	lb/MMBtu	0.068	0.063	0.062	0.062	0.068	0.064	0.003	0.070	0.065	0.069	0.069	0.065	0.069	0.068	0.002	0.072
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	
Mercury	ppb, dry basis	60.0	61.7	49.0	49.0	61.7	56.9	6.9		43.2	58.0	41.9	41.9	58.0	47.7	8.9	
Mercury	lb/MMBtu	4.7E-06	4.7E-06	3.9E-06	3.9E-06	4.7E-06	4.4E-06	4.9E-07	5.3E-06	3.3E-06	4.5E-06	3.2E-06	3.2E-06	4.5E-06	3.7E-06	7.1E-07	5.1E-06
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	
Arsenic	ppm, dry basis	3.6	2.2	2.8	2.2	3.6	2.9	--		2.9	3.3	3.9	2.9	3.9	3.4	--	
Arsenic	lb/MMBtu	2.8E-04	1.7E-04	2.2E-04	1.7E-04	2.8E-04	2.2E-04	--		2.2E-04	2.6E-04	3.0E-04	2.2E-04	3.0E-04	2.6E-04	--	
Beryllium	ppm, dry basis	2.8	2.4	2.6	2.4	2.8	2.6	--		2.79	2.76	2.89	2.76	2.89	2.8	--	
Beryllium	lb/MMBtu	2.2E-04	1.8E-04	2.0E-04	1.8E-04	2.2E-04	2.0E-04	--		2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	--	
Cadmium	ppm, dry basis	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03	--		0.11	< 0.05	< 0.05	0.03	0.11	0.05	--	
Cadmium	lb/MMBtu	< 3.9E-06	< 3.8E-06	< 3.9E-06	1.9E-06	2.0E-06	1.9E-06	--		8.5E-06	< 3.9E-06	< 3.9E-06	1.9E-06	8.5E-06	4.1E-06	--	
Chromium	ppm, dry basis	9.7	8.6	10.2	8.6	10.2	9.5	--		9.1	8.7	9.7	8.7	9.7	9.2	--	
Chromium	lb/MMBtu	7.6E-04	6.5E-04	8.0E-04	6.5E-04	8.0E-04	7.4E-04	--		7.1E-04	6.8E-04	7.5E-04	6.8E-04	7.5E-04	7.1E-04	--	
Lead	ppm, dry basis	7.3	6.9	7.5	6.9	7.5	7.2	--		7.6	7.3	7.7	7.3	7.7	7.5	--	
Lead	lb/MMBtu	5.7E-04	5.2E-04	5.9E-04	5.2E-04	5.9E-04	5.6E-04	--		5.9E-04	5.7E-04	6.0E-04	5.7E-04	6.0E-04	5.9E-04	--	
Manganese	ppm, dry basis	14.7	11.0	16.0	11.0	16.0	13.9	--		11.1	10.5	11.4	10.5	11.4	11.0	--	
Manganese	lb/MMBtu	1.2E-03	8.3E-04	1.3E-03	8.3E-04	1.3E-03	1.1E-03	--		8.6E-04	8.2E-04	8.8E-04	8.2E-04	8.8E-04	8.5E-04	--	
Nickel	ppm, dry basis	15.6	13.3	14.9	13.3	15.6	14.6	--		14.8	14.4	15.7	14.4	15.7	15.0	--	
Nickel	lb/MMBtu	1.2E-03	1.0E-03	1.2E-03	1.0E-03	1.2E-03	1.1E-03	--		1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.2E-03	1.2E-03	--	
Selenium	ppm, dry basis	4.3	4.5	4.5	4.3	4.5	4.4	--		3.7	3.9	4.2	3.7	4.2	3.9	--	
Selenium	lb/MMBtu	3.4E-04	3.4E-04	3.5E-04	3.4E-04	3.5E-04	3.4E-04	--		2.9E-04	3.0E-04	3.3E-04	2.9E-04	3.3E-04	3.1E-04	--	
8-Metals Total	ppm, dry basis	58.0	49.0	58.5	49.0	58.5	55.2	5.4		52.1	50.9	55.5	50.9	55.5	52.8	2.4	
8-Metals Total	lb/MMBtu	4.6E-03	3.7E-03	4.6E-03	3.7E-03	4.6E-03	4.3E-03	5.1E-04	5.3E-03	4.0E-03	4.0E-03	4.3E-03	4.0E-03	4.3E-03	4.1E-03	1.7E-04	4.4E-03
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	
8-Metals w/o Mn	ppm, dry basis	43.3	38.0	42.5	38.0	43.3	41.3	2.9		41.0	40.4	44.1	40.4	44.1	41.8	2.0	
8-Metals w/o Mn	lb/MMBtu	3.4E-03	2.9E-03	3.3E-03	2.9E-03	3.4E-03	3.2E-03	2.9E-04	3.8E-03	3.2E-03	3.2E-03	3.4E-03	3.2E-03	3.4E-03	3.3E-03	1.5E-04	3.5E-03
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	
Manganese	ppm, dry basis	14.7	11.0	16.0	11.0	16.0	13.9	2.6		11.1	10.5	11.4	10.5	11.4	11.0	0.5	
Manganese	lb/MMBtu	1.2E-03	8.3E-04	1.3E-03	8.3E-04	1.3E-03	1.1E-03	2.2E-04	1.5E-03	8.6E-04	8.2E-04	8.8E-04	8.2E-04	8.8E-04	8.5E-04	3.2E-05	9.2E-04
								n = 3								n = 3	
								t = 1.885618								t = 1.885618	

Notes: % = percent  
 Btu/lb = British thermal unit per pound  
 HHV = higher heating value  
 lb/MMBtu = pound per million British thermal units  
 ppm = parts per million  
 ppb = parts per billion

<sup>a</sup> For concentrations that are reported as below detection limit the minimum, maximum, average, and standard deviation were calculated by taking one-half of detection limit.

<sup>b</sup> 90% confidence level calculated based on the following equation [40 CFR 63.7530(d)(2)]:

$P_{90} = \text{mean} + (SD * t)$ ; where:  
 $P_{90}$  = 90% confidence level pollutant concentration (lb/MMBtu)  
 mean = average of fuel samples analyzed (lb/MMBtu)  
 SD = standard deviation of pollutant concentrations (lb/MMBtu)  
 $t$  = t distribution critical value for 90% confidence probability (0.1) for n-1 degrees of freedom  
 n = number of samples

<sup>c</sup> This test included Power Boiler No. 5 fly ash with the coal. Samples were collected after the fly ash was added.

**TABLE A-5**  
**SUMMARY OF JANUARY 12, 2005 BOILER MACT TEST RESULTS FOR POWER BOILER NO. 5, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Parameter	Source of Data	Run 1 1/12/2005 0755-0910	Run 2 1/12/2005 1205-1310	Run 3 1/12/2005 1555-1701	Run 1 thru Run 3 Average	Run 1 1/12/2005 0755-1010	Run 2 1/12/2005 1205-1410	Run 3 1/12/2005 1555-1807	Run 1 thru Run 3 Average
Fuel Type		Bark	Bark	Bark		Bark	Bark	Bark	
Bark Flow (TPH)	Process Data	49.9	51.2	50.8	50.6	50.9	51.5	50.9	51.1
F-Factor (dscf/MMBtu) <sup>a</sup>	Industry Accepted Value	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Stack Temperature (°F)	Stack Test	450.5	439.0	438.1	442.5	440.2	441.5	441.0	440.9
Stack Flow (acfm)	Stack Test	234,556	235,752	232,719	234,342	233,488	232,975	231,993	232,819
Stack Flow (dscfm)	Stack Test	102,965	102,878	102,749	102,864	97,377	100,430	103,864	100,557
Moisture (%)	Stack Test	24.2	25.6	24.8	24.9	28.8	26.3	23.5	26.2
Oxygen (%)	Stack Test	5.1	5.7	5.9	5.6	5.1	5.1	5.9	5.4
Carbon Dioxide (%)	Stack Test	13.7	14.1	13.3	13.7	13.7	13.7	13.3	13.6
Nitrogen (%)	Stack Test	81.2	80.2	80.8	80.7	81.2	81.2	80.8	81.1
Steam Production (lb/hr)	Process Data	266,881	276,206	270,758	271,282	273,324	277,803	272,534	274,554
Heat Input from F-Factor (MMBtu/hr) <sup>b</sup>	Stack Test	486.5	467.6	460.9	471.7	460.1	474.5	465.9	466.8
Particulate Matter (gr/dscf)	Stack Test	0.0071	0.0080	0.0083	0.0078	N/A	N/A	N/A	N/A
Particulate Matter (lb/hr)	Stack Test	6.27	7.06	7.31	6.88	N/A	N/A	N/A	N/A
Particulate Matter (lb/MMBtu)	Stack Test	0.0129	0.0151	0.0159	0.0146	N/A	N/A	N/A	N/A
Hydrogen Chloride (lb/hr)	Stack Test	0.427	0.360	0.303	0.364	N/A	N/A	N/A	N/A
Hydrogen Chloride (lb/MMBtu)	Stack Test	8.8E-04	7.7E-04	6.6E-04	7.7E-04	N/A	N/A	N/A	N/A
Chlorine (lb/hr)	Stack Test	0.421	0.269	0.295	0.328	N/A	N/A	N/A	N/A
Chlorine (lb/MMBtu)	Stack Test	8.6E-04	5.8E-04	6.4E-04	6.9E-04	N/A	N/A	N/A	N/A
Mercury (lb/hr)	Stack Test	N/A	N/A	N/A	N/A	3.6E-04	6.8E-04	4.2E-04	4.86E-04
Mercury (lb/MMBtu)	Stack Test	N/A	N/A	N/A	N/A	8.0E-07	1.46E-06	9.0E-07	1.05E-06
ESP Total Power (kW)	Process Data	50.7	50.2	53.8	51.6	49.9	51.3	54.5	51.9

## Notes:

dscf/MMBtu = dry standard cubic foot per million British thermal units

MMBtu/hr = million British thermal units per hour

% = percent

lb/hr = pound per hour

ppmvd = parts per million volumetric dry

gr/dscf = grains per dry standard cubic foot

lb/MMBtu = pound per million British thermal units

TPH = tons per hour

<sup>a</sup> F-factor based on industry accepted value for wood/bark (9,600 dscf/10<sup>6</sup> Btu).<sup>b</sup> Heat input based on F-factor, stack flow, and oxygen: Heat input (MMBtu/hr) = Stack flow (dscfm) x 60 (min/hr) x [(20.9% - O<sub>2</sub>%) / 20.9%] / F-factor (dscf/MMBtu)



**TABLE A-6**  
**SUMMARY OF NOVEMBER 10, 2004 BOILER MACT TEST RESULTS FOR POWER BOILER NO. 7, SMURFIT-STONE CONTAINER ENTERPRISES, FERNANDINA BEACH MILL**

Parameter	Source of Data	Run 1	Run 2	Run 3	Run 1 thru Run 3 Average	Run 1	Run 2	Run 3	Run 1 thru Run 3 Average
		11/10/2004 0830-0942	11/10/2004 1102-1215	11/10/2004 1330-1443		11/10/2004 0830-1038	11/10/2004 1102-1309	11/10/2004 1330-1541	
Fuel Type		Coal	Coal	Coal		Coal	Coal	Coal	
Coal Flow (TPH)	Process Data	37.6	37.4	37.0		37.5	37.5	37.3	37.4
F-Factor (dscf/MMBtu) <sup>a</sup>	Industry Accepted Value	9,190	9,190	9,190	9,190	9,190	9,190	9,190	9,190
Stack Temperature (°F)	Stack Test	397.7	408.1	410.6	405.5	392.8	396.0	403.7	397.5
Stack Flow (acfm)	Stack Test	347,448	348,462	365,500	353,803	356,170	352,011	367,832	358,671
Stack Flow (dscfm)	Stack Test	205,726	218,736	212,981	212,481	212,552	211,724	216,353	213,543
Moisture (%)	Stack Test	5.8	6.0	5.9	5.9	5.6	4.5	5.8	5.3
Oxygen (%)	Stack Test	9.5	9.8	8.7	9.3	9.5	9.8	8.7	9.3
Carbon Dioxide (%)	Stack Test	10.5	10.2	11.0	10.6	10.5	10.2	11.3	10.7
Nitrogen (%)	Stack Test	80.0	80.0	80.3	80.1	80.0	80.0	80.0	80.0
Steam Production (lb/hr)	Process Data	742,873	746,660	742,983	744,172	746,801	744,906	746,377	746,028
Heat Input from F-Factor (MMBtu/hr) <sup>b</sup>	Stack Test	733	758	812	767.6	757	734	825	772
Particulate Matter (gr/dscf)	Stack Test	0.0043	0.0039	0.0044	0.0042	N/A	N/A	N/A	N/A
Particulate Matter (lb/hr)	Stack Test	7.59	7.32	8.04	7.65	N/A	N/A	N/A	N/A
Particulate Matter (lb/MMBtu)	Stack Test	1.0E-02	9.6E-03	9.9E-03	1.0E-02	N/A	N/A	N/A	N/A
Hydrogen Chloride (lb/hr)	Stack Test	74.20	78.75	76.62	76.52	N/A	N/A	N/A	N/A
Hydrogen Chloride (lb/MMBtu)	Stack Test	0.108	0.110	0.100	0.106	N/A	N/A	N/A	N/A
Chlorine (lb/hr)	Stack Test	0.81	0.89	0.77	0.83	N/A	N/A	N/A	N/A
Chlorine (lb/MMBtu)	Stack Test	1.2E-03	1.3E-03	1.0E-03	1.1E-03	N/A	N/A	N/A	N/A
Mercury (lb/hr)	Stack Test	N/A	N/A	N/A	N/A	7.6E-03	3.9E-03	5.1E-03	5.5E-03
Mercury (lb/MMBtu)	Stack Test	N/A	N/A	N/A	N/A	1.0E-05	5.3E-06	6.2E-06	7.2E-06
ESP Total Power (kW)	Process Data	86.4	84.8	83.8	85.0	86.3	84.5	83.7	84.8

## Notes:

dscf/MMBtu = dry standard cubic foot per million British thermal units

MMBtu/hr = million British thermal units per hour

% = percent

lb/hr = pound per hour

ppmvd = parts per million volumetric dry

gr/dscf = grains per dry standard cubic foot

<sup>a</sup> F-factor based on industry accepted value for coal/oil (9,190 dscf/10<sup>6</sup> Btu).<sup>b</sup> Heat input based on F-factor, stack flow, and oxygen: Heat input (MMBtu/hr) = Stack flow (dscfm) x 60 (min/hr) x [(20.9% - O<sub>2</sub>%) / 20.9%] / F-factor (dscf/MMBtu)

**TABLE A-7**  
**BOILER MACT FINAL RULE ANALYTICAL PROCEDURES,**  
**SMURFIT-STONE CONTAINER ENTERPRISES,**  
**FERNANDINA BEACH MILL**

Rule	40 CFR 63 Subpart DDDDD
Citation	Boiler MACT Requirement
Table 6	<b><u>Analytical Procedures:</u></b>
	1. Collect fuel samples--63.7521(c) or ASTM D6323-98 (2003) or equivalent
	2. Composite fuel samples--63.7521(d) or equivalent
	3. Prepare composited fuel samples--SW846-3050B or ASTM D5198-92 (2003) or equivalent
	4. Determine heat content of fuel type--ASTM E711-87 (1996) or equivalent
	5. Determine moisture content of fuel type--ASTM D3173-02 or ASTM E871-82 (1998) or equivalent
	6. Measure pollutant concentration in fuel sample:
	--Mercury--SW-846-7471A
	--Total selected metals--ASTM E885-88 (1996)
	--Chlorine--SW-846-9250 or ASTM E776-87 (1996) or equivalent

**TABLE A-8  
COMPARISON OF BIOMASS FUEL SAMPLING  
AND ANALYSIS PROCEDURES WITH BOILER MACT RULE**

<b>Rule Citation</b>	<b>Boiler MACT Rule Requirement</b>	<b>Smurfit-Stone Container Enterprises' Procedures/Methods</b>
	<b>BIOMASS FUEL SAMPLING PROCEDURES</b>	
63.7521(c)	<b>Must obtain at least 3 composite samples of each fuel type, following these procedures for a belt/screw feeder:</b>	Collect a composite sample during each individual test run.
	1. Stop belt and withdraw 6-inch wide sample from fuel cross-section of belt to obtain a minimum of 2 lbs. of sample. Collect all material in full cross-section. Transfer to clean plastic bag.	Grab samples will be taken from the conveyor belt feeder located at the bagasse/wood chip fuel storage pile feeding the boilers. The grab samples will be taken using a manual sampling device (pole with a sampling cup). These grab samples will be composited into a single sample. This will provide a representative sample of the wood chips directly entering the boiler. A total grab sample of approximately 1-gallon will be obtained (approx. 1.5 lbs). The samples will be collected and stored in a plastic bag and shipped off-site compositing.
	2. Each composite sample must consist of at least 3 samples collected at approximately equal intervals during testing period.	Each composite sample will consist of three (3) individual grab samples as described in Step 1 above, obtained at equal intervals over the test run (beginning, middle and end).
63.7521(d)	<b>Prepare each composite sample according to these procedures:</b>	
	1. Thoroughly mix and pour entire composite sample over a clean plastic sheet.	Consistent with rule.
	2. Break sample pieces over 3 inches into smaller sizes.	Consistent with rule.
	3. Make a pie shape with entire composite sample and subdivide it into 4 equal parts.	Consistent with rule.
	4. Separate one of 1/4 samples as first subset.	Consistent with rule.
	5. If subset is too large for grinding, repeat step #3.	Not applicable.
	6. Grind sample in a mill.	Consistent with rule.
	7. Use step #3 to obtain a 1/4 sub sample for analysis.	Consistent with rule.
	8. If 1/4 sample is too large, subdivide it further using same procedure.	Consistent with rule.
63.7521(c)	<b>Determine pollutant (Hg, HCl, and/or TSM) concentrations in fuel in lb/MMBtu of each composite sample.</b>	Proximate, ultimate, heat content, metals, and chlorine analyses will be performed. All pollutants will be calculated in lb/MMBtu based on heat content.
	<b>BIOMASS FUEL ANALYTICAL PROCEDURES</b>	
Table 6	1. Collect fuel samples--63.7521(c) or ASTM D6323-98 (2003) or equivalent	See above for differences in procedure.
	2. Composite fuel samples--63.7521(d) or equivalent	Consistent with rule.
	3. Prepare composited fuel samples--SW846-3050B or ASTM D5198-92 (2003) or equivalent	SW846-3050B
	4. Determine heat content of fuel type--ASTM E711-87 or equivalent	ASTM D2015 for coal.
	5. Determine moisture content of fuel type--ASTM D3173-02 or ASTM E871 or equivalent	ASTM E871-82 (1998) for bark/sludge. EPA 160.3M was used to determine percent solids for coal.
	6. Measure pollutant concentration in fuel sample:	
	--Mercury--SW-846-7471A	EPA 1631E for bark/sludge and coal. The method coupled with the digestion procedures in EPA-821-R-01-013 can provide minimum or reporting levels of 1-2 ppb in solids. Samples should be dried at a temperature no greater than 60°C (140°F) prior to analysis to prevent any mercury volatilization.
	--Total selected metals--ASTM E885-88 (1996)	SW-846-6010B for bark/sludge and coal. This is the industry standard and has lower detection limits than ASTM E885-88 (1996).
	--Hydrogen chloride (Chlorine)--SW-846-9250 or ASTM E776-87 (1996) or equivalent	EPA 9056 for bark/sludge and coal.
	7. Convert concentrations into units of lbs pollutant/MMBtu of heat content	Converted using concentrations in ppm and heat content.

January 10, 2005

Service Request No: K2409311

Pascha Dillon  
Stone Container  
P.O Box 2000  
Fernandina Beach, FL 32034

**RE: Power Boiler**

Dear Pascha:


Enclosed are the results of the sample(s) submitted to our laboratory on November 23, 2004. For your reference, these analyses have been assigned our service request number K2409311.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

  
Ed Wallace  
Project Chemist

EW/jeb

Page 1 of 33

## Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- \* The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Q The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

00003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Stone Container Corporation  
 Project: Power Boiler  
 Sample Matrix: Misc

Service Request: K2409311

Total Solids

Prep Method: NONE  
 Analysis Method: 160.3M  
 Test Notes:

Units: PERCENT  
 Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
PB #7 Coal 11/10	K2409311-001	11/10/2004	11/23/2004	11/30/2004	99.8	
PB #7 Coal Run 1 11/9	K2409311-002	11/09/2004	11/23/2004	11/30/2004	100	
PB #7 Coal Run 2 11/9	K2409311-003	11/09/2004	11/23/2004	11/30/2004	100	
PB #7 Coal Run 2 11/10	K2409311-004	11/10/2004	11/23/2004	11/30/2004	100	
PB #7 Coal Run 3 11/9	K2409311-005	11/09/2004	11/23/2004	11/30/2004	100	
PB #7 Coal Run 3 11/10	K2409311-006	11/10/2004	11/23/2004	11/30/2004	99.8	
PB #7 Ash Run 1	K2409311-007	11/10/2004	11/23/2004	11/30/2004	99.9	
PB #7 Fly Ash Run 1	K2409311-008	11/10/2004	11/23/2004	11/30/2004	99.9	
PB #7 Ash Run 2	K2409311-009	NA	11/23/2004	11/30/2004	99.9	
PB #7 Fly Ash Run 2	K2409311-010	11/09/2004	11/23/2004	11/30/2004	100	
PB #7 Ash Run 3	K2409311-011	11/10/2004	11/23/2004	11/30/2004	99.8	
PB #7 Fly Ash Run 3	K2409311-012	11/09/2004	11/23/2004	11/30/2004	99.8	
PB #5 Ash Run 1	K2409311-013	11/11/2004	11/23/2004	11/30/2004	100	
PB #5 Ash R	K2409311-014	11/11/2004	11/23/2004	11/30/2004	100	
PB Bark R1	K2409311-015	11/11/2004	11/23/2004	11/30/2004	51.6	
PB Bark R2	K2409311-016	11/11/2004	11/23/2004	11/30/2004	54.1	

*PB7 test on 11/9/04 included PB5 fly ash with the coal.  
 Samples collected after flyash was added.*

00004

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Stone Container Corporation  
Project: Power Boiler  
Sample Matrix: Misc

Service Request: K2409311  
Date Collected: 11/10/2004  
Date Received: 11/23/2004  
Date Analyzed: 11/30/2004

Duplicate Sample Summary  
Total Solids

Prep Method: NONE  
Analysis Method: 160.3M  
Test Notes:

Units: PERCENT  
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
PB #7 Coal 11/10	K2409311-001	99.8	100	99.9	<1	

00005



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Stone Container Corporation  
Project: Power Boiler  
Sample Matrix: Misc

Service Request: K2409311  
Date Collected: 11/09/2004  
Date Received: 11/23/2004  
Date Analyzed: 11/30/2004

Duplicate Sample Summary  
Total Solids

Prep Method: NONE  
Analysis Method: 160.3M  
Test Notes:

Units: PERCENT  
Basis: Wet

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
PB #7 Fly Ash Run 2	K2409311-010	100	99.9	100.0	<1	

00006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Stone Container Corporation  
 Project: Power Boiler  
 Sample Matrix: Misc

Service Request: K2409311  
 Date Collected: 11/10/2004  
 Date Received: 11/23/2004

Ash at 1000 C

Prep Method: NONE  
 Analysis Method: 160.4M  
 Test Notes:

Units: PERCENT  
 Basis: Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
PB #7 Ash Run 1	K2409311-007	-	-	1	-	12/3/2004	96.7	
PB #7 Fly Ash Run 1	K2409311-008	-	-	1	-	12/3/2004	96.3	
PB #7 Ash Run 2	K2409311-009	-	-	1	-	12/3/2004	96.9	
PB #7 Fly Ash Run 2	K2409311-010	-	-	1	-	12/3/2004	96.5	
PB #7 Ash Run 3	K2409311-011	-	-	1	-	12/3/2004	96.7	
PB #7 Fly Ash Run 3	K2409311-012	-	-	1	-	12/3/2004	97.0	
PB #5 Ash Run 1	K2409311-013	-	-	1	-	12/3/2004	21.5	
PB #5 Ash R	K2409311-014	-	-	1	-	12/3/2004	20.1	

M Modified for analysis of soil.

Approved By: \_\_\_\_\_

*Emw* Date: 1/10/05

0020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project Number : NA  
Sample Matrix : MISC

Service Request : K2409311  
Date Collected : 11/09-11/04  
Date Received : 11/23/04

High Heat Value

Analysis Method ASTM D2015  
Test Notes :

Units : BTU/lb  
Basis : Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
PB #7 Coal <sup>(run)</sup> 11/10	K2409311-001	50	1	12/14/04	12900	
PB #7 Coal Run 1 11/9	K2409311-002	50	1	12/14/04	12700	
PB #7 Coal Run 2 11/9	K2409311-003	50	1	12/14/04	13200	
PB #7 Coal Run 2 11/10	K2409311-004	50	1	12/14/04	12800	
PB #7 Coal Run 3 11/9	K2409311-005	50	1	12/14/04	12700	
PB #7 Coal Run 3 11/10	K2409311-006	50	1	12/14/04	12900	
<del>PB Bark R1 11/11</del>	K2409311-015	50	1	12/14/04	8690	
<del>PB Bark R2 11/11</del>	K2409311-016	50	1	12/14/04	8770	

00008

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client :** Stone Container Corporation  
**Project Name :** Power Boiler  
**Project Number :** NA  
**Sample Matrix :** MISC

**Service Request :** K2409311  
**Date Collected :** 11/09-11/04  
**Date Received :** 11/23/04

Chloride

**Prep Method :** 5050  
**Analysis Method :** 9056  
**Test Notes :**

**Units :** mg/Kg (ppm)  
**Basis :** Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
PB #7 Coal 11/10	K2409311-001	160	5	12/14/04	12/17/04	813	
PB #7 Coal Run 1 11/9	K2409311-002	160	5	12/14/04	12/17/04	840	
PB #7 Coal Run 2 11/9	K2409311-003	160	5	12/14/04	12/17/04	803	
PB #7 Coal Run 2 11/10	K2409311-004	160	5	12/14/04	12/17/04	858	
PB #7 Coal Run 3 11/9	K2409311-005	160	5	12/14/04	12/17/04	764	
PB #7 Coal Run 3 11/10	K2409311-006	160	5	12/14/04	12/17/04	865	
PB #7 Ash Run 1	K2409311-007	160	5	12/14/04	12/17/04	329	
PB #7 Fly Ash Run 1	K2409311-008	160	5	12/14/04	12/17/04	303	
PB #7 Ash Run 2	K2409311-009	160	5	12/14/04	12/17/04	385	
PB #7 Fly Ash Run 2	K2409311-010	160	5	12/14/04	12/17/04	314	
PB #7 Ash Run 3	K2409311-011	32	2	12/14/04	12/17/04	ND	
PB #7 Fly Ash Run 3	K2409311-012	160	5	12/14/04	12/17/04	309	
PB #5 Ash Run 1	K2409311-013	160	5	12/14/04	12/17/04	925	
PB #5 Ash R	K2409311-014	160	5	12/14/04	12/17/04	1050	
PB Bark R1	K2409311-015	32	2	12/14/04	12/17/04	43	
PB Bark R2	K2409311-016	32	2	12/14/04	12/17/04	72	
Method Blank	K2409311-MB	32	1	12/14/04	12/17/04	ND	

00009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Stone Container Corporation  
 Project: Power Boiler  
 Sample Matrix: Soil

Service Request: K2409311  
 Date Collected: 11/10/04  
 Date Received: 11/23/04

Mercury, Total

Prep Method: METHOD  
 Analysis Method: 1631E  
 Test Notes:

Units: ng/g  
 Basis: Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
PB #7 Coal 11/10	K2409311-001	1.0	20	1/4/05	1/4/05	43.2	
PB #7 Coal Run 1 11/9	K2409311-002	1.0	20	1/4/05	1/4/05	60.0	
PB #7 Coal Run 2 11/9	K2409311-003	1.0	20	1/4/05	1/4/05	61.7	
PB #7 Coal Run 2 11/10	K2409311-004	1.0	20	1/4/05	1/4/05	58.0	
PB #7 Coal Run 3 11/9	K2409311-005	1.0	20	1/4/05	1/4/05	49.0	
PB #7 Coal Run 3 11/10	K2409311-006	1.0	20	1/4/05	1/4/05	41.9	
PB #7 Ash Run 1	K2409311-007	1.0	20	1/4/05	1/4/05	193	
PB #7 Fly Ash Run 1	K2409311-008	1.0	20	1/4/05	1/4/05	206	
PB #7 Ash Run 2	K2409311-009	1.0	20	1/4/05	1/4/05	156	
PB #7 Fly Ash Run 2	K2409311-010	1.0	20	1/4/05	1/4/05	224	
PB #7 Ash Run 3	K2409311-011	1.0	20	1/4/05	1/4/05	172	
PB #7 Fly Ash Run 3	K2409311-012	1.0	20	1/4/05	1/4/05	202	
PB #5 Ash Run 1	K2409311-013	1.0	20	1/4/05	1/4/05	66.8	
PB #5 Ash R	K2409311-014	1.0	20	1/4/05	1/4/05	51.5	
PB Bark R1	K2409311-015	1.0	20	1/4/05	1/4/05	9.7	
PB Bark R2	K2409311-016	1.0	20	1/4/05	1/4/05	8.5	
Method Blank	K2409311-MB	1.0	20	1/4/05	1/4/05	ND	
Method Blank	K2409311-MB	1.0	20	1/4/05	1/4/05	ND	
Method Blank	K2409311-MB	1.0	20	1/4/05	1/4/05	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -

INORGANIC ANALYSIS DATA PACKAGE

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA

Service Request : K2409311

---

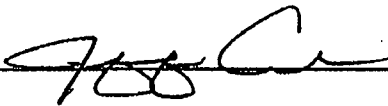
Sample Name :

Lab Code :

PB #7 Coal 11/10	K2409311-001
PB #7 Coal Run 1 11/9	K2409311-002
PB #7 Coal Run 2 11/9	K2409311-003
PB #7 Coal Run 2 11/10	K2409311-004
PB #7 Coal Run 3 11/9	K2409311-005
PB #7 Coal Run 3 11/10	K2409311-006
PB Bark R1	K2409311-015
PB Bark R2	K2409311-016
Method Blank	K2409311-MB
Method Blank	K2409311-MB2

Comments:

Approved By: \_\_\_\_\_



Date: \_\_\_\_\_

1/6/05

00011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received :- 11/23/04  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : PB #7 Coal 11/10  
Lab Code : K2409311-001

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	2.9	
Beryllium	6010B	0.05	12/16/04	2.79	
Cadmium	6010B	0.05	12/16/04	0.11	
Chromium	6010B	0.1	12/16/04	9.1	
Lead	6010B	1	12/16/04	7.6	
Manganese	6010B	0.05	12/16/04	11.1	
Nickel	6010B	0.2	12/16/04	14.8	
Selenium	7740	1	12/06/04	3.7	

Comments:

00012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/09/04  
Date Received : 11/23/04  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : PB #7 Coal Run 1 11/9  
Lab Code : K2409311-002

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	3.6	
Beryllium	6010B	0.05	12/16/04	2.82	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	9.7	
Lead	6010B	1	12/16/04	7.3	
Manganese	6010B	0.05	12/16/04	14.7	
Nickel	6010B	0.2	12/16/04	15.6	
Selenium	7740	1	12/06/04	4.3	

Comments:

00013



**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analytical Report**

**Client :** Stone Container Corporation  
**Project Name :** Power Boiler  
**Project No. :** NA  
**Matrix :** Misc

**Service Request :** K2409311  
**Date Collected :** 11/09/04  
**Date Received :** 11/23/04  
**Date Extracted :** 12/03-10/04

**Total Metals**

**Sample Name :** PB #7 Coal Run 2 11/9  
**Lab Code :** K2409311-003

**Units :** mg/Kg (ppm)  
**Basis :** Dry

*Is MDL the same?*

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	2.2	
Beryllium	6010B	0.05	12/16/04	2.43	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	8.6	
Lead	6010B	1	12/16/04	6.9	
Manganese	6010B	0.05	12/16/04	11.0	
Nickel	6010B	0.2	12/16/04	13.3	
Selenium	7740	1	12/06/04	4.5	

Comments:

00014

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received : 11/23/04  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : PB #7 Coal Run 2 11/10  
Lab Code : K2409311-004

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	3.3	
Beryllium	6010B	0.05	12/16/04	2.76	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	8.7	
Lead	6010B	1	12/16/04	7.3	
Manganese	6010B	0.05	12/16/04	10.5	
Nickel	6010B	0.2	12/16/04	14.4	
Selenium	7740	1	12/06/04	3.9	

Comments:

00015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/09/04  
Date Received : 11/23/04  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : PB #7 Coal Run 3 11/9  
Lab Code : K2409311-005

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	2.8	
Beryllium	6010B	0.05	12/16/04	2.60	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	10.2	
Lead	6010B	1	12/16/04	7.5	
Manganese	6010B	0.05	12/16/04	16.0	
Nickel	6010B	0.2	12/16/04	14.9	
Selenium	7740	1	12/06/04	4.5	

Comments:

00016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received : 11/23/04  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : PB #7 Coal Run 3 11/10  
Lab Code : K2409311-006

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	3.9	
Beryllium	6010B	0.05	12/16/04	2.89	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	9.7	
Lead	6010B	1	12/16/04	7.7	
Manganese	6010B	0.05	12/16/04	11.4	
Nickel	6010B	0.2	12/16/04	15.7	
Selenium	7740	1	12/06/04	4.2	

Comments:

00017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/11/04  
Date Received : 11/23/04  
Date Extracted : 12/03-08/04

Total Metals

Sample Name : PB Bark R1  
Lab Code : K2409311-015

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	ND	
Beryllium	6010B	0.01	12/16/04	ND	
Cadmium	6010B	0.01	12/16/04	0.03	
Chromium	6010B	0.2	12/16/04	0.71	
Lead	6010B	0.2	12/16/04	ND	
Manganese	6010B	0.1	12/16/04	15.5	
Nickel	6010B	0.04	12/16/04	1.36	
Selenium	7740	1	12/06/04	ND	

Comments:

00018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/11/04  
Date Received : 11/23/04  
Date Extracted : 12/03-08/04

Total Metals

Sample Name : PB Bark R2  
Lab Code : K2409311-016

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	ND	
Beryllium	6010B	0.01	12/16/04	ND	
Cadmium	6010B	0.01	12/16/04	0.04	
Chromium	6010B	0.2	12/16/04	0.63	
Lead	6010B	0.2	12/16/04	ND	
Manganese	6010B	0.1	12/16/04	13.6	
Nickel	6010B	0.04	12/16/04	1.18	
Selenium	7740	1	12/06/04	ND	

Comments:

00019

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : NA  
Date Received : NA  
Date Extracted : 12/03-10/04

Total Metals

Sample Name : Method Blank  
Lab Code : K2409311-MB

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	12/06/04	ND	
Beryllium	6010B	0.05	12/16/04	ND	
Cadmium	6010B	0.05	12/16/04	ND	
Chromium	6010B	0.1	12/16/04	ND	
Lead	6010B	1	12/16/04	ND	
Manganese	6010B	0.05	12/16/04	ND	
Nickel	6010B	0.2	12/16/04	ND	
Selenium	7740	1	12/06/04	ND	

Comments:

00020

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : NA  
Date Received : NA  
Date Extracted : 12/08/04

Total Metals

Sample Name : Method Blank  
Lab Code : K2409311-MB2

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Beryllium	6010B	0.01	12/16/04	ND	
Cadmium	6010B	0.01	12/16/04	ND	
Chromium	6010B	0.02	12/16/04	ND	
Lead	6010B	0.2	12/16/04	ND	
Manganese	6010B	0.01	12/16/04	ND	
Nickel	6010B	0.04	12/16/04	ND	

Comments:

00021



COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -

INORGANIC ANALYSIS DATA PACKAGE

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA

Service Request : K2409311

---

Sample Name :

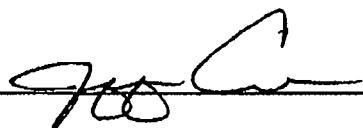
PB #7 Ash Run 1  
PB #7 Fly Ash Run 1  
PB #7 Ash Run 2  
PB #7 Fly Ash Run 2  
PB #7 Ash Run 3  
PB #7 Fly Ash Run 3  
PB #5 Ash Run 1  
PB #5 Ash R  
Method Blank

Lab Code :

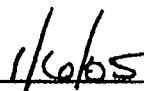
K2409311-007  
K2409311-008  
K2409311-009  
K2409311-010  
K2409311-011  
K2409311-012  
K2409311-013  
K2409311-014  
K2409311-MB

Comments:

Approved By: \_\_\_\_\_



Date: \_\_\_\_\_



00022

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Ash Run 1  
Lab Code : K2409311-007

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	25.0	
Beryllium	200.8	0.02	12/22/04	6.42	
Cadmium	200.8	0.02	12/22/04	0.51	
Chromium	200.8	0.2	12/22/04	33.0	
Lead	200.8	0.05	12/22/04	22.0	
Manganese	200.8	0.5	12/22/04	157	
Nickel	200.8	0.2	12/22/04	48.5	
Selenium	200.8	1	12/22/04	3.9	

Comments:

00023

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Fly Ash Run 1  
Lab Code : K2409311-008

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	24.6	
Beryllium	200.8	0.02	12/22/04	5.59	
Cadmium	200.8	0.02	12/22/04	0.47	
Chromium	200.8	0.2	12/22/04	28.6	
Lead	200.8	0.05	12/22/04	18.2	
Manganese	200.8	0.5	12/22/04	153	
Nickel	200.8	0.2	12/22/04	41.3	
Selenium	200.8	1	12/22/04	5.2	

Comments:

00024

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : NA  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Ash Run 2  
Lab Code : K2409311-009

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	37.1	
Beryllium	200.8	0.02	12/22/04	6.67	
Cadmium	200.8	0.02	12/22/04	0.67	
Chromium	200.8	0.2	12/22/04	32.2	
Lead	200.8	0.05	12/22/04	28.4	
Manganese	200.8	0.5	12/22/04	130	
Nickel	200.8	0.2	12/22/04	50.6	
Selenium	200.8	1	12/22/04	5.0	

Comments:

00025

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/09/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Fly Ash Run 2  
Lab Code : K2409311-010

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	24.7	
Beryllium	200.8	0.02	12/22/04	6.23	
Cadmium	200.8	0.02	12/22/04	0.5	
Chromium	200.8	0.2	12/22/04	31.3	
Lead	200.8	0.05	12/22/04	22.8	
Manganese	200.8	0.5	12/22/04	168	
Nickel	200.8	0.2	12/22/04	50.9	
Selenium	200.8	1	12/22/04	5.1	

Comments:

00026

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/10/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Ash Run 3  
Lab Code : K2409311-011

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	23.6	
Beryllium	200.8	0.02	12/22/04	5.63	
Cadmium	200.8	0.02	12/22/04	0.48	
Chromium	200.8	0.2	12/22/04	27.5	
Lead	200.8	0.05	12/22/04	21.3	
Manganese	200.8	0.5	12/22/04	123	
Nickel	200.8	0.2	12/22/04	45.8	
Selenium	200.8	1	12/22/04	4.3	

Comments:

00027

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/09/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #7 Fly Ash Run 3  
Lab Code : K2409311-012

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	25.1	
Beryllium	200.8	0.02	12/22/04	6.40	
Cadmium	200.8	0.02	12/22/04	0.53	
Chromium	200.8	0.2	12/22/04	33.9	
Lead	200.8	0.05	12/22/04	23.0	
Manganese	200.8	0.5	12/22/04	156	
Nickel	200.8	0.2	12/22/04	51.7	
Selenium	200.8	1	12/22/04	4.4	

Comments:

00028

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/11/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #5 Ash Run 1  
Lab Code : K2409311-013

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	0.6	
Beryllium	200.8	0.02	12/22/04	0.09	
Cadmium	200.8	0.02	12/22/04	1.42	
Chromium	200.8	0.2	12/22/04	19.2	
Lead	200.8	0.05	12/22/04	4.16	
Manganese	200.8	1	12/22/04	333	
Nickel	200.8	0.2	12/22/04	59.4	
Selenium	200.8	1	12/22/04	ND	

Comments:

00029



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : 11/11/04  
Date Received : 11/23/04  
Date Extracted : 12/03/04

Total Metals

Sample Name : PB #5 Ash R  
Lab Code : K2409311-014

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	0.7	
Beryllium	200.8	0.02	12/22/04	0.06	
Cadmium	200.8	0.02	12/22/04	1.97	
Chromium	200.8	0.2	12/22/04	18.1	
Lead	200.8	0.05	12/22/04	5.94	
Manganese	200.8	1	12/22/04	350	
Nickel	200.8	0.2	12/22/04	52.5	
Selenium	200.8	1	12/22/04	ND	

Comments:

00030

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : Power Boiler  
Project No. : NA  
Matrix : Misc

Service Request : K2409311  
Date Collected : NA  
Date Received : NA  
Date Extracted : 12/03/04

Total Metals

Sample Name : Method Blank  
Lab Code : K2409311-MB

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	12/22/04	ND	
Beryllium	200.8	0.02	12/22/04	ND	
Cadmium	200.8	0.02	12/22/04	ND	
Chromium	200.8	0.2	12/22/04	ND	
Lead	200.8	0.05	12/22/04	ND	
Manganese	200.8	0.05	12/22/04	ND	
Nickel	200.8	0.2	12/22/04	ND	
Selenium	200.8	1	12/22/04	ND	

Comments:

00031

Columbia Analytical Services Inc.  
Cooler Receipt and Preservation Form

PC 04

Project/Client F.S.S. Work Order K240 9288 9511

Cooler received on 11-22-04 and opened on 11-22-04 by DW

1. Were custody seals on outside of coolers? Y  N  
If yes, how many and where? \_\_\_\_\_
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: UPS 1Z1A8-28E-13-9856-1108 ~~Y~~ N
5. COC# \_\_\_\_\_  
 Temperature of cooler(s) upon receipt: (°C) 8.7 \_\_\_\_\_  
 Temperature Blank: (°C) NP \_\_\_\_\_  
 Were samples hand delivered on the same day as collection? Y N
6. Were custody papers properly filled out (ink, signed, etc.)? Y N
7. Type of packing material present \_\_\_\_\_
8. Did all bottles arrive in good condition (unbroken)? Y N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y N
10. Did all bottle labels and tags agree with custody papers? Y N
11. Were the correct types of bottles used for the tests indicated? Y N
12. Were all of the preserved bottles received at the lab with the appropriate pH? Y N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? Y N
14. Did the bottles originate from CAS/K or a branch laboratory? Y N
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? Y N
16. Was C12/Res negative? Y N

Explain any discrepancies: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

RESOLUTION: CL-26 - m5/26 - Hg/evaa

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

**Columbia Analytical Services Inc.  
Cooler Receipt and Preservation Form**

PC Ed

Project/Client E.S.S. Work Order K240 42879311

Cooler received on 11.22.04 and opened on 11.22.04 by DW

1. Were custody seals on outside of coolers? Y  N   
If yes, how many and where? \_\_\_\_\_
2. Were custody seals intact? ~~Y~~ N
3. Were signature and date present on the custody seals? ~~Y~~ N
4. Is the shipper's airbill available and filed? If no, record airbill number: U.P.S. 1Z-1A8-28E-13-9802-7528Y N
5. COC# \_\_\_\_\_  
Temperature of cooler(s) upon receipt: (°C) 7.3 \_\_\_\_\_  
Temperature Blank: (°C) N.P. \_\_\_\_\_
- Were samples hand delivered on the same day as collection? Y  N
6. Were custody papers properly filled out (ink, signed, etc.)? Y  N
7. Type of packing material present hard ice
8. Did all bottles arrive in good condition (unbroken)? Y  N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y  N
10. Did all bottle labels and tags agree with custody papers? Y  N
11. Were the correct types of bottles used for the tests indicated? Y  N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Did the bottles originate from CAS/K or a branch laboratory? Y  N
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
16. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

RESOLUTION: ok - ok n5/26 Hg/cvra

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

00033

March 10, 2005

Service Request No: K2500470

Bill Kissel  
Environmental Source Samplers  
18631-H Northline Drive  
Cornelius, NC 28031

**RE: M26A/HCL**

Dear Bill:

Enclosed are the results of the sample(s) submitted to our laboratory on January 19, 2005. For your reference, these analyses have been assigned our service request number K2500470.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Ed Wallace  
Project Chemist

EW/jeb

Page 1 of 10

## Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

00002

### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- \* The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

0003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Stone Container Corporation  
Project: M26A/HCL  
Sample Matrix: Sludge

Service Request: K2500470  
Date Collected: 01/12/05  
Date Received: 01/19/05

Total Solids

Prep Method: NONE  
Analysis Method: ASTM E871-82  
Test Notes:

Units: PERCENT  
Basis: WET

Sample Name	Lab Code	MRL	Date Analyzed	Result	Result Notes
PB #5 Bark/Sludge-Run 1	K2500470-012	-	02/02/05	49.4	
PB #5 Bark/Sludge-Run 2	K2500470-013	-	02/02/05	50.4	
PB #5 Bark/Sludge-Run 3	K2500470-014	-	02/02/05	49.5	

Approved By: \_\_\_\_\_

*M. J. F. M.*

Date: 2/9/05

1A/020597p



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Stone Container Corporation  
Project: M26A/HCL  
Sample Matrix: Sludge

Service Request: K2500470  
Date Collected: 01/12/05  
Date Received: 01/19/05  
Date Extracted: NA  
Date Analyzed: 02/02/05

Duplicate Summary  
Inorganic Parameters

Sample Name: PB #5 Bark/Sludge-Run 1  
Lab Code: K2500470-012DUP  
Test Notes:

Units: PERCENT  
Basis: WET

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Total Solids	NONE	ASTM E871-82	-	49.4	48.8	49.1	1	

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_

2/19/05

DUP020397p

00005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project Number : NA  
Sample Matrix : SLUDGE

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05

Chloride

Prep Method : 5050  
Analysis Method : 9056  
Test Notes :

Units : mg/Kg (ppm)  
Basis : Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
PB #5 Bark/Sludge-Run 1	K2500470-012	115	5	02/12/05	02/14/05	161	
PB #5 Bark/Sludge-Run 2	K2500470-013	115	5	02/12/05	02/14/05	194	
PB #5 Bark/Sludge-Run 3	K2500470-014	115	5	02/12/05	02/14/05	131	
Method Blank	K2500470-MB	23	1	02/12/05	02/14/05	ND	

00006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Stone Container Corporation  
Project: M26A/HCL  
Sample Matrix: Liquid

Service Request: K2500470  
Date Collected: 01/12/05  
Date Received: 01/19/05  
Date Extracted: NA

Inorganic Parameters  
Units: Total µg

Analyte:	Volume of Bottle	Chloride
EPA Method:	-	.26
Method Reporting Limit:	-	-
Date Analyzed:	-	01/20/05

Sample Name	Lab Code		
PB5-M26A-R1/ Impinger 1+2	K2500470-001	510	1590
PB5-M26A-R1/ Impinger 3+4	K2500470-002	375	1610
PB5-M26A-R2/ Impinger 1+2	K2500470-003	562	1260
PB5-M26A-R2/ Impinger 3+4	K2500470-004	275	967
PB5-M26A-R3/ Impinger 1+2	K2500470-005	540	1060
PB5-M26A-R3/ Impinger 3+4	K2500470-006	270	1060
0.1 H2SO4 Blank	K2500470-010	210	25400
0.1 NAOH Blank	K2500470-011	205	<41.0
Method Blank	K2500470-MB	-	<41.0

Approved By: \_\_\_\_\_

3ADW/061694

Date: 1/31/05

00007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project Number : NA  
Sample Matrix : SLUDGE

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05

High Heat Value

Analysis Method ASTM D5865  
Test Notes :

Units : BTU/LB  
Basis : Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
PB #5 Bark/Sludge-Run 1	K2500470-012	50	1	02/26/05	9060	
PB #5 Bark/Sludge-Run 2	K2500470-013	50	1	02/26/05	9120	
PB #5 Bark/Sludge-Run 3	K2500470-014	50	1	02/26/05	9230	
Method Blank	K2500470-MB	50	1	02/26/05	ND	

00008

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -  
INORGANIC ANALYSIS DATA PACKAGE

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA

Service Request : K2500470

---

Sample Name :

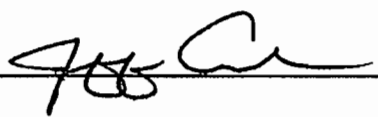
PB #5-Ash-Run 1  
PB #5-Ash-Run 2  
PB #5-Ash-Run 3  
Method Blank

Lab Code :

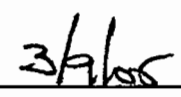
K2500470-007  
K2500470-008  
K2500470-009  
K2500470-MB

Comments:

Approved By: \_\_\_\_\_



Date: \_\_\_\_\_



00009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Misc

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/25/05

Total Metals

Sample Name : PB #5-Ash-Run 1  
Lab Code : K2500470-007

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	02/28/05	0.7	
Beryllium	200.8	0.02	02/28/05	0.11	
Cadmium	200.8	0.02	02/28/05	1.30	
Chromium	200.8	0.2	02/28/05	31.7	
Lead	200.8	0.05	02/28/05	8.70	
Manganese	200.8	0.5	02/28/05	672	
Nickel	200.8	0.2	02/28/05	60.8	
Selenium	200.8	1	02/28/05	ND	

Comments:

00010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Misc

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/25/05

Total Metals

Sample Name : PB #5-Ash-Run 2  
Lab Code : K2500470-008

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	02/28/05	0.8	
Beryllium	200.8	0.02	02/28/05	0.11	
Cadmium	200.8	0.02	02/28/05	1.27	
Chromium	200.8	0.2	02/28/05	30.8	
Lead	200.8	0.05	02/28/05	5.00	
Manganese	200.8	0.5	02/28/05	698	
Nickel	200.8	0.2	02/28/05	78.0	
Selenium	200.8	1	02/28/05	ND	

Comments:

00011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Misc

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/25/05

Total Metals

Sample Name : PB #5-Ash-Run 3  
Lab Code : K2500470-009

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	02/28/05	0.9	
Beryllium	200.8	0.02	02/28/05	0.10	
Cadmium	200.8	0.02	02/28/05	1.74	
Chromium	200.8	0.2	02/28/05	31.3	
Lead	200.8	0.05	02/28/05	5.97	
Manganese	200.8	0.5	02/28/05	703	
Nickel	200.8	0.2	02/28/05	74.4	
Selenium	200.8	1	02/28/05	ND	

Comments:

00012



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Misc

Service Request : K2500470  
Date Collected : NA  
Date Received : NA  
Date Extracted : 02/25/05

Total Metals

Sample Name : Method Blank  
Lab Code : K2500470-MB

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	200.8	0.5	02/28/05	ND	
Beryllium	200.8	0.02	02/28/05	ND	
Cadmium	200.8	0.02	02/28/05	ND	
Chromium	200.8	0.2	02/28/05	ND	
Lead	200.8	0.05	02/28/05	ND	
Manganese	200.8	0.05	02/28/05	ND	
Nickel	200.8	0.2	02/28/05	ND	
Selenium	200.8	1	02/28/05	ND	

Comments:

00013



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Stone Container Corporation  
**Project:** M26A/HCL  
**Sample Matrix:** Soil

**Service Request:** K2500470  
**Date Collected:** 1/12/05  
**Date Received:** 1/19/05

Mercury, Total

**Prep Method:** METHOD  
**Analysis Method:** 1631E  
**Test Notes:**

**Units:** ng/g  
**Basis:** Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
PB #5-Ash-Run 1	K2500470-007	2.0	50	2/18/05	2/19/05	66.0	
PB #5-Ash-Run 2	K2500470-008	2.0	50	2/18/05	2/19/05	40.9	
PB #5-Ash-Run 3	K2500470-009	2.0	50	2/18/05	2/19/05	86.3	
PB #5 Bark/Sludge-Run 1	K2500470-012	2.0	50	2/18/05	2/19/05	9.7	
PB #5 Bark/Sludge-Run 2	K2500470-013	2.0	50	2/18/05	2/19/05	11.4	
PB #5 Bark/Sludge-Run 3	K2500470-014	2.0	50	2/18/05	2/19/05	11.1	
Method Blank	K2500470-MB1	1.0	20	2/18/05	2/19/05	ND	
Method Blank	K2500470-MB2	1.0	20	2/18/05	2/19/05	ND	
Method Blank	K2500470-MB3	1.0	20	2/18/05	2/19/05	ND	

00015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Sludge

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/24-03/03/05

Total Metals

Sample Name : PB #5 Bark/Sludge-Run 1  
Lab Code : K2500470-012

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	02/28/05	ND	
Beryllium	6010B	0.01	03/09/05	ND	
Cadmium	6010B	0.02	03/09/05	0.12	
Chromium	6010B	0.2	03/09/05	2.5	
Lead	6010B	0.4	03/09/05	ND	
Manganese	6010B	0.1	03/09/05	59.4	
Nickel	6010B	0.4	03/09/05	6.3	
Selenium	7740	1	02/25/05	ND	

Comments:

00016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Sludge

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/24-03/03/05

Total Metals

Sample Name : PB #5 Bark/Sludge-Run 2  
Lab Code : K2500470-013

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	02/28/05	ND	
Beryllium	6010B	0.01	03/09/05	ND	
Cadmium	6010B	0.02	03/09/05	0.13	
Chromium	6010B	0.2	03/09/05	3.0	
Lead	6010B	0.4	03/09/05	ND	
Manganese	6010B	0.1	03/09/05	60.4	
Nickel	6010B	0.4	03/09/05	7.3	
Selenium	7740	1	02/25/05	ND	

Comments:

00017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Sludge

Service Request : K2500470  
Date Collected : 01/12/05  
Date Received : 01/19/05  
Date Extracted : 02/24-03/03/05

Total Metals

Sample Name : PB #5 Bark/Sludge-Run 3  
Lab Code : K2500470-014

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	02/28/05	ND	
Beryllium	6010B	0.01	03/09/05	ND	
Cadmium	6010B	0.01	03/09/05	0.07	
Chromium	6010B	0.2	03/09/05	2.2	
Lead	6010B	0.2	03/09/05	ND	
Manganese	6010B	0.1	03/09/05	48.4	
Nickel	6010B	0.4	03/09/05	4.6	
Selenium	7740	1	02/25/05	ND	

Comments:

00018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Stone Container Corporation  
Project Name : M26A/HCL  
Project No. : NA  
Matrix : Sludge

Service Request : K2500470  
Date Collected : NA  
Date Received : NA  
Date Extracted : 02/24-03/03/05

Total Metals

Sample Name : Method Blank  
Lab Code : K2500470-MB

Units : mg/Kg (ppm)  
Basis : Dry

Analyte	Analysis Method	MRL	Date Analyzed	Sample Result	Result Notes
Arsenic	7060A	1	02/28/05	ND	
Beryllium	6010B	1	03/07/05	ND	
Cadmium	6010B	0.01	03/07/05	ND	
Chromium	6010B	0.02	03/07/05	ND	
Lead	6010B	0.2	03/07/05	ND	
Manganese	6010B	0.01	03/07/05	ND	
Nickel	6010B	0.04	03/07/05	ND	
Selenium	7740	1	02/25/05	ND	

Comments:

00019

**Columbia Analytical Services Inc.  
Cooler Receipt and Preservation Form**

PC Eel

Project/Client EnviroSource Work Order K250 0470

Cooler received on 1/19/05 and opened on 1/19/05 by DR Black

1. Were custody seals on outside of coolers? Y   
If yes, how many and where? \_\_\_\_\_
2. Were custody seals intact? Y
3. Were signature and date present on the custody seals? Y
4. Is the shipper's airbill available and filed? If no, record airbill number: \_\_\_\_\_
5. COC# \_\_\_\_\_  
Temperature of cooler(s) upon receipt: (°C) 1.2 \_\_\_\_\_  
Temperature Blank: (°C) MC \_\_\_\_\_
- Were samples hand delivered on the same day as collection? Y
6. Were custody papers properly filled out (ink, signed, etc.)?  N
7. Type of packing material present hard packs
8. Did all bottles arrive in good condition (unbroken)?  N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)?  N
10. Did all bottle labels and tags agree with custody papers?  N
11. Were the correct types of bottles used for the tests indicated?  N
12. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Did the bottles originate from CAS/K or a branch laboratory? Y
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
16. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: 1 from Clout.

---



---



---



---

RESOLUTION: \_\_\_\_\_

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

00020



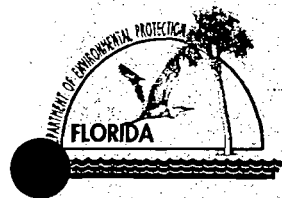
**APPENDIX B**

**MODEL INPUT/OUTPUT DATA**

**APPENDIX C**

**TITLE V APPLICATION REVISION PAGES**

**APPLICATION FOR AIR PERMIT – LONG FORM**



# 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 at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes 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/revise/renewal Title V air operation permit.

**Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option)** – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: <b>Smurfit-Stone Container Enterprises, Inc.</b>	
2. Site Name: <b>Fernandina Beach Mill</b>	
3. Facility Identification Number: <b>0890003</b>	
4. Facility Location...: Street Address or Other Locator: <b>North 8<sup>th</sup> Street</b> City: <b>Fernandina Beach</b> County: <b>Nassau</b> Zip Code: <b>32034</b>	
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: <b>Bill Crews, Environmental Manager</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>Smurfit-Stone Container Enterprises, Inc.</b> Street Address: <b>North 8<sup>th</sup> Street</b> City: <b>Fernandina Beach</b> State: <b>FL</b> Zip Code: <b>32034</b>	
3. Application Contact Telephone Numbers... Telephone: <b>(904) 277-7746</b> ext.      Fax: <b>(904) 277-5888</b>	
4. Application Contact Email Address: <b>bcrews@smurfit.com</b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is 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

**This application is to incorporate into the Title V permit the controlling process parameters for the health-based compliance alternative under 40 CFR 63 Subpart DDDDD.**

# APPLICATION INFORMATION

## Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
006	No. 5 Power Boiler		
015	No. 7 Power Boiler		

### Application Processing Fee

Check one:  Attached - Amount: \$ \_\_\_\_\_  Not Applicable

**APPLICATION INFORMATION**

**Owner/Authorized Representative Statement**

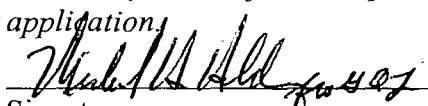
**Complete if applying for an air construction permit or an initial FESOP.**

1. Owner/Authorized Representative Name :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Owner/Authorized Representative Email Address:
5. Owner/Authorized Representative Statement:  <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i>  _____ Signature  _____ Date

**APPLICATION INFORMATION**

**Application Responsible Official Certification**

**Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name: <b>George Q. Langstaff, Vice-President, Regional Mill Operations</b>
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: <b>Smurfit-Stone Container Enterprises, Inc.</b> Street Address: <b>North 8th Street</b> City: <b>Fernandina Beach</b> State: <b>FL</b> Zip Code: <b>32034</b>
4. Application Responsible Official Telephone Numbers... Telephone: <b>(904) 261-5551</b> ext. Fax: <b>(904) 277-5888</b>
5. Application Responsible Official Email Address: <b>glangsta@smurfit.com</b>
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i>  Signature _____ Date <u>7-13-06</u>



**APPLICATION INFORMATION**

**Professional Engineer Certification**

1. Professional Engineer Name: <b>David A. Buff</b> Registration Number: <b>19011</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Golder Associates Inc.**</b> Street Address: <b>6241 NW 23<sup>rd</sup> Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(352) 336-5600</b> ext. <b>545</b> Fax: <b>(352) 336-6603</b>
4. Professional Engineer Email Address: <b>dbuff@golder.com</b>
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 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 checked="" 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: <u>David A. Buff</u> Date: <u>9/12/06</u> (seal)

\* Attach any exception to certification statement.

\*\* Board of Professional Engineers Certificate of Authorization #00001670

**FACILITY INFORMATION**

**II. FACILITY INFORMATION**

**A. GENERAL FACILITY INFORMATION**

**Facility Location and Type**

1. Facility UTM Coordinates... Zone 17      East (km) <b>456.2</b> North (km) <b>3394.2</b>		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) <b>30 / 40 / 53</b> Longitude (DD/MM/SS) <b>81 / 27 / 26</b>	
3. Governmental Facility Code: <b>0</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>26</b>	6. Facility SIC(s): <b>2631</b> <b>2653</b>
7. Facility Comment :			

**Facility Contact**

1. Facility Contact Name: <b>Bill Crews, Environmental Manager</b>
2. Facility Contact Mailing Address... Organization/Firm: <b>Smurfit-Stone Container Enterprises, Inc.</b> Street Address: <b>North 8<sup>th</sup> Street</b> City: <b>Fernandina Beach</b> State: <b>FL</b> Zip Code: <b>32034</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(904) 277-7746</b> ext.      Fax: <b>(904) 277-5888</b>
4. Facility Contact Email Address: <b>bcrews@smurfit.com</b>

**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 Email 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))	
12. Facility Regulatory Classifications Comment:	

## FACILITY INFORMATION

### List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter – Total (PM)	A	
Particulate Matter less than 10 microns (PM <sub>10</sub> )	A	
Sulfur Dioxide (SO <sub>2</sub> )	A	
Nitrogen Oxides (NO <sub>x</sub> )	A	
Carbon Monoxide (CO)	A	
Volatile Organic Compounds (VOC)	A	
Sulfuric Acid Mist (SAM)	A	
Total Reduced Sulfur (TRS)	B	
Total Hazardous Air Pollutants (HAPs)	A	
Acetaldehyde (H001)	A	
Formaldehyde (H095)	A	
Hydrochloric Acid (H106)	A	
Hydrogen Fluoride (H107)	A	
Methanol (H115)	A	
Methyl Ethyl Ketone (H120)	A	
1,2,4-Trichlorobenzene (H174)	A	
Manganese (H113)	A	
Mercury (H114)	B	

**FACILITY INFORMATION**

**B. EMISSIONS CAPS**

**Facility-Wide or Multi-Unit Emissions Caps**

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]?(all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

## 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: <b>December 2002</b>
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: <b>September 2006</b>
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: <b>December 2002</b>

#### Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input type="checkbox"/> Attached, Document ID: _____
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4. List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input 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 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 type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable



**ATTACHMENT SSCE-FI-CV3**

**COMPLIANCE REPORT AND PLAN**



**ATTACHMENT SSCE-FI-CV3**

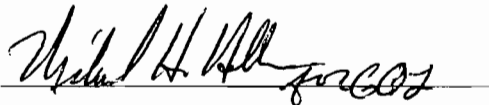
**COMPLIANCE REPORT AND PLAN**

Smurfit-Stone Container Enterprises, Inc. certifies, based on information and belief formed after reasonable inquiry, that it is in compliance with each federal, state, and local applicable requirement addressed in this Title V air permit application revision as of the date of this application.

**COMPLIANCE CERTIFICATION**

I, the undersigned, am the responsible official as defined in Chapter 62-210, F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.

A compliance statement will be submitted with the annual operating report by March 1 of each year.



Signature, Responsible Official

9-13-06

Date

George Q. Langstaff, Vice President, Regional Mill Operations

Name and Title (please print)

**EMISSION UNIT 1**

**NO. 5 POWER BOILER**

## EMISSIONS UNIT INFORMATION

Section [1]

No. 5 Power Boiler

### 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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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]  
No. 5 Power Boiler**

**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 have 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: **No. 5 Power Boiler**

3. Emissions Unit Identification Number: **006**

4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: <b>26</b>	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--------------------------------	--------------------------	--	--

9. Package Unit:  
Manufacturer: \_\_\_\_\_ Model Number: \_\_\_\_\_

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **No. 5 Power Boiler is a combination boiler which may be fired with oil and/or other carbonaceous fuels. NCGs will be burned in the boiler as a backup to the No. 4 Lime Kiln.**

**EMISSIONS UNIT INFORMATION**

**Section [1]  
No. 5 Power Boiler**

**Emissions Unit Control Equipment**

1. Control Equipment/Method(s) Description:  
**Electrostatic Precipitator**

**Multiple Cyclone w/o Fly Ash Reinjection**

**TRS Destruction in Boiler**

2. Control Device or Method Code(s): **010, 076, 021**



**EMISSIONS UNIT INFORMATION**

Section [1]

No. 5 Power Boiler

**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: <b>006</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>	6. Stack Height: <b>257 feet</b>	7. Exit Diameter: <b>11 feet</b>	
8. Exit Temperature: <b>450°F</b>	9. Actual Volumetric Flow Rate: <b>235,000 acfm</b>	10. Water Vapor: <b>19%</b>	
11. Maximum Dry Standard Flow Rate: dscfm		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: <b>Stack parameters updated from recent stack test data.</b>			

**EMISSIONS UNIT INFORMATION**

Section [1]  
 No. 5 Power Boiler

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

**Segment Description and Rate: Segment 1 of 3**

1. Segment Description (Process/Fuel Type): <b>External Combustion Boilers, Industrial, Wood/Bark Waste Fired</b>		
2. Source Classification Code (SCC): <b>1-02-009-02</b>		3. SCC Units: <b>Tons Burned</b>
4. Maximum Hourly Rate: <b>53.8</b>	5. Maximum Annual Rate: <b>470,978</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>8.5</b>
10. Segment Comment: <b>Wood/Bark Waste is carbonaceous fuel, which includes wood, bark, bark ash, sawdust, wood residue sludge, and recycle paper residual. Based on 457 MMBtu/hr and heat content of carbonaceous fuel assumed to be 4,250 MMBtu/lb.</b>		

**Segment Description and Rate: Segment 2 of 3**

1. Segment Description (Process/Fuel Type): <b>External Combustion Boilers, Industrial, Residual Oil - Grade 6 Oil Fired</b>		
2. Source Classification Code (SCC): <b>1-02-004-01</b>		3. SCC Units: <b>Thousand Gallons Burned</b>
4. Maximum Hourly Rate: <b>4.417</b>	5. Maximum Annual Rate: <b>33,726</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>2.5</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>149</b>
10. Segment Comment: <b>Maximum annual rate based on 92,400 gal/day (573.4 MMBtu/hr). Fuel oil may also include on-spec used oil. Maximum hourly rate of 4,417 gal/hr is based on maximum hourly heat input on fuel oil of 657.8 MMBtu/hr.</b>		



**EMISSIONS UNIT INFORMATION**

**Section [1]  
No. 5 Power Boiler**

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

**Segment Description and Rate: Segment 3 of 3**

1. Segment Description (Process/Fuel Type): <b>External Combustion Boilers, Industrial, Distillate Oil - Grades 1 and 2 Oil</b>		
2. Source Classification Code (SCC): <b>1-02-005-01</b>		3. SCC Units: <b>Thousand Gallons Burned</b>
4. Maximum Hourly Rate: <b>4.837</b>	5. Maximum Annual Rate: <b>36,932</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.5</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>136</b>
10. Segment Comment: <b>Maximum hourly rate is based on 1-hour average and 657.8 MMBtu/hr. Maximum annual rate is based on a 24-hour average of 4,216 gal/hr and 573.4 MMBtu/hr and 8,760 hr/yr.</b>		

**Segment Description and Rate: Segment \_\_\_\_ of \_\_\_\_**

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
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:		

**EMISSIONS UNIT INFORMATION**

Section [1]  
No. 5 Power Boiler

**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010	076	EL
PM10	010	076	NS
SO2			EL
NOX			NS
CO			NS
VOC			NS
TRS	021		EL
HAPS	021		NS
Formaldehyde (H095)			NS
Hydrochloric Acid (H106)			EL
Hydrogen Fluoride (H107)			NS
Mercury (H114)	010	076	EL

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
No. 5 Power Boiler

Page [1] of [3]  
Particulate Matter - PM

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>PM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>171.9 lb/hour                      600.5 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to                      tons/year			
6. Emission Factor: <b>0.3 lb/MMBtu</b>  Reference: <b>Permit Limit</b>		7. Emissions Method Code: <b>0</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: <b>Carbonaceous Fuel: 0.3 lb/MMBtu x 457 MMBtu/hr = 137.1 lb/hr</b> <b>Fuel Oil : 0.1 lb/MMBtu x 348 MMBtu/hr = 34.8 lb/hr</b> <b>Total : 137.1 + 34.8 = 171.9 lb/hr</b> <b>Annual emissions based on permit limit.</b>			
11. Potential Fugitive and Actual Emissions Comment: <b>Potential emissions based on firing carbonaceous and fuel oil in combination.</b>			

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
No. 5 Power Boiler

Page [1] of [3]  
Particulate Matter - PM

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

**Allowable Emissions** Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.3 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>137.1 lb/hour      600.5 tons/year</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 5.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Permit Limit (Permit No. 0890003-001-AV). Applies to carbonaceous fuel firing only.</b>	

**Allowable Emissions** Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>65.78 lb/hour      251.15 tons/year</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 5.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Permit Limit (Permit No. 0890003-001-AV). Applies to fuel oil firing. Maximum annual based on 24-hour limitation of 573.4 MMBtu/hr (3,850 gal/hr).</b>	

**Allowable Emissions** Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>0.07 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>56.35 lb/hour      246.8 tons/year</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 5.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>40 CFR 63 Subpart DDDDD</b>	

**EMISSIONS UNIT INFORMATION**

Section [1]  
No. 5 Power Boiler

**POLLUTANT DETAIL INFORMATION**

Page [2] of [3]  
Hydrochloric Acid - HCl

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>HCl (H107)</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>12.23 lb/hour                      53.6 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to                      tons/year			
6. Emission Factor: <b>0.05 lb/MMBtu for bark/sludge</b>  Reference: <b>Fuel Analysis</b>		7. Emissions Method Code: <b>1</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: <b>Assume maximum of 53% of chlorine emitted as HCl.</b>  <b>Bark/Sludge:</b> <b>457 MMBtu/hr x 0.05 lb/MMBtu x 0.53 = 12.11 lb/hr</b>  <b>Fuel Oil :</b> <b>(805-457) MMBtu/hr x 6.7E-04 lb/MMBtu x 0.53 = 0.12 lb/hr</b>  <b>(12.11 + 0.12) lb/hr x 8,760 hr/yr x ton/2,000 lb = 53.6 TPY</b>			
11. Potential Fugitive and Actual Emissions Comment: <b>Bark/sludge factor of 0.05 lb/MMBtu based on fuel analysis with a safety factor of 2. Factor of 53% based on stack testing. Fuel oil factor of 6.7E-04 lb/MMBtu based on fuel analysis.</b>			

**EMISSIONS UNIT INFORMATION**

Section [1]  
No. 5 Power Boiler

**POLLUTANT DETAIL INFORMATION**

Page [2] of [3]  
Hydrochloric Acid - HCl

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>12.23 lb/hr</b>	4. Equivalent Allowable Emissions: <b>12.23 lb/hour      53.6 tons/year</b>
5. Method of Compliance: <b>Fuel Analysis and initial stack test</b>	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
No. 5 Power Boiler

Page [3] of [3]  
Mercury - Hg

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>Hg (H114)</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.00725 lb/hour      0.0317 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to      tons/year			
6. Emission Factor: <b>9 x 10<sup>-6</sup> lb/MMBtu</b>  Reference: <b>40 CFR 63 Subpart DDDDD</b>		7. Emissions Method Code: <b>0</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: <b>805 MMBtu/hr x 9 x 10<sup>-6</sup> lb/MMBtu = 0.00725 lb/hr</b> <b>0.00725 lb/hr x 8,760 hr/yr x ton/2,000 lb = 0.0317 TPY</b>			
11. Potential Fugitive and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
No. 5 Power Boiler

Page [3] of [3]  
Mercury - Hg

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>9 x 10<sup>-6</sup> lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>0.00725 lb/hour      0.0317 tons/year</b>
5. Method of Compliance: <b>Fuel Analysis</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>40 CFR 63, Subpart DDDDD</b>	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	



**EMISSIONS UNIT INFORMATION**

**Section [1]**  
**No. 5 Power Boiler**

**G. VISIBLE EMISSIONS INFORMATION**

**Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: <b>VE30</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>30 %</b> Exceptional Conditions: <b>40 %</b> Maximum Period of Excess Opacity Allowed: <b>2 min/hour</b>	
4. Method of Compliance: <b>Annual test using EPA Method 9</b>	
5. Visible Emissions Comment: <b>Permit Limit (Permit No. 0890003-001-AV).</b>	

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**EMISSIONS UNIT INFORMATION**

Section [1]

No. 5 Power Boiler

**H. CONTINUOUS MONITOR INFORMATION**

Complete if this emissions unit is or would be subject to continuous monitoring.

**Continuous Monitoring System:** Continuous Monitor **1** of **2**

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>Micromotion</b> Model Number: <b>DS150S141</b> Serial Number: <b>142742</b>	
5. Installation Date: <b>01 November 1992</b>	6. Performance Specification Test Date:
7. Continuous Monitor Comment: <b>Fuel flow meter required per AC45-194149</b>	

**Continuous Monitoring System:** Continuous Monitor **2** of **2**

1. Parameter Code: <b>VE</b>	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>Land Combustion</b> Model Number: <b>4500 Mark II</b> Serial Number: <b>9995411</b>	
5. Installation Date: <b>November 1999</b>	6. Performance Specification Test Date: <b>November 1999</b>
7. Continuous Monitor Comment: <b>Per AC45-194149</b>	

**EMISSIONS UNIT INFORMATION**

**Section [1]**

**No. 5 Power Boiler**

**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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b> <input 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 <input checked="" type="checkbox"/> Attached, Document ID: <b>HBCA Report</b> <input type="checkbox"/> Not Applicable

## EMISSIONS UNIT INFORMATION

Section [1]

No. 5 Power Boiler

### Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(4)(d), F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

### Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <b>SSCE-EU1-IV1</b> <input type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input checked="" type="checkbox"/> Attached, Document ID: <b>SSCE-EU1-IV3</b> <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

**EMISSIONS UNIT INFORMATION**

**Section [1]**

**No. 5 Power Boiler**

**Additional Requirements Comment**

[Empty rectangular box for additional requirements comment]

**ATTACHMENT SSCE-EU1-IV1**

**IDENTIFICATION OF APPLICABLE REQUIREMENTS**

**ATTACHMENT SSCE-EU1-IV1  
LIST OF APPLICABLE REGULATIONS**

62-296.404(1)(b)  
62-296.404(3)  
62-296.404(3)(a)3. – TRS Venting  
62-296.404(3)(f) – Boilers Used to Incinerate TRS  
62-296.404(4)(e)3. – TRS Test Method  
62-296.404(4)(f) – Test Procedures  
62-296.404(5)(d) – Surrogate Parameters  
62-296.404(6) – Quarterly Reporting  
62-296.404(3)  
62-296.410(1) – Carbonaceous Fuel Burning Equipment  
62-297.310  
62-297.401(1)(a)  
62-297.401(2)  
62-297.401(3)  
62-297.401(4)  
62-297.401(5)  
62-297.401(6)  
62-297.401(9)(a)  
40 CFR 63.443(d)(4) – MACT Standards – Boiler for HAP Control  
40 CFR 63.443(e) – MACT Standards – Excess Emissions  
40 CFR 63.7485, Subpart DDDDD – Applicability  
40 CFR 63.7490, Subpart DDDDD – Applicability  
40 CFR 63, Subpart DDDDD – Compliance Dates  
40 CFR 63, Subpart DDDDD – Subcategories  
40 CFR 63, Subpart DDDDD – Limited Requirements  
40 CFR 63, Subpart DDDDD – Notifications  
40 CFR 63, Subpart DDDDD – Appendix A Health-Based Compliance Alternative (HBCA)

**ATTACHMENT SSCE-EU1-IV3**

**ALTERNATIVE METHODS OF OPERATION**



**ATTACHMENT SSCE-EU1-IV3  
ALTERNATIVE METHODS OF OPERATION**

No. 5 Power Boiler

The No. 5 Power Boiler may be operated under the Alternative Methods of Operation described below:

Alternative Method	Fuel Options	Maximum Heat Input Rate	Maximum Operating Rate
1	Carbonaceous fuel only (24-hr)	457 MMBtu/hr <sup>a</sup>	107,600 lb/hr <sup>a</sup>
2	No. 6 fuel oil only <sup>b</sup> (1-hr)	657.8 MMBtu/hr	4,417 gal/hr <sup>b</sup>
	(24-hr)	573.4 MMBtu/hr <sup>a</sup>	3,850 gal/hr <sup>a,b</sup>
3	No. 2 fuel oil only <sup>b</sup> (1-hr)	657.8 MMBtu/hr	4,837 gal/hr
	(24-hr)	573.4 MMBtu/hr <sup>a</sup>	4,216 gal/hr
4	Any combination of any alternative method listed above, while either burning NCGs or not burning NCGs	805 MMBtu/hr	Bark - 457 MMBtu/hr Fuel oil - 348 MMBtu/hr

<sup>a</sup> Based on permit limit.

<sup>b</sup> Fuel oil may include on-spec used oil.

**EMISSION UNIT 2**

**NO. 7 POWER BOILER**

## EMISSIONS UNIT INFORMATION

Section [2]

No. 7 Power Boiler

### 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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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]**  
**No. 7 Power Boiler**

**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.)
<input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
<input type="checkbox"/> 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)				
<input checked="" type="checkbox"/> 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).				
<input type="checkbox"/> 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.				
<input type="checkbox"/> 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: <b>No. 7 Power Boiler with Coal and Ash Handling System</b>				
3. Emissions Unit Identification Number: <b>015</b>				
4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: <b>26</b>	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9. Package Unit: Manufacturer: _____ Model Number: _____				
10. Generator Nameplate Rating: _____ MW				
11. Emissions Unit Comment: <b>Consists of the No. 7 Power Boiler, Coal Handling System, and Ash Handling System. No. 7 Power Boiler is primarily fired with coal.</b>				

**EMISSIONS UNIT INFORMATION**

**Section [2]  
No. 7 Power Boiler**

**Emissions Unit Control Equipment**

1. Control Equipment/Method(s) Description:  
**Electrostatic Precipitator**

**Dust Suppression by Water Sprays**

**Dust Suppression by Chemical Stabilizers or Wetting Agents**

2. Control Device or Method Code(s): **010, 061, 062**



**EMISSIONS UNIT INFORMATION**

**Section [2]**

**No. 7 Power Boiler**

**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: <b>015</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>	6. Stack Height: <b>340 feet</b>	7. Exit Diameter: <b>14.8 feet</b>	
8. Exit Temperature: <b>410°F</b>	9. Actual Volumetric Flow Rate: <b>390,000 acfm</b>	10. Water Vapor: <b>7%</b>	
11. Maximum Dry Standard Flow Rate: dscfm		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: <b>This emission point represents the stack from the No. 7 Power Boiler ESP. The Coal Handling System and Ash Handling System are also included in this emission unit. Stack parameters updated from recent stack test data.</b>			

**EMISSIONS UNIT INFORMATION**Section [2]  
No. 7 Power Boiler**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 5

1. Segment Description (Process/Fuel Type): External Combustion Boilers, Industrial, Bituminous Coal, Pulverized Coal: Dry Bottom (Tangential)		
2. Source Classification Code (SCC): 1-02-002-12		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 40.84	5. Maximum Annual Rate: 357,758	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash: 7	9. Million Btu per SCC Unit: 25
10. Segment Comment: Maximum % S limited to the formula: $\% S = (6.32 \times 10^{-5}) \times (\text{BTU/lb coal})$ . Maximum rates based on 12,500 Btu/lb and 1,021 MMBtu/hr.		

**Segment Description and Rate:** Segment 2 of 5

1. Segment Description (Process/Fuel Type): External Combustion Boilers, Industrial, Residual Oil: Grade 6 Oil		
2. Source Classification Code (SCC): 1-02-004-01		3. SCC Units: Thousand Gallons Burned
4. Maximum Hourly Rate: 6.807	5. Maximum Annual Rate: 5,963	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
10. Segment Comment: No. 6 fuel oil may contain on-spec used oil and shall only be used as supplemental fuel, standby when coal is not available, startups, and shutdowns. Basis: 1,021 MMBtu/hr; limited to 10 percent annual capacity factor.		



**EMISSIONS UNIT INFORMATION**

Section [2]

No. 7 Power Boiler

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate: Segment 3 of 5**

1. Segment Description (Process/Fuel Type): <b>External Combustion Boilers, Industrial, Wood/Bark Waste</b>		
2. Source Classification Code (SCC): <b>1-02-009-02</b>		3. SCC Units: <b>Tons Burned</b>
4. Maximum Hourly Rate: <b>10</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Segment represents input of carbonaceous fuel (sludge and bark ash). Based on Permit No. 0890003-001-AV.</b>		

**Segment Description and Rate: Segment 4 of 5**

1. Segment Description (Process/Fuel Type): <b>Bulk Materials Storage Bins: Coal</b>		
2. Source Classification Code (SCC): <b>3-05-102-03</b>		3. SCC Units: <b>Tons Processed</b>
4. Maximum Hourly Rate: <b>400</b>	5. Maximum Annual Rate: <b>357,758</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Maximum hourly rate represents system design unloading capacity. Annual rate represents throughput to No. 7 Power Boiler.</b>		

**EMISSIONS UNIT INFORMATION**

Section [2]  
 No. 7 Power Boiler

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

**Segment Description and Rate:** Segment 5 of 5

1. Segment Description (Process/Fuel Type): <b>External Combustion Boilers, Industrial, Distillate Oil; Grades 1 and 2 oil</b>		
2. Source Classification Code (SCC): <b>1-02-005-01</b>		3. SCC Units: <b>Thousand Gallons Burned</b>
4. Maximum Hourly Rate: <b>7.293</b>	5. Maximum Annual Rate: <b>6,389</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.5</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>140</b>
10. Segment Comment: <b>Maximum hourly rate based on 1,021 MMBtu/hr. Maximum annual rate based on limit of 10-percent annual capacity factor. No. 2 fuel oil used only as supplemental fuel, standby when coal is not available or for startups and shutdowns.</b>		

**Segment Description and Rate:** Segment \_\_\_\_ of \_\_\_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
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:		

**EMISSIONS UNIT INFORMATION****Section [2]  
No. 7 Power Boiler****E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010		EL
PM <sub>10</sub>	010		NS
SO <sub>2</sub>			EL
NO <sub>x</sub>			EL
CO			EL
VOC			NS
HAPS			NS
Hydrochloric Acid (H106)			EL
Hydrogen Fluoride (H107)			NS
Mercury (H114)	010		EL

**EMISSIONS UNIT INFORMATION**

Section [2]  
No. 7 Power Boiler

**POLLUTANT DETAIL INFORMATION**

Page [1] of [3]  
Particulate Matter - PM

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: <b>PM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 102.1 lb/hour                      447.2 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to                      tons/year			
6. Emission Factor: 0.1 lb/MMBtu  Reference: 40 CFR 60.42(a)(1)		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: 0.1 lb/MMBtu x 1,021 MMBtu/hr = 102.1 lb/hr 102.1 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 447.2 TPY			
11. Potential Fugitive and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [2]  
No. 7 Power Boiler

Page [1] of [3]  
Particulate Matter - PM

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

**Allowable Emissions** Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>102.1 lb/hour      447.2 tons/year</b>
5. Method of Compliance: <b>Annual source testing using EPA Method 5.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>40 CFR 60.42(a)(1)</b>	

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>0.07 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>71.47 lb/hour      313.0 tons/year</b>
5. Method of Compliance: <b>Annual source testing using EPA Method 5.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>40 CFR 63 Subpart DDDDD</b>	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

Section [2]  
No. 7 Power Boiler

**POLLUTANT DETAIL INFORMATION**

Page [2] of [3]  
Hydrochloric Acid - HCl

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

**Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

1. Pollutant Emitted: <b>HCl (H107)</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>145.6 lb/hour                      637.5 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to                      tons/year			
6. Emission Factor: <b>0.144 lb/MMBtu for coal</b>  Reference: <b>Fuel Analysis</b>		7. Emissions Method Code: <b>1</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: <b>Assumes 99% of chlorine in fuel emitted as HCl.</b>  <b>0.144 lb/MMBtu x 1,021 MMBtu/hr x 0.99 = 145.6 lb/hr</b> <b>145.6 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 637.5 TPY</b>			
11. Potential Fugitive and Actual Emissions Comment: <b>0.144 lb/MMBtu factor based on fuel analysis with a safety factor of 2. 99-percent factor based on stack testing.</b>			

**EMISSIONS UNIT INFORMATION**

Section [2]  
No. 7 Power Boiler

**POLLUTANT DETAIL INFORMATION**

Page [2] of [3]  
Hydrochloric Acid - HCl

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>145.6 lb/hr</b>	4. Equivalent Allowable Emissions: <b>145.6 lb/hour      637.5 tons/year</b>
5. Method of Compliance: <b>Fuel analysis and initial stack test</b>	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

**Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

1. Pollutant Emitted: <b>Hg (H114)</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.0092 lb/hour      0.040 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to      tons/year			
6. Emission Factor: <b><math>9 \times 10^{-6}</math> lb/MMBtu</b>  Reference: <b>40 CFR 63 Subpart DDDDD</b>		7. Emissions Method Code: <b>0</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: <b><math>1,021 \text{ MMBtu/hr} \times 9 \times 10^{-6} \text{ lb/MMBtu} = 0.0092 \text{ lb/hr}</math></b> <b><math>0.0092 \text{ lb/hr} \times 8,760 \text{ hr/yr} \times \text{ton}/2,000 \text{ lb} = 0.040 \text{ TPY}</math></b>			
11. Potential Fugitive and Actual Emissions Comment:			



**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [2]  
No. 7 Power Boiler

Page [3] of [3]  
Mercury - Hg

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions: <b>09/13/07</b>
3. Allowable Emissions and Units: <b>9 x 10<sup>-6</sup> lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>0.0092 lb/hour      0.040 tons/year</b>
5. Method of Compliance: <b>Fuel Analysis</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>40 CFR 63 Subpart DDDDD</b>	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_\_ of \_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

Section [2]  
No. 7 Power Boiler

**G. VISIBLE EMISSIONS INFORMATION**

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

**Visible Emissions Limitation:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: <b>VE20</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>20 %</b> Exceptional Conditions: <b>27 %</b> Maximum Period of Excess Opacity Allowed: <b>6 min/hour</b>	
4. Method of Compliance: <b>Annual test using EPA Method 9</b>	
5. Visible Emissions Comment: <b>40 CFR 60.42(a)(2)</b>	

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions:                      %                      Exceptional Conditions:                      % Maximum Period of Excess Opacity Allowed:                      min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**EMISSIONS UNIT INFORMATION**Section [2]  
No. 7 Power Boiler**H. CONTINUOUS MONITOR INFORMATION**

Complete if this emissions unit is or would be subject to continuous monitoring.

**Continuous Monitoring System:** Continuous Monitor 1 of 2

1. Parameter Code: <b>VE</b>	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>Land Combustion</b> Model Number: <b>4500 MKIIt</b> Serial Number: <b>11230452</b>	
5. Installation Date: <b>01 November 2005</b>	6. Performance Specification Test Date: <b>02 November 2005</b>
7. Continuous Monitor Comment: <b>40 CFR 60.45(a)</b>	

**Continuous Monitoring System:** Continuous Monitor 2 of 2

1. Parameter Code: <b>O2</b>	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>Yokogawa</b> Model Number: <b>Z021</b> Serial Number: <b>630509</b>	
5. Installation Date: <b>1997</b>	6. Performance Specification Test Date:
7. Continuous Monitor Comment: <b>Required per Permit No. 0890003-001-AV, EPA/DER agreement, and CFR 52.21(j).</b>	

# EMISSIONS UNIT INFORMATION

Section [2]

No. 7 Power Boiler

## 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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b>
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 checked="" type="checkbox"/> Previously Submitted, Date <b>December 2002</b> <input 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 <input checked="" type="checkbox"/> Attached, Document ID: <b>HBCA Report</b> <input type="checkbox"/> Not Applicable

**EMISSIONS UNIT INFORMATION**

**Section [2]**

**No. 7 Power Boiler**

**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(4)(d), F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

**Additional Requirements for Title V Air Operation Permit Applications**

1. Identification of Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <b>SSCE-EU2-IV1</b> <input type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input checked="" type="checkbox"/> Attached, Document ID: <b>SSCE-EU2-IV3</b> <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

**EMISSIONS UNIT INFORMATION**

**Section [2]**

**No. 7 Power Boiler**

**Additional Requirements Comment**

[Empty rectangular box for Additional Requirements Comment]

**ATTACHMENT SSCE-EU2-IV1**

**IDENTIFICATION OF APPLICABLE REQUIREMENTS**

**ATTACHMENT SSCE-EU2-IV1  
LIST OF APPLICABLE REGULATIONS**

40 CFR 60.11 – NSPS General Provisions	62-297.401(1)(a)
40 CFR 60.12	62-297.401(2)
40 CFR 60.13(a)	62-297.401(3)
40 CFR 60.13(b)	62-297.401(4)
40 CFR 60.13(c)	62-297.401(5)
40 CFR 60.13(d)(2)	62-297.401(6)
40 CFR 60.13(e)(1)	62-297.401(7)
40 CFR 60.13(f)	62-297.401(9)(a)
40 CFR 60.13(h)	40 CFR 63.7485, Subpart DDDDD – Applicability
40 CFR 60.19	40 CFR 63.7490, Subpart DDDDD – Applicability
40 CFR 60.42(a) – NSPS Subpart D	40 CFR 63, Subpart DDDDD – Compliance Dates
40 CFR 60.43(a)(2)	40 CFR 63, Subpart DDDDD – Subcategories
40 CFR 60.43(b)	40 CFR 63, Subpart DDDDD – Limited Requirements
40 CFR 60.43(c)	40 CFR 63, Subpart DDDDD – Notifications
40 CFR 60.44(a)(3)	40 CFR 63, Subpart DDDDD – Appendix A Health-Based Compliance Alternative (HBCA)
40 CFR 60.44(b)	
40 CFR 60.45(a)	
40 CFR 60.45(b)(2)	
40 CFR 60.45(b)(3)	
40 CFR 60.45(b)(4)	
40 CFR 60.45(c)	
40 CFR 60.45(e)	
40 CFR 60.45(f)	
40 CFR 60.45(g)(1)	
40 CFR 60.46(a)	
40 CFR 60.46(b)	
40 CFR 60.46(c)	
40 CFR 60.46(d)	
40 CFR 60.7	
40 CFR 60.8	
62-297.310	



**ATTACHMENT SSCE-EU2-IV3**

**ALTERNATIVE METHODS OF OPERATION**

## ATTACHMENT SSCE-EU2-IV3

## ALTERNATIVE METHODS OF OPERATION

No. 7 Power Boiler

The No. 7 Power Boiler may be operated under the Alternative Methods of Operation described below:

Alternative Method	Fuel Options <sup>a</sup>	Maximum Heat Input Rate (MMBtu/hr)	Maximum Operating Rate
1	Coal only (24-hr average).	1,021	81,680 lb/hr <sup>b</sup>
2	No. 6 fuel oil only (24-hr average).	1,021	6,807 gal/hr
3	No. 2 fuel oil only (24-hr average).	1,021	7,293 gal/hr
4	Any combination of the alternative methods listed above.	1,021	Individual rates listed above.
5	Any combination of the alternative methods listed above with No. 5 Power Boiler ash.	1,021	Individual rates listed above, 10 tons (bark ash)/hr <sup>c</sup> .

<sup>a</sup> Fly ash from the No. 5 Power Boiler may be injected with any alternate method of operation.

<sup>b</sup> Based on coal heating value of 12,500 Btu/lb. Operating rate is not measured; instead, this value is calculated.

<sup>c</sup> Heating value associated with bark ash is included in 1,021 MMBtu/hr.