NESHAPS SUBPART DDDDD
HEALTH-BASED COMPLIANCE
ALTERNATIVE DEMONSTRATION

U.S. SUGAR CORPORATION

CLEWISTON MILL
CLEWISTON, FLORIDA

Prepared For:

United States Sugar Corporation
111 Ponce de Leon Avenue
Clewiston, FL 33440

Prepared By:

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

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1.0 INTRODUCTION

United States Sugar Corporation (U.S. Sugar) owns and operates five boilers located in Clewiston, Hendry County, Florida that are subject to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT). This report, entitled *"Health-Based Compliance Alternative Demonstration for the United States Sugar Corporation, Clewiston Mill, Hendry County, Florida"*, 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) and manganese (Mn) in order to demonstrate compliance with the HCl and total selected metals (TSM) emission limits contained in Appendix A of Subpart DDDDD, respectively. TSM includes eight metals: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium. The methodology used in the demonstration includes two options for demonstrating 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 Mn, HCl and/or chlorine gas (Cl_2). The second method is to conduct a site-specific demonstration using annual emissions and an acceptable risk assessment model.

To demonstrate compliance with the Mn HBCA, the maximum hourly Mn emission rate from each source subject to Subpart DDDDD that emits Mn must be determined according to Equation 1 in Appendix A. If the calculated emission rate is less than the value in the look-up table for Mn (Table 3, Appendix A, Subpart DDDDD), based on the weighted averaged stack height (Equation 3, Appendix A, Subpart DDDDD) and the minimum distance between any Subpart DDDDD emission point and the property boundary, the facility is eligible to comply with the HBCA for Mn. By complying with the HBCA for Mn, the facility is allowed to exclude Mn from the TSM calculation for each Subpart DDDDD source when demonstrating compliance with Boiler MACT.

To demonstrate compliance with the HCl HBCA, the toxicity-weighted emission rate (HCl-equivalent, Equation 2, Appendix A, Subpart DDDDD) is determined for each source subject to Subpart DDDDD that emits HCl and/or Cl_2. If the HCl-equivalent emission rate is less than the value in the look-up table (Table 2, Appendix A, Subpart DDDDD), based on the weighted averaged stack height (Equation 3, Appendix A, Subpart DDDDD) and the minimum distance between any

Subpart DDDDD emission point and the property boundary, the facility is eligible to comply with the HCl HBCA. By complying with the HCl HBCA, the facility is allowed to meet the appropriate value in the look-up table in lieu of meeting the Boiler MACT limit for HCl when demonstrating compliance with Boiler MACT.

If compliance is not demonstrated using the look-up tables, the facility may perform a site-specific compliance demonstration. This option, 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's (EPA) Air Toxics Website (http://www.epa.gov/tnn/fera/risk_ atoxic.html). For the HCl compliance demonstration, risk assessment modeling is performed to demonstrate that the maximum hazard index (HI) for HCl and Cl_2 from all Subpart DDDDD sources is less than or equal to 1.0. For the Mn compliance demonstration, the risk assessment modeling is performed to demonstrate that the maximum hazard quotient (HQ) for Mn from all Subpart DDDDD sources is less than or equal to 1.0.

HQ is the ratio of the predicted concentration of a pollutant to the concentration at which no adverse effects are expected, and HI is the sum of more than one HQ for multiple substances and/or multiple exposure pathways. For inhalation exposures, the HQ is calculated as the air concentration divided by the reference concentration, also known as the reference value (RV). By demonstrating that the HI for HCl and Cl_2 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.

By demonstrating that the HQ for Mn is equal to or less than 1.0, the facility may exclude Mn from the TSM calculations for each Subpart DDDDD source when showing compliance with Boiler MACT. The TSM emission limit for existing sources is 0.001 pound per million British thermal units (lb/MMBtu), and for new sources is 0.0003 lb/MMBtu.

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

TABLE 1-1

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

Requirement	Description	Report Section/Table/Figure Number
Look-Up Table Analysis		
(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 4.0
(a) (5)	Calculations used to determine the HCl-equivalent or Mn emission rates.	Section 3.1.1, Section 3.1.2, Table 3-1, Table 3-2
(a) (6)	Identification of the controlling process factors that will become Federally enforceable permit conditions.	Not Applicable
(b) (1)	Calculations used to determine the weighted average stack height.	Section 3.2, Table 3-3
(b) (2)	Identification of the Subpart DDDDD emission points that emit either Mn or HCl and Cl_2, with the minimum distance to the property boundary of the facility.	Section 3.2, Figure 2-1
(b) (3)	Comparison of the values in the look-up tables to the maximum HCl-equivalent or Mn emission rates.	Section 3.2, Table 3-4
(d)	Submittal of parameters for incorporation into Title V permit as federally enforceable limits.	Not Applicable

TABLE 1-1

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

Requirement	Description	Report Section/Table/Figure Number
Site-Specific Compliance Demonstration		
(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 fence line.	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 4.0
(a) (5)	Calculations used to determine the HCl-equivalent or Mn emission rates.	Table 4-1, Table 4-2, Table 4-3, Table 4-4
(a) (6)	Identification of the controlling process factors that will become Federally enforceable permit conditions.	Table 5-1
(c) (1)	Identification of the risk assessment methodology used.	Section 4.1
(c) (2)	Documentation of the fate and transport model used.	Section 4.1.2
(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 4-6, Table 4-7
(d)	Submittal of parameters for incorporation into Title V permit as federally enforceable limits.	Table 5-1, Appendix C

2.0 GENERAL DESCRIPTION OF THE FACILITY

2.1 General Facility Information

U.S. Sugar owns and operates a sugar mill and refinery located in Clewiston, Hendry County, Florida that currently operates under Title V Permit No. 0510003-017-AV. Five boilers operate at the Clewiston Mill to provide steam to the sugar mill as well as to the sugar refinery. Each of the boilers is 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 and operating data for the boilers are based on the Title V renewal application (2005), except Boiler No. 8, which is based on the air construction permit application dated June 2006. Operating parameters for crop season and off-crop season are shown in Table 2-2. For the off-crop season operation, maximum permitted operations and maximum actual steam operations (300,000 lb/hr) are shown. These scenarios are further explained in Section 4.0.

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, U.S. SUGAR, CLEWISTON 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)
Boiler No. 1	BLR1O/F	Vibrating grate boiler	496	496	Bagasse, No. 2 fuel oil	Wet scrubber
Boiler No. 2	BLR2O/F	Vibrating grate boiler	447	447	Bagasse, No. 2 fuel oil	Wet scrubber
Boiler No. 4	BLR4O/F	Traveling grate boiler	633	600	Bagasse, No. 2 fuel oil	Wet scrubber
Boiler No. 7	BLR7O/F	Spreader-stoker vibrating grate boiler	812	738	Bagasse, No. 2 fuel oil	ESP, Wet sand separator
Boiler No. 8	BLR8O/F	Membrane wall with balanced draft stoker boiler	1,185	1,077	Bagasse, Wood chips, No. 2 fuel oil	ESP, Dry sand separator, dry cyclone, Selective non-catalytic reduction (SNCR)

Notes:
MMBtu/hr = million British thermal units per hour

TABLE 2-2
STACK AND OPERATING PARAMETERS AND LOCATIONS USED IN THE HBCA MODELING ANALYSIS, U.S. SUGAR, CLEWISTON MILL

		UTM Coordinates [a]		Relative Location [b]				Stack Data [c]					Operating Data [c]				
	Model	East	North	X		Y		Height		Diameter		Heat Input	Temperature		Gas Flow	Velocity	
Emission Unit	ID	(m)	(m)	ft	m	ft	m	ft	m	ft	m	(MMBtu/hr)	°F	°K	(acfm)	ft/s	m/s
Maximum Permitted - Crop Season																	
Boiler No. 1	BLR1O	506,184.6	2,956,934.8	185	56	-5	-1.5	213	64.9	8.0	2.44	496	150	339	250,000	82.9	25.3
Boiler No. 2	BLR2O	506,171.8	2,956,934.8	143	44	-5	-1.5	213	64.9	8.0	2.44	447	150	339	250,000	82.9	25.3
Boiler No. 4 [e]	BLR4O	506,128.2	2,956,936.3	0	0	0	0.0	150	45.7	8.2	2.50	566[e]	160	344	281,000	88.7	27.0
Boiler No. 7	BLR7O	506,095.7	2,956,956.1	-107	-33	65	19.8	225	68.6	8.0	2.44	738	335	441	310,000	102.8	31.3
Boiler No. 8	BLR8O	506,046.2	2,956,987.3	-269	-82	167	51.0	199	60.7	13.0	3.96	1,077	315	430	395,000	49.6	15.1
Maximum Permitted - Off-Crop Season																	
Scenario A																	
Boiler No. 7	BLR7F	506,095.7	2,956,956.1	-107	-33	65	19.8	225	68.6	8.0	2.44	738	335	441	310,000	102.8	31.3
Scenario B																	
Boiler No. 8	BLR8F	506,046.2	2,956,987.3	-269	-82	167	51.0	199	60.7	13.0	3.96	1,077	315	430	395,000	49.6	15.1
Scenario C																	
Boiler No. 1	BLR1F	506,184.6	2,956,934.8	185	56	-5	-1.5	213	64.9	8.0	2.44	496	150	339	250,000	82.9	25.3
Boiler No. 2	BLR2F	506,171.8	2,956,934.8	143	44	-5	-1.5	213	64.9	8.0	2.44	447	150	339	250,000	82.9	25.3
300,000 lb/hr steam - Off-Crop Season																	
Scenario A																	
Boiler No. 7	BLR7F	506,095.7	2,956,956.1	-107	-33	65	19.8	225	68.6	8.0	2.44	633	335	441	265,714	88.1	26.9
Scenario B																	
Boiler No. 8	BLR8F	506,046.2	2,956,987.3	-269	-82	167	51.0	199	60.7	13.0	3.96	562	315	430	206,087	25.9	7.9
Scenario C [d]																	
Boiler No. 1	BLR1F	506,184.6	2,956,934.8	185	56	-5	-1.5	213	64.9	8.0	2.44	278	150	339	140,000	46.4	14.1
Boiler No. 2	BLR2F	506,171.8	2,956,934.8	143	44	-5	-1.5	213	64.9	8.0	2.44	250	150	339	140,000	46.4	14.1

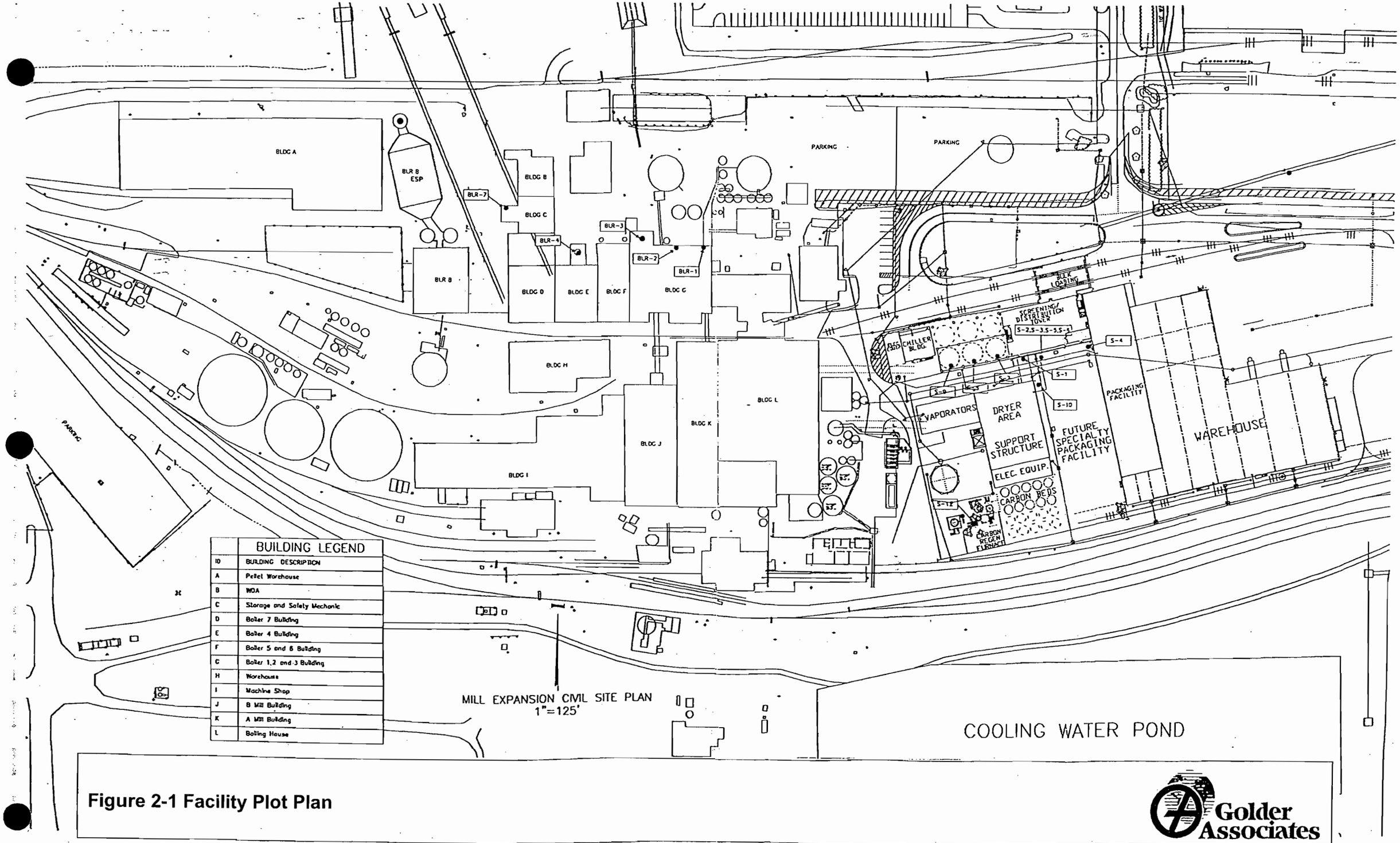
[a] Universal Transverse Mercator Coordinates, Zone 17, North American Datum of 1927 (NAD27).

[b] Relative to Boiler No. 4.

[c] Stack and operating data for future sources based on Title V renewal application (2005), except Boiler No. 8 based on air construction permit application dated June 2006.

[d] Both boilers operating at 56% load, which equates to a total of 300,000 lb/hr steam. Boiler No. 2 is nearly identical to Boiler No. 1.

[e] Boiler No. 4 limited to 2,880,000 MMBtu/yr, which equates to 566 MMBtu/hr for the crop season (5,088 hours).



	BUILDING LEGEND
ID	BUILDING DESCRIPTION
A	Pellet Warehouse
B	WOA
C	Storage and Safety Mechanic
D	Boiler 7 Building
E	Boiler 4 Building
F	Boiler 5 and 6 Building
G	Boiler 1,2 and 3 Building
H	Warehouse
I	Machine Shop
J	B Mill Building
K	A Mill Building
L	Boiling House

MILL EXPANSION CIVIL SITE PLAN
1"=125'

Figure 2-1 Facility Plot Plan

Golder Associates

LEGEND

REFERENCE

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

300 0 300
Meters

PROJECT
Health-based Compliance Alternative Demonstration for the U.S. Sugar Corporation Clewiston Mill

TITLE
Aerial Map of Facility

Golder Associates
Gainesville, Florida

PROJECT No.			SCALE AS SHOWN	REV. 0
DESIGN	AB	12 Sept. 2006		
GIS	AB	12 Sept. 2006		
CHECK	CS	12 Sept. 2006		
REVIEW	DB	12 Sept. 2006		

FIGURE 2-2

3.0 HBCA – LOOK-UP TABLE ANALYSIS

3.1 Basis for Worst-Case Emissions

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

- TSM HBCA
  - Emissions based on bagasse and/or wood chip fuel analysis for Mn for the following boilers:
    - Boiler No. 1
    - Boiler No. 2
    - Boiler No. 4
    - Boiler No. 7
    - Boiler No. 8
- HCl HBCA
  - Emissions based on bagasse and/or wood chip fuel analysis for HCl and Cl_2 for the following boilers:
    - Boiler No. 1
    - Boiler No. 2
    - Boiler No. 4
    - Boiler No. 7
    - Boiler No. 8

Appendix A includes the following information for the fuel analysis:

- Collection and analytical methods used;
- Fuel analysis data; and
- Worst-case emissions rate.

The worst-case fuel for Mn and HCl emissions from Boilers No. 1, 2, 4, and 7 is bagasse and the worst-case fuel for Boiler No. 8 is wood chips. Historical fuel analysis results for bagasse are shown in Tables A-1 and A-2. Table A-1 provides the proximate, ultimate, and heat content analyses results, while Table A-2 provides the metal and chlorine analyses results. Wood chips fuel analysis

data for Boiler No. 8 is presented in Table A-3, which includes heat content, chlorine, and metals results. Wood chip samples were obtained in June 2006. In addition, the most recent stack test for Boiler No. 8 while burning bagasse is presented in Table A-4.

It is noted that many of the bagasse fuel samples were obtained prior to the final Boiler MACT rule promulgated on September 13, 2004. However, the sampling was extensive and the fuel samples and analysis are considered to be highly representative. The Boiler MACT final rule fuel analysis methods are presented in Table A-5. The comparison of the fuel analysis methods utilized by U.S. Sugar prior to the Boiler MACT final rule is presented in Table A-6. Because the bagasse samples were collected between January 2002 and June 2006, the biomass sampling protocols during those seasons are included in Appendix A.

The Mn emission factor for Boilers No. 1, 2, 4, and 7 is 1.62×10^{-3} lb/MMBtu, which is based on the 90th percentile of historical fuel analyses data ranging from January 2002 through June 2006 for bagasse (see Table A-2). The Mn emission factor for Boiler No. 8 is 5.7×10^{-3} lb/MMBtu, which is based on the 90th percentile of fuel analysis data from June 2006 for wood chips (see Table A-3). The 90th percentile value is required by the Boiler MACT regulations, and was calculated according to Equation 8 in 40 CFR 63.7530(d).

The chlorine emission factor for Boilers No. 1, 2, 4, and 7 is 0.10 lb/MMBtu, which is based on the 90th percentile of historical fuel analyses data ranging from November 2002 through June 2006 for bagasse (see Table A-2). Chlorine was not tested in the bagasse prior to November 2002. The chlorine emission factor for Boiler No. 8 is 0.35 lb/MMBtu, which is based on the 90th percentile of fuel analysis data from June 2006 for wood chips (see Table A-3).

Appendix A, Subpart DDDDD, states when using fuel analysis for the HBCA demonstration, it must be assumed that 100-percent of chlorine in the fuel is emitted out the stack as Cl_2. However, recent stack testing on Boiler No. 8 while burning bagasse reveals that only approximately 7-percent of chlorine is emitted as Cl_2 (see Table A-4). This value was also applied to Boiler Nos. 7 and 8 since Boiler No. 7 is similar to Boiler No. 8 in design and control equipment. It was also assumed that 15-percent of the chlorine in the fuel is emitted out the stack as Cl_2 from Boiler Nos. 1, 2, and 4, which is a reasonable assumption based on data from other sugar industry boilers and combustion chemistry. This will be verified through stack testing by U.S. Sugar. For the look-up table analysis, in order to determine the worst-case emissions, it was assumed that 100-percent wood chips is being

fired in Boiler No. 8. Actual operation of the boiler is reflected in the site-specific determination (see Section 4.0).

3.1.1 Maximum Hourly Manganese Emission Rate

The maximum hourly emission rate for each hazardous air pollutant (HAP) is expressed according to the equation below:

$$E_{i,s} = \sum_{j=1}^{t} (R_{i,j} \times I_j)$$

where: $E_{i,s}$ is the maximum hourly emission rate for each HAP in lb/hr,

$R_{i,j}$ is the emission rate of each emission unit in lb/MMBtu,

I_j is the maximum rated heat input capacity of each Subpart DDDDD unit in million British thermal units per hour (MMBtu/hr),

"i" represents each applicable HAP,

"s" represents each individual emission point,

"j" represents each Subpart DDDDD emission unit, and

"t" represents the total number of Subpart DDDDD emission units.

The maximum hourly emission rates for Mn from each emission unit are presented in Table 3-1 with a total maximum hourly emission rate of 10.62 lb/hr.

3.1.2 Maximum Hourly HCl-Equivalent Emission Rate

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 lb/hr,

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

$E_{Cl2,s}$ is the maximum hourly emission rate for Cl_2 in lb/hr,

RV_{HCl} is the reference value for HCl,

RV_{Cl2} 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 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 $\mu g/m^3$ and the RV for Cl_2 is 0.2 $\mu g/m^3$ based on non-cancer chronic inhalation.

The toxicity-weighted emission rates for HCl from each emission unit are presented in Table 3-2. The total HCl-equivalent toxicity-weighted emission rate is 6,430.8 lb/hr.

3.2 Look-Up Table Analysis

The weighted average stack height for determining the maximum allowable HCl-equivalent emission rate is expressed according to the equation below:

$$H_{HCl} = \frac{\sum_{s=1}^{n} (TW_s \times H_s)}{TW_T}$$

where: H_{HCl} is the weighted average stack height in meters,

TW_s is the toxicity-weighted HCl-equivalent emission rate in lb/hr,

H_s is the height of each individual stack in m,

TW_T is the total toxicity-weighted HCl-equivalent emission rate from the source in lb/hr,

"s" represents the individual emission points, and

"n" represents the total number of emission points.

Using Table 3-3, which contains the stack height values and the toxicity-weighted HCl-equivalent emission rates, the weighted average stack height for HCl is 60 meters, as shown below:

$$H_{HCl} = \frac{386{,}560.4 \frac{lb-m}{hr}}{6{,}430.8 \frac{lb}{hr}} = 60\,m$$

The weighted average stack height for determining the maximum allowable emission rate for Mn is defined by the following equation:

$$H_{Mn} = \frac{\sum_{s=1}^{n}(E_{Mn,s} \times H_s)}{E_{Mn,T}}$$

where: H_{Mn} is the weighted average stack height in meters,

$E_{Mn,s}$ is the maximum hourly Mn emissions in lb/hr,

H_s is the height of each individual stack in meters,

$E_{Mn,T}$ is the total maximum hourly Mn emissions from the source in lb/hr,

H_s is the height of each individual stack in meters,

"s" represents the individual emission points, and

"n" represents the total number of emission points.

Using Table 3-3, which contains the stack heights and the maximum hourly Mn emissions, the weighted average stack height for Mn is 61 meters, as shown below:

$$H_{HCl} = \frac{646.0 \frac{lb-m}{hr}}{10.62 \frac{lb}{hr}} = 61m$$

The minimum distance between any Subpart DDDDD stack and the property boundary, as shown in Figure 3-1, is 348 meters. Table 3-4 shows the comparison between the maximum hourly Mn emission rate and the HCl-equivalent emission rate, and the allowable emission rates in the look-up tables. If the weighted averaged stack height or minimum distance values do not match the values in the look-up tables, the next lowest values are used. For this analysis, the averaged weighted stack heights for HCl and TSM were 60 and 61, respectively. Therefore, the 60-meter stack height in the look-up table was used for both analyses. In addition, the 250-meter distance to property boundary value in the look-up table was used since the actual minimum distance from any Subpart DDDDD source to the property boundary is 348 meters.

Because U.S. Sugar exceeds the values in the HCl-equivalent and Mn look-up tables (see Table 3-4), and because building downwash may affect some of the boilers, the site-specific determination will be utilized to comply with the HBCA for Mn and HCl (see Section 4.0).

TABLE 3-1
WORST-CASE SHORT-TERM MANGANESE EMISSIONS (LOOK-UP TABLE ANALYSIS), U.S. SUGAR, CLEWISTON MILL

Emission Unit	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr)	Mn Emission Factor (lb/MMBtu) [a]	Maximum Hourly Mn Emission Rate (lb/hr)
Boiler No. 1	BLR1O/F	Bagasse Fuel Analysis	496	1.62E-03	0.80
Boiler No. 2	BLR2O/F	Bagasse Fuel Analysis	447	1.62E-03	0.72
Boiler No. 4	BLR4O/F	Bagasse Fuel Analysis	633	1.62E-03	1.03
Boiler No. 7	BLR7O/F	Bagasse Fuel Analysis	812	1.62E-03	1.32
Boiler No. 8	BLR8O/F	Wood Chip Fuel Analysis	1,185	5.70E-03	6.75
	Total		--	--	**10.62**

[a] Based on the 90th percentile of historical stack test data for bagasse (see Table A-2) and wood chips (see Table A-3).

TABLE 3-2
WORST-CASE SHORT-TERM HCL-EQUIVALENT EMISSIONS (LOOKUP TABLE ANALYSIS), U.S. SUGAR, CLEWISTON MILL

Emission Unit	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr)	Chlorine (lb/MMBtu) [a]	Maximum Hourly Emission Rate of HCl (lb/hr) [b]	Maximum Hourly Emission Rate of Cl_2 (lb/hr) [b]	Toxicity-Weighted Emission Rate (HCl-Equivalents) (lb/hr) [c]
Boiler No. 1	BLR1O/F	Bagasse Fuel Analysis	496	0.10	42.2	7.4	786.2
Boiler No. 2	BLR2O/F	Bagasse Fuel Analysis	447	0.10	38.0	6.7	708.5
Boiler No. 4	BLR4O/F	Bagasse Fuel Analysis	633	0.10	53.8	9.5	1,003.3
Boiler No. 7	BLR7O/F	Bagasse Fuel Analysis	812	0.10	75.5	5.7	643.9
Boiler No. 8	BLR8O/F	Wood Chip Fuel Analysis	1,185	0.35	385.7	29.0	3,289.0
	Total		--	--	**595.1935**	**58.3565**	**6,430.8**

[a] Based on the 90th percentile of historical stack test data for bagasse (see Table A-2) and wood chips (see Table A-3).

[b] Historical stack test data reveals that only 7% of chlorine is emitted as Cl_2 while burning bagasse in Boiler No. 8 (see Table A-4). This value is applied to Boiler Nos. 7 and 8 since they have similar operation and control equipment. For Boiler Nos. 1, 2 and 4, it is assumed that 15% of chlorine is emitted as Cl_2 while burning bagasse, which will be verified through stack testing.

[c] Based on Equation 2 in Appendix A (Subpart DDDDD). RV_{HCl} is 0.02 mg/m^3 and RV_{Cl2} is 0.0002 mg/m^3.

TABLE 3-3
WEIGHTED AVERAGED STACK HEIGHT (LOOKUP TABLE ANALYSIS), U.S. SUGAR, CLEWISTON MILL

Emission Unit	Boiler ID	Stack Height (H_s) (m) [a]	HCl-Equivalent Emission Rate (TW_s) (lb/hr) [b]	$TW_s \times H_s$ (lb-m/hr)	HCl Weighted Average Stack Height (m)	Mn Maximum Hourly Emissions ($E_{Mn,s}$) (lb/hr) [c]	$E_{Mn,s} \times H_s$ (lb-m/hr)	Mn Weighted Average Stack Height (m)
Boiler No. 1	BLR1O/F	64.9	786.2	51,039.4	--	0.80	52.2	--
Boiler No. 2	BLR2O/F	64.9	708.5	45,997.2	--	0.72	47.0	--
Boiler No. 4	BLR4O/F	45.7	1,003.3	45,871.1	--	1.03	46.9	--
Boiler No. 7	BLR7O/F	68.6	643.9	44,159.8	--	1.32	90.2	--
Boiler No. 8	BLR8O/F	60.7	3,289.0	199,493.0	--	6.75	409.7	--
		Total	**6,430.8**	**386,560.4**	**60**	**10.62**	**646.0**	**61**

[a] Based on Table 2-2
[b] Based on Table 3-2
[c] Based on Table 3-1

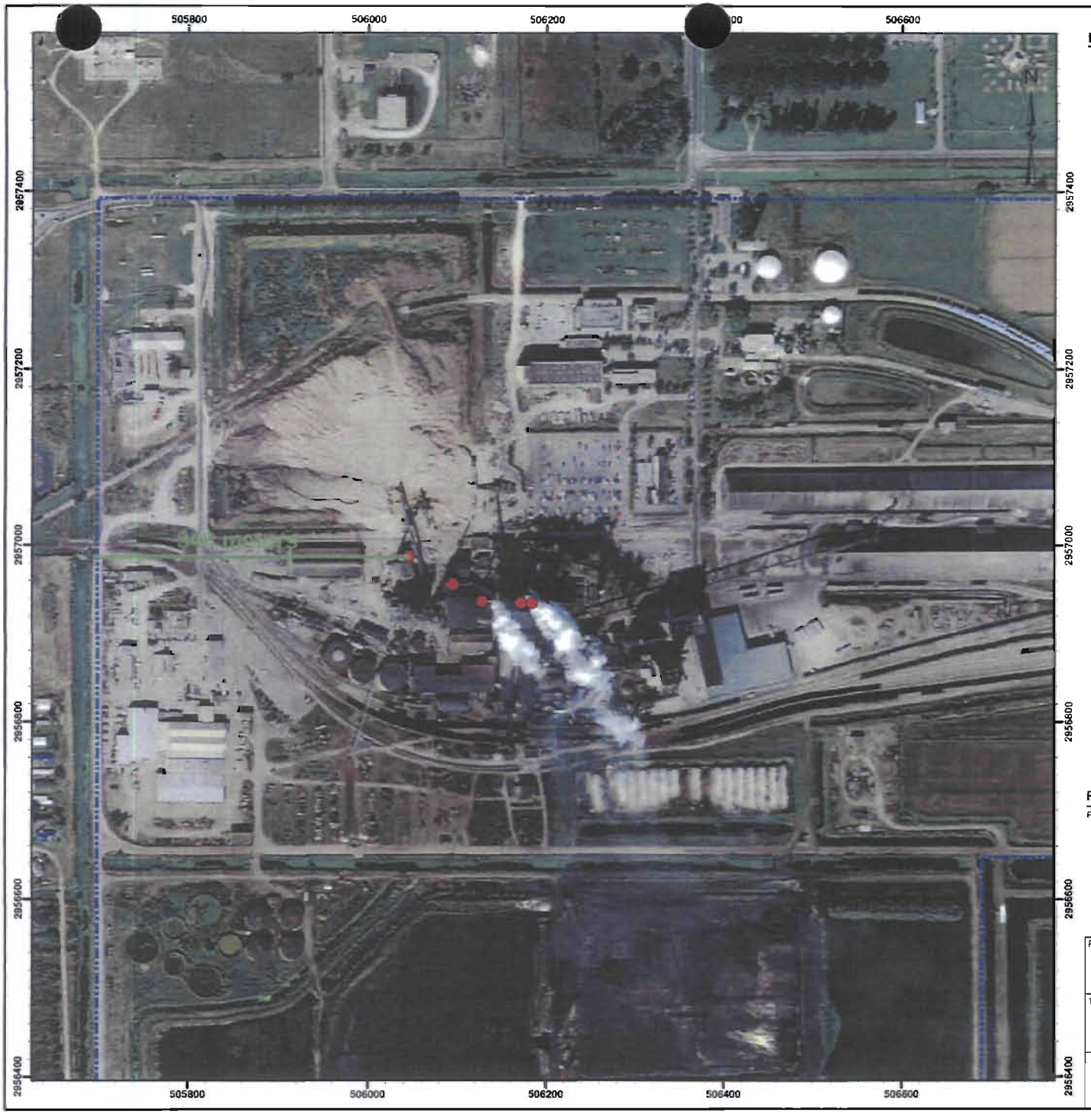
TABLE 3-4
LOOK-UP TABLE COMPARISON, U.S. SUGAR, CLEWISTON MILL

HBCA	Weighted Averaged Stack Height (m)	Minimum Distance to Property Boundary (m) [a]	Look-Up Table Value (lb/hr) [b]	Calculated Emission Rate (lb/hr) [c]	Pass/Fail?
Mn	61	348	1.09	10.6	Fail
HCl	60	348	435.5	6,430.8	Fail

[a] Based on Figure 2-1.

[b] Based on Tables 2 and 3 in Appendix A, Subpart DDDDD.

[c] Based on Tables 3-1 and 3-2.



LEGEND

- Source Location
- Boundary

REFERENCE

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

150 0 150 Meters

PROJECT

Health-based Compliance Alternative Demonstration for the U.S. Sugar Corporation Clewiston Mill

TITLE

Minimum Distance from Subpart DDDDD Source to Property Boundary

Golder Associates Gainesville, Florida

PROJECT No.			SCALE AS SHOWN	REV. 0
DESIGN	AB	12 Sept. 2006		
GIS	AB	12 Sept. 2006		
CHECK	CB	12 Sept. 2006		
REVIEW	DB	12 Sept. 2006		

FIGURE 3-1

4.0 HBCA – SITE-SPECIFIC DEMONSTRATION

In accordance with 40 CFR 63, Subpart DDDDD, Appendix A, this site-specific demonstration estimates the long-term inhalation exposure of Mn and 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 value (RV) for Mn, HCl, and Cl_2 are used in this HBCA demonstration.

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 Prioritized Chronic Dose-Response Values (2/28/05), Table 1, published by the 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 Mn is 0.05 $\mu g/m^3$, the RV for HCl is 20 $\mu g/m^3$, and the RV for Cl_2 is 0.20 $\mu g/m^3$, which are based on non-cancer chronic inhalation.

4.1 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 wake effects, dispersion environment, meteorological data, receptor grids, and other model input data, is presented in the following sections.

4.1.1 Emission Inventory

For the U.S. Sugar Clewiston Mill, annual emissions during the crop and off-crop seasons are estimated for Mn and HCl-equivalents, based on the fuel analysis results. The annual crop season emissions for Mn and HCl-equivalents are provided in Tables 4-1 and 4-2, respectively, and the annual off-crop season emissions for Mn and HCl-equivalents are provided in Tables 4-3 and 4-4, respectively.

The Mn and chlorine emission factors were obtained from the 90th percentile of historical bagasse and wood chips fuel analysis data (see Tables A-2 and A-3, respectively). The 90th percentile of historical bagasse data for Mn is 1.62×10^{-3} lb/MMBtu and the 90th percentile of historical wood chip data for Mn is 5.70×10^{-3} lb/MMBtu. The 90th percentile of historical bagasse data for chlorine is 0.10 lb/MMBtu and the 90th percentile of historical wood chip data for chlorine is 0.35 lb/MMBtu. The bagasse emission factors for Mn and chlorine were applied to Boiler Nos. 1, 2, 4, 7, and 8, while the wood chip emission factors for Mn and chlorine were applied to Boiler No. 8.

Recent stack test results for Boiler No. 8 while burning bagasse have revealed that only 7-percent of chlorine is emitted as Cl_2. Since Boiler Nos. 7 and 8 have similar operation and control equipment, this 7-percent factor was applied to both boilers. This value was also applied to wood chip burning in Boiler No. 8 since the percentage of chlorine emitted as Cl_2 is not expected to increase while burning wood chips. For Boiler Nos. 1, 2, and 4, it was assumed that 15-percent of chlorine is emitted as Cl_2 while burning bagasse, which will be verified through stack testing.

During the crop season, all boilers (Boiler Nos. 1, 2, 4, 7, and 8) are permitted to operate. The annual crop season emissions are based on 7 months of operation (October – April), which is equivalent to 212 days [5,088 hours per year (hr/yr)]. Boiler Nos. 1, 2, 4, and 7 burn bagasse, while Boiler No. 8 is permitted to burn both bagasse and wood chips. The maximum amount of wood chips burned during the year is 200,000 tons, with approximately 80-percent burned during the off-crop season and 20-percent burned during the crop season. To reflect the 20-percent wood chips burned in the crop season, the hours of operation for Boiler No. 8 burning 100-percent wood chips was set at 384 hr/yr. The remaining 4,704 hr/yr during the crop season were attributed to burning bagasse.

The 1-hour and 24-hour heat input values were obtained from the Title V renewal application (May 2005), except Boiler No. 8, which is based on the air construction permit application dated June 2006 (see Table 2-1). Because Boiler No. 4 is limited to 2,880,000 million British thermal units per year (MMBtu/yr), its hourly heat input was based on 566 MMBtu/yr during the crop season (2,880,000 MMBtu/yr divided by 5,088 hours).

During the off-crop season, only certain boilers are permitted to operate. The three off-crop season scenarios are shown below.

- Scenario A – Boiler No. 7

- Scenario B – Boiler No. 8
- Scenario C – Boiler Nos. 1 and 2

Although Boiler No. 4 is permitted to operate in the off-season, all of Boiler No. 4's annual heat input is reflected in the crop season, therefore no operation was shown for this boiler in the off-crop season.

The annual off-crop season emissions are based on 5 months of operation (May – September), which is equivalent to 153 days (3,672 hr/yr). The three off-crop season scenarios were modeled to determine the worst-case.

The heat input values for Mn during the off-crop season are based on the maximum permitted heat input, as presented in Table 2-2. For the HCl-equivalents, the heat input values are based on 300,000 lb/hr steam during the off-crop season, which is also presented in Table 2-2.

4.1.2 Model Selection

The selection of an air quality model to calculate air quality impacts was based on its applicability to simulate impacts in areas surrounding the Clewiston Mill. The air quality dispersion model selected and used in these analyses to address air quality impacts for the project was the Industrial Source Complex Short Term dispersion model with the Plume Rise Model Enhancement (PRIME) downwash algorithm, referred to as the ISC-PRIME model.

The ISC-PRIME dispersion model (EPA, 2004) was used to evaluate the impacts of manganese in nearby areas surrounding the Clewiston Mill. This model was previously used to address air quality impacts due to the new White Sugar Dryer No. 2 (2004), the addition of Boiler No. 8 (2003) and modifications proposed for Boiler No. 4 and the Sugar Refinery at the Clewiston Mill (1999), and was approved for use by both the FDEP and EPA. Therefore, to be consistent with the previous air modeling analyses performed at the Clewiston Mill and based on the FDEP's and EPA's approval of its use, the ISC-PRIME model was used in this HBCA demonstration.

The ISC-PRIME model is maintained by the EPA on its Internet website, Support Center for Regulatory Air Models (SCRAM), within the Technical Transfer Network (TTN). A listing of the ISC-PRIME model features is presented in Table 4-5. The ISC-PRIME model is designed to calculate hourly concentrations based on hourly meteorological data (i.e., wind direction, wind speed, atmospheric stability, ambient temperature, and mixing heights). The ISC-PRIME model is applicable to sources located in either flat or rolling terrain where terrain heights do not exceed stack

heights. These areas are referred to as simple terrain. The model can also be applied in areas where the terrain exceeds the stack heights. These areas are referred to as complex terrain.

In this analysis, the EPA regulatory default options were used to predict all maximum impacts. The ISC-PRIME model can be executed in the rural or urban land use mode that affects stability dispersion coefficients, wind speed profiles, and mixing heights. Land use can be characterized based on a scheme recommended by EPA (Auer, 1978). If more than 50 percent land use within a 3-km radius around a project is classified as industrial or commercial or high-density residential, then the urban option should be selected. Otherwise, the rural option is appropriate. Based on reviews of aerial and U.S. Geological Survey (USGS) topographical maps and a site visit, the land use within a 3-km (1.9-mile) radius of the Clewiston site is considered to be rural (i.e., very little heavy industrial, light-moderate industrial, commercial, or compact residential land use). Therefore, the rural mode was used in the air dispersion model to predict impacts from sources at the Clewiston Mill.

Also, since the terrain around the facility is flat to gently rolling, the simple terrain feature of the model was selected.

The ISC-PRIME model was used to provide maximum long-term concentrations.

4.1.3 Building Downwash Effects

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

All direction-specific building parameters were calculated with the Building Profile Input Program (BPIP), Version 04274. The BPIP program was used to generate building data for the ISCST3 model input. The output of the BPIP analysis is provided in Appendix B.

4.1.4 Meteorological Data

Meteorological data used in the ISC-PRIME 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) offices located at Palm Beach International Airport (PBI) and Miami, respectively. The 5-year period of meteorological data was from 1987 through 1991. The NWS office at PBI is located approximately 83.5 km (52 miles) east of the Clewiston Mill site

and is the closest primary weather station to the study area considered to have meteorological data representative of the site. The PBI station meteorological data have been used for numerous air modeling studies within the sugar industry and for the Clewiston Mill.

The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling height. The wind speed, cloud cover, and cloud ceiling values were used in the meteorological preprocessor program to determine atmospheric stability using the Turner stability scheme. Based on the temperature measurements at morning and afternoon, mixing heights were calculated from the radiosonde data at Miami using the Holzworth approach (Holzworth, 1972). Hourly mixing heights were derived from the morning and afternoon mixing heights using the interpolation method developed by EPA (Holzworth, 1972). The hourly surface data and mixing heights were used to develop a sequential, hourly meteorological data set (i.e., wind direction, wind speed, temperature, stability, and mixing heights). Because the observed hourly wind directions at the NWS stations are classified into one of thirty-six 10-degree sectors, the wind directions were randomized within each sector to account for the expected variability in air flow. These calculations were performed using the EPA RAMMET meteorological preprocessor program.

4.1.5 Model Receptor Grid

A square Cartesian receptor grid was developed for use in the modeling, supplemented with property boundary receptors every 50 meters. Beyond the property boundary, receptors were located at 100-meter spacing within 2 km and at 500-meters spacing between 2 and 4 km from the Mill. This receptor grid represents all areas within 4 km of the facility where people could live or congregate.

Receptor elevations were developed from Digital Elevation Model (DEM) data, acquired from USGS. Figure 4-2 shows the receptor locations overlaid on an aerial photograph.

4.1.6 Model Switches

The ISCST3 model used EPA's regulatory default mode which includes the model switches listed below. Appendix B includes a listing of model input, including all source parameters, receptor locations and associated terrain heights. Model output is provided in electronic format in Appendix B.

Regulatory Default Model Switches include:

- Stack-tip downwash
- Buoyancy-induced dispersion

- Final plume rise
- Calms processing routines
- Default wind profile exponents
- Default vertical potential temperature gradients

4.2 Dispersion Modeling Results

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

The results of the dispersion modeling for Mn are provided in Table 4-6. The HQ for Mn is computed by dividing the modeled concentration by the respective RV. Table 4-6 indicates that that the Mn HBCA risk requirements are achieved since the HQ value of 1.0 was not exceeded.

The results of the dispersion modeling for the HCl-equivalents are provided in Table 4-7. The HI for HCl is computed by dividing the modeled concentration by the respective RV. Table 4-7 indicates that that the HCl HBCA risk requirements are achieved since the HI value of 1.0 was not exceeded.

TABLE 4-1
MAXIMUM ANNUAL MANGANESE EMISSIONS DURING THE CROP SEASON, CLEWISTON MILL (SITE SPECIFIC DEMONSTRATION)

Boiler ID	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr)	Hours of Operation (hr/yr) [a]	Mn Emission Factor (lb/MMBtu) [b]	Maximum Crop Season Mn Emissions (TPY)	Mn Emissions For 7-Months [b]	
							(lb/day)	(g/s)
Boiler No. 1	BLR1O	Bagasse Fuel Analysis	496	5,088	1.62E-03	2.044	19.284	0.1012
Boiler No. 2	BLR2O	Bagasse Fuel Analysis	447	5,088	1.62E-03	1.842	17.379	0.0912
Boiler No. 4 [c]	BLR4O	Bagasse Fuel Analysis	566	5,088	1.62E-03	2.333	22.006	0.1155
Boiler No. 7	BLR7O	Bagasse Fuel Analysis	738	5,088	1.62E-03	3.042	28.693	0.1506
Boiler No. 8	BLR8O	Wood Chip Fuel Analysis	1,077	384	5.70E-03	1.179		
Boiler No. 8	BLR8O	Bagasse Fuel Analysis	1,077	4,704	1.62E-03	4.104		
					Boiler No. 8 Total	**5.282**	**49.833**	**0.2616**
					Total All Boilers	**14.543**	**137.196**	**0.7203**

[a] Based on 7 months of operation during the crop season (October - April) , which is equivalent to 212 days.

[b] Based on the 90th percentile of historical bagasse and wood chips fuel analysis data (see Table A-2 and Table A-4 respectively).

[c] Boiler No. 4 limited to 2,880,000 MMBtu/yr heat input, which equates to 566 MMBtu/hr for 5,088 hr/yr.

TABLE 4-2
MAXIMUM ANNUAL HCL-EQUIVALENT EMISSIONS DURING THE CROP SEASON, CLEWISTON MILL (SITE SPECIFIC DEMONSTRATION)

Boiler ID	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr)	Hours of Operation (hr/yr) [a]	Chlorine Emission Factor (lb/MMBtu) [b]	HCl Crop Season Emission Rate (TPY) [c]	Cl_2 Crop Season Emission Rate (TPY) [c]	Toxicity-Weighted Emission Rate (HCl-Equivalents) (TPY) [d]	HCl-Equivalent Emissions for 7-Months (lb/day)	HCl-Equivalent Emissions for 7-Months (g/s)
Boiler No. 1	BLR1O	Bagasse Fuel Analysis	496	5,088	0.10	107.26	18.93	2,000.0	18,867.8	99.1
Boiler No. 2	BLR2O	Bagasse Fuel Analysis	447	5,088	0.10	96.66	17.06	1,802.4	17,003.9	89.3
Boiler No. 4 [e]	BLR4O	Bagasse Fuel Analysis	566	5,088	0.10	122.39	21.60	2,282.2	21,530.6	113.0
Boiler No. 7	BLR7O	Bagasse Fuel Analysis	738	5,088	0.10	174.60	13.14	1,488.8	14,045.6	73.7
Boiler No. 8	BLR8O	Wood Chip Fuel Analysis	1,077	384	0.35	67.31	5.07	573.9		
Boiler No. 8	BLR8O	Bagasse Fuel Analysis	1,077	4,704	0.10	235.58	17.73	2,008.8		
							Boiler No. 8 Total	**2,582.7**	**24,364.9**	**127.9**
							Total All Boilers	**10,156.2**	**95,812.9**	**503.0**

[a] Based on 7 months of operation during the crop season (October - April) , which is equivalent to 212 days.

[b] Based on the 90th percentile of historical bagasse and wood chips fuel analysis data (see Table A-2 and Table A-4, respectively).

[c] Historical stack test data reveals that only 7% of chlorine is emitted as Cl_2 while burning bagasse in Boiler No. 8 (see Table A-4). This value is applied to Boiler Nos. 7 and 8 since they have similar operation and control equipment. For Boiler Nos. 1, 2 and 4, it is assumed that 15% of chlorine is emitted as Cl_2 while burning bagasse, which will be verified through stack testing.

[d] Based on Equation 2 in Appendix A (Subpart DDDDD). RV_{HCl} is 0.02 mg/m^3 and RV_{Cl2} is 0.0002 mg/m^3.

[e] Boiler No. 4 limited to 2,880,000 MMBtu/yr heat input, which equates to 566 MMBtu/hr for 5,088 hr/yr.

TABLE 4-3
MAXIMUM ANNUAL MANGANESE EMISSIONS DURING THE OFF-CROP SEASON, U.S. SUGAR, CLEWISTON MILL (SITE SPECIFIC DEMONSTRATION)

Off-Crop Season Scenario	Boiler ID	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr)	Hours of Operation (hr/yr) [a]	Emission Factor (lb/MMBtu) [b]	Maximum Off-Crop Season Mn Emissions (TPY)	Mn Emissions For 5-Months [a] (lb/day)	(g/s)
Scenario A									
	Boiler No. 7	BLR7F	Bagasse Fuel Analysis	738	3,672	1.62E-03	2.195	28.693	0.1506
Scenario B									
	Boiler No. 8	BLR8F	Wood Chip Fuel Analysis	1,077	1,534	5.70E-03	4.709		
	Boiler No. 8	BLR8F	Bagasse Fuel Analysis	1,077	2,138	1.62E-03	1.865		
						Boiler No. 8 Total	**6.574**	**85.930**	**0.4511**
Scenario C									
	Boiler No. 1	BLR1F	Bagasse Fuel Analysis	496	3,672	1.62E-03	1.475	19.284	0.1012
	Boiler No. 2	BLR2F	Bagasse Fuel Analysis	477	3,672	1.62E-03	1.419	18.546	0.0974
						Boiler Nos. 1 & 2 Total	**2.894**	**37.830**	**0.1986**

[a] Based on 5 months of operation during the off-crop season (May - September), which is equivalent to 153 days.

[b] Based on the 90th percentile of historical bagasse and wood chips fuel analysis data (see Table A-2 and Table A-4 respectively).

TABLE 4-4
MAXIMUM ANNUAL HCL-EQUIVALENT EMISSIONS DURING THE OFF-CROP SEASON, U.S. SUGAR, CLEWISTON MILL (SITE SPECIFIC DEMONSTRATION)

Off-Crop Season Scenario	Boiler ID	Model ID	Emission Estimation Method	Heat Input (MMBtu/hr) [a]	Hours of Operation (hr/yr) [b]	Chlorine Emission Factor (lb/MMBtu) [c]	HCl Off-Crop Season Emission Rate (TPY) [d]	Cl_2 Off-Crop Season Emission Rate (TPY) [d]	Toxicity-Weighted Emission Rate (HCl-Equivalents) (TPY) [e]	HCl-Equivalent Emissions for 5 Months	
										(lb/day)	(g/s)
Scenario A											
	Boiler No. 7	BLR7F	Bagasse Fuel Analysis	633	3,672	0.10	108.01	8.13	920.99	12,039.10	63.21
Scenario B											
	Boiler No. 8	BLR8F	Wood Chip Fuel Analysis	562	1,534	0.35	140.29	10.56	1,196.21		
	Boiler No. 8	BLR8F	Bagasse Fuel Analysis	562	2,138	0.10	55.86	4.20	476.34		
								Boiler No. 8 Total	**1,672.55**	**21,863.38**	**114.78**
Scenario C											
	Boiler No. 1	BLR1F	Bagasse Fuel Analysis	278	3,672	0.10	43.35	7.65	808.30	10,565.99	55.47
	Boiler No. 2	BLR2F	Bagasse Fuel Analysis	267	3,672	0.10	41.69	7.36	777.34	10,161.24	53.35
								Boiler Nos. 1 & 2 Total	**1,585.63**	**20727.24**	**108.82**

[a] Based on 300,000 lb/hr steam during the off-crop season (see Table 2-2).

[b] Based on 5 months of operation during the off-crop season (May - September), which is equivalent to 153 days.

[c] Based on the 90th percentile of historical bagasse and wood chips fuel analysis data (see Table A-2 and Table A-4 respectively).

[d] Historical stack test data reveals that only 7% of chlorine is emitted as Cl_2 while burning bagasse in Boiler No. 8 (see Table A-4). This value is applied to Boiler Nos. 7 and 8 since they have similar operation and control equipment. For Boiler Nos. 1, 2 and 4, it is assumed that 15% of chlorine is emitted as Cl_2 while burning bagasse, which will be verified through stack testing.

[e] Based on Equation 2 in Appendix A (Subpart DDDDD). RV_{HCl} is 0.02 mg/m^3 and RV_{Cl2} is 0.0002 mg/m^3.

TABLE 4-5
MAJOR FEATURES OF THE ISC-PRIME MODEL

ISC-PRIME Model Features
• Polar or Cartesian coordinate systems for receptor locations.
• Rural or one of three urban options which affect wind speed profile exponent, dispersion rates, and mixing height calculations.
• Plume rise due to momentum and buoyancy as a function of downwind distance for stack emissions (Briggs, 1969, 1971, 1972, and 1975; Bowers, et al., 1979).
• Procedures suggested by Huber and Snyder (1976); Huber (1977); and Schulman and Scire (1980) for evaluating building wake effects.
• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash.
• Separation of multiple emission sources.
• Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations.
• Capability of simulating point, line, volume, area, and open pit sources.
• Capability to calculate dry and wet deposition, including both gaseous and particulate precipitation scavenging for wet deposition.
• Variation of wind speed with height (wind speed-profile exponent law).
• Concentration estimates for 1 hour to annual average times.
• Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm for ISC-PRIME; a built-in algorithm for predicting concentrations in complex terrain.
• Consideration of time-dependent exponential decay of pollutants.
• The method of Pasquill (1976) to account for buoyancy-induced dispersion.
• A regulatory default option to set various model options and parameters to EPA recommended values (see text for regulatory options used).
• Procedure for calm-wind processing including setting wind speeds less than 1 m/s to 1 m/s.

Note: ISC-PRIME = Industrial Source Complex Short-Term Plume Rise Model Enhancement.

References:

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TABLE 4-6
MAXIMUM PREDICTED MANGANESE IMPACTS, U.S. SUGAR, CLEWISTON MILL

Scenario	Averaging Period	Year	Maximum Predicted Impact ($\mu g/m^3$)	Receptor Location [a] East (m)	Receptor Location [a] North (m)	Mn Criteria ($\mu g/m^3$)	Hazard Quotient
Case A	Annual	1987	0.011	507,930	2,954,950	0.05	0.22
		1988	0.013	503,630	2,956,950		0.26
		1989	0.014	504,430	2,958,750		0.28
		1990	0.018	503,630	2,956,950		0.36
		1991	0.014	504,730	2,958,550		0.28
Case B	Annual	1987	0.014	504,230	2,958,550	0.05	0.28
		1988	0.015	503,630	2,956,950		0.30
		1989	0.018	504,430	2,958,650		0.36
		1990	0.020	504,130	2,958,250		0.40
		1991	0.018	504,130	2,958,150		0.36
Case C	Annual	1987	0.012	504,530	2,958,350	0.05	0.24
		1988	0.014	504,130	2,957,050		0.28
		1989	0.015	504,630	2,958,550		0.30
		1990	0.019	503,630	2,956,950		0.38
		1991	0.015	504,830	2,958,450		0.30

[a] UTM coordinates in Zone 17, NAD 27.

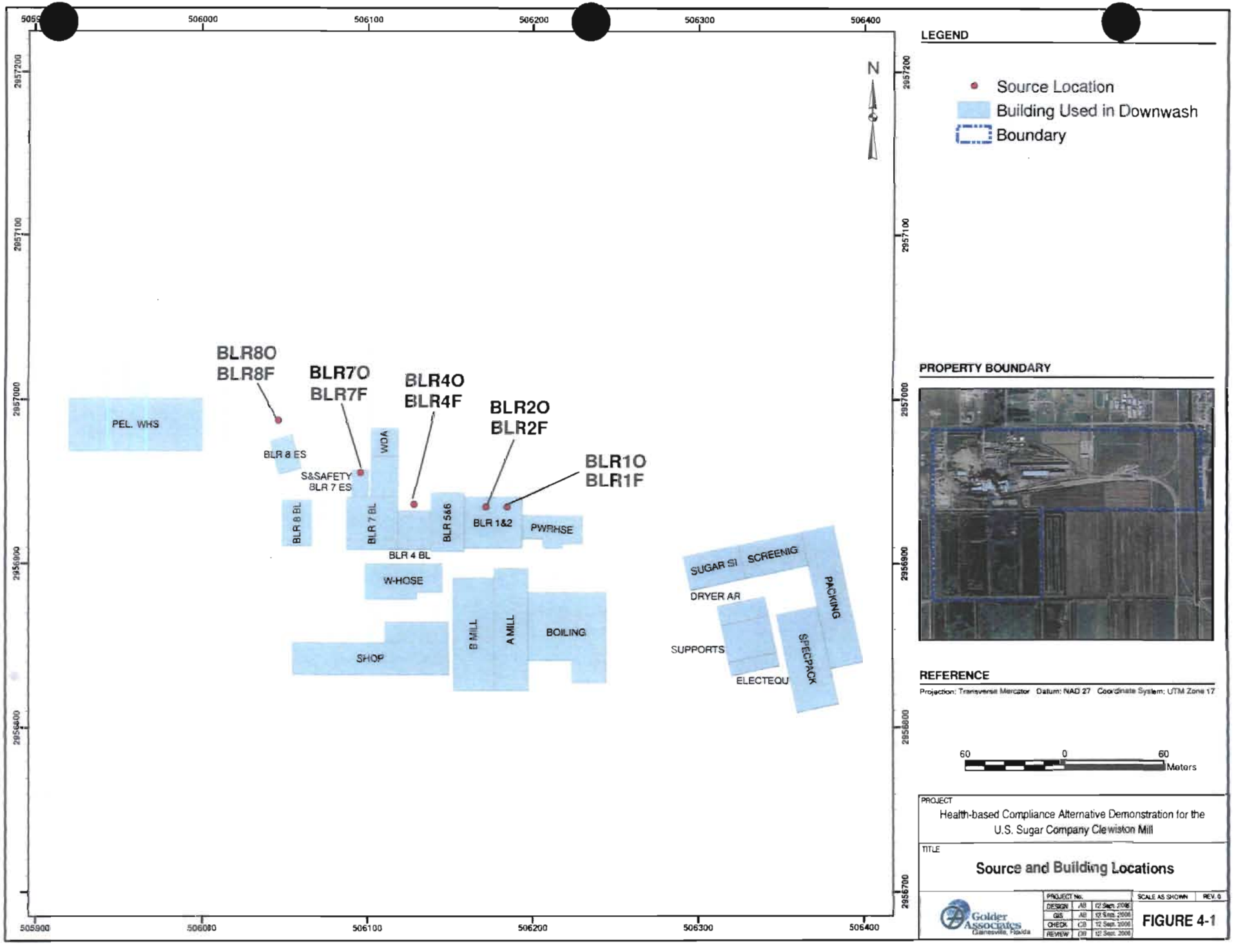
Note: Concentrations are highest predicted with ISC-PRIME model and 5-years of meteorological data from Palm Beach/Miami, 1987-1991

TABLE 4-7
MAXIMUM PREDICTED HCL-EQUIVALENT IMPACTS, U.S. SUGAR, CLEWISTON MILL

Scenario	Averaging Period	Year	Maximum Predicted Impact ($\mu g/m^3$)	Receptor Location [a] East (m)	Receptor Location [a] North (m)	HCl Criteria ($\mu g/m^3$)	Hazard Index
Case A	Annual	1987	9.7	507,730	2,955,250	20	0.49
		1988	10.8	504,130	2,957,050		0.54
		1989	11.2	504,630	2,958,550		0.56
		1990	15.3	503,630	2,956,950		0.77
		1991	11.4	504,830	2,958,450		0.57
Case B	Annual	1987	10.6	504,630	2,958,250	20	0.53
		1988	11.8	504,130	2,957,050		0.59
		1989	13.5	504,730	2,958,350		0.67
		1990	16.1	504,130	2,956,950		0.80
		1991	12.8	504,830	2,958,350		0.64
Case C	Annual	1987	12.8	504,930	2,957,950	20	0.64
		1988	14.0	504,330	2,956,950		0.70
		1989	15.6	504,930	2,958,150		0.78
		1990	18.0	504,130	2,956,950		0.90
		1991	14.9	505,030	2,958,150		0.75

[a] UTM coordinates in Zone 17, NAD 27.

Note: Concentrations are highest predicted with ISC-PRIME model and 5-years of meteorological data from Palm Beach/Miami, 1987-1991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2956800
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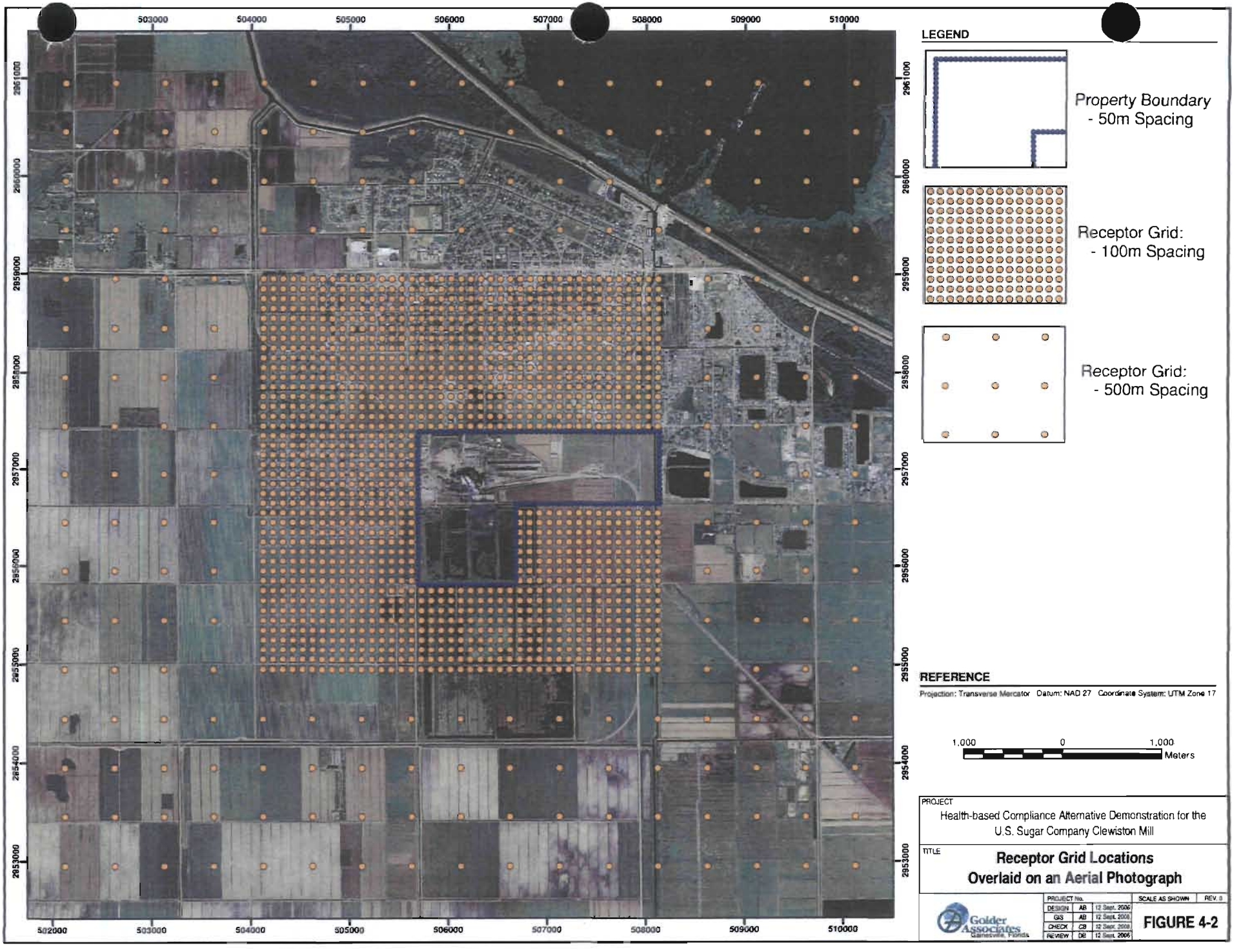
BLR8O
BLR8F
BLR7O
BLR7F
BLR4O
BLR4F
BLR2O
BLR2F
BLR1O
BLR1F
PEL. WHS
BLR 8 ES
S&SAFETY
BLR 7 ES
WDA
BLR 8 BL
BLR 7 BL
BLR 5&6
BLR 1&2
PWRHSE
BLR 4 BL
W-HOSE
SHOP
B MILL
A MILL
BOILING
SUGAR SI
SCREENIG
PACKING
DRYER AR
SUPPORTS
ELECTEQU
SPECPACK
LEGEND
Source Location
Building Used in Downwash
Boundary
PROPERTY BOUNDARY
REFERENCE
Projection: Transverse Mercator Datum: NAD 27 Coordinate System: UTM Zone 17
60
0
60
Meters
PROJECT
Health-based Compliance Alternative Demonstration for the U.S. Sugar Company Clewiston Mill
TITLE
Source and Building Locations
Golder Associates
Gainesville, Florida
PROJECT No.
DESIGN AB 12 Sept. 2006
GIS AB 12 Sept. 2006
CHECK CB 12 Sept. 2006
REVIEW DW 12 Sept. 2006
SCALE AS SHOWN
REV. 0
FIGURE 4-1



PROJECT

Health-based Compliance Alternative Demonstration for the U.S. Sugar Company Clewiston Mill

TITLE

Receptor Grid Locations Overlaid on an Aerial Photograph

Golder Associates Gainesville, Florida

PROJECT No.			SCALE AS SHOWN	REV. 0
DESIGN	AB	12 Sept. 2006		
GIS	AB	12 Sept. 2006		
CHECK	CB	12 Sept. 2006		
REVIEW	DB	12 Sept. 2006		

FIGURE 4-2

5.0 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 U.S. Sugar proposes to be incorporated into the Title V permit are listed in Table 5-1.

TABLE 5-1
TITLE V PERMIT LIMITS FOR SUBPART DDDDD SOURCES, U.S. SUGAR, CLEWISTON MILL

Unit	Process Parameter	Limit	Units	Averaging Time	Fuel Type
Boiler No. 1	Maximum Heat Input	496	MMBtu/hr	1-hr	Bagasse
	Maximum Heat Input	496	MMBtu/hr	24-hr	Bagasse
	Mn Emissions	1.62E-03	lb/MMBtu	--	Bagasse
	Chlorine Emissions	0.10	lb/MMBtu	--	Bagasse
Boiler No. 2	Maximum Heat Input	447	MMBtu/hr	1-hr	Bagasse
	Maximum Heat Input	447	MMBtu/hr	24-hr	Bagasse
	Mn Emissions	1.62E-03	lb/MMBtu	--	Bagasse
	Chlorine Emissions	0.10	lb/MMBtu	--	Bagasse
Boiler No. 4	Maximum Heat Input	633	MMBtu/hr	1-hr	Bagasse
	Maximum Heat Input	600	MMBtu/hr	24-hr	Bagasse
	Mn Emissions	1.62E-03	lb/MMBtu	--	Bagasse
	Chlorine Emissions	0.10	lb/MMBtu	--	Bagasse
Boiler No. 7	Maximum Heat Input	812	MMBtu/hr	1-hr	Bagasse
	Maximum Heat Input	738	MMBtu/hr	24-hr	Bagasse
	Mn Emissions	1.62E-03	lb/MMBtu	--	Bagasse
	Chlorine Emissions	0.10	lb/MMBtu	--	Bagasse
Boiler No. 8	Maximum Heat Input	1,185	MMBtu/hr	1-hr	Bagasse
	Maximum Heat Input	1,077	MMBtu/hr	24-hr	Bagasse
	Mn Emissions	1.62E-03	lb/MMBtu	--	Bagasse
	Chlorine Emissions	0.10	lb/MMBtu	--	Bagasse
	Maximum Heat Input	1,185	MMBtu/hr	1-hr	Wood Chips
	Maximum Heat Input	1,077	MMBtu/hr	24-hr	Wood Chips
	Mn Emissions	5.70E-03	lb/MMBtu	--	Wood Chips
	Chlorine Emissions	0.35	lb/MMBtu	--	Wood Chips

APPENDIX A

FUEL ANALYSES

BOILER MACT TESTING 2005 - 2006
BAGASSE AND WOOD CHIP
FUEL SAMPLING AND ANALYSIS PROTOCOL

The following sections present the sampling and analysis methodologies that will be employed by U.S. Sugar as required by Subpart DDDDD.

Methods

The final MACT rule requires the following steps for fuel analysis (40 CFR 63.7521):

1. Obtain at least three composite samples of each fuel type, following specific procedures;
2. Prepare each composite sample according to specific procedures; and
3. Determine pollutant concentrations in the fuel in pounds per million British thermal units (lb/MMBtu) of each composite sample.

The sample collection methods will differ slightly from the requirements contained in the final MACT rule. A summary of the differences between the rule requirements and the procedures followed for the fuel sampling and analysis for the Boiler MACT testing at U.S. Sugar are presented in Table A-6, and are described below.

Bagasse Sample Collection

Bagasse fuel sample collection will be performed during each stack test run (over approximately 1-hour discrete intervals) during testing of the boilers. Three discrete bagasse samples will be taken at approximately the beginning, middle, and end of each run.

At the U.S. Sugar Mill, during the off-season, bagasse fuel is fed from the bagasse storage pile to the bagasse conveying system via frontend loader. The bagasse is dropped onto a conveyor belt and is then conveyed to the boilers. The boilers are fed by the bagasse conveying system. Bagasse will be sampled directly from the moving conveyor belt at the point where bagasse is introduced into the bagasse feeders. This will allow fuel samples to be taken of the bagasse going directly into the boiler. These grab samples will be composited. Composite samples will be obtained at the beginning, middle and end of each test run.

Note that it is not possible to "stop" the bagasse conveyor belts at the Clewiston Mill without disrupting the boiler fuel feed and therefore the boiler operation, since the conveyor belt directly

feeds the bagasse feeders on each boiler. There is no intermediate storage of bagasse between the bagasse storage pile, the conveyor belt and the bagasse feeders. Therefore, the bagasse fuel sampling procedure will vary slightly from the Boiler MACT rule, which requires that the conveyor belt be stopped prior to taking the sample.

Grab samples will be taken at approximately the beginning, midpoint, and end of each sampling run, resulting in three grab samples per run. Each grab sample will consist of approximately 1 gallon of bagasse, or about 1.5 lbs of bagasse.

Wood Chip Sample Collection

Fuel sampling for wood chips will also be conducted to demonstrate that wood chip fuel is not the worst-case fuel for HCl emissions. Wood chip fuel sample collection will be performed at the fuel storage pile.

Fuel sampling procedures for fuel pile sampling are specified in §63.5721(c)(2). A minimum of three composite samples must be taken for each fuel type. For each composite sample, a minimum of five sampling locations uniformly spaced over the surface of the pile must be selected. At each sampling site, a sample must be taken at a depth of approximately 18 inches. A clean flat square shovel must be inserted into the hole to withdraw a sample, making sure the large pieces do not fall off during sampling. All the samples are transferred to clean plastic bags.

At the U. S. Sugar Mill, five (5) sampling sites will be used, uniformly spaced over the extent of the storage pile. Each sample will be collected by digging into the pile to a depth of 18 inches, inserting a clean, flat, square shovel into the hole, and withdrawing a sample. Each grab sample will consist of approximately 1 gallon of wood chips, or about 1.5 lbs of wood chips. The sample will be transferred to a clean plastic bag. Each of the individual samples will be used to form a single composite sample according to the rule requirements (see Table A-5). The composite sample will be documented and labeled appropriately.

This procedure will be repeated three times to obtain three composite samples. The composite samples will be processed by a third party vendor and/or laboratory for required analysis. The biomass sample pieces larger than 3 inches will be broken into smaller pieces. It is noted that the National Council for Air and Stream Improvement (NCASI) has identified grinding of biomass samples as a possible point of sample contamination, due to the metals contained in the grinding

equipment used in labs. As a result, the analytical laboratory will not grind the sample, but instead will cut the samples to appropriate size prior to digestion and analysis.

Throughout the sample collection, compositing, and delivery to the laboratories, a chain-of-custody will be utilized to document sample collection.

Sample Storage and Handling

Each grab sample of bagasse and/or wood chips will be placed in a clean Ziploc® bag and transported to Golder Associates Inc. in Gainesville.

Golder's staff-members will composite the samples from the Clewiston Mill for each run, according to the procedures in the Boiler MACT rule, with minor deviations as noted in Table A-6. The procedure that will be followed for the Clewiston Mill will vary from the Boiler MACT rule in that the bagasse samples will not be broken apart, since the bagasse particles are fairly uniform. In addition, the samples will not be ground because the bagasse has a small particle size. However, the lab will cut the samples prior to digestion and analysis. It is noted that the National Council for Air and Stream Improvement (NCASI) has identified grinding of samples as a possible point of sample contamination, due to the metals contained in the grinding equipment used in labs.

Throughout the sample collection, compositing, and delivery to the laboratories, the chain-of-custody will be documented.

Laboratory Analysis

Two laboratories may be used. One split sample may be sent to a laboratory (Hazen Research) for proximate, ultimate, chlorine, and heat content analyses, while one split sample may be sent to a laboratory (PPB Environmental Laboratories) for metals analysis.

Analysis procedures will follow American Society for Testing and Materials (ASTM) methodologies for coal and coke analysis, modified for biomass samples, as shown in Table A-6. Preparation of the biomass samples for analysis will be by Method 3050B from the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Integrated Manuals (EPA, 1997).

The heat content analysis will be performed by using ASTM Method E711-87 (1996), and the solids (moisture) content analysis will utilize ASTM D3173-02. Both of these methods are specified in the rule.

Mercury concentrations, although not being stack tested, will be determined for the biomass fuel by using SW846-7471A, which is the method specified in the rule.

Total selected metals concentrations, although not being stack tested or required to be analyzed for fuel testing, will be determined. Method SW846-6010B will be used. This method is approved under Subpart DDDDD for analysis of coal, and therefore should be applicable to biomass, and equivalent to ASTM E885-88, which is the method specified in Subpart DDDDD for biomass.

Chlorine concentrations will be determined using ASTM D2361-02, which is equivalent to ASTM E776-87 (1996), the method specified in the rule. Sodium hydroxide will be used in the oxygen bomb. ASTM E776-87 allows the use of sodium hydroxide or potassium hydroxide (see Note 3 in the method). The chloride excess will be monitored and the endpoint found where the chloride content disappears.

Results

The F-factor will be calculated from the fuel analysis, based on the equation presented in EPA Method 19 of 40 CFR 60, Appendix A [as required by 40 CFR 63.7520(g)]. From the stack test results and the F-factor, the heat input to the boiler will be determined for each run.

The biomass composite sample results for chlorine and Hg will be presented in parts per million (ppm) and lb/MMBtu. The heat contents in Btu/lb from the heat content analysis will be used to convert the metals content from ppm (as reported by the laboratory) to lb/MMBtu.

BAGASSE SAMPLING PROTOCOL
U.S. SUGAR, CLEWISTON MILL

2002-2003 CROP SEASON

1.0 SAMPLING SUPPLIES

For bagasse collection and storage purposes, the following supplies must be acquired prior to sampling:

- Five 5-gallon buckets with sealable lids,
- Several large coolers (if refrigerator is not available), and
- Pint-size (16-ounce) unused Ziploc® bags.

Each mill will need enough Ziploc® bags to perform the sample collection at the current bagasse sampling frequency (not to exceed once every 4 hours) for 10 weeks every other week, or until the end of the crop. For example, a mill that collects samples every 4 hours will need up to 420 bags (6 samples per day, 7 days per week, 10 weeks).

Current bagasse sampling frequency can vary from once every hour to once every shift, depending upon the mill. However, it is recommended to sample no more than once every four hours due to sample size considerations.

2.0 COLLECTION PROCEDURES

Mill personnel will collect bagasse samples at the current sampling frequency, every other week, and by the current sampling methods used for internal quality control purposes. Bagasse samples will be placed into the Ziploc® bags; one sample per bag. Each pint-size Ziploc® bag will hold (1) one sample each, and must be filled as completely as practical. Mill personnel must ensure that all bags have been completely sealed. Each bag must also be marked with the sample date and time and the mill from which the sample was collected. All bagasse samples must be immediately stored (refer to Section 3.0 for storage procedures).

3.0 STORAGE PROCEDURES

All bagasse samples are to remain in the sealed Ziploc® bags throughout the storage period. Samples that are collected during the designated sampling weeks (i.e. Monday through Sunday) are to be placed in 1 or 2 of the 5-gallon buckets (depending on the number of samples being

stored). Each 5-gallon bucket should be labeled with the mill name. The sampling weeks are as follows:

- November 25 – December 1
- December 9 – 15
- December 23 – 29
- January 6 – 12
- January 20 – 26
- February 3 – 9
- February 17 – 23
- March 3 – 9
- March 17 – 23
- March 31 – April 6

The buckets must be closed and stored in a refrigerator or cooler (temperature approximately 40°F), until picked up by Golder staff. Each Monday, beginning December 2, the 5-gallon buckets containing the previous week's bagasse samples will be picked up by Golder staff. The remaining buckets (of the original five) will be left at each mill for the following week's sample storage.

These collection and storage procedures will begin Monday, November 25, 2002 and continue until the end of the crop season. The first weekly collection of samples will be picked up by Golder staff on Monday, December 2, 2002.

TABLE A-1
PROXIMATE, ULTIMATE, AND HEAT CONTENT ANALYSES RESULTS FOR BAGASSE FROM U.S. SUGAR CLEWISTON

Parameter	Units	Analysis Results (dry basis) for Sample Weeks (collection dates)																				
		1/14-1/20/02	1/21-1/27/02	1/28-2/03/02	2/4-2/10/02	2/11-2/17/02	2/18-2/24/02	2/25-3/3/02	3/4-3/10/02	3/11-3/17/02	3/18-3/24/02	3/25-3/31/02	11/25-12/1/02	12/9-12/15/02	12/23-12/29/02	1/6-1/12/03	1/20-1/26/03	2/3-2/9/03	2/17-2/23/03	3/3-3/9/03	3/17-3/23/03	3/31-4/6/03
No. of Samples Composited		39	42	41	42	43	39	41	42	41	42	41	39	23	26	42	28	36	34	38	26	32
Moisture	%, as received	52.86	52.01	50.49	50.06	48.99	50.31	50.18	50.84	51.32	51.60	52.56	54.16	51.20	50.98	51.48	51.66	51.12	51.56	52.96	52.84	55.07
Ash	%	4.04	2.95	5.32	5.04	5.14	3.61	3.15	2.61	3.90	3.23	3.74	0.87	8.40	6.39	7.30	6.65	3.31	4.19	4.12	5.56	5.60
Ash	lb/MMBtu	5.10	6.54	6.80	6.39	6.54	4.48	3.98	3.25	4.91	4.03	4.65	6.00	10.96	8.09	9.54	8.75	4.17	5.02	5.21	7.05	7.16
Volatiles	%	85.41	86.38	83.24	82.86	83.42	84.52	85.49	87.68	87.31	84.04	84.82	83.75	79.86	80.89	81.43	81.59	83.90	83.65	85.91	82.98	82.33
Fixed C	%	10.55	10.67	11.44	12.10	11.44	11.87	11.36	9.71	8.79	12.73	11.44	11.38	11.74	12.72	11.27	11.76	12.79	12.16	9.97	11.46	12.07
HHV	Btu/lb	7,922	7,978	7,824	7,884	7,852	8,073	7,911	8,037	7,953	7,994	8,058	8,118	7,664	7,900	7,658	7,602	7,936	8,356	7,896	7,878	7,827
MMF	Btu/lb	8,284	8,240	8,301	8,338	8,313	8,401	8,189	8,270	8,303	8,283	8,397	8,568	8,428	8,486	8,313	8,190	8,230	8,752	8,264	8,381	8,330
MAF	Btu/lb	8,256	8,220	8,264	8,303	8,277	8,376	8,168	8,253	8,276	8,261	8,372	8,533	8,366	8,440	8,261	8,143	8,208	8,722	8,236	8,342	8,291
Air Dry Loss	%	52.23	51.65	50.00	48.75	48.30	49.83	49.58	50.05	49.85	50.75	51.98	53.59	50.56	49.72	50.64	50.85	50.26	50.97	52.53	52.19	54.07
Carbon	%	47.50	47.65	47.06	46.94	46.78	47.75	48.12	48.26	47.63	48.34	47.54	48.26	46.35	46.64	46.11	49.51	50.79	50.94	49.91	49.23	48.88
Hydrogen	%	5.67	5.60	5.63	5.54	5.88	5.98	6.10	6.49	6.00	6.31	6.44	5.23	4.71	5.24	4.90	6.39	5.86	6.39	6.62	6.46	6.59
Nitrogen	%	0.36	0.38	0.36	0.38	0.33	0.40	0.36	0.41	0.38	0.38	0.41	0.29	0.25	0.34	0.33	0.33	0.33	0.31	0.38	0.30	0.30
Sulfur	%	0.06	0.05	0.07	0.03	0.07	0.07	0.04	0.04	0.04	0.05	0.07	0.09	0.05	0.05	0.07	0.07	0.09	0.08	0.06	0.07	0.09
Oxygen	%	42.37	43.37	41.56	42.07	41.80	42.19	42.23	42.19	42.05	41.69	41.80	41.26	40.24	41.34	41.29	37.05	39.62	38.09	38.91	38.38	38.54
SO_2	lb/MMBtu	0.15	0.13	0.18	0.08	0.18	0.18	0.10	0.10	0.10	0.13	0.18	0.22	0.13	0.13	0.19	0.19	0.23	0.19	0.15	0.18	0.24
F-Factor																						
Fd	dscf/MMBtu	9,329	9,203	9,390	9,221	9,403	9,354	9,667	9,722	9,487	9,736	9,562	9,114	9,083	9,050	9,072	10,794	10,195	10,025	10,467	10,315	10,367

Note: % = percent.
Btu/lb = British thermal unit per pound.
C = carbon.
HHV = higher heating value.
lb/MMBtu = pounds per million British thermal unit.
MAF = moisture and ash free; dry basis heating value without ash included.
MMF = mineral and matter free; heating value without sulfur and ash included.
SO_2 = sulfur dioxide.

TABLE A-2
METALS AND CHLORINE ANALYSES FOR BAGASSE FROM U.S. SUGAR CLEWISTON

Parameter	Units	Concentration (dry basis) for Sample Weeks (collection dates)																				
		1/14-1/20/02	1/14-1/20/02 Duplicate	1/21-1/27/02	1/28-2/3/02	2/4-2/10/02	2/11-2/17/02	2/11-2/17/02 Duplicate	2/18-2/24/02	2/25-3/3/02	3/4-3/10/02	3/4-3/10/02 Duplicate	3/11-3/17/02	3/18-3/24/02	3/25-3/31/02	3/25-3/31/02 Duplicate	11/25-12/1/02	12/9-12/15/02	12/23-12/29/02	12/23-12/29/02 Duplicate	1/6-1/12/03	1/20-1/26/03	2/3-2/9/03
Chlorine	ppm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	394.45	441.91	376.65	--	534.44	391.10	663.94
Arsenic	ppm	0.6	0.6	0.5	0.5	< 0.4	0.3	0.2	0.2	0.3	0.4	0.4	< 0.3	0.4	0.3	0.4	0.4	--	0.3	0.5	--	< 1.8	--
Beryllium	ppm	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	--	< 0.1	< 0.1	--	< 0.2	--
Cadmium	ppm	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	--	< 0.1	< 0.1	--	< 0.3	--
Chromium	ppm	0.4	0.6	0.2	0.3	0.6	0.5	0.4	0.2	0.3	0.5	0.8	0.2	0.3	0.2	0.2	0.8	--	0.5	0.6	--	0.6	--
Lead	ppm	0.3	0.2	< 0.3	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3	0.2	< 0.3	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.2	--	0.4	0.4	--	< 1.8	--
Manganese	ppm	8.1	7.5	7.2	8.9	7.4	8.2	8.0	6.2	5.6	8.0	8.9	5.8	6.3	10.9	11.8	9.5	9.9	7.8	9.6	10.2	7.7	8.0
Nickel	ppm	< 0.2	0.2	< 0.2	< 0.2	0.5	0.2	< 0.2	0.2	< 0.2	0.3	0.2	< 0.2	< 0.2	0.2	0.3	0.4	--	0.5	0.6	--	< 1.5	--
Selenium	ppm	1.0	1.0	0.7	0.8	0.4	0.5	0.7	0.5	0.7	0.8	0.9	0.6	0.7	0.7	0.7	0.9	--	1.2	1.1	--	< 1.5	--
Mercury	ppm	< 0.1	< 0.1	< 0.1	< 0.1	< 0.22	< 0.2	< 0.17	< 0.1	< 0.1	< 0.2	< 0.2	< 0.22	< 0.02	< 0.02	< 0.02	< 0.2	--	< 0.19	< 0.19	--	< 0.02	--
Moisture	%	50.6	51.3	46.6	51.9	54.3	51.4	49.2	48.2	48.1	46	50.1	49.6	52.1	48.4	49.5	51.8	49.3	48.5	51.6	54.6	47.4	49.3
No. of Samples Composited		39	39	42	41	42	43	43	39	41	42	42	41	42	41	41	39	23	26	26	42	28	36

Parameter	Units	Concentration (dry basis) for Sample Weeks (collection dates)																				
		1/14-1/20/02	1/14-1/20/02 Duplicate	1/21-1/27/02	1/28-2/3/02	2/4-2/10/02	2/11-2/17/02	2/11-2/17/02 Duplicate	2/18-2/24/02	2/25-3/3/02	3/4-3/10/02	3/4-3/10/02 Duplicate	3/11-3/17/02	3/18-3/24/02	3/25-3/31/02	3/25-3/31/02 Duplicate	11/25-12/1/02	12/9-12/15/02	12/23-12/29/02	12/23-12/29/02 Duplicate	1/6-1/12/03	1/20-1/26/03	2/3-2/9/03
HHV	Btu/lb	7,922	7,922	7,978	7,824	7,884	7,852	7,852	8,073	7,911	8,037	8,037	7,953	7,994	8,058	8,058	8,118	7,664	7,900	7,900	7,658	7,602	7,936
Chlorine	lb/MMBtu	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.049	0.058	0.048	--	0.070	0.051	0.084
Arsenic	lb/MMBtu	7.57E-05	7.57E-05	6.27E-05	6.39E-05	< 5.07E-05	3.82E-05	2.55E-05	2.48E-05	3.79E-05	4.98E-05	4.98E-05	< 3.77E-05	5.00E-05	3.72E-05	4.96E-05	4.93E-05	--	3.80E-05	6.33E-05	--	< 2.37E-04	--
Beryllium	lb/MMBtu	< 1.26E-05	< 1.26E-05	< 1.25E-05	< 1.28E-05	< 1.27E-05	< 1.27E-05	< 1.27E-05	< 1.24E-05	< 1.26E-05	< 1.24E-05	< 1.24E-05	< 1.26E-05	< 1.25E-05	< 1.24E-05	< 1.24E-05	< 1.23E-05	--	< 1.27E-05	< 1.27E-05	--	< 2.63E-05	--
Cadmium	lb/MMBtu	< 1.26E-05	< 1.26E-05	< 1.25E-05	< 1.28E-05	< 1.27E-05	< 1.27E-05	< 1.27E-05	< 1.24E-05	< 1.26E-05	< 1.24E-05	< 1.24E-05	< 1.26E-05	< 1.25E-05	< 1.24E-05	< 1.24E-05	< 1.23E-05	--	< 1.27E-05	< 1.27E-05	--	< 3.95E-05	--
Chromium	lb/MMBtu	5.05E-05	7.57E-05	2.51E-05	3.83E-05	7.61E-05	6.37E-05	5.09E-05	2.48E-05	3.79E-05	6.22E-05	9.95E-05	2.51E-05	3.75E-05	1.24E-05	2.48E-05	9.85E-05	--	6.33E-05	7.59E-05	--	7.89E-05	--
Lead	lb/MMBtu	3.79E-05	2.52E-05	< 3.76E-05	< 3.83E-05	< 5.07E-05	< 3.82E-05	< 3.82E-05	< 3.72E-05	2.53E-05	< 3.73E-05	3.73E-05	< 3.77E-05	< 3.75E-05	< 3.72E-05	< 3.72E-05	< 2.46E-05	--	5.06E-05	5.06E-05	--	< 2.37E-04	--
Manganese	lb/MMBtu	1.02E-03	9.47E-04	9.02E-04	1.14E-03	9.39E-04	1.04E-03	1.02E-03	7.68E-04	7.08E-04	9.95E-04	1.11E-03	7.29E-04	7.88E-04	1.35E-03	1.46E-03	1.17E-03	1.29E-03	9.87E-04	1.22E-03	1.33E-03	1.01E-03	1.01E-03
Nickel	lb/MMBtu	< 2.52E-05	2.52E-05	< 2.51E-05	< 2.56E-05	6.34E-05	2.55E-05	< 2.55E-05	2.48E-05	< 2.53E-05	3.73E-05	2.49E-05	< 2.51E-05	< 2.50E-05	2.48E-05	3.72E-05	4.93E-05	--	6.33E-05	7.59E-05	--	< 1.97E-04	--
Selenium	lb/MMBtu	1.26E-04	1.26E-04	8.77E-05	1.02E-04	5.07E-05	6.37E-05	8.91E-05	6.19E-05	8.85E-05	9.95E-05	1.12E-04	7.54E-05	8.76E-05	8.69E-05	8.69E-05	1.11E-04	--	1.52E-04	1.39E-04	--	< 1.97E-04	--
8-Metals Total		1.34E-03	1.29E-03	1.12E-03	1.39E-03	1.19E-03	1.27E-03	1.23E-03	9.35E-04	9.23E-04	1.28E-03	1.44E-03	8.93E-04	1.01E-03	1.55E-03	1.69E-03	1.50E-03	--	1.37E-03	1.63E-03	--	1.56E-03	--
8-Metals w/o Mn	lb/MMBtu	3.16E-04	3.41E-04	2.19E-04	2.49E-04	2.54E-04	2.23E-04	2.10E-04	1.67E-04	2.15E-04	2.80E-04	3.36E-04	1.63E-04	2.19E-04	1.92E-04	2.30E-04	3.33E-04	--	3.80E-04	4.18E-04	--	5.46E-04	--
Mercury [b]	lb/MMBtu	< 1.26E-05	< 1.26E-05	< 1.25E-05	< 1.28E-05	< 2.79E-05	< 2.55E-05	< 2.17E-05	< 1.24E-05	< 1.26E-05	< 2.49E-05	< 2.49E-05	< 2.77E-05	< 2.50E-06	< 2.48E-06	< 2.48E-06	< 2.46E-05	--	< 2.41E-05	< 2.41E-05	--	< 2.63E-06	--
Manganese	lb/MMBtu	1.02E-03	9.47E-04	9.02E-04	1.14E-03	9.39E-04	1.04E-03	1.02E-03	7.68E-04	7.08E-04	9.95E-04	1.11E-03	7.29E-04	7.88E-04	1.35E-03	1.46E-03	1.17E-03	1.29E-03	9.87E-04	1.22E-03	1.33E-03	1.01E-03	1.01E-03

[a] 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. Duplicate samples were not included in the calculations.

[b] Minimum, maximum, average, and standard deviation for mercury are based only on the individual samples with a lower detection limit.

[c] 90% confidence level calculated based on the following equation [40 CFR 63.7530(d)(2)]:

P_{90} = 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

[d] Not included becase considered an outlier based on all previous testing.

TABLE A-1
PROXIMATE, ULTIMATE, AND HEAT CONTENT ANALYSES RESULTS FOR BAGASSE FROM U.S. SUGAR CLEWISTON

Parameter	Units	BOILER MACT TESTING											Range			Parameter
		3/24/05	3/24/05	3/25/05	3/26/05	3/26/05	3/26/05	6/1/06	6/1/06	6/2/06	6/2/06	6/2/06	Min	Max	Avg	
No. of Samples Composited		3	3	3	3	3	3	3	3	3	3	3	--	--	--	
Moisture	%, as received	54.29	56.02	59.11	57.27	58.61	58.46	59.95	50.41	49.04	49.00	46.23	46.23	59.95	52.58	Moisture
Ash	%	10.64	7.08	5.07	3.78	6.19	4.19	4.78	3.23	8.61	6.09	5.23	0.87	10.64	5.00	Ash
Ash	lb/MMBtu	14.42	9.11	6.39	4.62	7.87	5.26	5.84	3.89	10.90	7.70	6.45	3.25	14.42	6.60	Ash
Volatiles	%	77.65	81.26	83.28	84.71	82.08	82.91	80.96	81.86	75.37	79.51	77.88	75.37	87.68	82.78	Volatiles
Fixed C	%	11.71	11.66	11.65	11.51	11.73	12.90	14.26	14.91	16.02	14.40	16.89	8.79	16.89	12.10	Fixed C
HHV	Btu/lb	7,378	7,769	7,923	8,170	7,864	7,962	8,185	8,303	7,898	7,910	8,108	7378	8356	7931	HHV
MMF	Btu/lb	8,335	8,412	8,381	8,517	8,426	8,339	8,630	8,603	8,708	8,466	8,593	8189	8752	8396	MMF
MAF	Btu/lb	8,256	8,361	8,346	8,490	8,382	8,310	8,596	8,580	8,642	8,422	8,556	8143	8722	8360	MAF
Air Dry Loss	%	53.74	55.35	58.24	56.50	57.82	57.27	58.15	48.08	45.28	45.83	41.77	41.77	58.24	51.45	Air Dry Loss
Carbon	%	45.78	48.29	48.91	50.05	48.15	49.61	50.33	50.72	48.80	50.00	50.47	45.78	50.94	48.48	Carbon
Hydrogen	%	5.58	5.79	5.80	5.20	5.55	5.62	5.83	5.92	5.41	5.63	5.60	4.71	6.62	5.81	Hydrogen
Nitrogen	%	0.52	0.47	0.49	0.55	0.42	0.49	0.42	0.38	0.46	0.44	0.40	0.25	0.55	0.39	Nitrogen
Sulfur	%	0.05	0.06	0.07	0.09	0.06	0.06	0.07	0.06	0.08	0.08	0.09	0.03	0.09	0.07	Sulfur
Oxygen	%	37.43	38.31	39.66	40.33	39.63	40.03	38.57	39.69	36.64	37.76	38.21	36.64	43.37	40.13	Oxygen
SO_2	lb/MMBtu	0.14	0.16	0.18	0.22	0.16	0.16	0.18	0.15	0.19	0.21	0.21	0.08	0.24	0.17	SO_2
F-Factor																
Fd	dscf/MMBtu	9,927	9,967	9,821	9,435	9,631	9,803	9,845	9,753	9,827	10,080	9,883	9,050	10,794	9,646	Fd

Note: % = percent.
Btu/lb = British thermal unit per pound.
C = carbon.
HHV = higher heating value.
lb/MMBtu = pounds per million British thermal unit.
MAF = moisture and ash free; dry basis heating value without ash included.
MMF = mineral and matter free; heating value without sulfur and ash included.
SO_2 = sulfur dioxide.

TABLE A-2
METALS AND CHLORINE ANALYSES FOR BAGASSE FROM U.S. SUGAR CLEWISTON

Parameter	Units	BOILER MACT TESTING																Range [a]			Parameter
		2/17-2/23/03	3/3-3/9/03	3/3-3/9/03 Duplicate	3/17-3/23/03	3/31-4/6/03	3/31-4/6/03 Duplicate	3/24/05	3/24/05	3/25/05	3/26/05	3/26/05	3/26/05	6/1/06	6/1/06	6/2/06	6/2/06	6/2/06	Min	Max	Avg [a]	
Chlorine	ppm	558.86	681.00	--	605.89	719.74	--	380	430	590	480	630	500	650	500	900	920	800	376.65	920	578.48	Chlorine
Arsenic	ppm	0.5	--	--	0.3	--	--	0.7	0.6	0.9	< 0.8	< 0.6	0.5	--	--	--	--	--	0.15	0.90	0.44	Arsenic
Beryllium	ppm	< 0.2	--	--	< 0.2	--	--	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	--	--	--	--	--	< 0.05	< 0.10	< 0.07	Beryllium
Cadmium	ppm	< 0.4	--	--	< 0.4	--	--	< 0.2	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	--	--	--	--	--	< 0.05	< 0.20	< 0.09	Cadmium
Chromium	ppm	0.3	--	--	0.5	--	--	1	0.4	0.7	0.8	0.5	0.4	--	--	--	--	--	0.20	1.00	0.46	Chromium
Lead	ppm	0.3	--	--	0.3	--	--	0.3	0.2	0.3	0.3	0.2	< 0.2	--	--	--	--	--	0.10	0.90	0.24	Lead
Manganese	ppm	6.3	7.4	6.3	11	11.8	9	10.7	10	7.4	10.5	8.5	7.4	17.4	8.2	18.1	[d]	11.2	5.6	18.1	9.1	Manganese
Nickel	ppm	0.2	--	--	0.2	--	--	0.3	0.2	0.3	0.4	0.2	0.2	--	--	--	--	--	0.10	0.75	0.26	Nickel
Selenium	ppm	0.7	--	--	0.4	--	--	0.9	0.9	1.2	0.9	1.0	0.9	--	--	--	--	--	0.40	1.20	0.78	Selenium
Mercury	ppm	< 0.01	--	--	< 0.01	--	--	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.11	0.04	Mercury
Moisture	%	49.4	52.96	52.96	52.84	55.07	55.07	49.6	51.9	52.3	53.9	57.0	59	59.95	50.41	49.04	49.00	46.23	46.00	59.95	51.15	Moisture
No. of Samples Composited		34	38	38	26	32	32	3	3	3	3	3	3	3	3	3	3	3	--	--	--	

Parameter	Units	BOILER MACT TESTING																Range [a]			Standard Deviation [a]	90% Confidence Level [c]	Parameter
		2/17-2/23/03	3/3-3/9/03	3/3-3/9/03 Duplicate	3/17-3/23/03	3/31-4/6/03	3/31-4/6/03 Duplicate	3/24/05	3/24/05	3/25/05	3/26/05	3/26/05	3/26/05	6/1/06	6/1/06	6/2/06	6/2/06	6/2/06	Min	Max	Avg [a]			
HHV	Btu/lb	8,356	7,896	7,896	7,878	7,827	7,827	7,378	7,769	7,923	8,170	7,864	7,962	8,185	8,303	7,898	7,910	8,108	7,378	8,356	7,930	--	--	HHV
Chlorine	lb/MMBtu	0.067	0.086	--	0.077	0.092	--	0.052	0.055	0.074	0.059	0.080	0.063	0.079	0.061	0.114	0.117	0.099	0.048	0.117	0.073	0.020	0.100	Chlorine
																						n =	21	
																						t =	1.32534	
Arsenic	lb/MMBtu	5.98E-05	--	--	3.81E-05	--	--	9.49E-05	7.72E-05	1.14E-04	< 9.79E-05	< 7.63E-05	6.28E-05	--	--	--	--	--	1.89E-05	1.18E-04	5.56E-05	--	--	Arsenic
Beryllium	lb/MMBtu	< 2.39E-05	--	--	< 2.54E-05	--	--	< 2.71E-05	< 2.57E-05	< 2.52E-05	< 2.45E-05	< 2.54E-05	< 2.51E-05	--	--	--	--	--	< 6.16E-06	< 1.36E-05	< 8.91E-06	--	--	Beryllium
Cadmium	lb/MMBtu	< 4.79E-05	--	--	< 5.08E-05	--	--	< 2.71E-05	< 2.57E-05	< 2.52E-05	< 2.45E-05	< 5.09E-05	< 2.51E-05	--	--	--	--	--	< 6.16E-06	< 2.54E-05	< 1.09E-05	--	--	Cadmium
Chromium	lb/MMBtu	3.59E-05	--	--	6.35E-05	--	--	1.36E-04	5.15E-05	8.84E-05	9.79E-05	6.36E-05	5.02E-05	--	--	--	--	--	1.24E-05	1.36E-04	5.82E-05	--	--	Chromium
Lead	lb/MMBtu	3.59E-05	--	--	3.81E-05	--	--	4.07E-05	2.57E-05	3.79E-05	3.67E-05	2.54E-05	< 2.51E-05	--	--	--	--	--	1.23E-05	1.18E-04	3.06E-05	--	--	Lead
Manganese	lb/MMBtu	7.54E-04	9.37E-04	7.98E-04	1.40E-03	1.51E-03	--	1.45E-03	1.29E-03	9.34E-04	1.29E-03	1.08E-03	9.29E-04	2.12E-03	9.90E-04	2.29E-03	[d]	1.39E-03	7.08E-04	2.29E-03	1.15E-03	--	--	Manganese
Nickel	lb/MMBtu	2.39E-05	--	--	2.54E-05	--	--	4.07E-05	2.57E-05	3.79E-05	4.90E-05	2.54E-05	2.51E-05	--	--	--	--	--	1.25E-05	9.87E-05	3.25E-05	--	--	Nickel
Selenium	lb/MMBtu	8.38E-05	--	--	5.08E-05	--	--	1.22E-04	1.16E-04	1.51E-04	1.10E-04	1.27E-04	1.13E-04	--	--	--	--	--	5.07E-05	1.52E-04	9.85E-05	--	--	Selenium
8-Metals Total		1.03E-03	--	--	1.65E-03	--	--	1.91E-03	1.61E-03	1.39E-03	1.65E-03	1.40E-03	1.22E-03	--	--	--	--	--	8.93E-04	1.91E-03	1.33E-03	2.72E-04	1.69E-03	8-Metals
																						n =	22	
																						t =	1.323188	
8-Metals w/o Mn	lb/MMBtu	2.75E-04	--	--	2.54E-04	--	--	4.61E-04	3.22E-04	4.54E-04	3.67E-04	3.18E-04	2.89E-04	--	--	--	--	--	1.63E-04	5.46E-04	2.95E-04	9.87E-05	4.26E-04	8-Metals w/o Mn
																						n =	22	
																						t =	1.323188	
Mercury [b]	lb/MMBtu	< 1.20E-06	--	--	< 1.27E-06	--	--	< 1.36E-06	< 1.29E-06	< 1.262E-06	< 1.22E-06	< 1.27E-06	< 1.26E-06	2.44E-06	1.20E-06	2.53E-06	2.53E-06	1.23E-06	5.98E-07	2.53E-06	1.18E-06	7.15E-07	2.13E-06	Mercury [b]
																						n =	16	
																						t =	1.341	
Manganese	lb/MMBtu	7.54E-04	9.37E-04	7.98E-04	1.40E-03	1.51E-03	--	1.45E-03	1.29E-03	9.34E-04	1.29E-03	1.08E-03	9.29E-04	2.12E-03	9.90E-04	2.29E-03	[d]	1.39E-03	7.08E-04	2.29E-03	1.15E-03	3.61E-04	1.62E-03	Manganese
																						n =	31	
																						t =	1.310415	

[a] 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. Duplicate samples were not included in the calculations.

[b] Minimum, maximum, average, and standard deviation for mercury are based only on the individual samples with a lower detection limit.

[c] 90% confidence level calculated based on the following equation [40 CFR 63-7530(d)(2)]:

P_{90} = 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

[d] Not included because considered an outlier based on all previous testing. Lab is reconfirming results by re-analysis.

TABLE A-3
WOOD CHIP ANALYSIS - U.S. SUGAR CLEWISTON - BOILER NO. 8

Parameter	Units	Analysis Results - Wood Chip Samples Sample 1 6/1/2006	Sample 2 6/1/2006	Sample 3 6/1/2006	Average
No. of Samples Composited		5	5	5	
Moisture	%, as received	32.24	33.95	30.20	32.13
Ash	%, as received	5.73	8.52	8.86	7.70
Ash	%, dry basis	8.46	12.90	12.70	11.35
HHV	Btu/lb, as received	5,434	4,901	5,157	5,164
HHV	Btu/lb, dry basis	8,018	7,421	7,388	7,609
Nitrogen	%, as received	0.44	0.30	0.29	0.34
Nitrogen	%, dry basis	0.65	0.45	0.42	0.51
Chlorine	%, as received	0.173	0.132	0.122	0.14
Chlorine	%, dry basis	0.255	0.200	0.175	0.21
Chlorine	lb/MMBtu	0.318	0.269	0.237	**0.27**
				Standard deviation =	**0.04**
				t-distribution =	**1.885618**
				90th percentile =	**0.35**
Mercury	ppm, as received	0.04	0.03	0.03	0.03
Mercury	ppm, dry basis	0.05	0.04	0.04	0.04
Mercury	lb/MMBtu	6.2E-06	5.4E-06	5.4E-06	**5.7E-06**
				Standard deviation =	**4.8E-07**
				t-distribution =	**1.885618**
				90th percentile =	**6.6E-06**
Arsenic	ppm, as received	3.1	3.4	12.4	6.3
Arsenic	ppm, dry basis	4.5	5.1	17.7	9.1
Arsenic	lb/MMBtu	5.7E-04	6.9E-04	2.4E-03	1.2E-03
Beryllium	ppm, dry basis	<0.08	<0.1	<0.1	0.1
Beryllium	lb/MMBtu	1.0E-05	1.3E-05	1.4E-05	1.2E-05
Cadmium	ppm, dry basis	0.69	0.88	0.72	0.76
Cadmium	lb/MMBtu	8.5E-05	1.2E-04	9.8E-05	1.0E-04
Chromium	ppm, dry basis	12.7	14.2	16.5	14.5
Chromium	lb/MMBtu	1.6E-03	1.9E-03	2.2E-03	1.9E-03
Lead	ppm, dry basis	6.3	6.3	5.8	6.1
Lead	lb/MMBtu	7.8E-04	8.5E-04	7.9E-04	8.1E-04
Manganese	ppm, dry basis	34.3	37.0	25.1	32.2
Manganese	lb/MMBtu	4.3E-03	5.0E-03	3.4E-03	**4.2E-03**
				Standard deviation =	**8.0E-04**
				t-distribution =	**1.885618**
				90th percentile =	**5.7E-03**
Nickel	ppm, dry basis	1.7	2.6	1.3	1.8
Nickel	lb/MMBtu	2.1E-04	3.5E-04	1.7E-04	2.4E-04
Selenium	ppm, as received	0.06	0.06	0.06	0.06
Selenium	ppm, dry basis	0.08	0.09	0.09	0.09
Selenium	lb/MMBtu	1.0E-05	1.2E-05	1.2E-05	1.1E-05
TSM	ppm, dry basis	60.3	66.2	67.3	64.6
TSM	lb/MMBtu	7.5E-03	8.9E-03	9.1E-03	**8.5E-03**
				Standard deviation =	**8.7E-04**
				t-distribution =	**1.885618**
				90th percentile =	**0.010**

Note: % = percent
Btu/lb = British thermal unit per pound
HHV = higher heating value
lb/MMBtu = pound per million British thermal units
ppm = parts per milion
TSM = total selected metals (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium)

Footnotes:
* For informational purposes only. Boiler No. 8 complies with the MACT limit for PM.

TABLE A-4
SUMMARY OF JUNE 2006 COMPLIANCE TEST RESULTS ON BAGASSE FOR BOILER NO. 8, U.S. SUGAR CLEWISTON

Parameter	Source of Data	C-1 6/1/2006 1244-1350	C-2 6/1/2006 1712-1818	**C-1 thru C-2 Average**	C-3 6/2/2006 0843-0948	C-4 6/2/2006 1124-1232	C-5 6/2/2006 1337-1444	**C-3 thru C-5 Average**	**Permit or Subpart DDDDD Limit**
Fuel Type		Bagasse	Bagasse		Bagasse	Bagasse	Bagasse		
Steam Production (lb/hr)	DAHS	241,527	246,533	**244,030**	238,876	215,692	222,067	**225,545**	**550,000**
Heat Input (MMBtu/hr) (62% eff.) [a]	DAHS	454	460	**457**	447	404	416	**422**	**1,030**
Stack Flow (acfm)	DAHS	217,865	195,686	**206,776**	209,117	188,968	187,143	**195,076**	--
Stack Flow (dscfm)	DAHS	155,820	124,119	**139,970**	150,847	121,418	118,668	**130,311**	--
Stack Temp. (deg. F)	DAHS	278	277	**277**	272	268	269	**270**	--
Oxygen (%) - wet basis	DAHS	N/A	7.21	**7.21**	9.65	8.76	7.94	**8.78**	--
F-Factor (dscf/MMBtu)	Fuel Analysis	9,841	9,760	**9,801**	9,831	10,077	9,883	**9,930**	--
Stack Flow (dscfm)	Stack Test	130,516	122,830	**126,673**	160,360	152,745	124,942	**146,016**	--
Oxygen (%)	Stack Test	7.58	7.99	**7.79**	9.22	9.84	9.10	**9.39**	--
Stream Production (lb/hr)	Stack Test	241,527	246,533	**244,030**	238,876	215,692	222,067	**225,545**	**550,000**
Heat Input from F-Factor (MMBtu/hr)	Stack Test	507	466	**487**	547	481	428	**485**	**1,030**
Particulate Matter (lb/MMBtu) (62% eff) [a]	Stack Test	0.0041	0.0025	**0.0033**	0.0019	0.0026	0.0022	**0.0022**	**N/A**
Particulate Matter based on F-Factor (lb/MMBtu)	Stack Test	0.0041	0.0026	**0.0033**	0.0036	0.0014	0.0018	**0.0023**	**0.025**
Chlorine (inlet) [b] (lb/MMBtu)	Stack Test	N/A	0.0003	**0.0003**	0.0004	0.0003	0.0004	**0.0004**	**N/A**
Hydrogen Chloride (inlet) [b] (lb/MMBtu)	Stack Test	N/A	0.0348	**0.0348**	0.0088	0.0021	0.0052	**0.0054**	**N/A**
Hydrogen Chloride (stack) (lb/MMBtu)	Stack Test	N/A	N/A	**N/A**	N/A	N/A	N/A	**N/A**	**0.02**

Notes:

lb/hr = pound per hour
MMBtu/hr = million British thermal units per hour
acfm = actual cubic foot per minute
dscfm = dry standard cubic foot per minute
F = Fahrenheit
% = percent
lb/MMBtu = pound per million British thermal units
dscf/MMBtu = dry standard cubic foot per million British thermal units

[a] Calculated using steam parameters and 62% thermal efficiency.

[b] Test location was just prior to the wet sand separator, which is prior to the ESP.

TABLE A-5
BOILER MACT FINAL RULE ANALYTICAL PROCEDURES, U.S. SUGAR, CLEWISTON MILL

Rule Citation	40 CFR 63 Subpart DDDDD Boiler MACT Requirement
Table 6	**Analytical Procedures:**
	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-6
COMPARISON OF BIOMASS FUEL SAMPLING
AND ANALYSIS PROCEDURES WITH BOILER MACT RULE

Rule Citation	Boiler MACT Rule Requirement	U.S. Sugar's Procedures/Methods
	BIOMASS FUEL SAMPLING PROCEDURES	
63.7521(c)	**Must obtain at least 3 composite samples of each fuel type, following these procedures for a belt/screw feeder:**	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)	**Prepare each composite sample according to these procedures:**	
	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(e)	**Determine pollutant (Hg, HCl, and/or TSM) concentrations in fuel in lb/MMBtu of each composite sample.**	Proximate, ultimate, heat content, metals, and chlorine analyses will be performed. All pollutants will be calculated in lb/MMBtu based on heat content.
	BIOMASS FUEL ANALYTICAL PROCEDURES	
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 E711-87
	5. Determine moisture content of fuel type--ASTM D3173-02 or ASTM E871 or equivalent	ASTM D3173-02 or ASTM E871-82 (1998)
	6. Measure pollutant concentration in fuel sample:	
	--Mercury--SW-846-7471A	SW-846-7471A (0.01 to 0.02 ppm, dry, minimum detection limit)
	--Total selected metals--ASTM E885-88 (1996)	ASTM E885-88 (1996)
	--Hydrogen chloride (Chlorine)--SW-846-9250 or ASTM E776-87 (1996) or equivalent	SW-846-9250 or ASTM E776-87 (1996).
	7. Convert concentrations into units of lbs pollutant/MMBtu of heat content	Converted using concentrations in ppm and heat content.

6/1/06

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-1
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-1 Wood Chips

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	32.24	0.00	4.26
Ash	5.73	8.46	8.10
Volatile	51.15	75.49	72.27
Fixed C	10.88	16.05	15.37
Total	100.00	100.00	100.00
Sulfur	0.06	0.09	0.09
Btu/lb (HHV)	5434	8018	7677
MMF Btu/lb	5791	8825	
MAF Btu/lb		8760	
Air Dry Loss (%)	29.22		
Ultimate (%)			
Moisture	32.24	0.00	4.26
Carbon	35.67	52.63	50.39
Hydrogen	3.85	5.69	5.44
Nitrogen	0.44	0.65	0.62
Sulfur	0.06	0.09	0.09
Ash	5.73	8.46	8.10
Oxygen*	22.01	32.48	31.10
Total	100.00	100.00	100.00
Chlorine**	0.173	0.255	0.244

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.06	0.09

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 10.55
Lb. SO2/MM Btu= 0.23
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 10,778

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-2
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-2 Wood Chips

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	33.95	0.00	2.67
Ash	8.52	12.90	12.56
Volatile	45.16	68.38	66.55
Fixed C	12.37	18.72	18.22
Total	100.00	100.00	100.00
Sulfur	0.06	0.09	0.09
Btu/lb (HHV)	4901	7421	7223
MMF Btu/lb	5397	8622	
MAF Btu/lb		8521	
Air Dry Loss (%)	32.14		
Ultimate (%)			
Moisture	33.95	0.00	2.67
Carbon	29.98	45.39	44.18
Hydrogen	3.54	5.35	5.21
Nitrogen	0.30	0.45	0.44
Sulfur	0.06	0.09	0.09
Ash	8.52	12.90	12.56
Oxygen*	23.65	35.82	34.85
Total	100.00	100.00	100.00
Chlorine**	0.132	0.200	0.195

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.06	0.09

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 17.39
Lb. SO2/MM Btu= 0.25
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,781

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-3
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-3 Wood Chips

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	30.20	0.00	2.51
Ash	8.86	12.70	12.38
Volatile	50.81	72.79	70.96
Fixed C	10.13	14.51	14.15
Total	100.00	100.00	100.00
Sulfur	0.04	0.06	0.06
Btu/lb (HHV)	5157	7388	7203
MMF Btu/lb	5702	8562	
MAF Btu/lb		8463	
Air Dry Loss (%)	28.40		
Ultimate (%)			
Moisture	30.20	0.00	2.51
Carbon	33.84	48.48	47.26
Hydrogen	3.92	5.62	5.48
Nitrogen	0.29	0.42	0.41
Sulfur	0.04	0.06	0.06
Ash	8.86	12.70	12.38
Oxygen*	22.85	32.72	31.90
Total	100.00	100.00	100.00
Chlorine**	0.122	0.175	0.171

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.06

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 17.19
Lb. SO2/MM Btu= 0.17
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 10,784

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-4
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-4 Bagasse

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	59.95	0.00	4.30
Ash	1.91	4.78	4.57
Volatile	32.43	80.96	77.48
Fixed C	5.71	14.26	13.65
Total	100.00	100.00	100.00
Sulfur	0.03	0.07	0.07
Btu/lb (HHV)	3278	8185	7833
MMF Btu/lb	3346	8630	
MAF Btu/lb		8596	
Air Dry Loss (%)	58.15		
Ultimate (%)			
Moisture	59.95	0.00	4.30
Carbon	20.16	50.33	48.17
Hydrogen	2.33	5.83	5.58
Nitrogen	0.17	0.42	0.40
Sulfur	0.03	0.07	0.07
Ash	1.91	4.78	4.57
Oxygen*	15.45	38.57	36.91
Total	100.00	100.00	100.00
Chlorine**	0.026	0.065	0.062

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 5.83
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,846

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-5
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-5 Bagasse

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	50.41	0.00	4.48
Ash	1.60	3.23	3.09
Volatile	40.60	81.86	78.19
Fixed C	7.39	14.91	14.24
Total	100.00	100.00	100.00
Sulfur	0.03	0.06	0.06
Btu/lb (HHV)	4118	8303	7931
MMF Btu/lb	4189	8603	
MAF Btu/lb		8580	
Air Dry Loss (%)	48.08		
Ultimate (%)			
Moisture	50.41	0.00	4.48
Carbon	25.16	50.72	48.45
Hydrogen	2.94	5.92	5.66
Nitrogen	0.19	0.38	0.36
Sulfur	0.03	0.06	0.06
Ash	1.60	3.23	3.09
Oxygen*	19.67	39.69	37.90
Total	100.00	100.00	100.00
Chlorine**	0.025	0.050	0.048

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.06

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 3.90
Lb. SO2/MM Btu= 0.15
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,757

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-6
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-6 Bagasse

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	49.04	0.00	6.87
Ash	4.39	8.61	8.02
Volatile	38.41	75.37	70.19
Fixed C	8.16	16.02	14.92
Total	100.00	100.00	100.00
Sulfur	0.04	0.08	0.07
Btu/lb (HHV)	4025	7898	7355
MMF Btu/lb	4224	8708	
MAF Btu/lb		8642	
Air Dry Loss (%)	45.28		
Ultimate (%)			
Moisture	49.04	0.00	6.87
Carbon	24.87	48.80	45.45
Hydrogen	2.76	5.41	5.04
Nitrogen	0.24	0.46	0.43
Sulfur	0.04	0.08	0.07
Ash	4.39	8.61	8.02
Oxygen*	18.66	36.64	34.12
Total	100.00	100.00	100.00
Chlorine**	0.046	0.090	0.084

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 10.90
Lb. SO2/MM Btu= 0.19
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,829

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.04	0.08

Water Soluble Alkalies (%)

Na2O
K2O

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-7
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-7 Bagasse

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	49.00	0.00	5.86
Ash	3.10	6.09	5.73
Volatile	40.55	79.51	74.85
Fixed C	7.35	14.40	13.56
Total	100.00	100.00	100.00
Sulfur	0.04	0.08	0.08
Btu/lb (HHV)	4034	7910	7446
MMF Btu/lb	4172	8466	
MAF Btu/lb		8422	
Air Dry Loss (%)	45.83		
Ultimate (%)			
Moisture	49.00	0.00	5.86
Carbon	25.50	50.00	47.07
Hydrogen	2.87	5.63	5.30
Nitrogen	0.22	0.44	0.41
Sulfur	0.04	0.08	0.08
Ash	3.10	6.09	5.73
Oxygen*	19.27	37.76	35.55
Total	100.00	100.00	100.00
Chlorine**	0.047	0.092	0.087

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.08

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 7.70
Lb. SO2/MM Btu= 0.21
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 10,082

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date July 14 2006
HRI Project 009-555
HRI Series No. F26/06-8
Date Rec'd. 06/08/06
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-060106-8 Bagasse

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	46.23	0.00	7.66
Ash	2.81	5.23	4.83
Volatile	41.87	77.88	71.91
Fixed C	9.09	16.89	15.60
Total	100.00	100.00	100.00
Sulfur	0.05	0.09	0.08
Btu/lb (HHV)	4360	8108	7487
MMF Btu/lb	4495	8593	
MAF Btu/lb		8556	
Air Dry Loss (%)	41.77		
Ultimate (%)			
Moisture	46.23	0.00	7.66
Carbon	27.14	50.47	46.60
Hydrogen	3.01	5.60	5.17
Nitrogen	0.22	0.40	0.37
Sulfur	0.05	0.09	0.08
Ash	2.81	5.23	4.83
Oxygen*	20.54	38.21	35.29
Total	100.00	100.00	100.00
Chlorine**	0.043	0.080	0.074

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.05	0.09

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.45
Lb. SO2/MM Btu= 0.21
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,882

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

August 3, 2006

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653

David,

The following methods were used in the analysis of your samples. Please contact me if you have further needs.

Element	Matrix	Hazen MDL, mg/kg	Method Hazen uses for coal	Method for Hazen uses biomass
Arsenic	Solid	0.1	ASTM D3683	ASTM E885-88 for biomass
Beryllium	Solid	1	SW846-6010B	ASTM E885-88 for biomass
Cadmium	Solid	1	SW846-7130	ASTM E885-88 for biomass
Chromium	Solid	10	SW846-7190	ASTM E885-88 for biomass
Lead	Solid	5	SW846-7420	ASTM E885-88 for biomass
Manganese	Solid	1	SW846-7460	ASTM E885-88 for biomass
Nickel	Solid	1	SW846-7520	ASTM E885-88 for biomass
Selenium	Solid	0.1	ASTM D3683	ASTM E885-88 for biomass
Bomb Prep, Hg			ASTM D3684	ASTM D3684
Bomb Prep, As, Se			ASTM D3683	ASTM D3683
Mercury	Solid	0.01	ASTM D3684	ASTM D3684-01 or SW846-7471A
Chlorine	Solid	50	ASTM D2361	ASTM E776-87
Heating Value	Solid		ASTM D5865	ASTM E711
Moisture	Solid		ASTM D3173	ASTM D3173 (modified)

Regards,

Gerard H. Cunningham
Fuel Laboratory Manager

Date: August 28, 2006
Project No: 009-555
Control No: F26/06
Received: 06/08/06

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653

Sample Number: F26/06	-1	-2	-3	-4	-5	-6	-7	-8
Sample Identification: USSC-060106	-1	-2	-3	-4	-5	-6	-7	-8
Air Dry Loss, %	29.22	32.14	28.40	58.15	48.08	45.28	45.83	41.77
Residual Moisture, %	4.26	2.67	2.51	4.30	4.48	6.87	5.86	7.66
As Received Moisture, %	32.24	33.95	30.20	59.95	50.41	49.04	49.00	46.23
Ash (Air Dry Basis), %	8.10	12.56	12.38	4.57	3.09	8.02	5.73	4.83
Ash (As Received Basis), %	5.73	8.52	8.86	1.91	1.60	4.39	3.10	2.81
Ash (Dry Basis), %	8.46	12.90	12.70	4.78	3.23	8.61	6.09	5.23
Arsenic (Air Dry Basis), mg/kg	4.34	4.98	17.3					
Arsenic (As Received Basis), mg/kg	3.07	3.38	12.39					
Arsenic (Dry Basis), mg/kg	4.53	5.12	17.75					
Mercury (Air Dry Basis), mg/kg	0.05	0.04	0.04	0.02	0.01	0.02	0.02	0.01
Mercury (As Received Basis), mg/kg	0.04	0.03	0.03	0.01	0.005	0.01	0.01	0.006
Mercury (Dry Basis), mg/kg	0.05	0.04	0.04	0.02	0.01	0.02	0.02	0.01
Selenium (Air Dry Basis), mg/kg	0.08	0.09	0.09					
Selenium (As Received Basis), mg/kg	0.06	0.06	0.06					
Selenium (Dry Basis), mg/kg	0.08	0.09	0.09					
Metals in Ash								
Beryllium, mg/kg	<1	<1	<1					
Cadmium, mg/kg	8.1	6.8	5.7					
Chromium, mg/kg	150	110	130					
Lead, mgkg	74	49	46					
Manganese, mg/kg	406	287	198	364	254	210	2630	215
Nickel, mg/kg	20	20	10					
Dry Whole Fuel Basis								
Beryllium, mg/kg	<0.08	<0.1	<0.1					
Cadmium, mg/kg	0.69	0.88	0.72					
Chromium, mg/kg	13	14	17					
Lead, mgkg	6.26	6.32	5.84					
Manganese, mg/kg	34.3	37.0	25.1	17.4	8.2	18.1	160	11.2
Nickel, mg/kg	2	3	1					

The ash was prepared at 600 degrees Celsius.
Samples 1-3 are wood. Samples 4-8 are bagasse.
The 'dry whole' fuel values are calculated values.

By: _____
Gerard H. Cunningham
Fuel Laboratory Manager

3/24/05 – 3/26/05

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 14 2005
HRI Project 009-555
HRI Series No. C394/05-1
Date Rec'd. 03/30/05
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USS-B8R1 324

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	54.29	0.00	1.18
Ash	4.86	10.64	10.51
Volatile	35.50	77.65	76.73
Fixed C	5.35	11.71	11.58
Total	100.00	100.00	100.00
Sulfur	0.02	0.05	0.05
Btu/lb (HHV)	3373	7378	7291
MMF Btu/lb	3559	8335	
MAF Btu/lb		8256	
Air Dry Loss (%)	53.74		
Ultimate (%)			
Moisture	54.29	0.00	1.18
Carbon	20.93	45.78	45.24
Hydrogen	2.55	5.58	5.52
Nitrogen	0.24	0.52	0.51
Sulfur	0.02	0.05	0.05
Ash	4.86	10.64	10.51
Oxygen*	17.11	37.43	36.99
Total	100.00	100.00	100.00
Chlorine**	0.018	0.038	0.038

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 14.42
Lb. SO2/MM Btu= 0.14
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.02	0.05

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

Water Soluble Alkalies (%)

Na2O
K2O

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 14 2005
HRI Project 009-555
HRI Series No. C394/05-2
Date Rec'd. 03/30/05
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USS-B8R2 324

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	56.02		0.00	1.51
Ash	3.11		7.08	6.97
Volatile	35.73		81.26	80.03
Fixed C	5.14		11.66	11.49
Total	100.00		100.00	100.00
Sulfur	0.03		0.06	0.06
Btu/lb (HHV)	3416		7769	7652
MMF Btu/lb	3534		8412	
MAF Btu/lb			8361	
Air Dry Loss (%)		55.35		
Ultimate (%)				
Moisture	56.02		0.00	1.51
Carbon	21.24		48.29	47.56
Hydrogen	2.55		5.79	5.70
Nitrogen	0.21		0.47	0.46
Sulfur	0.03		0.06	0.06
Ash	3.11		7.08	6.97
Oxygen*	16.84		38.31	37.74
Total	100.00		100.00	100.00
Chlorine**	0.019		0.043	0.042

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.06

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 9.11
Lb. SO2/MM Btu= 0.16
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 14 2005
HRI Project 009-555
HRI Series No. C394/05-3
Date Rec'd. 03/30/05
Cust. P.O.#

Sample Identification
USS-B8R3 325

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	59.11	0.00	2.08
Ash	2.07	5.07	4.96
Volatile	34.06	83.28	81.55
Fixed C	4.76	11.65	11.41
Total	100.00	100.00	100.00
Sulfur	0.03	0.07	0.07
Btu/lb (HHV)	3240	7923	7758
MMF Btu/lb	3313	8381	
MAF Btu/lb		8346	
Air Dry Loss (%)	58.24		
Ultimate (%)			
Moisture	59.11	0.00	2.08
Carbon	20.00	48.91	47.89
Hydrogen	2.37	5.80	5.68
Nitrogen	0.20	0.49	0.48
Sulfur	0.03	0.07	0.07
Ash	2.07	5.07	4.96
Oxygen*	16.22	39.66	38.84
Total	100.00	100.00	100.00
Chlorine**	0.024	0.059	0.058

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.39
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 14 2005
HRI Project 009-555
HRI Series No. C394/05-4
Date Rec'd. 03/30/05
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
ISS-B8ER1 326

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	57.27		0.00	1.76
Ash	1.61		3.78	3.71
Volatile	36.20		84.71	83.22
Fixed C	4.92		11.51	11.31
Total	100.00		100.00	100.00
Sulfur	0.04		0.09	0.09
Btu/lb (HHV)	3491		8170	8026
MMF Btu/lb	3552		8517	
MAF Btu/lb			8490	
Air Dry Loss (%)		56.50		
Ultimate (%)				
Moisture	57.27		0.00	1.76
Carbon	21.39		50.05	49.17
Hydrogen	2.22		5.20	5.11
Nitrogen	0.23		0.55	0.54
Sulfur	0.04		0.09	0.09
Ash	1.61		3.78	3.71
Oxygen*	17.24		40.33	39.62
Total	100.00		100.00	100.00
Chlorine**	0.020		0.048	0.047

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.62
Lb. SO2/MM Btu= 0.22
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.09

Water Soluble Alkalies (%)

Na2O
K2O

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 14 2005
HRI Project 009-555
HRI Series No. C394/05-5
Date Rec'd. 03/30/05
Cust. P.O.#

Golder Associates, Inc.
David Buff
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USS-B8ER2 326

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	58.61	0.00	1.87
Ash	2.56	6.19	6.07
Volatile	33.98	82.08	80.55
Fixed C	4.85	11.73	11.51
Total	100.00	100.00	100.00
Sulfur	0.03	0.06	0.06
Btu/lb (HHV)	3255	7864	7717
MMF Btu/lb	3347	8426	
MAF Btu/lb		8382	
Air Dry Loss (%)	57.82		
Ultimate (%)			
Moisture	58.61	0.00	1.87
Carbon	19.93	48.15	47.25
Hydrogen	2.30	5.55	5.45
Nitrogen	0.17	0.42	0.41
Sulfur	0.03	0.06	0.06
Ash	2.56	6.19	6.07
Oxygen*	16.40	39.63	38.89
Total	100.00	100.00	100.00
Chlorine**	0.026	0.063	0.062

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 7.87
Lb. SO2/MM Btu= 0.16
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.06

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date June 8 2005
HRI Project 009-555
HRI Series No. C394/05-6
Date Rec'd. 03/30/05
Cust. P.O.#

Golder Associates, Inc.
David Buff
5241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USS-B8ER3 326 Correction to report dated 04/14/05.
Volatile/Fixed C - Only changes.

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	58.46		0.00	2.79
Ash	1.74		4.19	4.07
Volatile	34.44		82.91	80.60
Fixed C	5.36		12.90	12.54
Total	100.00		100.00	100.00
Sulfur	0.03		0.06	0.06
Btu/lb (HHV)	3307		7962	7740
MMF Btu/lb	3370		8339	
MAF Btu/lb			8310	
Air Dry Loss (%)		57.27		
Ultimate (%)				
Moisture	58.46		0.00	2.79
Carbon	20.61		49.61	48.23
Hydrogen	2.34		5.62	5.47
Nitrogen	0.21		0.49	0.48
Sulfur	0.03		0.06	0.06
Ash	1.74		4.19	4.07
Oxygen*	16.61		40.03	38.90
Total	100.00		100.00	100.00
Chlorine**	0.021		0.050	0.049

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.06

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 5.26
Lb. SO2/MM Btu= 0.16
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

REPORT OF ANALYSES (SN-00003655)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Mr. Dave Buff

DATE: 05/12/05
FDH # E82001

Samples received March 2005 (Page 1 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
264183	03/16/05	----	CLIENT	03/16/05	1324	SO
264538	03/23/05	----	CLIENT	03/23/05	1332	SO
264713	03/28/05	----	CLIENT	03/29/05	0830	SO
264714	03/28/05	----	CLIENT	03/29/05	0830	SO
264715	03/28/05	----	CLIENT	03/29/05	0830	SO
264716	03/28/05	----	CLIENT	03/29/05	0830	SO
264717	03/28/05	----	CLIENT	03/29/05	0830	SO
264718	03/28/05	----	CLIENT	03/29/05	0830	SO

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
SCGC-0314	264183	47.5	0.2	0.1 U	0.4 U	0.5	0.4
SCGC-0321	264538	45.1	0.8	0.2 U	0.4 U	0.3	0.3
USS-B8R1-324	264713	51.9	0.7	0.0 I	0.0 I	1.0	0.3
USS-B8R2-324	264714	49.4	0.6	0.0 I	0.0 I	0.4	0.2
USS-B8R3-325	264715	41.9	0.9	0.0 I	0.0 I	0.7	0.3
USS-B8ER1-326	264716	45.8	0.8	0.0 I	0.0 I	0.8	0.3
USS-B8ER2-326	264717	46.9	0.6	0.0 I	0.4 U	0.5	0.2
USS-B8ER3-326	264718	45.8	0.5	0.0 I	0.0 I	0.4	2.4 U

U = Result below detection limit
I = Result between detection limit and practical quantitation limit

PROJECT MANAGER _____

REPORT OF ANALYSES (SN-00003655)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Mr. Dave Buff

DATE: 05/12/05
FDH # E82001
DEP CQAP # 870017G

Samples received March 2005 (Page 2 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
264183	03/16/05	----	CLIENT	03/16/05	1324	SO
264538	03/23/05	----	CLIENT	03/23/05	1332	SO
264713	03/28/05	----	CLIENT	03/29/05	0830	SO
264714	03/28/05	----	CLIENT	03/29/05	0830	SO
264715	03/28/05	----	CLIENT	03/29/05	0830	SO
264716	03/28/05	----	CLIENT	03/29/05	0830	SO
264717	03/28/05	----	CLIENT	03/29/05	0830	SO
264718	03/28/05	----	CLIENT	03/29/05	0830	SO

CLIENT STATION ID	LAB NUMBER	MN/S/ICP mg/kg	HG/S/CVAA mg/kg	NI/S/ICP mg/kg	SE/S/ICP mg/kg
SCGC-0314	264183	12.6	0.010 U	0.3	0.6
SCGC-0321	264538	11.7	0.010 U	0.3	1.0
USS-B8R1-324	264713	10.7	0.010 U	0.3	0.9
USS-B8R2-324	264714	10.0	0.010 U	0.2	0.9
USS-B8R3-325	264715	7.4	0.010 U	0.3	1.2
USS-B8ER1-326	264716	10.5	0.010 U	0.4	0.9
USS-B8ER2-326	264717	8.5	0.010 U	0.2	1.0
USS-B8ER3-326	264718	7.4	0.010 U	0.2	0.9

U = Result below detection limit
I = Result between detection limit and practical quantitation limit

PROJECT MANAGER _____

QC REPORT FOR Golder Associates Inc. 05/12/05 PAGE 1

TOTAL SOLIDS % SO Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
264183	SCGC-0314	47.5	47.6	0.10	0.15	16.78
264538	SCGC-0321	45.1	50.9	5.8	8.54	16.79
264714	USS-B8R2-324	49.4	47.2	2.2	3.22	17.11

Method Blanks

Blank Concentration	Analytical Batch #	Sample Numbers in Batch
< 0.1	65963	264183,
< 0.1	66022	264538,
< 0.1	66083	264713-264718,

ARSENIC IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	83	---	-4 TO 211	----	----
264538	SCGC-0321	92	---	-4 TO 211	----	----
264538	SCGC-0321	82	---	-4 TO 211	----	----
264716	USS-B8ER1-326	112	---	-4 TO 211	----	----
264716	USS-B8ER1-326	126	---	-4 TO 211	----	----
264716	USS-B8ER1-326	123	---	-4 TO 211	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	173	152	88	84 TO 115
ICV	2000	2060	103	85 TO 113
SLCS110470	178	164	94	85 TO 113
ICV	2000	2040	102	85 TO 113
SLCS110495	178	176	99	85 TO 113
ICV	2000	2040	102	85 TO 113

BERYLLIUM IN SED. mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	90	---	51 TO 136	----	----
264538	SCGC-0321	97	---	52 TO 135	----	----
264538	SCGC-0321	89	---	52 TO 135	----	----
264716	USS-B8ER1-326	98	---	53 TO 134	----	----
264716	USS-B8ER1-326	104	---	53 TO 134	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	101	95.4	94	81 TO 121
ICV	2000	2110	106	80 TO 121
SLCS110470	101	94.5	94	81 TO 121
ICV	2000	1990	100	81 TO 121
SLCS110495	101	103	102	81 TO 120
ICV	2000	2040	102	81 TO 120

CADMIUM IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	85	---	-19 TO 185	----	----
264538	SCGC-0321	89	---	-18 TO 183	----	----
264538	SCGC-0321	84	---	-18 TO 183	----	----
264716	USS-B8ER1-326	100	---	-15 TO 181	----	----
264716	USS-B8ER1-326	105	---	-15 TO 181	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	142	121	85	77 TO 118
ICV	2000	2060	103	76 TO 119
SLCS110470	142	118	83	76 TO 119
ICV	2000	1960	98	77 TO 116
SLCS110495	142	138	97	78 TO 114
ICV	2000	2060	103	78 TO 114

CHROMIUM IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	85	---	1 TO 168	----	----
264538	SCGC-0321	91	---	1 TO 167	----	----
264538	SCGC-0321	87	---	1 TO 167	----	----
264716	USS-B8ER1-326	95	---	6 TO 166	----	----
264716	USS-B8ER1-326	97	---	6 TO 166	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	72.8	65.5	90	82 TO 114
ICV	2000	2060	103	82 TO 113
SLCS110470	72.8	64.0	88	82 TO 113
ICV	2000	1930	97	81 TO 113
SLCS110495	72.8	70.4	97	82 TO 112
ICV	2000	2040	102	82 TO 112

LEAD IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	84	---	35 TO 151	----	----
264538	SCGC-0321	90	---	34 TO 150	----	----
264538	SCGC-0321	85	---	34 TO 150	----	----
264716	USS-B8ER1-326	80	---	35 TO 150	----	----
264716	USS-B8ER1-326	101	---	35 TO 150	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	149	133	89	87 TO 110
ICV	2000	2050	102	86 TO 111
SLCS110470	149	136	91	86 TO 111
ICV	2000	1960	98	86 TO 111
SLCS110495	149	154	103	86 TO 111
ICV	2000	2040	102	85 TO 111

MANGANESE IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	76	---	-82 TO 231	----	----
264538	SCGC-0321	83	---	-80 TO 229	----	----
264538	SCGC-0321	89	---	-80 TO 229	----	----
264716	USS-B8ER1-326	104	---	-76 TO 226	----	----
264716	USS-B8ER1-326	92	---	-76 TO 226	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	394	385	98	86 TO 114
ICV	2000	2080	104	86 TO 114
SLCS110470	394	388	98	86 TO 114
ICV	2000	1960	98	86 TO 114
SLCS110495	394	486	123	86 TO 114
ICV	2000	2040	102	83 TO 118

MERCURY IN SEDIMENT mg/kg SO Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
264713	USS-B8R1-324	<0.010	<0.010	0	0.00	68.73

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264714	USS-B8R2-324	84	84	45 TO 144	0.00	22.86

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	30.8	94	49 TO 150

Method Blanks

Blank Concentration	Analytical Batch #	Sample Numbers in Batch
<0.010	66081	264183, 264538, 264713-264718,

NICKEL IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	80	---	24 TO 147	----	----
264538	SCGC-0321	94	---	24 TO 146	----	----
264538	SCGC-0321	94	---	24 TO 146	----	----
264716	USS-B8ER1-326	90	---	24 TO 146	----	----
264716	USS-B8ER1-326	90	---	24 TO 146	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	158	139	88	79 TO 118
ICV	2000	2060	103	78 TO 118
SLCS110470	158	148	94	79 TO 118
SLCS110495	158	154	97	79 TO 117

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2050	103	79 TO 117

SELENIUM IN SEDIMENT mg/kg SO Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
264183	SCGC-0314	98	---	-34 TO 218	----	----
264538	SCGC-0321	80	---	-33 TO 218	----	----
264538	SCGC-0321	90	---	-33 TO 218	----	----
264716	USS-B8ER1-326	131	---	-34 TO 216	----	----
264716	USS-B8ER1-326	129	---	-34 TO 216	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS110441	70.8	59.9	85	72 TO 131
ICV	2000	2020	101	71 TO 131
SLCS110470	70.8	63.8	90	71 TO 131
ICV	2000	2000	100	70 TO 130
SLCS110495	70.8	73.3	104	71 TO 130
ICV	2000	2060	103	71 TO 129

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/20/05	1315	SEA	SO
%SOLIDS	EPA 160.3	/ /		03/23/05	1721	RH	SO
%SOLIDS	EPA 160.3	/ /		03/29/05	1600	RH	SO
AS/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
AS/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
AS/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
BE/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
BE/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
BE/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
CD/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
CD/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
CD/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
CR/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
CR/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
CR/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
HG/S/CVAA	EPA 7471	/ /		03/31/05	1730	ECS	SO
MN/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
MN/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
MN/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
NI/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
NI/S/ICP	EPA 6010	03/24/05	ECS	04/06/05	1032	KTB	SO
PB/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
PB/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
PB/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO
SE/S/ICP	EPA 6010	03/17/05	ECS	03/18/05	1212	KTB	SO
SE/S/ICP	EPA 6010	03/24/05	ECS	03/29/05	1950	KTB	SO
SE/S/ICP	EPA 6010	04/05/05	ECS	04/06/05	1032	KTB	SO

3/31/03 – 4/6/03

GOLDER ASSOCIATES INC.

APR 25 2003

GAINESVILLE

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 15 2003
HRI Project 009-555
HRI Series No. D142/03-1
Date Rec'd. 04/10/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Bergen
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0407

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	55.07	0.00	2.17
Ash	2.52	5.60	5.48
Volatile	36.99	82.33	80.54
Fixed C	5.42	12.07	11.81
Total	100.00	100.00	100.00
Sulfur	0.04	0.09	0.09
Btu/lb (HHV)	3517	7827	7657
MMF Btu/lb	3614	8330	
MAF Btu/lb		8291	
Air Dry Loss (%)	54.07		
Ultimate (%)			
Moisture	55.07	0.00	2.17
Carbon	21.96	48.88	47.82
Hydrogen	2.96	6.59	6.45
Nitrogen	0.13	0.30	0.29
Sulfur	0.04	0.09	0.09
Ash	2.52	5.60	5.48
Oxygen*	17.32	38.54	37.70
Total	100.00	100.00	100.00
Chlorine**			

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.09

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 7.16
Lb. SO2/MM Btu= 0.24
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

MAY - 2 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

April 25, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 2070 to 2071

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

4/25/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
2070	USSC-C-0407	Golder Associates, Inc.	4/7/03	4/10/03	03-0611

Parameter	Results		MDL	Method	Analyzed
Chlorine	719.74	mg/Kg	100.00	ASTM D-4208	4/25/03

ppm

Sample	Description	Source	Taken	Received	Work Order
2071	USSC-B-0407	Golder Associates, Inc.	4/7/03	4/10/03	03-0611

Parameter	Results		MDL	Method	Analyzed
Chlorine	568.95	mg/Kg	100.00	ASTM D-4208	4/25/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

May 19, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received March 10, March 28 and April 8, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

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REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-0310	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0310	240896	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
[illegible]A-0310	240897	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
[illegible]C-0310	240898	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0324	241644	51.3	0.3	0.2 U	0.4 U	0.5	0.3
USSC-B-0324	241645	50.2	0.4	0.2 U	0.4 U	0.3	0.2
ASA-0324	241646	48.5	0.4	0.2 U	0.4 U	0.5	0.3
ASA-0324-DUP	241647	50.2	0.4	0.2 U	0.4 U	0.4	0.2
SCGC-0324	241648	49.4	0.4	0.2 U	0.4 U	0.4	0.3
USSC-C-0407	242096	49.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0407	242098	47.1	N.R.	N.R.	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bermuda

PPB ENVIRONMENTAL LABORATORIES, INC.

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REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-0310	240895	7.4	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	6.3	N.R.	N.R.	N.R.
USSC-B-0310	240896	8.9	N.R.	N.R.	N.R.
ASA-0310	240897	11.9	N.R.	N.R.	N.R.
SCGC-0310	240898	7.9	N.R.	N.R.	N.R.
USSC-C-0324	241644	11.0	0.01 U	0.2	0.4
USSC-B-0324	241645	6.8	0.01 U	0.2	0.5
ASA-0324	241646	12.3	0.01 U	0.3	0.6
ASA-0324-DUP	241647	10.2	0.01 U	0.2	0.5
SCGC-0324	241648	8.9	0.01 U	0.3	0.6
USSC-C-0407	242096	11.8	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	9.0	N.R.	N.R.	N.R.
USSC-B-0407	242098	7.2	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Berman

PPB ENVIRONMENTAL LABORATORIES, INC.

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QC REPORT FOR Golder Associates Inc. 05/13/03 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	51.3	52.0	0.68	0.93	7.62
242097	USSC-C-0407-DUP	50.5	49.7	0.80	1.13	7.61

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	86	---	80 TO 120	----	----
241648	SCGC-0324	85	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	88	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	85 TO 123

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	89	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	99	90 TO 110
ICV	2000	2010	100	90 TO 110

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110
ICV	2000	2000	100	90 TO 110

LE[redacted]IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	77	---	80 TO 120	----	----
241648	SCGC-0324	72	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

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Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240895	USSC-C-0310	7.37	6.31	1.1	10.96	12.87
240896	USSC-B-0310	8.90	9.21	0.31	2.42	16.70

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240897	ASA-0310	99	---	80 TO 120	----	----
241648	SCGC-0324	103	---	80 TO 120	----	----
242097	USSC-C-0407-DUP	103	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	92 TO 105
ICV	2000	2000	100	92 TO 105

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	<0.01	<0.01	0	0.00	61.97

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241645	USSC-B-0324	57	60	44 TO 152	3.63	32.69

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	31.7	97	90 TO 110

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	81	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	77 TO 122
ICV	2000	2030	102	78 TO 122

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

PPB ENVIRONMENTAL LABORATORIES, INC.

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	94	---	80 TO 120	----	----
241648	SCGC-0324	95	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	90 TO 110

PPB ENVIRONMENTAL
LABORATORIES, INC.

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DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/26/03	1000	JTM	VG
%SOLIDS	EPA 160.3	/ /		04/01/03	1424	CM	VG
%SOLIDS	EPA 160.3	/ /		04/10/03	1222	CM	VG
AS/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
BE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CD/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CR/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
HG/V/CVAA	EPA 7471	/ /		03/28/03	1713	ECS	VG
MN/V/ICP	EPA 6010	03/19/03	ECS	03/31/03	1247	KTB	VG
MN/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
MN/V/ICP	EPA 6010	04/10/03	ECS	04/12/03	1759	KTB	VG
NI/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
PB/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
SE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG

3/17/03 – 3/23/03

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 10 2003
HRI Project 009-555
HRI Series No. C366/03-3
Date Rec'd. 03/27/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Bergen
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0324

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	52.84		0.00	1.36
Ash	2.62		5.56	5.48
Volatile	39.13		82.98	81.85
Fixed C	5.41		11.46	11.31
Total	100.00		100.00	100.00
Sulfur	0.03		0.07	0.07
Btu/lb (HHV)	3715		7878	7771
MMF Btu/lb	3823		8381	
MAF Btu/lb			8342	
Air Dry Loss (%)		52.19		
Ultimate (%)				
Moisture	52.84		0.00	1.36
Carbon	23.22		49.23	48.56
Hydrogen	3.04		6.46	6.37
Nitrogen	0.14		0.30	0.30
Sulfur	0.03		0.07	0.07
Ash	2.62		5.56	5.48
Oxygen*	18.11		38.38	37.86
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 7.05
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

Northeast
Generation Services
The Northeast Utilities System

April 3, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 1808 to 1811

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

4/3/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
1808	ASA-0324	Golder Associates, Inc.	3/24/03	3/27/03	03-0530

Parameter	Results		MDL	Method	Analyzed
Chloride	419.81	mg/Kg	100.00	ASTM D-4208	4/2/03

Sample	Description	Source	Taken	Received	Work Order
1809	USSC-B-0324	Golder Associates, Inc.	3/24/03	3/27/03	03-0530

Parameter	Results		MDL	Method	Analyzed
Chlorine	600.59	mg/Kg	100.00	ASTM D-4208	4/2/03

Sample	Description	Source	Taken	Received	Work Order
1810	USSC-C-0324	Golder Associates, Inc.	3/24/03	3/27/03	03-0530

Parameter	Results		MDL	Method	Analyzed
Chlorine	605.89	mg/Kg	100.00	ASTM D-4208	4/2/03

Sample	Description	Source	Taken	Received	Work Order
1811	SCGC-0324	Golder Associates, Inc.	2/24/03	3/27/03	03-0530

Parameter	Results		MDL	Method	Analyzed
Chlorine	430.83	mg/Kg	100.00	ASTM D-4208	4/2/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

May 19, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received March 10, March 28 and April 8, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

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REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-0310	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0310	240896	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0310	240897	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0310	240898	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0324	241644	51.3	0.3	0.2 U	0.4 U	0.5	0.3
USSC-B-0324	241645	50.2	0.4	0.2 U	0.4 U	0.3	0.2
ASA-0324	241646	48.5	0.4	0.2 U	0.4 U	0.5	0.3
ASA-0324-DUP	241647	50.2	0.4	0.2 U	0.4 U	0.4	0.2
SCGC-0324	241648	49.4	0.4	0.2 U	0.4 U	0.4	0.3
USSC-C-0407	242096	49.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0407	242098	47.1	N.R.	N.R.	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bergman

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified---FDH # E82001

REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-0310	240895	7.4	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	6.3	N.R.	N.R.	N.R.
USSC-B-0310	240896	8.9	N.R.	N.R.	N.R.
ASA-0310	240897	11.9	N.R.	N.R.	N.R.
SCGC-0310	240898	7.9	N.R.	N.R.	N.R.
USSC-C-0324	241644	11.0	0.01 U	0.2	0.4
USSC-B-0324	241645	6.8	0.01 U	0.2	0.5
ASA-0324	241646	12.3	0.01 U	0.3	0.6
ASA-0324-DUP	241647	10.2	0.01 U	0.2	0.5
SCGC-0324	241648	8.9	0.01 U	0.3	0.6
USSC-C-0407	242096	11.8	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	9.0	N.R.	N.R.	N.R.
USSC-B-0407	242098	7.2	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Berman

PPB ENVIRONMENTAL LABORATORIES, INC.

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QC REPORT FOR Golder Associates Inc. 05/13/03 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	51.3	52.0	0.68	0.93	7.62
242097	USSC-C-0407-DUP	50.5	49.7	0.80	1.13	7.61

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	86	---	80 TO 120	----	----
241648	SCGC-0324	85	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	88	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	85 TO 123

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	89	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	99	90 TO 110
ICV	2000	2010	100	90 TO 110

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110
ICV	2000	2000	100	90 TO 110

LE[redacted]IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	77	---	80 TO 120	----	----
241648	SCGC-0324	72	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240895	USSC-C-0310	7.37	6.31	1.1	10.96	12.87
240896	USSC-B-0310	8.90	9.21	0.31	2.42	16.70

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240897	ASA-0310	99	---	80 TO 120	----	----
241648	SCGC-0324	103	---	80 TO 120	----	----
242097	USSC-C-0407-DUP	103	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	92 TO 105
ICV	2000	2000	100	92 TO 105

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	<0.01	<0.01	0	0.00	61.97

PPB ENVIRONMENTAL LABORATORIES, INC.

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241645	USSC-B-0324	57	60	44 TO 152	3.63	32.69

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	31.7	97	90 TO 110

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	81	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	77 TO 122
ICV	2000	2030	102	78 TO 122

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	94	---	80 TO 120	----	----
241648	SCGC-0324	95	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	90 TO 110

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/26/03	1000	JTM	VG
%SOLIDS	EPA 160.3	/ /		04/01/03	1424	CM	VG
%SOLIDS	EPA 160.3	/ /		04/10/03	1222	CM	VG
AS/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
BE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CD/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CR/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
HG/V/CVAA	EPA 7471	/ /		03/28/03	1713	ECS	VG
MN/V/ICP	EPA 6010	03/19/03	ECS	03/31/03	1247	KTB	VG
MN/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
MN/V/ICP	EPA 6010	04/10/03	ECS	04/12/03	1759	KTB	VG
NI/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
PB/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
SE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG

3/3/03 – 3/9/03

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

GOLDER ASSOCIATES INC.
MAR 26 2003
GAINESVILLE

Date March 21 2003
HRI Project 009-555
HRI Series No. C122/03-1
Date Rec'd. 03/12/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Bergen
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0310

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	52.96		0.00	0.91
Ash	1.94		4.12	4.08
Volatile	40.41		85.91	85.13
Fixed C	4.69		9.97	9.88
Total	100.00		100.00	100.00
Sulfur	0.03		0.06	0.06
Btu/lb (HHV)	3714		7896	7825
MMF Btu/lb	3793		8264	
MAF Btu/lb			8236	
Air Dry Loss (%)		52.53		
Ultimate (%)				
Moisture	52.96		0.00	0.91
Carbon	23.48		49.91	49.46
Hydrogen	3.11		6.62	6.56
Nitrogen	0.18		0.38	0.38
Sulfur	0.03		0.06	0.06
Ash	1.94		4.12	4.08
Oxygen*	18.30		38.91	38.55
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.06

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 5.21
Lb. SO2/MM Btu= 0.15
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056
Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

MAR 20 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

March 14, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 1454 to 1457

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

3/14/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
1454	USSC-C-0310	Golder Associates, Inc.	3/11/03	3/12/03	03-0418

Parameter	Results		MDL	Method	Analyzed
Chlorine	681.00	mg/Kg	100.00	ASTM D-4208	3/14/03

Sample	Description	Source	Taken	Received	Work Order
1455	USSC-B-0310	Golder Associates, Inc.	3/11/03	3/12/03	03-0418

Parameter	Results		MDL	Method	Analyzed
Chlorine	591.02	mg/Kg	100.00	ASTM D-4208	3/14/03

Sample	Description	Source	Taken	Received	Work Order
1456	ASA-0310	Golder Associates, Inc.	3/11/03	3/12/03	03-0418

Parameter	Results		MDL	Method	Analyzed
Chlorine	553.85	mg/Kg	100.00	ASTM D-4208	3/14/03

Sample	Description	Source	Taken	Received	Work Order
1457	SCGC-0310	Golder Associates, Inc.	3/11/03	3/12/03	03-0418

Parameter	Results		MDL	Method	Analyzed
Chlorine	508.87	mg/Kg	100.00	ASTM D-4208	3/14/03

PPB ENVIRONMENTAL LABORATORIES, INC.

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May 19, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received March 10, March 28 and April 8, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

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REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-0310	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	48.8	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0310	240896	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0310	240897	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0310	240898	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0324	241644	51.3	0.3	0.2 U	0.4 U	0.5	0.3
USSC-B-0324	241645	50.2	0.4	0.2 U	0.4 U	0.3	0.2
ASA-0324	241646	48.5	0.4	0.2 U	0.4 U	0.5	0.3
ASA-0324-DUP	241647	50.2	0.4	0.2 U	0.4 U	0.4	0.2
SCGC-0324	241648	49.4	0.4	0.2 U	0.4 U	0.4	0.3
USSC-C-0407	242096	49.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	50.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0407	242098	47.1	N.R.	N.R.	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Berman

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified---FDH # E82001

REPORT OF ANALYSES (SN-00002956)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 05/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 3/10, 3/28 and 4/8/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-0310	240895	7.4	N.R.	N.R.	N.R.
USSC-C-0310 DUP	240895	6.3	N.R.	N.R.	N.R.
USSC-B-0310	240896	8.9	N.R.	N.R.	N.R.
ASA-0310	240897	11.9	N.R.	N.R.	N.R.
SCGC-0310	240898	7.9	N.R.	N.R.	N.R.
USSC-C-0324	241644	11.0	0.01 U	0.2	0.4
USSC-B-0324	241645	6.8	0.01 U	0.2	0.5
ASA-0324	241646	12.3	0.01 U	0.3	0.6
ASA-0324-DUP	241647	10.2	0.01 U	0.2	0.5
SCGC-0324	241648	8.9	0.01 U	0.3	0.6
USSC-C-0407	242096	11.8	N.R.	N.R.	N.R.
USSC-C-0407-DUP	242097	9.0	N.R.	N.R.	N.R.
USSC-B-0407	242098	7.2	N.R.	N.R.	N.R.

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Berman

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QC REPORT FOR Golder Associates Inc. 05/13/03 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	51.3	52.0	0.68	0.93	7.62
242097	USSC-C-0407-DUP	50.5	49.7	0.80	1.13	7.61

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	86	---	80 TO 120	----	----
241648	SCGC-0324	85	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	88	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	85 TO 123

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	89	---	80 TO 120	----	----
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	99	90 TO 110
ICV	2000	2010	100	90 TO 110

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	82	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110
ICV	2000	2000	100	90 TO 110

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	77	---	80 TO 120	----	----
241648	SCGC-0324	72	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	90 TO 110

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

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Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240895	USSC-C-0310	7.37	6.31	1.1	10.96	12.87
240896	USSC-B-0310	8.90	9.21	0.31	2.42	16.70

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240897	ASA-0310	99	---	80 TO 120	----	----
241648	SCGC-0324	103	---	80 TO 120	----	----
242097	USSC-C-0407-DUP	103	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	92 TO 105
ICV	2000	2000	100	92 TO 105

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
241644	USSC-C-0324	<0.01	<0.01	0	0.00	61.97

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241645	USSC-B-0324	57	60	44 TO 152	3.63	32.69

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	31.7	97	90 TO 110

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	81	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	77 TO 122
ICV	2000	2030	102	78 TO 122

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

NO DUPLICATE QC DATA FOUND

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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
241648	SCGC-0324	94	---	80 TO 120	----	----
241648	SCGC-0324	95	---	80 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	90 TO 110

PPB ENVIRONMENTAL
LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/26/03	1000	JTM	VG
%SOLIDS	EPA 160.3	/ /		04/01/03	1424	CM	VG
%SOLIDS	EPA 160.3	/ /		04/10/03	1222	CM	VG
AS/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
BE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CD/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
CR/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
HG/V/CVAA	EPA 7471	/ /		03/28/03	1713	ECS	VG
MN/V/ICP	EPA 6010	03/19/03	ECS	03/31/03	1247	KTB	VG
MN/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
MN/V/ICP	EPA 6010	04/10/03	ECS	04/12/03	1759	KTB	VG
NI/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
PB/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG
SE/V/ICP	EPA 6010	03/31/03	ECS	04/01/03	0132	KTB	VG

2/17/03 – 2/23/03

GOLDER ASSOCIATES INC.

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

MAR 11 2003

GAINESVILLE

Date March 7 2003
HRI Project 009-555
HRI Series No. B376/03-1
Date Rec'd. 02/27/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Bergen
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0224

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	51.56	0.00	1.21
Ash	2.03	4.19	4.14
Volatile	40.52	83.65	82.64
Fixed C	5.89	12.16	12.01
Total	100.00	100.00	100.00
Sulfur	0.04	0.08	0.08
Btu/lb (HHV)	4047	8356	8255
MMF Btu/lb	4137	8752	
MAF Btu/lb		8722	
Air Dry Loss (%)	50.97		
Ultimate (%)			
Moisture	51.56	0.00	1.21
Carbon	24.67	50.94	50.32
Hydrogen	3.10	6.39	6.31
Nitrogen	0.15	0.31	0.31
Sulfur	0.04	0.08	0.08
Ash	2.03	4.19	4.14
Oxygen*	18.45	38.09	37.63
Total	100.00	100.00	100.00
Chlorine**			

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.04	0.08

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 5.02
Lb. SO2/MM Btu= 0.19
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

2/24

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

MAR 10 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

March 6, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s):1158 to 1161

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

3/6/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
1158	USSC-C-0224	Golder Associates, Inc.	2/25/03	2/27/03	03-0323

Parameter	Results		MDL	Method	Analyzed
Chloride	558.86	mg/Kg	100.00	ASTM D-4208	3/6/03

Sample	Description	Source	Taken	Received	Work Order
1159	USSC-B-0224	Golder Associates, Inc.	2/25/03	2/27/03	03-0323

Parameter	Results		MDL	Method	Analyzed
Chlorine	493.66	mg/Kg	100.00	ASTM D-4208	3/6/03

Sample	Description	Source	Taken	Received	Work Order
1160	ASA-0224	Golder Associates, Inc.	2/25/03	2/27/03	03-0323

Parameter	Results		MDL	Method	Analyzed
Chlorine	338.00	mg/Kg	100.00	ASTM D-4208	3/6/03

Sample	Description	Source	Taken	Received	Work Order
1161	SCGC-0224	Golder Associates, Inc.	2/25/03	2/27/03	03-0323

Parameter	Results		MDL	Method	Analyzed
Chlorine	382.50	mg/Kg	100.00	ASTM D-4208	3/6/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

April 1, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received February 10 and 24, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002827)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 04/01/03
FDH # E82001
DEP CQAP # 870017G

Samples received 2/10 and 2/24/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-0210	239940	50.7	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0210	239941	48.1	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0210-DUP	239942	48.4	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0210	239943	49.0	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0210	239944	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0224	240531	50.6	0.5	0.2 U	0.4 U	0.3	0.3
USSC-B-0224	240532	48.2	0.3	0.2 U	0.4 U	0.2	0.3 U
SCGC-0224	240533	47.8	0.4	0.2 U	0.4 U	0.2 U	0.3 U
SCGC-0224-DUP	240534	49.1	0.3	0.2 U	0.4 U	0.2	0.3 U
ASA-0224	240535	50.0	0.4	0.2 U	0.4 U	0.2 U	0.3 U

U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bergen

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002827)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 04/01/03
FDH # E82001
DEP CQAP # 870017G

Samples received 2/10 and 2/24/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-0210	239940	8.0	N.R.	N.R.	N.R.
USSC-B-0210	239941	12.5	N.R.	N.R.	N.R.
USSC-B-0210-DUP	239942	14.7	N.R.	N.R.	N.R.
ASA-0210	239943	13.1	N.R.	N.R.	N.R.
SCGC-0210	239944	9.5	N.R.	N.R.	N.R.
USSC-C-0224	240531	6.3	0.01 U	0.2	0.7
USSC-B-0224	240532	9.3	0.01 U	0.2	0.8
SCGC-0224	240533	9.4	0.01 U	0.1	0.8
SCGC-0224-DUP	240534	8.4	0.01 U	0.2	0.8
ASA-0224	240535	6.6	0.01 U	0.2	0.8

U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bemm

PPB ENVIRONMENTAL LABORATORIES, INC.

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QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
239941	USSC-B-0210	48.1	47.5	0.60	0.89	5.94
240531	USSC-C-0224	50.6	52.3	1.7	2.34	7.86

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.5	0.4	0.10	15.7	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	98	---	61 TO 146	----	----
240532	USSC-B-0224	103	---	61 TO 146	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1920	96	58 TO 152

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	<0.2	<0.2	0.10	0.0	20.0

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BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	97	---	71 TO 125	----	----
240532	USSC-B-0224	100	---	71 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	99	59 TO 149

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	<0.4	<0.4	0.20	0.0	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	96	---	72 TO 125	----	----
240532	USSC-B-0224	101	---	72 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	54 TO 158

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CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.3	0.2	0.10	28.2	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	93	---	75 TO 118	----	----
240532	USSC-B-0224	95	---	75 TO 118	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	46 TO 151

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.3	0.2	0.10	28.2	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	100	---	63 TO 133	----	----
240532	USSC-B-0224	107	---	63 TO 133	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	44 TO 172

PPB ENVIRONMENTAL LABORATORIES, INC.

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MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	6.3	6.7	0.40	4.34	13.43

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	100	---	54 TO 138	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS1-8857	468	471	101	92 TO 104
ICV	2000	2020	101	92 TO 104

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240532	USSC-B-0224	<0.01	<0.01	0	0.00	4.48

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240531	USSC-C-0224	77	70	58 TO 136	6.73	NO DATA

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	31.7	97	37 TO 154

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.2	0.2	0.10	0.00	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	93	---	69 TO 119	----	----
240532	USSC-B-0224	95	---	69 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	99	69 TO 137

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QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 6

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.7	0.8	0.10	9.4	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	103	---	79 TO 141	----	----
240532	USSC-B-0224	111	---	79 TO 141	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1940	97	62 TO 154

PPB ENVIRONMENTAL LABORATORIES, INC.

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DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/14/03	1436	OHM	VG
%SOLIDS	EPA 160.3	/ /		02/26/03	1605	OHM	VG
AS/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
BE/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0403	DAL	VG
BE/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0424	DAL	VG
CD/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0403	DAL	VG
CD/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0424	DAL	VG
CR/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0606	DAL	VG
CR/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
HG/V/CVAA	EPA 7471	/ /		03/13/03	1539	ECS	VG
MN/V/ICP	EPA 6010	02/13/03	ECS	03/06/03	1315	KTB	VG
MN/V/ICP	EPA 6010	02/13/03	ECS	03/10/03	0330	KTB	VG
MN/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
NI/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
PB/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0424	DAL	VG
PB/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
SE/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG

2/3/03 – 2/9/03

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date February 18 2003
HRI Project 009-555
HRI Series No. B149/03-1
Date Rec'd. 02/12/03
Cust. P.O.#

GOLDER ASSOCIATES INC.

Golder Associates, Inc.
Fawn Bergen
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

FEB 21 2003

GAINESVILLE

Sample Identification
USSC-C-0210

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	51.12	0.00	1.72
Ash	1.62	3.31	3.25
Volatile	41.02	83.90	82.46
Fixed C	6.24	12.79	12.57
Total	100.00	100.00	100.00
Sulfur	0.04	0.09	0.09
Btu/lb (HHV)	3880	7936	7800
MMF Btu/lb	3947	8230	
MAF Btu/lb		8208	
Air Dry Loss (%)	50.26		
Ultimate (%)			
Moisture	51.12	0.00	1.72
Carbon	24.83	50.79	49.92
Hydrogen	2.86	5.86	5.76
Nitrogen	0.16	0.33	0.32
Sulfur	0.04	0.09	0.09
Ash	1.62	3.31	3.25
Oxygen*	19.37	39.62	38.94
Total	100.00	100.00	100.00
Chlorine**			

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.04	0.09

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.17
Lb. SO2/MM Btu= 0.23
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056
Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

FEB 24 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

February 18, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 0916 to 0919

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah, NGS Laboratory Supervisor

2/18/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
0916	USSC-C-0210	Golder Associates, Inc.	2/10/03	2/12/03	03-0236

Parameter	Results		MDL	Method	Analyzed
Chlorine	663.94	mg/Kg	100.00	ASTM D-4208	2/18/03

Sample	Description	Source	Taken	Received	Work Order
0917	USSC-B-0210	Golder Associates, Inc.	2/10/03	2/12/03	03-0236

Parameter	Results		MDL	Method	Analyzed
Chlorine	653.41	mg/Kg	100.00	ASTM D-4208	2/18/03

Sample	Description	Source	Taken	Received	Work Order
0918	ASA-0210	Golder Associates, Inc.	2/10/03	2/12/03	03-0236

Parameter	Results		MDL	Method	Analyzed
Chlorine	484.82	mg/Kg	100.00	ASTM D-4208	2/18/03

Sample	Description	Source	Taken	Received	Work Order
0919	SCGC-0210	Golder Associates, Inc.	2/10/03	2/12/03	03-0236

Parameter	Results		MDL	Method	Analyzed
Chlorine	401.80	mg/Kg	100.00	ASTM D-4208	2/18/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

April 1, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received February 10 and 24, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

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REPORT OF ANALYSES (SN-00002827)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 04/01/03
FDH # E82001
DEP CQAP # 870017G

Samples received 2/10 and 2/24/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-0210	239940	50.7	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0210	239941	48.1	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-B-0210-DUP	239942	48.4	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0210	239943	49.0	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0210	239944	49.2	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0224	240531	50.6	0.5	0.2 U	0.4 U	0.3	0.3
USSC-B-0224	240532	48.2	0.3	0.2 U	0.4 U	0.2	0.3 U
SCGC-0224	240533	47.8	0.4	0.2 U	0.4 U	0.2 U	0.3 U
SCGC-0224-DUP	240534	49.1	0.3	0.2 U	0.4 U	0.2	0.3 U
ASA-0224	240535	50.0	0.4	0.2 U	0.4 U	0.2 U	0.3 U

U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bergen

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002827)

Golder Associates Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 04/01/03
FDH # E82001
DEP CQAP # 870017G

Samples received 2/10 and 2/24/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-0210	239940	8.0	N.R.	N.R.	N.R.
USSC-B-0210	239941	12.5	N.R.	N.R.	N.R.
USSC-B-0210-DUP	239942	14.7	N.R.	N.R.	N.R.
ASA-0210	239943	13.1	N.R.	N.R.	N.R.
SCGC-0210	239944	9.5	N.R.	N.R.	N.R.
USSC-C-0224	240531	6.3	0.01 U	0.2	0.7
USSC-B-0224	240532	9.3	0.01 U	0.2	0.8
SCGC-0224	240533	9.4	0.01 U	0.1	0.8
SCGC-0224-DUP	240534	8.4	0.01 U	0.2	0.8
ASA-0224	240535	6.6	0.01 U	0.2	0.8

U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Pal Benn

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
239941	USSC-B-0210	48.1	47.5	0.60	0.89	5.94
240531	USSC-C-0224	50.6	52.3	1.7	2.34	7.86

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.5	0.4	0.10	15.7	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	98	---	61 TO 146	----	----
240532	USSC-B-0224	103	---	61 TO 146	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1920	96	58 TO 152

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	<0.2	<0.2	0.10	0.0	20.0

PPB ENVIRONMENTAL LABORATORIES, INC.

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BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	97	---	71 TO 125	----	----
240532	USSC-B-0224	100	---	71 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	99	59 TO 149

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	<0.4	<0.4	0.20	0.0	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	96	---	72 TO 125	----	----
240532	USSC-B-0224	101	---	72 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	54 TO 158

PPB ENVIRONMENTAL LABORATORIES, INC.

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CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.3	0.2	0.10	28.2	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	93	---	75 TO 118	----	----
240532	USSC-B-0224	95	---	75 TO 118	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	46 TO 151

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.3	0.2	0.10	28.2	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	100	---	63 TO 133	----	----
240532	USSC-B-0224	107	---	63 TO 133	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
[illegible]	2000	1960	98	44 TO 172

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 4

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	6.3	6.7	0.40	4.34	13.43

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	100	---	54 TO 138	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS1-8857	468	471	101	92 TO 104
ICV	2000	2020	101	92 TO 104

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 5

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240532	USSC-B-0224	<0.01	<0.01	0	0.00	4.48

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240531	USSC-C-0224	77	70	58 TO 136	6.73	NO DATA

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	31.7	97	37 TO 154

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.2	0.2	0.10	0.00	---

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	93	---	69 TO 119	----	----
240532	USSC-B-0224	95	---	69 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	99	69 TO 137

PPB ENVIRONMENTAL LABORATORIES, INC.

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QC REPORT FOR Golder Associates Inc. 04/01/03 PAGE 6

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
240531	USSC-C-0224	0.7	0.8	0.10	9.4	20.0

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
240532	USSC-B-0224	103	---	79 TO 141	----	----
240532	USSC-B-0224	111	---	79 TO 141	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1940	97	62 TO 154

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/14/03	1436	OHM	VG
%SOLIDS	EPA 160.3	/ /		02/26/03	1605	OHM	VG
AS/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
BE/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0403	DAL	VG
BE/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0424	DAL	VG
CD/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0403	DAL	VG
CD/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0424	DAL	VG
CR/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0606	DAL	VG
CR/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
HG/V/CVAA	EPA 7471	/ /		03/13/03	1539	ECS	VG
MN/V/ICP	EPA 6010	02/13/03	ECS	03/06/03	1315	KTB	VG
MN/V/ICP	EPA 6010	02/13/03	ECS	03/10/03	0330	KTB	VG
MN/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
NI/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
PB/V/ICP	EPA 6010	02/27/03	ECS	03/19/03	0424	DAL	VG
PB/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG
SE/V/ICP	EPA 6010	02/27/03	ECS	03/21/03	0403	DAL	VG

1/20/03 – 1/26/03

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

GOLDER ASSOCIATES INC

FEB - 5 2003

GAINESVILLE

Date January 31 2003
HRI Project 009-555
HRI Series No. A287/03-1
Date Rec'd. 01/29/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Howard
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0127

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	51.66		0.00	1.64
Ash	3.21		6.65	6.54
Volatile	39.44		81.59	80.25
Fixed C	5.69		11.76	11.57
Total	100.00		100.00	100.00
Sulfur	0.03		0.07	0.07
Btu/lb (HHV)	3675		7602	7477
MMF Btu/lb	3806		8190	
MAF Btu/lb			8143	
Air Dry Loss (%)		50.85		
Ultimate (%)				
Moisture	51.66		0.00	1.64
Carbon	23.94		49.51	48.70
Hydrogen	3.09		6.39	6.29
Nitrogen	0.16		0.33	0.32
Sulfur	0.03		0.07	0.07
Ash	3.21		6.65	6.54
Oxygen*	17.91		37.05	36.44
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 8.75
Lb. SO2/MM Btu= 0.19
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

1/27

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056
Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

FEB 24 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

February 13, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Bergen	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 0644 to 0647

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

2/13/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
0644	USSC-C-0127	Golder Associates, Inc.	1/28/03	1/29/03	03-0146

Parameter	Results		MDL	Method	Analyzed
Chlorine	365.22	mg/Kg	100.00	ASTM D-4208	2/11/03

Sample	Description	Source	Taken	Received	Work Order
0645	USSC-3-0127	Golder Associates, Inc.	1/28/03	1/29/03	03-0146

Parameter	Results		MDL	Method	Analyzed
Chlorine	391.10	mg/Kg	100.00	ASTM D-4208	2/11/03

Sample	Description	Source	Taken	Received	Work Order
0646	ASA-0127	Golder Associates, Inc.	1/28/03	1/29/03	03-0146

Parameter	Results		MDL	Method	Analyzed
Chlorine	316.29	mg/Kg	100.00	ASTM D-4208	2/11/03

Sample	Description	Source	Taken	Received	Work Order
0647	SCGC-0127	Golder Associates, Inc.	1/28/03	1/29/03	03-0146

Parameter	Results		MDL	Method	Analyzed
Chlorine	291.90	mg/Kg	100.00	ASTM D-4208	2/11/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

March 13, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received January 14 and 28, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002729)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 03/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 1/14 and 1/28/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-B-0114	237420	48.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0114	237421	45.4	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0114	237422	46.7	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0114	237423	48.2	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0114-DUP	237424	47.0	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0127	239373	52.6	1.8 U	0.2 U	0.3 U	0.6	1.8 U
USSC-B-0127	239374	51.4	1.3 U	0.1 U	0.2 U	0.2 U	1.3 U
SCGC-0127	239375	49.7	1.3 U	0.1 U	0.2 U	0.3 U	1.2 U
ASA-0127	239377	54.7	1.3 U	0.1 U	0.2 U	0.3 U	1.2 U
ASA-0127-DUP	239378	55.5	1.1 U	0.1 U	0.2 U	0.2 U	1.1 U

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bemm

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002729)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 03/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 1/14 and 1/28/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-B-0114	237420	9.5	N.R.	N.R.	N.R.
USSC-C-0114	237421	10.2	N.R.	N.R.	N.R.
ASA-0114	237422	9.1	N.R.	N.R.	N.R.
SCGC-0114	237423	8.9	N.R.	N.R.	N.R.
SCGC-0114-DUP	237424	8.7	N.R.	N.R.	N.R.
USSC-C-0127	239373	7.7	0.02 U	1.5 U	1.5 U
USSC-B-0127	239374	11.0	0.03	1.1 U	1.1 U
SCGC-0127	239375	7.5	0.02 U	1.0 U	1.0 U
ASA-0127	239377	9.2	0.01 U	1.0 U	1.0
ASA-0127-DUP	239378	8.4	0.01 U	0.9 U	0.9 U

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bernn

1/6/03 – 1/12/03

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date January 22 2003
HRI Project 009-555
HRI Series No. A96/03-2
Date Rec'd. 01/15/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Howard
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-0114

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	51.48	0.00	1.70
Ash	3.54	7.30	7.18
Volatile	39.51	81.43	80.05
Fixed C	5.47	11.27	11.07
Total	100.00	100.00	100.00
Sulfur	0.03	0.07	0.07
Btu/lb (HHV)	3715	7658	7527
MMF Btu/lb	3862	8313	
MAF Btu/lb		8261	
Air Dry Loss (%)	50.64		
Ultimate (%)			
Moisture	51.48	0.00	1.70
Carbon	22.37	46.11	45.33
Hydrogen	2.38	4.90	4.82
Nitrogen	0.16	0.33	0.32
Sulfur	0.03	0.07	0.07
Ash	3.54	7.30	7.18
Oxygen*	20.04	41.29	40.58
Total	100.00	100.00	100.00
Chlorine**			

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 9.54
Lb. SO2/MM Btu= 0.19
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

1/14

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC

FEB 10 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

January 29, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Howard	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 0239 to 0242

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

1/29/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
0239	USSC-B-0114	Golder Associates, Inc.	1/14/03	1/15/03	03-0057

Parameter	Results		MDL	Method	Analyzed
Chlorine	497.17	mg/Kg	75.00	ASTM D-4208	1/29/03

Sample	Description	Source	Taken	Received	Work Order
0240	USSC-C-0114	Golder Associates, Inc.	1/14/03	1/15/03	03-0057

Parameter	Results		MDL	Method	Analyzed
Chlorine	534.44	mg/Kg	75.00	ASTM D-4208	1/29/03

Sample	Description	Source	Taken	Received	Work Order
0241	ASA-0114	Golder Associates, Inc.	1/14/03	1/15/03	03-0057

Parameter	Results		MDL	Method	Analyzed
Chlorine	837.10	mg/Kg	75.00	ASTM D-4208	1/29/03

Sample	Description	Source	Taken	Received	Work Order
0242	SCGC-0114	Golder Associates, Inc.	1/14/03	1/15/03	03-0057

Parameter	Results		MDL	Method	Analyzed
Chlorine	348.90	mg/Kg	75.00	ASTM D-4208	1/29/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

March 13, 2003

Ms. Fawn Bergen
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Bergen:

Enclosed are the analytical results for the samples received January 14 and 28, 2003.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

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REPORT OF ANALYSES (SN-00002729)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 03/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 1/14 and 1/28/03 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-B-0114	237420	48.5	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0114	237421	45.4	N.R.	N.R.	N.R.	N.R.	N.R.
ASA-0114	237422	46.7	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0114	237423	48.2	N.R.	N.R.	N.R.	N.R.	N.R.
SCGC-0114-DUP	237424	47.0	N.R.	N.R.	N.R.	N.R.	N.R.
USSC-C-0127	239373	52.6	1.8 U	0.2 U	0.3 U	0.6	1.8 U
USSC-B-0127	239374	51.4	1.3 U	0.1 U	0.2 U	0.2 U	1.3 U
SCGC-0127	239375	49.7	1.3 U	0.1 U	0.2 U	0.3 U	1.2 U
ASA-0127	239377	54.7	1.3 U	0.1 U	0.2 U	0.3 U	1.2 U
ASA-0127-DUP	239378	55.5	1.1 U	0.1 U	0.2 U	0.2 U	1.1 U

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bemm

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002729)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Bergen

DATE: 03/13/03
FDH # E82001
DEP CQAP # 870017G

Samples received 1/14 and 1/28/03 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-B-0114	237420	9.5	N.R.	N.R.	N.R.
USSC-C-0114	237421	10.2	N.R.	N.R.	N.R.
ASA-0114	237422	9.1	N.R.	N.R.	N.R.
SCGC-0114	237423	8.9	N.R.	N.R.	N.R.
SCGC-0114-DUP	237424	8.7	N.R.	N.R.	N.R.
USSC-C-0127	239373	7.7	0.02 U	1.5 U	1.5 U
USSC-B-0127	239374	11.0	0.03	1.1 U	1.1 U
SCGC-0127	239375	7.5	0.02 U	1.0 U	1.0 U
ASA-0127	239377	9.2	0.01 U	1.0 U	1.0
ASA-0127-DUP	239378	8.4	0.01 U	0.9 U	0.9 U

I = Result between detection limit and practical quantitation limit
U = Result below detection limit

NOTE: N. R. = ANALYSIS NOT REQUIRED

PROJECT MANAGER Paul Bermn

12/23/02 – 12/29/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

GOLDER ASSOCIATES INC

JAN 23 2003

GAINESVILLE

Date January 13 2003
HRI Project 009-555
HRI Series No. L375/02-1
Date Rec'd. 01/03/03
Cust. P.O.#

Golder Associates, Inc.
Fawn Howard
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653

Sample Identification
USSC-C-1231

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.98		0.00	2.50
Ash	3.13		6.39	6.23
Volatile	39.66		80.89	78.87
Fixed C	6.23		12.72	12.40
Total	100.00		100.00	100.00
Sulfur	0.03		0.05	0.05
Btu/lb (HHV)	3873		7900	7703
MMF Btu/lb	4008		8486	
MAF Btu/lb			8440	
Air Dry Loss (%)		49.72		
Ultimate (%)				
Moisture	50.98		0.00	2.50
Carbon	22.86		46.64	45.47
Hydrogen	2.57		5.24	5.11
Nitrogen	0.17		0.34	0.33
Sulfur	0.03		0.05	0.05
Ash	3.13		6.39	6.23
Oxygen*	20.26		41.34	40.31
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.03	0.05

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 8.09
Lb. SO2/MM Btu= 0.13
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

12/31

NGS Analytical Laboratory

P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

Northeast Generation Services

The Northeast Utilities System

January 7, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Howard	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 8086 to 8088

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

1/7/03
Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
8086	USSC-C-1231	Golder Associates, Inc.	12/31/02	1/3/03	02-2382

Parameter	Results		MDL	Method	Analyzed
Chlorine	376.65	mg/Kg	100.00	ASTM D-4208	1/7/03

Sample	Description	Source	Taken	Received	Work Order
8087	ASA-1231	Golder Associates, Inc.	12/31/02	1/3/03	02-2382

Parameter	Results		MDL	Method	Analyzed
Chlorine	374.41	mg/Kg	100.00	ASTM D-4208	1/7/03

Sample	Description	Source	Taken	Received	Work Order
8088	SCGC-1231	Golder Associates, Inc.	12/31/02	1/3/03	02-2382

Parameter	Results		MDL	Method	Analyzed
Chlorine	371.76	mg/Kg	100.00	ASTM D-4208	1/7/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

February 25, 2003

Ms. Fawn Howard
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the samples received December 31, 2002.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352)377-2349 Fax: (352)395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002670)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER ICCR
DATE: 02/24/03
FDH # E82001
DEP CQAP # 870017G

Samples received 12/31/02 (Page 1 of 2)

PRELIMINARY RESULTS

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
USSC-C-1231	236838	51.5	0.3	0.1 U	0.1 U	0.5	0.4
USSC-C-1231-DUP	236839	48.4	0.5	0.1 U	0.1 U	0.6	0.4
ASA-1231	236840	49.0	0.4	0.1 U	0.1 U	0.1	0.1 U
SCGC-1231	236841	46.3	0.3	0.1 U	0.1 U	0.1	0.3

U = Result below detection limit

PROJECT MANAGER Paul Bemm

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002670)

Golder Associates, Inc.
6241 NW 23rd St
Suite 500
Gainesville, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER ICCR
DATE: 02/24/03
FDH # E82001
DEP CQAP # 870017G

Samples received 12/31/02 (Page 2 of 2)

PRELIMINARY RESULTS

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
USSC-C-1231	236838	7.8	0.19 U	0.5	1.2
USSC-C-1231-DUP	236839	9.6	0.19 U	0.6	1.1
ASA-1231	236840	7.4	0.21 U	0.3	1.2
SCGC-1231	236841	8.5	0.20 U	0.2	1.2

U = Result below detection limit

PROJECT MANAGER

12/9/02 – 12/15/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date December 27 2002
HRI Project 002-BH9
HRI Series No. L214/02-4
Date Rec'd. 12/18/02
Cust. P.O.#

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
USSC-C-1216

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	51.20		0.00	1.29
Ash	4.10		8.40	8.29
Volatile	38.97		79.86	78.83
Fixed C	5.73		11.74	11.59
Total	100.00		100.00	100.00
Sulfur	0.02		0.05	0.05
Btu/lb (HHV)	3740		7664	7565
MMF Btu/lb	3913		8428	
MAF Btu/lb			8366	
Air Dry Loss (%)		50.56		
Ultimate (%)				
Moisture	51.20		0.00	1.29
Carbon	22.62		46.35	45.75
Hydrogen	2.30		4.71	4.65
Nitrogen	0.12		0.25	0.25
Sulfur	0.02		0.05	0.05
Ash	4.10		8.40	8.29
Oxygen*	19.64		40.24	39.72
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.02	0.05

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 10.96
Lb. SO2/MM Btu= 0.13
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

12/14

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC

JAN 1 3 2003

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

January 7, 2003
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Howard	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Sugar Cane for Chlorine

Samples Analyzed

Enclosed are Report No(s): 7758 to 7761

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

1/7/03

Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
7758	USSC-B-1216	Golder Associates, Inc.	12/17/02	12/18/02	02-2305

Parameter	Results		MDL	Method	Analyzed
Chlorine	414.79	mg/Kg	100.00	ASTM D-4208	1/7/03

Sample	Description	Source	Taken	Received	Work Order
7759	ASA-1216	Golder Associates, Inc.	12/17/02	12/18/02	02-2305

Parameter	Results		MDL	Method	Analyzed
Chlorine	475.46	mg/Kg	100.00	ASTM D-4208	1/7/03

Sample	Description	Source	Taken	Received	Work Order
7760	SCGC-1216	Golder Associates, Inc.	12/17/02	12/18/02	02-2305

Parameter	Results		MDL	Method	Analyzed
Chlorine	268.67	mg/Kg	100.00	ASTM D-4208	1/7/03

Sample	Description	Source	Taken	Received	Work Order
7761	USSC-C-1216	Golder Associates, Inc.	12/17/02	12/18/02	02-2305

Parameter	Results		MDL	Method	Analyzed
Chlorine	441.91	mg/kg	100.00	ASTM D-4208	1/7/03

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified - FDH E82001

January 23, 2003

Ms. Fawn Howard
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the samples received December 17, 2002.

All data were determined in accordance with published procedures (EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, December 1996, 3rd Edition incl. Updates I–III; and Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002579)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER ICCR
DATE: 01/23/03
FDH # E82001
DEP CQAP # 870017G

Samples received 12/17/02 (Page 1 of 1)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME	MATRIX
236197	12/17/02	----	MILL PERSONNEL	12/17/02	1525	VG
236198	12/17/02	----	MILL PERSONNEL	12/17/02	1525	VG
236199	12/17/02	----	MILL PERSONNEL	12/17/02	1525	VG
236200	12/17/02	----	MILL PERSONNEL	12/17/02	1525	VG
236201	12/17/02	----	MILL PERSONNEL	12/17/02	1525	VG

CLIENT STATION ID	LAB NUMBER	TOTAL SOLIDS %	MANGANESE IN VEGETATION mg/kg
USSC-B-1216	236197	50.5	8.4
USSC-B-1216-DUP	236198	50.3	9.8
ASA-1216	236199	47.8	9.2
SCGC-1216	236200	46.7	9.6
USSC-C-1216	236201	50.7	9.9

PROJECT MANAGER Paul Bowman

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		12/18/02	1103	AJS	VG
MN/S/ICP	EPA 6010	12/18/02	ECS	01/08/03	1402	SLS	VG

11/25/02 – 12/1/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date	December 12 2002
HRI Project	002-BD7
HRI Series No.	L37/02-3
Date Rec'd.	12/05/02
Cust. P.O.#	003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
USSC-C-1202

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	54.16		0.00	1.23
Ash	2.23		4.87	4.81
Volatile	38.39		83.75	82.72
Fixed C	5.22		11.38	11.24
Total	100.00		100.00	100.00
Sulfur	0.04		0.09	0.09
Btu/lb (HHV)	3721		8118	8018
MMF Btu/lb	3812		8568	
MAF Btu/lb			8533	
Air Dry Loss (%)		53.59		
Ultimate (%)				
Moisture	54.16		0.00	1.23
Carbon	22.12		48.26	47.67
Hydrogen	2.40		5.23	5.16
Nitrogen	0.13		0.29	0.29
Sulfur	0.04		0.09	0.09
Ash	2.23		4.87	4.81
Oxygen*	18.92		41.26	40.75
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.04	0.09

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.00
Lb. SO2/MM Btu= 0.22
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

12/2

NGS Analytical Laboratory
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056
Mass Certification - MA-00071
Conn Certification - PH-0520

GOLDER ASSOCIATES INC.

DEC 16 2002

GAINESVILLE

Northeast Generation Services
The Northeast Utilities System

December 6, 2002
Report Date

Customer	Contact	Laboratory Supervisor	eMail
Golder Associates, Inc.	F. Howard	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Samples for Chlorine

Samples Analyzed

Enclosed are Report No(s): 7583 to 7586

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

12/6/02

Date

Sample Analysis

Sample	Description	Source	Taken	Received	Work Order
7583	Project # 023-7623 AS-1202 Atlantic Sugar	Golder Associates, Inc.	12/3/02	12/5/02	02-2231

Parameter	Results		MDL	Method	Analyzed
Chlorine	627.72	mg/Kg	100.00	ASTM D-4208	12/6/02

Sample	Description	Source	Taken	Received	Work Order
7584	Project # 023-7623 USSC -B-1202 US Sugar	Golder Associates, Inc.	12/3/02	12/5/02	02-2231

Parameter	Results		MDL	Method	Analyzed
Chlorine	369.18	mg/Kg	100.00	ASTM D-4208	12/6/02

Sample	Description	Source	Taken	Received	Work Order
7585	Project # 023-7623 USSC -C-1202 US Sugar	Golder Associates, Inc.	12/3/02	12/5/02	02-2231

Parameter	Results		MDL	Method	Analyzed
Chlorine	394.45	mg/Kg	100.00	ASTM D-4208	12/6/02

Sample	Description	Source	Taken	Received	Work Order
7586	Project # 023-7623 SCGC-1202 Sugar Cane	Golder Associates, Inc.	12/3/02	12/5/02	02-2231

Parameter	Results		MDL	Method	Analyzed
Chlorine	323.25	mg/Kg	100.00	ASTM D-4208	12/6/02

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

January 22, 2003

Ms. Fawn Howard
Golder Associates, Inc.
6241 NW 23 St., Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the samples received December 3, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and *Standard Methods for the Examination of Water and Wastewater*, 18th Edition, 1992). Our laboratory is certified by Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (#870017G).

Due to instrument failure, mercury analyses were performed by US Biosystems (FDH # E86240) in Boca Raton, FL.

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman

Paul Berman
Project Manager

Enclosures

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002557)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER ICCR
DATE: 01/15/03
FDH # E82001
DEP CQAP # 870017G

Samples received 12/3/02 (Page 1 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
235334	12/03/02	----	MILL PERSONNEL	12/03/02	1330	VG
235335	12/03/02	----	MILL PERSONNEL	12/03/02	1330	VG
235336	12/03/02	----	MILL PERSONNEL	12/03/02	1330	VG

	CLIENT STATION ID:	ASA 1202	ASA 1202 DUP	USSC-C 1202
	LAB #:	235334	235335	235336
ANALYSIS	UNITS	METHOD		
%SOLIDS	%	EPA 160.3/	46.1	48.3	48.2
AS/V/ICP	mg/kg	EPA 6010/	0.5	0.2	0.4
BE/V/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CD/V/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CR/V/ICP	mg/kg	EPA 6010/	0.6	0.1	0.8
PB/V/ICP	mg/kg	EPA 6010/	0.2 U	0.2 U	0.2 U
MN/V/ICP	mg/kg	EPA 6010/	11.4	6.3	9.5
HG/S/CVAA	mg/kg	EPA 7471/	0.2 U	0.2 U	0.2 U
NI/V/ICP	mg/kg	EPA 6010/	0.6	0.2	0.4
SE/V/ICP	mg/kg	EPA 6010/	1.0	0.7	0.9

U = Result below detection limit

PROJECT MANAGER Paul Bemm

PPB ENVIRONMENTAL LABORATORIES, INC.

6821 SW Archer Road, Gainesville, FL 32608 Ph: (352) 377-2349 Fax: (352) 395-6639 E-mail: ppb@ppb-envlabs.com NELAP Certified—FDH # E82001

REPORT OF ANALYSES (SN-00002557)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER ICCR
DATE: 01/15/03
FDH # E82001
DEP CQAP # 870017G

Samples received 12/3/02 (Page 2 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME	MATRIX
235337	12/03/02	----	MILL PERSONNEL	12/03/02	1330	VG
235338	12/03/02	----	MILL PERSONNEL	12/03/02	1330	VG

	CLIENT STATION ID:	USSC-C-B 1202	SCGC 1202
	LAB #:	235337	235338
ANALYSIS	UNITS	METHOD	
%SOLIDS	%	EPA 160.3/	49.5	44.7
AS/V/ICP	mg/kg	EPA 6010/	0.6	0.7
BE/V/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U
CD/V/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U
CR/V/ICP	mg/kg	EPA 6010/	0.4	0.2
PB/V/ICP	mg/kg	EPA 6010/	0.3	0.3
MN/V/ICP	mg/kg	EPA 6010/	8.8	10.3
HG/S/CVAA	mg/kg	EPA 7471/	0.2 U	0.2 U
NI/V/ICP	mg/kg	EPA 6010/	0.2	0.2
SE/V/ICP	mg/kg	EPA 6010/	0.9	1.0

U = Result below detection limit

PROJECT MANAGER Paul Bemm

3/25/02 – 3/31/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date April 9 2002
HRI Project 002-9IV
HRI Series No. D3/02-1
Date Rec'd. 04/03/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 41

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	52.56	0.00	1.20
Ash	1.78	3.74	3.70
Volatile	40.24	84.82	83.80
Fixed C	5.42	11.44	11.30
Total	100.00	100.00	100.00
Sulfur	0.03	0.07	0.07
Btu/lb (HHV)	3823	8058	7961
MMF Btu/lb	3897	8397	
MAF Btu/lb		8372	
Air Dry Loss (%)	51.98		
Ultimate (%)			
Moisture	52.56	0.00	1.20
Carbon	22.55	47.54	46.97
Hydrogen	3.06	6.44	6.37
Nitrogen	0.20	0.41	0.41
Sulfur	0.03	0.07	0.07
Ash	1.78	3.74	3.70
Oxygen*	19.82	41.80	41.28
Total	100.00	100.00	100.00
Chlorine**			

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.03	0.07

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.65
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ENVIRONMENTAL LABORATORIES, INC. NELAP Certified — FDH # E82

May 23, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received March 25 and April 2, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ppb
ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001636)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/23/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/26 AND 4/2/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
CLEW 325	221301	47.9	0.4	0.1 U	0.1 U	0.3	0.3 U
BRY 325	221302	46.2	0.3	0.1 U	0.1 U	0.2	0.3 U
SCG 325A	221303	46.9	0.3	0.1 U	0.1 U	0.1 U	0.3 U
SCG 325B DUP	221304	49.7	0.3	0.1 U	0.1 U	0.1	0.3 U
CLEW41A	221774	51.6	0.3	0.1 U	0.1 U	0.2	0.3 U
BRY41	221775	46.5	0.5	0.1 U	0.1 U	0.3	0.3 U
CLEW41B	221776	50.5	0.4	0.1 U	0.1 U	0.2	0.3 U
SCG41	221777	48.0	0.2	0.1 U	0.1 U	0.1	0.3 U

U = Result below detection limit

PROJECT MANAGER Paul C Berrum

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC

REPORT OF ANALYSES (SN-00001636)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/23/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/26 AND 4/2/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
CLEW 325	221301	6.3	0.02 U	0.2 U	0.7
BRY 325	221302	10.8	0.02 U	0.2	0.6
SCG 325A	221303	8.4	0.02 U	0.2	0.7
SCG 325B DUP	221304	7.7	0.02 U	0.2 U	0.8
CLEW41A	221774	10.9	0.02 U	0.2	0.7
BRY41	221775	11.0	0.02 U	0.2	1.0
CLEW41B	221776	11.8	0.02 U	0.3	0.7
SCG41	221777	7.3	0.02 U	0.2	0.7

U = Result below detection limit

PROJECT MANAGER Paul Bemm

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC.

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221304	SCG 325B DUP	50.6	48.8	1.8	2.56	8.10
221777	SCG41	48.9	47.1	1.8	2.65	NO DATA

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.4	0.2	0.20	47.14	60.18

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	72	76	74 TO 121	3.82	NO DATA
221775	BRY41	96	---	74 TO 121	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2060	103	64 TO 152
SLCS4-8071	132	106	80	65 TO 149

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.1	<0.1	0	0.00	NO DATA

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	80	78	NO DATA	1.79	NO DATA
221775	BRY41	98	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	62 TO 150
SLCS4-8071	90.1	73.0	81	65 TO 147

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.1	<0.1	0	0.00	43.03

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	80	80	NO DATA	0.00	NO DATA
221775	BRY41	96	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	58 TO 160
SLCS4-8071	51.5	42.1	82	60 TO 157

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 3

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.2	0.2	0	0.00	86.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	78	76	75 TO 96	1.84	NO DATA
221775	BRY41	97	---	75 TO 96	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2040	102	46 TO 154
SLCS4-8071	142	112	79	48 TO 152

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.3	<0.3	0	0.00	35.74

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	93	92	NO DATA	0.76	NO DATA
221775	BRY41	96	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	43 TO 177
SLCS4-8071	52.9	46.6	88	46 TO 174

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 4

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	10.7	11.0	0.30	1.96	45.38

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	106	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2030	102	63 TO 135
ICV	2000	2000	100	65 TO 133
SLCS-8089	468	473	101	66 TO 132

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.02	<0.02	0	0.00	4.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	82	---	69 TO 137	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	33.0	101	35 TO 156

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 5

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.2	0.3	0.10	28.28	70.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	94	96	NO DATA	1.49	NO DATA
221775	BRY41	102	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2050	102	64 TO 143
ICV	2000	1990	100	66 TO 140
SLCS-8089	55.4	57.0	103	67 TO 138

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.7	0.6	0.10	10.88	38.08

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	66	75	NO DATA	9.03	NO DATA
221775	BRY41	99	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2060	103	62 TO 158
SLCS4-8071	60.9	56.5	93	63 TO 156

ppb
ENVIRONMENTAL LABORATORIES, INC.

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		04/01/02	1800	AJS	VG
AS/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
BE/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
CD/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
CR/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
HG/V/CVAA	EPA 7471	/ /		04/05/02	2218	MNR	VG
MN/V/ICP	EPA 6010	04/17/02	ECS	04/29/02	1446	SLS	VG
NI/V/ICP	EPA 6010	04/17/02	ECS	04/29/02	1446	SLS	VG
PB/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
SE/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

3/18/02 – 3/24/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date March 29 2002
HRI Project 002-9IV
HRI Series No. C307/02-1
Date Rec'd. 03/26/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 325

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	51.60		0.00	1.72
Ash	1.56		3.23	3.17
Volatile	40.68		84.04	82.59
Fixed C	6.16		12.73	12.52
Total	100.00		100.00	100.00
Sulfur	0.02		0.05	0.05
Btu/lb (HHV)	3869		7994	7857
MMF Btu/lb	3935		8283	
MAF Btu/lb			8261	
Air Dry Loss (%)		50.75		
Ultimate (%)				
Moisture	51.60		0.00	1.72
Carbon	23.40		48.34	47.51
Hydrogen	3.05		6.31	6.20
Nitrogen	0.18		0.38	0.37
Sulfur	0.02		0.05	0.05
Ash	1.56		3.23	3.17
Oxygen*	20.19		41.69	40.98
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.02	0.05

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.03
Lb. SO2/MM Btu= 0.13
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E820

May 23, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received March 25 and April 2, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001636)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/23/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/26 AND 4/2/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
CLEW 325	221301	47.9	0.4	0.1 U	0.1 U	0.3	0.3 U
BRY 325	221302	46.2	0.3	0.1 U	0.1 U	0.2	0.3 U
SCG 325A	221303	46.9	0.3	0.1 U	0.1 U	0.1 U	0.3 U
SCG 325B DUP	221304	49.7	0.3	0.1 U	0.1 U	0.1	0.3 U
CLEW41A	221774	51.6	0.3	0.1 U	0.1 U	0.2	0.3 U
BRY41	221775	46.5	0.5	0.1 U	0.1 U	0.3	0.3 U
CLEW41B	221776	50.5	0.4	0.1 U	0.1 U	0.2	0.3 U
SCG41	221777	48.0	0.2	0.1 U	0.1 U	0.1	0.3 U

U = Result below detection limit

PROJECT MANAGER Paul C Benn

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001636)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/23/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/26 AND 4/2/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
CLEW 325	221301	6.3	0.02 U	0.2 U	0.7
BRY 325	221302	10.8	0.02 U	0.2	0.6
SCG 325A	221303	8.4	0.02 U	0.2	0.7
SCG 325B DUP	221304	7.7	0.02 U	0.2 U	0.8
CLEW41A	221774	10.9	0.02 U	0.2	0.7
BRY41	221775	11.0	0.02 U	0.2	1.0
CLEW41B	221776	11.8	0.02 U	0.3	0.7
SCG41	221777	7.3	0.02 U	0.2	0.7

U = Result below detection limit

PROJECT MANAGER Paul Bemm

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC.

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221304	SCG 325B DUP	50.6	48.8	1.8	2.56	8.10
221777	SCG41	48.9	47.1	1.8	2.65	NO DATA

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.4	0.2	0.20	47.14	60.18

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	72	76	74 TO 121	3.82	NO DATA
221775	BRY41	96	---	74 TO 121	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2060	103	64 TO 152
SLCS4-8071	132	106	80	65 TO 149

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.1	<0.1	0	0.00	NO DATA

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 2

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	80	78	NO DATA	1.79	NO DATA
221775	BRY41	98	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	62 TO 150
SLCS4-8071	90.1	73.0	81	65 TO 147

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.1	<0.1	0	0.00	43.03

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	80	80	NO DATA	0.00	NO DATA
221775	BRY41	96	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	58 TO 160
SLCS4-8071	51.5	42.1	82	60 TO 157

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 3

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.2	0.2	0	0.00	86.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	78	76	75 TO 96	1.84	NO DATA
221775	BRY41	97	---	75 TO 96	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2040	102	46 TO 154
SLCS4-8071	142	112	79	48 TO 152

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.3	<0.3	0	0.00	35.74

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	93	92	NO DATA	0.76	NO DATA
221775	BRY41	96	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2070	104	43 TO 177
SLCS4-8071	52.9	46.6	88	46 TO 174

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 4

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	10.7	11.0	0.30	1.96	45.38

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	106	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2030	102	63 TO 135
ICV	2000	2000	100	65 TO 133
SLCS-8089	468	473	101	66 TO 132

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	<0.02	<0.02	0	0.00	4.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	82	---	69 TO 137	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	33.0	101	35 TO 156

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/23/02 PAGE 5

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.2	0.3	0.10	28.28	70.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	94	96	NO DATA	1.49	NO DATA
221775	BRY41	102	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2050	102	64 TO 143
ICV	2000	1990	100	66 TO 140
SLCS-8089	55.4	57.0	103	67 TO 138

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
221302	BRY 325	0.7	0.6	0.10	10.88	38.08

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
221775	BRY41	66	75	NO DATA	9.03	NO DATA
221775	BRY41	99	---	NO DATA	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2060	103	62 TO 158
SLCS4-8071	60.9	56.5	93	63 TO 156

ENVIRONMENTAL LABORATORIES, INC

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		04/01/02	1800	AJS	VG
AS/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
BE/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
CD/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
CR/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
HG/V/CVAA	EPA 7471	/ /		04/05/02	2218	MNR	VG
MN/V/ICP	EPA 6010	04/17/02	ECS	04/29/02	1446	SLS	VG
NI/V/ICP	EPA 6010	04/17/02	ECS	04/29/02	1446	SLS	VG
PB/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG
SE/V/ICP	EPA 6010	04/09/02	ECS	04/11/02	1442	ECS	VG

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

3/11/02 – 3/17/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date March 26 2002
HRI Project 002-9IV
HRI Series No. C230/02-1
Date Rec'd. 03/20/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
CLEW 319

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	51.32		0.00	2.93
Ash	1.90		3.90	3.79
Volatile	42.50		87.31	84.75
Fixed C	4.28		8.79	8.53
Total	100.00		100.00	100.00
Sulfur	0.02		0.04	0.04
Btu/lb (HHV)	3872		7953	7720
MMF Btu/lb	3952		8303	
MAF Btu/lb			8276	
Air Dry Loss (%)		49.85		
Ultimate (%)				
Moisture	51.32		0.00	2.93
Carbon	23.18		47.63	46.23
Hydrogen	2.92		6.00	5.82
Nitrogen	0.19		0.38	0.37
Sulfur	0.02		0.04	0.04
Ash	1.90		3.90	3.79
Oxygen*	20.47		42.05	40.82
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.02	0.04

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.91
Lb. SO2/MM Btu= 0.10
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

May 6, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received March 11 and 19, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001512)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/02/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/11 AND 3/19/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
CLEW312A	220097	54.0	0.4	0.1 U	0.1 U	0.5	0.3 U
CLEW312B DUP	220098	49.9	0.4	0.1 U	0.1 U	0.8	0.3
BRY312	220099	45.7	0.4	0.1 U	0.1 U	0.4	0.3 U
SCG312	220100	51.1	0.4	0.1 U	0.1 U	0.4	0.3
CLEW319	220514	50.4	0.3 U	0.1 U	0.1 U	0.2	0.3 U
BRY319A	220515	48.1	0.2	0.1 U	0.1 U	0.2	0.3 U
BRY319B	220516	46.4	0.3 U	0.1 U	0.1 U	0.2	0.3 U
SCG319	220517	48.6	0.4	0.1 U	0.1 U	0.2	0.3 U

U = Result below detection limit
All results reported on a dry weight basis

PROJECT MANAGER Paul Bergman

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC

REPORT OF ANALYSES (SN-00001512)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/02/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/11 AND 3/19/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
CLEW312A	220097	8.0	0.20 U	0.3	0.8
CLEW312B DUP	220098	8.9	0.20 U	0.2	0.9
BRY312	220099	10.6	0.22 U	0.2 U	1.0
SCG312	220100	10.3	0.21 U	0.2	1.0
CLEW319	220514	5.8	0.22 U	0.2 U	0.6
BRY319A	220515	9.0	0.19 U	0.2 U	0.5
BRY319B	220516	9.2	0.22 U	0.2 U	0.6
SCG319	220517	6.9	0.22 U	0.2 U	0.6

U = Result below detection limit
All results reported on a dry weight basis

PROJECT MANAGER Paul Benn

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220097	CLEW312A	54.9	53.1	1.8	2.36	8.77
220517	SCG319	49.5	47.8	1.7	2.47	8.42

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.4	0.4	0	0.00	62.28
220514	CLEW319	<0.3	<0.3	0	0.00	61.28

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	95	97	60 TO 149	1.47	26.51
220100	SCG312	108	---	60 TO 149	----	----
220517	SCG319	104	---	61 TO 147	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	349	463	133	68 TO 142

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 2

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.1	<0.1	0	0.00	NO DATA
220514	CLEW319	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	95	94	69 TO 127	0.75	16.11
220100	SCG312	106	---	69 TO 127	----	----
220517	SCG319	103	---	71 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	34.7	47.1	136	73 TO 132

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.1	<0.1	0	0.00	47.07
220514	CLEW319	<0.1	<0.1	0	0.00	44.92

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	98	100	70 TO 127	1.43	16.34
220100	SCG312	104	---	70 TO 127	----	----
220517	SCG319	102	---	71 TO 126	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	46.9	67.2	143	66 TO 144

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.3	0.6	0.30	47.14	80.11
220514	CLEW319	0.1	0.2	0.10	47.14	83.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	91	92	74 TO 119	0.77	13.93
220100	SCG312	104	---	74 TO 119	----	----
220517	SCG319	102	---	74 TO 118	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	115	156	136	53 TO 140

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.3	<0.3	0	0.00	38.62
220514	CLEW319	<0.3	<0.3	0	0.00	37.11

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	81	85	66 TO 134	3.41	12.41
220100	SCG312	103	---	66 TO 134	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	52.4	73.0	139	43 TO 171

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	9.5	11.8	2.3	15.27	45.97
220514	CLEW319	4.8	6.8	2.0	24.38	44.18

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	87	85	51 TO 142	1.64	49.83
220100	SCG312	101	---	51 TO 142	----	----
220514	CLEW319	100	---	53 TO 139	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	151	187	124	70 TO 122

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 5

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220097	CLEW312A	<0.20	<0.20	0	0.00	4.14
220516	BRY319B	<0.22	<0.23	0.0050	3.14	4.02

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220098	CLEW312B DUP	93	---	56 TO 139	----	----
220517	SCG319	93	---	57 TO 137	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
0.3 FISHER	0.30	0.28	93	30 TO 159
MS2710	32.6	36.5	112	32 TO 156

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.2	<0.2	0	0.00	76.67
220514	CLEW319	<0.2	<0.2	0	0.00	73.17

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	91	92	68 TO 119	0.77	14.56
220100	SCG312	104	---	68 TO 119	----	----
220517	SCG319	104	---	69 TO 119	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 6

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	89.7	117	130	73 TO 127

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.9	1.0	0.10	7.44	40.27
220514	CLEW319	0.6	0.6	0	0.00	38.54

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	100	104	78 TO 143	2.77	12.88
220100	SCG312	117	---	78 TO 143	----	----
220517	SCG319	108	---	79 TO 141	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	185	251	136	65 TO 149

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/18/02	1500	AJS	VG
%SOLIDS	EPA 160.3	/ /		03/22/02	1500	AJS	VG
AS/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
BE/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
CD/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
CR/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
HG/V/CVAA	EPA 7471	/ /		03/21/02	0900	AMW	VG
MN/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
NI/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
PB/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
SE/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG

3/4/02 – 3/10/02

Hazen Research, Inc.
4601 Indiana St. • Golden, CO 80403
Tel: (303) 279-4501
Fax: (303) 278-1528

Date March 19 2002
HRI Project 002-3IP
HRI Series No. C131/02-1
Date Rec'd. 03/13/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 312

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.84		0.00	1.58
Ash	1.28		2.61	2.57
Volatile	43.10		87.68	86.29
Fixed C	4.78		9.71	9.56
Total	100.00		100.00	100.00
Sulfur	0.02		0.04	0.04
Btu/lb (HHV)	3951		8037	7910
MMF Btu/lb	4006		8270	
MAF Btu/lb			8253	
Air Dry Loss (%)		50.05		
Ultimate (%)				
Moisture	50.84		0.00	1.58
Carbon	23.73		48.26	47.50
Hydrogen	3.19		6.49	6.38
Nitrogen	0.20		0.41	0.40
Sulfur	0.02		0.04	0.04
Ash	1.28		2.61	2.57
Oxygen*	20.74		42.19	41.53
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.02	0.04

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 3.25
Lb. SO2/MM Btu= 0.10
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E8

May 6, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received March 11 and 19, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001512)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/02/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/11 AND 3/19/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/V/ICP mg/kg	BE/V/ICP mg/kg	CD/V/ICP mg/kg	CR/V/ICP mg/kg	PB/V/ICP mg/kg
CLEW312A	220097	54.0	0.4	0.1 U	0.1 U	0.5	0.3 U
CLEW312B DUP	220098	49.9	0.4	0.1 U	0.1 U	0.8	0.3
BRY312	220099	45.7	0.4	0.1 U	0.1 U	0.4	0.3 U
SCG312	220100	51.1	0.4	0.1 U	0.1 U	0.4	0.3
CLEW319	220514	50.4	0.3 U	0.1 U	0.1 U	0.2	0.3 U
BRY319A	220515	48.1	0.2	0.1 U	0.1 U	0.2	0.3 U
BRY319B	220516	46.4	0.3 U	0.1 U	0.1 U	0.2	0.3 U
SCG319	220517	48.6	0.4	0.1 U	0.1 U	0.2	0.3 U

U = Result below detection limit
All results reported on a dry weight basis

PROJECT MANAGER Paul Bergman

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ppb
ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001512)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 05/02/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 3/11 AND 3/19/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/V/ICP mg/kg	HG/V/CVAA mg/kg	NI/V/ICP mg/kg	SE/V/ICP mg/kg
CLEW312A	220097	8.0	0.20 U	0.3	0.8
CLEW312B DUP	220098	8.9	0.20 U	0.2	0.9
BRY312	220099	10.6	0.22 U	0.2 U	1.0
SCG312	220100	10.3	0.21 U	0.2	1.0
CLEW319	220514	5.8	0.22 U	0.2 U	0.6
BRY319A	220515	9.0	0.19 U	0.2 U	0.5
BRY319B	220516	9.2	0.22 U	0.2 U	0.6
SCG319	220517	6.9	0.22 U	0.2 U	0.6

U = Result below detection limit
All results reported on a dry weight basis

PROJECT MANAGER Paul Bemm

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

ENVIRONMENTAL LABORATORIES, INC.

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220097	CLEW312A	54.9	53.1	1.8	2.36	8.77
220517	SCG319	49.5	47.8	1.7	2.47	8.42

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.4	0.4	0	0.00	62.28
220514	CLEW319	<0.3	<0.3	0	0.00	61.28

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	95	97	60 TO 149	1.47	26.51
220100	SCG312	108	---	60 TO 149	----	----
220517	SCG319	104	---	61 TO 147	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	349	463	133	68 TO 142

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 2

BERYLLIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.1	<0.1	0	0.00	NO DATA
220514	CLEW319	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	95	94	69 TO 127	0.75	16.11
220100	SCG312	106	---	69 TO 127	----	----
220517	SCG319	103	---	71 TO 125	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	34.7	47.1	136	73 TO 132

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.1	<0.1	0	0.00	47.07
220514	CLEW319	<0.1	<0.1	0	0.00	44.92

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	98	100	70 TO 127	1.43	16.34
220100	SCG312	104	---	70 TO 127	----	----
220517	SCG319	102	---	71 TO 126	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	46.9	67.2	143	66 TO 144

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.3	0.6	0.30	47.14	80.11
220514	CLEW319	0.1	0.2	0.10	47.14	83.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	91	92	74 TO 119	0.77	13.93
220100	SCG312	104	---	74 TO 119	----	----
220517	SCG319	102	---	74 TO 118	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	115	156	136	53 TO 140

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.3	<0.3	0	0.00	38.62
220514	CLEW319	<0.3	<0.3	0	0.00	37.11

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	81	85	66 TO 134	3.41	12.41
220100	SCG312	103	---	66 TO 134	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	52.4	73.0	139	43 TO 171

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	9.5	11.8	2.3	15.27	45.97
220514	CLEW319	4.8	6.8	2.0	24.38	44.18

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	87	85	51 TO 142	1.64	49.83
220100	SCG312	101	---	51 TO 142	----	----
220514	CLEW319	100	---	53 TO 139	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	151	187	124	70 TO 122

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 5

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220097	CLEW312A	<0.20	<0.20	0	0.00	4.14
220516	BRY319B	<0.22	<0.23	0.0050	3.14	4.02

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220098	CLEW312B DUP	93	---	56 TO 139	----	----
220517	SCG319	93	---	57 TO 137	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
0.3 FISHER	0.30	0.28	93	30 TO 159
MS2710	32.6	36.5	112	32 TO 156

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	<0.2	<0.2	0	0.00	76.67
220514	CLEW319	<0.2	<0.2	0	0.00	73.17

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	91	92	68 TO 119	0.77	14.56
220100	SCG312	104	---	68 TO 119	----	----
220517	SCG319	104	---	69 TO 119	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 05/02/02 PAGE 6

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	89.7	117	130	73 TO 127

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
220099	BRY312	0.9	1.0	0.10	7.44	40.27
220514	CLEW319	0.6	0.6	0	0.00	38.54

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
220100	SCG312	100	104	78 TO 143	2.77	12.88
220100	SCG312	117	---	78 TO 143	----	----
220517	SCG319	108	---	79 TO 141	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7994	185	251	136	65 TO 149

ppb
ENVIRONMENTAL LABORATORIES, INC.

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/18/02	1500	AJS	VG
%SOLIDS	EPA 160.3	/ /		03/22/02	1500	AJS	VG
AS/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
BE/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
CD/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
CR/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
HG/V/CVAA	EPA 7471	/ /		03/21/02	0900	AMW	VG
MN/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
NI/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
PB/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG
SE/V/ICP	EPA 6010	03/15/02	ECS	03/25/02	1040	ECS	VG

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@atlantic.net

2/25/02 – 3/3/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date March 14 2002
HRI Project 002-3IP
HRI Series No. C62/02-1
Date Rec'd. 03/06/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 35

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.18		0.00	1.19
Ash	1.57		3.15	3.11
Volatile	42.59		85.49	84.47
Fixed C	5.66		11.36	11.23
Total	100.00		100.00	100.00
Sulfur	0.02		0.04	0.04
Btu/lb (HHV)	3941		7911	7817
MMF Btu/lb	4009		8189	
MAF Btu/lb			8168	
Air Dry Loss (%)		49.58		
Ultimate (%)				
Moisture	50.18		0.00	1.19
Carbon	23.97		48.12	47.55
Hydrogen	3.04		6.10	6.03
Nitrogen	0.18		0.36	0.36
Sulfur	0.02		0.04	0.04
Ash	1.57		3.15	3.11
Oxygen*	21.04		42.23	41.72
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic	____	____
Total	0.02	0.04

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 3.98
Lb. SO2/MM Btu= 0.10
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E

April 11, 2002

-> verified on dry basis - Paul Berman 4/29/02

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received February 26 and March 4, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001427)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 04/10/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/26/02 AND 3/4/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
CLEW226	219319	51.8	0.2	0.1 U	0.1 U	0.2	0.3 U
BRY226A	219320	49.2	0.5	0.1 U	0.1 U	0.4	0.3 U
BRY226B	219321	51.4	0.3 U	0.1 U	0.1 U	0.3	0.3 U
SCG226	219322	47.3	0.5	0.1 U	0.1 U	0.2	0.3 U
CLEW 35	219662	51.9	0.3	0.1 U	0.1 U	0.3	0.2
BRY 35	219663	47.1	0.4	0.1 U	0.1 U	0.3	0.3 U
SCG 35A	219664	46.8	0.5	0.1 U	0.1 U	0.2	0.3 U
SCG 35B	219665	48.0	0.4	0.1 U	0.1 U	0.2	0.3 U

U = Result below detection limit

PROJECT MANAGER

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

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CLIENT STATION ID	LAB NUMBER	MN/S/ICP mg/kg	HG/S/CVAA mg/kg	NI/S/ICP mg/kg	SE/S/ICP mg/kg
CLEW226	219319	6.2	0.10 U	0.2	0.5
BRY226A	219320	7.6	0.10 U	0.2	0.6
BRY226B	219321	7.0	0.10 U	0.2	0.6
SCG226	219322	9.0	0.10 U	0.2	0.8
CLEW 35	219662	5.6	0.10 U	0.2 U	0.7
BRY 35	219663	10.4	0.10 U	0.2 U	0.9
SCG 35A	219664	8.3	0.10 U	0.2 U	0.9
SCG 35B	219665	5.9	0.10 U	0.2 U	0.8

U = Result below detection limit

PROJECT MANAGER Paul Bermudez

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219319	CLEW226	52.4	51.1	1.3	1.78	9.21
219662	CLEW 35	51.5	52.3	0.80	1.09	8.90

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.3	0.4	0.10	20.20	63.71

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	100	99	58 TO 151	0.71	27.03
219664	SCG 35A	97	---	59 TO 150	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	61 TO 144
SLCS-7970	75.2	87.2	116	64 TO 141
SLCS-7986	75.2	85.6	114	65 TO 142

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 2

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	104	106	67 TO 128	1.35	17.14
219664	SCG 35A	97	---	68 TO 128	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	76 TO 119
SLCS-7970	52.2	62.4	120	79 TO 118
SLCS-7986	52.2	57.1	109	71 TO 132

CADMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.1	<0.1	0	0.00	49.58

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	102	104	68 TO 129	1.37	17.36
219664	SCG 35A	93	---	69 TO 128	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	60 TO 144
SLCS-7970	181	216	119	63 TO 140
SLCS-7986	181	206	114	64 TO 144

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.3	0.3	0	0.00	81.25

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	100	102	72 TO 119	1.40	14.72
219664	SCG 35A	95	---	73 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	46 TO 141
SLCS-7970	66.1	72.8	110	49 TO 139
SLCS-7986	66.1	70.2	106	51 TO 140

LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.3	<0.3	0	0.00	40.30

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	106	109	63 TO 135	1.97	13.08
219664	SCG 35A	94	---	65 TO 135	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV PB	2000	2010	100	30 TO 182
SLCS-7970	56.8	68.2	120	35 TO 176
SLCS-7986	56.8	64.2	113	39 TO 174

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	11.6	9.3	2.3	15.56	48.10

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	89	119	50 TO 143	20.40	52.51
219320	BRY226A	101	---	50 TO 143	----	----
219664	SCG 35A	80	---	53 TO 143	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	65 TO 123
SLCS-7970	157	167	106	68 TO 121
SLCS-7986	157	149	95	68 TO 124

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 5

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219320	BRY226A	<0.10	<0.10	0	0.00	4.33

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219321	BRY226B	90	---	55 TO 140	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
FISHER	0.200	0.211	106	22 TO 164
MS2710	32.6	30.8	94	26 TO 162

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.2	<0.2	0	0.00	80.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	97	100	66 TO 120	2.15	15.31
219664	SCG 35A	94	---	67 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1960	98	75 TO 117
CCS-7970	101	118	117	78 TO 115

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 6

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7986	101	106	105	70 TO 128

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.9	0.9	0	0.00	40.21

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	130	118	77 TO 141	6.84	12.34
219320	BRY226A	116	---	77 TO 141	----	----
219664	SCG 35A	104	---	78 TO 144	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	60 TO 148
SLCS-7970	62.5	78.4	125	63 TO 144
SLCS-7986	62.5	72.1	115	62 TO 150

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/01/02	0900	AMW	VG
%SOLIDS	EPA 160.3	/ /		03/07/02	0900	AJS	VG
AS/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
AS/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
BE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
BE/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
CD/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CD/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
CR/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CR/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
HG/S/CVAA	EPA 7471	/ /		03/08/02	0800	AMW	VG
MN/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
MN/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
NI/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
NI/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
PB/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
PB/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
SE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
SE/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG

2/18/02 – 2/24/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

MAR 11 2002

GAINESVILLE

Date March 1 2002
HRI Project 002-3IP
HRI Series No. B323/02-1
Date Rec'd. 02/27/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 226

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.31		0.00	0.95
Ash	1.80		3.61	3.58
Volatile	42.00		84.52	83.72
Fixed C	5.89		11.87	11.75
Total	100.00		100.00	100.00
Sulfur	0.04		0.07	0.07
Btu/lb (HHV)	4012		8073	7996
MMF Btu/lb	4090		8401	
MAF Btu/lb			8376	
Air Dry Loss (%)		49.83		
Ultimate (%)				
Moisture	50.31		0.00	0.95
Carbon	23.73		47.75	47.30
Hydrogen	2.97		5.98	5.92
Nitrogen	0.20		0.40	0.40
Sulfur	0.04		0.07	0.07
Ash	1.80		3.61	3.58
Oxygen*	20.95		42.19	41.78
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.07

Water Soluble Alkalies (%)

Na20	
K20	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 4.48
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E8

April 11, 2002

-> verified on dry basis - Paul Berman 4/29/02

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received February 26 and March 4, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

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DEP CQAP # 870017G

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CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
CLEW226	219319	51.8	0.2	0.1 U	0.1 U	0.2	0.3 U
BRY226A	219320	49.2	0.5	0.1 U	0.1 U	0.4	0.3 U
BRY226B	219321	51.4	0.3 U	0.1 U	0.1 U	0.3	0.3 U
SCG226	219322	47.3	0.5	0.1 U	0.1 U	0.2	0.3 U
CLEW 35	219662	51.9	0.3	0.1 U	0.1 U	0.3	0.2
BRY 35	219663	47.1	0.4	0.1 U	0.1 U	0.3	0.3 U
SCG 35A	219664	46.8	0.5	0.1 U	0.1 U	0.2	0.3 U
SCG 35B	219665	48.0	0.4	0.1 U	0.1 U	0.2	0.3 U

U = Result below detection limit

PROJECT MANAGER

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

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Attn: Ms. Fawn Howard

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BRY226A	219320	7.6	0.10 U	0.2	0.6
BRY226B	219321	7.0	0.10 U	0.2	0.6
SCG226	219322	9.0	0.10 U	0.2	0.8
CLEW 35	219662	5.6	0.10 U	0.2 U	0.7
BRY 35	219663	10.4	0.10 U	0.2 U	0.9
SCG 35A	219664	8.3	0.10 U	0.2 U	0.9
SCG 35B	219665	5.9	0.10 U	0.2 U	0.8

U = Result below detection limit

PROJECT MANAGER Paul Bermes

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219319	CLEW226	52.4	51.1	1.3	1.78	9.21
219662	CLEW 35	51.5	52.3	0.80	1.09	8.90

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.3	0.4	0.10	20.20	63.71

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	100	99	58 TO 151	0.71	27.03
219664	SCG 35A	97	---	59 TO 150	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	61 TO 144
SLCS-7970	75.2	87.2	116	64 TO 141
SLCS-7986	75.2	85.6	114	65 TO 142

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 2

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	104	106	67 TO 128	1.35	17.14
219664	SCG 35A	97	---	68 TO 128	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
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PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
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Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	102	104	68 TO 129	1.37	17.36
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QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 3

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SLCS-7970	181	216	119	63 TO 140
SLCS-7986	181	206	114	64 TO 144

CHROMIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.3	0.3	0	0.00	81.25

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	100	102	72 TO 119	1.40	14.72
219664	SCG 35A	95	---	73 TO 119	----	----

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Reference ID	Target	Found	% Recovery	Control Limits
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SLCS-7970	66.1	72.8	110	49 TO 139
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LEAD IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.3	<0.3	0	0.00	40.30

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	106	109	63 TO 135	1.97	13.08
219664	SCG 35A	94	---	65 TO 135	----	----

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Reference ID	Target	Found	% Recovery	Control Limits
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SLCS-7970	56.8	68.2	120	35 TO 176
SLCS-7986	56.8	64.2	113	39 TO 174

MANGANESE IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	11.6	9.3	2.3	15.56	48.10

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	89	119	50 TO 143	20.40	52.51
219320	BRY226A	101	---	50 TO 143	----	----
219664	SCG 35A	80	---	53 TO 143	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1970	98	65 TO 123
SLCS-7970	157	167	106	68 TO 121
SLCS-7986	157	149	95	68 TO 124

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 5

MERCURY IN VEGETATION mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219320	BRY226A	<0.10	<0.10	0	0.00	4.33

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219321	BRY226B	90	---	55 TO 140	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
FISHER	0.200	0.211	106	22 TO 164
MS2710	32.6	30.8	94	26 TO 162

NICKEL IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	<0.2	<0.2	0	0.00	80.61

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	97	100	66 TO 120	2.15	15.31
219664	SCG 35A	94	---	67 TO 120	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
[illegible]	2000	1960	98	75 TO 117
[illegible]S-7970	101	118	117	78 TO 115

QC REPORT FOR GOLDER ASSOCIATES, INC. 04/10/02 PAGE 6

References

Reference ID	Target	Found	% Recovery	Control Limits
SLCS-7986	101	106	105	70 TO 128

SELENIUM IN VEGETATION mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
219663	BRY 35	0.9	0.9	0	0.00	40.21

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
219320	BRY226A	130	118	77 TO 141	6.84	12.34
219320	BRY226A	116	---	77 TO 141	----	----
219664	SCG 35A	104	---	78 TO 144	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	60 TO 148
SLCS-7970	62.5	78.4	125	63 TO 144
SLCS-7986	62.5	72.1	115	62 TO 150

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		03/01/02	0900	AMW	VG
%SOLIDS	EPA 160.3	/ /		03/07/02	0900	AJS	VG
AS/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
AS/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
BE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
BE/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
CD/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CD/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
CR/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CR/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
HG/S/CVAA	EPA 7471	/ /		03/08/02	0800	AMW	VG
MN/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
MN/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
NI/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
NI/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
PB/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
PB/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG
SE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
SE/S/ICP	EPA 6010	03/08/02	ECS	03/14/02	1026	ECS	VG

2/11/02 – 2/17/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

MAR - 4 2002

Date February 27 2002
HRI Project 002-3IP
HRI Series No. B277/02-1
Date Rec'd. 02/20/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
Clew 219

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	48.99		0.00	1.33
Ash	2.62		5.14	5.07
Volatile	42.55		83.42	82.31
Fixed C	5.84		11.44	11.29
Total	100.00		100.00	100.00
Sulfur	0.04		0.07	0.07
Btu/lb (HHV)	4005		7852	7747
MMF Btu/lb	4121		8313	
MAF Btu/lb			8277	
Air Dry Loss (%)		48.30		
Ultimate (%)				
Moisture	48.99		0.00	1.33
Carbon	23.86		46.78	46.16
Hydrogen	3.00		5.88	5.80
Nitrogen	0.17		0.33	0.33
Sulfur	0.04		0.07	0.07
Ash	2.62		5.14	5.07
Oxygen*	21.32		41.80	41.24
Total	100.00		100.00	100.00
Chlorine**				

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.54
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Forms of Sulfur (as S,%)		
Sulfate		
Pyritic		
Organic		
Total	0.04	0.07

Report Prepared By:

Water Soluble Alkalies (%)

Na2O
K2O

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ENVIRONMENTAL LABORATORIES, INC.

NELAP Certified — FDH # E82

March 29, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received February 12 and 19, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC. NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001377)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 03/29/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/12 AND 2/19/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
CLEW 212	218743	45.7	0.4 U	0.1 U	0.1 U	0.6	0.4 U
BRY 212A	218744	46.1	0.4 U	0.1 U	0.1 U	0.5	0.4 U
BRY 212B	218745	43.0	0.4 U	0.1 U	0.1 U	0.5	0.4 U
ASA 212	218746	49.1	0.4 U	0.1 U	0.1 U	1.0	0.4 U
SCGC 212	218747	46.8	0.4 U	0.1 U	0.1 U	0.4	0.4 U
US SUGAR CLEWIS	219158	48.6	0.3	0.1 U	0.1 U	0.5	0.3 U
US SUGAR CLEWIS	219159	50.8	0.2	0.1 U	0.1 U	0.4	0.3 U
BRY 219	219160	41.0	0.6	0.1 U	0.1 U	0.6	0.6
SCG 219	219161	43.5	0.3	0.1 U	0.1 U	0.3	0.3 U

U = Result below detection limit

PROJECT MANAGER Paul Bem

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

REPORT OF ANALYSES (SN-00001377)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 03/29/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/12 AND 2/19/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/S/ICP mg/kg	HG/S/CVAA mg/kg	NI/S/ICP mg/kg	SE/S/ICP mg/kg
CLEW 212	218743	7.4	0.22 U	0.5	0.4
BRY 212A	218744	10.2	0.21 U	0.4	0.4
BRY 212B	218745	9.6	0.22 U	0.4	0.5
ASA 212	218746	10.8	0.20 U	0.4	0.3
SCGC 212	218747	10.4	0.19 U	0.3 U	0.3 U
US SUGAR CLEWIS	219158	8.2	0.20 U	0.2	0.5
US SUGAR CLEWIS	219159	8.0	0.17 U	0.2 U	0.7
BRY 219	219160	9.4	0.24 U	0.4	0.7
SCG 219	219161	5.3	0.22 U	0.3	0.7

U = Result below detection limit

PROJECT MANAGER Paul Bemm

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218747	SCGC 212	46.5	47.1	0.60	0.91	9.44
219161	SCG 219	42.3	44.7	2.4	3.90	9.67

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.4	<0.4	0	0.00	64.95
219159	US SUGAR CLEWISTON DUPE	0.2	0.3	0.10	28.28	63.44

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	120	119	56 TO 151	0.59	27.38
218744	BRY 212A	110	---	56 TO 151	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	56 TO 150
ICV	2000	1990	100	61 TO 144
SLCS-7970	75.2	87.2	116	64 TO 141

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 2

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.1	<0.1	0	0.00	NO DATA
219159	US SUGAR CLEWISTON DUPE	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	110	114	68 TO 119	2.53	18.68
218744	BRY 212A	106	---	68 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2040	102	73 TO 120
ICV	2000	1990	100	76 TO 119
SLCS-7970	52.2	62.4	120	79 TO 118

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.1	<0.1	0	0.00	55.96
219159	US SUGAR CLEWISTON DUPE	<0.1	<0.1	0	0.00	52.49

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	110	116	68 TO 124	3.75	18.99
218744	BRY 212A	104	---	68 TO 124	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	56 TO 149
ICV	2000	1990	100	60 TO 144
SLCS-7970	181	216	119	63 TO 140

CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.7	0.5	0.20	23.57	79.54
219159	US SUGAR CLEWISTON DUPE	0.6	0.3	0.30	47.14	76.56

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218743	CLEW 212	106	108	72 TO 117	1.32	15.64
218744	BRY 212A	102	---	72 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	42 TO 142
ICV	2000	1980	99	46 TO 141
SLCS-7970	66.1	72.8	110	49 TO 139

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 4

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.4	<0.4	0	0.00	44.19
219159	US SUGAR CLEWISTON DUPE	<0.3	<0.3	0	0.00	42.13

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	116	118	64 TO 129	1.21	13.26
218744	BRY 212A	104	---	64 TO 129	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	24 TO 189
ICV PB	2000	2010	100	30 TO 182
SLCS-7970	56.8	68.2	120	35 TO 176

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	7.8	7.0	0.80	7.64	32.12
219159	US SUGAR CLEWISTON DUPE	10.0	6.0	4.0	35.36	29.53

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	93	109	44 TO 146	11.20	61.68
218744	BRY 212A	103	---	44 TO 146	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 5

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2010	100	62 TO 123
ICV	2000	1970	98	65 TO 123
SLCS-7970	157	167	106	68 TO 121

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218744	BRY 212A	<0.21	<0.21	0	0.00	4.49

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218745	BRY 212B	92	---	54 TO 142	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	38.8	119	20 TO 159

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.6	0.4	0.20	28.28	65.46
219159	US SUGAR CLEWISTON DUPE	0.2	<0.2	0.10	47.14	68.00

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 6

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	103	108	67 TO 115	3.35	16.35
218744	BRY 212A	103	---	67 TO 115	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	72 TO 118
ICV	2000	1960	98	75 TO 117
SLCS-7970	101	118	117	78 TO 115

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.5	0.4	0.10	15.71	41.59
219159	US SUGAR CLEWISTON DUPE	0.8	0.6	0.20	20.20	39.94

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	120	124	77 TO 135	2.32	13.67
218744	BRY 212A	119	---	77 TO 135	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	56 TO 154
ICV	2000	2000	100	60 TO 148
SLCS-7970	62.5	78.4	125	63 TO 144

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/18/02	1300	AJS	VG
%SOLIDS	EPA 160.3	/ /		02/26/02	1300	AJS	VG
AS/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
AS/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
BE/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
BE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CD/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
CD/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CR/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
CR/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
HG/S/CVAA	EPA 7471	/ /		02/22/02	1214	SEK	VG
MN/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
MN/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
NI/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
NI/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
PB/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
PB/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
SE/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
SE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG

2/4/02 – 2/10/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date February 20 2002
HRI Project 002-8IH
HRI Series No. B177/02-1
Date Rec'd. 02/13/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
CLEW 212

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.06		0.00	2.55
Ash	2.52		5.04	4.91
Volatile	41.38		82.86	80.75
Fixed C	6.04		12.10	11.79
Total	100.00		100.00	100.00
Sulfur	0.02		0.03	0.03
Btu/lb (HHV)	3938		7884	7683
MMF Btu/lb	4047		8338	
MAF Btu/lb			8303	
Air Dry Loss (%)		48.75		
Ultimate (%)				
Moisture	50.06		0.00	2.55
Carbon	23.44		46.94	45.74
Hydrogen	2.76		5.54	5.39
Nitrogen	0.19		0.38	0.37
Sulfur	0.02		0.03	0.03
Ash	2.52		5.04	4.91
Oxygen*	21.01		42.07	41.01
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.02	0.03

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.39
Lb. SO2/MM Btu= 0.08
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ENVIRONMENTAL LABORATORIES, INC.

NELAP Certified — FDH # E8

March 29, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received February 12 and 19, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001377)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 03/29/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/12 AND 2/19/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
CLEW 212	218743	45.7	0.4 U	0.1 U	0.1 U	0.6	0.4 U
BRY 212A	218744	46.1	0.4 U	0.1 U	0.1 U	0.5	0.4 U
BRY 212B	218745	43.0	0.4 U	0.1 U	0.1 U	0.5	0.4 U
ASA 212	218746	49.1	0.4 U	0.1 U	0.1 U	1.0	0.4 U
SCGC 212	218747	46.8	0.4 U	0.1 U	0.1 U	0.4	0.4 U
US SUGAR CLEWIS	219158	48.6	0.3	0.1 U	0.1 U	0.5	0.3 U
US SUGAR CLEWIS	219159	50.8	0.2	0.1 U	0.1 U	0.4	0.3 U
BRY 219	219160	41.0	0.6	0.1 U	0.1 U	0.6	0.6
SCG 219	219161	43.5	0.3	0.1 U	0.1 U	0.3	0.3 U

U = Result below detection limit

PROJECT MANAGER Paul Bem

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001377)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

DATE: 03/29/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/12 AND 2/19/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/S/ICP mg/kg	HG/S/CVAA mg/kg	NI/S/ICP mg/kg	SE/S/ICP mg/kg
CLEW 212	218743	7.4	0.22 U	0.5	0.4
BRY 212A	218744	10.2	0.21 U	0.4	0.4
BRY 212B	218745	9.6	0.22 U	0.4	0.5
ASA 212	218746	10.8	0.20 U	0.4	0.3
SCGC 212	218747	10.4	0.19 U	0.3 U	0.3 U
US SUGAR CLEWIS	219158	8.2	0.20 U	0.2	0.5
US SUGAR CLEWIS	219159	8.0	0.17 U	0.2 U	0.7
BRY 219	219160	9.4	0.24 U	0.4	0.7
SCG 219	219161	5.3	0.22 U	0.3	0.7

U = Result below detection limit

PROJECT MANAGER Paul Bemm

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218747	SCGC 212	46.5	47.1	0.60	0.91	9.44
219161	SCG 219	42.3	44.7	2.4	3.90	9.67

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.4	<0.4	0	0.00	64.95
219159	US SUGAR CLEWISTON DUPE	0.2	0.3	0.10	28.28	63.44

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	120	119	56 TO 151	0.59	27.38
218744	BRY 212A	110	---	56 TO 151	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	56 TO 150
ICV	2000	1990	100	61 TO 144
SLCS-7970	75.2	87.2	116	64 TO 141

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 2

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.1	<0.1	0	0.00	NO DATA
219159	US SUGAR CLEWISTON DUPE	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	110	114	68 TO 119	2.53	18.68
218744	BRY 212A	106	---	68 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2040	102	73 TO 120
ICV	2000	1990	100	76 TO 119
SLCS-7970	52.2	62.4	120	79 TO 118

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.1	<0.1	0	0.00	55.96
219159	US SUGAR CLEWISTON DUPE	<0.1	<0.1	0	0.00	52.49

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	110	116	68 TO 124	3.75	18.99
218744	BRY 212A	104	---	68 TO 124	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	56 TO 149
ICV	2000	1990	100	60 TO 144
SLCS-7970	181	216	119	63 TO 140

CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.7	0.5	0.20	23.57	79.54
219159	US SUGAR CLEWISTON DUPE	0.6	0.3	0.30	47.14	76.56

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218743	CLEW 212	106	108	72 TO 117	1.32	15.64
218744	BRY 212A	102	---	72 TO 119	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	42 TO 142
ICV	2000	1980	99	46 TO 141
SLCS-7970	66.1	72.8	110	49 TO 139

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 4

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	<0.4	<0.4	0	0.00	44.19
219159	US SUGAR CLEWISTON DUPE	<0.3	<0.3	0	0.00	42.13

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	116	118	64 TO 129	1.21	13.26
218744	BRY 212A	104	---	64 TO 129	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2020	101	24 TO 189
ICV PB	2000	2010	100	30 TO 182
SLCS-7970	56.8	68.2	120	35 TO 176

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	7.8	7.0	0.80	7.64	32.12
219159	US SUGAR CLEWISTON DUPE	10.0	6.0	4.0	35.36	29.53

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	93	109	44 TO 146	11.20	61.68
218744	BRY 212A	103	---	44 TO 146	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 5

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2010	100	62 TO 123
ICV	2000	1970	98	65 TO 123
SLCS-7970	157	167	106	68 TO 121

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218744	BRY 212A	<0.21	<0.21	0	0.00	4.49

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218745	BRY 212B	92	---	54 TO 142	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	38.8	119	20 TO 159

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.6	0.4	0.20	28.28	65.46
219159	US SUGAR CLEWISTON DUPE	0.2	<0.2	0.10	47.14	68.00

QC REPORT FOR GOLDER ASSOCIATES, INC. 03/29/02 PAGE 6

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	103	108	67 TO 115	3.35	16.35
218744	BRY 212A	103	---	67 TO 115	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	72 TO 118
ICV	2000	1960	98	75 TO 117
SLCS-7970	101	118	117	78 TO 115

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218743	CLEW 212	0.5	0.4	0.10	15.71	41.59
219159	US SUGAR CLEWISTON DUPE	0.8	0.6	0.20	20.20	39.94

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218744	BRY 212A	120	124	77 TO 135	2.32	13.67
218744	BRY 212A	119	---	77 TO 135	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	56 TO 154
ICV	2000	2000	100	60 TO 148
SLCS-7970	62.5	78.4	125	63 TO 144

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/18/02	1300	AJS	VG
%SOLIDS	EPA 160.3	/ /		02/26/02	1300	AJS	VG
AS/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
AS/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
BE/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
BE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CD/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
CD/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
CR/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
CR/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
HG/S/CVAA	EPA 7471	/ /		02/22/02	1214	SEK	VG
MN/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
MN/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
NI/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
NI/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
PB/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
PB/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG
SE/S/ICP	EPA 6010	02/19/02	KDS	02/22/02	1547	ECS	VG
SE/S/ICP	EPA 6010	03/01/02	SEK	03/04/02	0929	ECS	VG

1/28/02 – 2/3/02

Hazen Research, Inc.
4601 Indiana St.
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date February 18 2002
HRI Project 002-8IH
HRI Series No. B48/02-3
Date Rec'd. 02/06/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
CLEW25

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	50.49		0.00	0.97
Ash	2.63		5.32	5.27
Volatile	41.22		83.24	82.43
Fixed C	5.66		11.44	11.33
Total	100.00		100.00	100.00
Sulfur	0.04		0.07	0.07
Btu/lb (HHV)	3874		7824	7748
MMF Btu/lb	3987		8301	
MAF Btu/lb			8264	
Air Dry Loss (%)		50.00		
Ultimate (%)				
Moisture	50.49		0.00	0.97
Carbon	23.30		47.06	46.60
Hydrogen	2.79		5.63	5.57
Nitrogen	0.18		0.36	0.36
Sulfur	0.04		0.07	0.07
Ash	2.63		5.32	5.27
Oxygen*	20.57		41.56	41.16
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.04	0.07

Water Soluble Alkalies (%)

Na20
K20

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 6.80
Lb. SO2/MM Btu= 0.18
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ENVIRONMENTAL LABORATORIES, INC.

NELAP Certified — FDH # E

February 25, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received January 9, 22, 29, and February 5, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

FEB 27 2002

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001241)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: ICCR BAGASSE
DATE: 02/22/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/5/02 (Page 1 of 2)

CLIENT STATION ID	LAB NUMBER	%SOLIDS %	AS/S/ICP mg/kg	BE/S/ICP mg/kg	CD/S/ICP mg/kg	CR/S/ICP mg/kg	PB/S/ICP mg/kg
SCG 25 A	218135	50.6	0.3 U	0.1 U	0.1 U	0.2	0.3 U
SCG 25 B DUPE	218136	46.6	0.3 U	0.1 U	0.1 U	0.2 U	0.3 U
BRY 25	218137	47.7	0.3	0.1 U	0.1 U	0.2 U	0.3 U
CLEW 25	218138	48.1	0.5	0.1 U	0.1 U	0.3	0.3 U
ASA 25	218139	49.4	0.3 U	0.1 U	0.1 U	0.1 U	0.3 U

U = Result below detection limit

PROJECT MANAGER Paul Benn

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

REPORT OF ANALYSES (SN-00001241)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: ICCR BAGASSE
DATE: 02/22/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 2/5/02 (Page 2 of 2)

CLIENT STATION ID	LAB NUMBER	MN/S/ICP mg/kg	HG/S/CVAA mg/kg	NI/S/ICP mg/kg	SE/S/ICP mg/kg
SCG 25 A	218135	9.8	0.10 U	0.2	0.6
SCG 25 B DUPE	218136	8.0	0.10 U	0.2 U	0.6
BRY 25	218137	8.0	0.10 U	0.2 U	0.7
CLEW 25	218138	8.9	0.10 U	0.2 U	0.8
ASA 25	218139	10.7	0.10 U	0.2 U	0.8

U = Result below detection limit

PROJECT MANAGER Paul Berman

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218139	ASA 25	48.4	50.3	1.9	2.72	10.04

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	0.3	<0.3	0.15	47.14	53.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	88	70	62 TO 150	16.11	25.71
218137	BRY 25	99	---	62 TO 150	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	62 TO 158
SLCS-7916	75.2	64.2	85	66 TO 149

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 2

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	88	76	75 TO 117	10.35	15.28
218137	BRY 25	99	---	75 TO 117	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2010	100	97 TO 105
SLCS-7916	44.6	52.2	85	97 TO 104

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	<0.1	<0.1	0	0.00	60.20

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	91	82	69 TO 125	7.36	19.70
218137	BRY 25	98	---	69 TO 125	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2000	100	62 TO 156
SLCS-7916	181	152	84	66 TO 148

CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	<0.1	0.1	0.050	47.14	71.42

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	86	74	79 TO 113	10.61	10.88
218137	BRY 25	98	---	79 TO 113	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1990	100	39 TO 149
SLCS-7916	66.1	50.5	76	45 TO 144

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	<0.3	<0.3	0	0.00	46.38

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	86	77	69 TO 128	7.81	12.10
218137	BRY 25	98	---	69 TO 128	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	2010	100	21 TO 208
SLCS-7916	56.8	46.3	82	28 TO 195

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	7.7	8.3	0.60	5.30	35.57

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	86	54	74 TO 130	32.32	18.55
218137	BRY 25	97	---	74 TO 130	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	80 TO 113
SLCS-7916	157	119	76	83 TO 111

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 5

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218135	SCG 25 A	<0.022	<0.021	.00050	3.29	0.00
218138	CLEW 25	<0.021	<0.020	.00050	3.45	3.27

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218136	SCG 25 B DUPE	100	---	51 TO 146	----	----
218139	ASA 25	90	---	54 TO 144	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
FISHER	0.50	0.54	109	5 TO 163
PP222	13.1	10.5	80	11 TO 165
PP222	13.1	14.0	107	16 TO 158

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	<0.2	<0.2	0	0.00	72.37

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	86	74	72 TO 112	10.61	12.59
218137	BRY 25	98	---	72 TO 112	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/22/02 PAGE 6

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	91 TO 107
SLCS-7916	101	84.7	84	93 TO 105

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
218136	SCG 25 B DUPE	0.7	0.5	0.20	23.57	36.46

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
218137	BRY 25	104	---	76 TO 136	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV	2000	1980	99	55 TO 168
SLCS-7916	62.5	57.1	91	59 TO 158

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/11/02	1300	AJS	VG
AS/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
BE/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
CD/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
CR/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
HG/S/CVAA	EPA 7471	/ /		02/14/02	2050	MNR	VG
MN/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
NI/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
PB/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG
SE/S/ICP	EPA 6010	02/08/02	ECS	02/11/02	1545	ECS	VG

1/21/02 – 1/27/02

Hazen Research, Inc.
4601 Indiana St. • Golden, CO 80403
Tel: (303) 279-4501
Fax: (303) 278-1528

Date February 11 2002
HRI Project 002-8IH
HRI Series No. A363/02-1
Date Rec'd. 01/30/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
CLEW129

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	52.01		0.00	0.75
Ash	1.42		2.95	2.93
Volatile	41.45		86.38	85.73
Fixed C	5.12		10.67	10.59
Total	100.00		100.00	100.00
Sulfur	0.02		0.05	0.05
Btu/lb (HHV)	3828		7978	7918
MMF Btu/lb	3887		8240	
MAF Btu/lb			8220	
Air Dry Loss (%)		51.65		
Ultimate (%)				
Moisture	52.01		0.00	0.75
Carbon	22.86		47.65	47.29
Hydrogen	2.69		5.60	5.56
Nitrogen	0.18		0.38	0.38
Sulfur	0.02		0.05	0.05
Ash	1.42		2.95	2.93
Oxygen*	20.82		43.37	43.04
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.02	0.05

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 3.70
Lb. SO2/MM Btu= 0.13
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ENVIRONMENTAL LABORATORIES, INC.

NELAP Certified — FDH # E82001

February 25, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received January 9, 22, 29, and February 5, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

FEB 27 2002

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

REPORT OF ANALYSES (SN-00001218)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: MR.RICK STRANSKY

PROJECT NAME: GOLDER ICCR
DATE: 02/15/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 1/29/02 (Page 1 of 2)

LAB No.	SAMPLE DATE	TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
217568	01/29/02	NA	MILL PERSONNEL	01/29/02	1125	VG
217569	01/29/02	NA	MILL PERSONNEL	01/29/02	1125	VG
217570	01/29/02	NA	MILL PERSONNEL	01/29/02	1125	VG

ANALYSIS	UNITS	METHOD	CLIENT STATION ID: CLEW129 / LAB #: 217568	SCG129 / 217569	BRY129 / 217570
%SOLIDS	%	EPA 160.3/	53.4	53.1	48.1
AS/S/ICP	mg/kg	EPA 6010/	0.5	0.6	0.7
BE/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CD/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CR/S/ICP	mg/kg	EPA 6010/	0.2	0.1	0.3
PB/S/ICP	mg/kg	EPA 6010/	0.3 U	0.3 U	0.3
MN/S/ICP	mg/kg	EPA 6010/	7.2	10.9	11.0
HG/S/CVAA	mg/kg	EPA 7471/	0.10 U	0.10 U	0.10 U
NI/S/ICP	mg/kg	EPA 6010/	0.2 U	0.2 U	0.2 U
SE/S/ICP	mg/kg	EPA 6010/	0.7	0.9	1.0

U = Result below detection limit
SAMPLES PREPPED AND ANALYZED FOLLOWING SW846 METHODS

PROJECT MANAGER Paul Benn

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E

REPORT OF ANALYSES (SN-00001218)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: MR.RICK STRANSKY

PROJECT NAME: GOLDER ICCR
DATE: 02/15/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 1/29/02 (Page 2 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
217571	01/29/02	NA	MILL PERSONNEL	01/29/02	1125	VG
217572	01/29/02	NA	MILL PERSONNEL	01/29/02	1125	VG

ANALYSIS	UNITS	METHOD	CLIENT STATION ID: ASA129a LAB #: 217571	ASA129b DUPE 217572
%SOLIDS	%	EPA 160.3/	44.5	45.9
AS/S/ICP	mg/kg	EPA 6010/	0.6	0.5
BE/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U
CD/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U
CR/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U
PB/S/ICP	mg/kg	EPA 6010/	0.3 U	0.3 U
MN/S/ICP	mg/kg	EPA 6010/	10.7	12.6
HG/S/CVAA	mg/kg	EPA 7471/	0.10 U	0.10 U
NI/S/ICP	mg/kg	EPA 6010/	0.2 U	0.2 U
SE/S/ICP	mg/kg	EPA 6010/	0.9	0.8

U = Result below detection limit
SAMPLES PREPPED AND ANALYZED FOLLOWING SW846 METHODS

PROJECT MANAGER Paul Benn

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 1

TOTAL SOLIDS % VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217571	ASA129a	43.4	45.6	2.2	3.50	13.75

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	0.5	0.5	0	0.00	54.25

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	92	82	65 TO 150	8.13	26.90

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV AS	2000	2050	102	52 TO 175

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	91	80	91 TO 107	9.10	5.35
217569	SCG129	98	---	91 TO 107	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 2

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV BE	2000	2030	102	NO DATA

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	<0.1	<0.1	0	0.00	65.47

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	92	78	76 TO 124	11.65	5.81
217569	SCG129	94	---	76 TO 124	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV CD	2000	2040	102	51 TO 174

CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	0.2	0.3	0.10	28.28	72.26

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	88	79	90 TO 106	7.62	5.53
217569	SCG129	96	---	90 TO 106	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 3

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV CR	2000	2020	101	30 TO 154

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	<0.3	<0.3	0	0.00	48.57

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	90	88	71 TO 130	1.59	12.15

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV PB	2000	2040	102	8 TO 229

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	6.3	8.1	1.8	17.68	32.62

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	88	---	81 TO 127	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 4

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV MN	2000	2000	100	75 TO 114

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	<0.10	<0.10	0	0.00	0.00

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	99	---	49 TO 149	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	34.6	106	-2 TO 159

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	<0.2	<0.2	0	0.00	81.80

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	85	75	88 TO 102	8.84	5.49
217569	SCG129	92	---	88 TO 102	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 5

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV NI	2000	2020	101	NO DATA

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217568	CLEW129	0.7	0.7	0	0.00	37.26

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217569	SCG129	98	87	85 TO 134	8.41	7.33
217569	SCG129	101	---	85 TO 134	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV SE	2000	2050	102	44 TO 188

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		02/04/02	1500	AJS	VG
AS/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
BE/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
CD/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
CR/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
HG/S/CVAA	EPA 7471	/ /		02/04/02	0930	AMW	VG
MN/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
NI/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
PB/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG
SE/S/ICP	EPA 6010	02/01/02	ECS	02/05/02	2134	ECS	VG

1/14/02 – 1/20/02

Hazen Research, Inc.
4601 Indiana St. • Golden, CO 80403
Tel: (303) 279-4501
Fax: (303) 278-1528

Date February 4 2002
HRI Project 002-8IH
HRI Series No. A267/02-2
Date Rec'd. 01/23/02
Cust. P.O.# 003-7556

Golder Associates Inc.
Fawn Howard
6241 NW 23rd St., Suite 500
Gainesville, Florida 32653

Sample Identification
US Sugar - Clewiston
01/22/02

Reporting Basis >	As Rec'd		Dry	Air Dry
Proximate (%)				
Moisture	52.86		0.00	1.31
Ash	1.91		4.04	3.99
Volatile	40.27		85.41	84.29
Fixed C	4.96		10.55	10.41
Total	100.00		100.00	100.00
Sulfur	0.03		0.06	0.06
Btu/lb (HHV)	3735		7922	7819
MMF Btu/lb	3813		8284	
MAF Btu/lb			8256	
Air Dry Loss (%)		52.23		
Ultimate (%)				
Moisture	52.86		0.00	1.31
Carbon	22.39		47.50	46.88
Hydrogen	2.67		5.67	5.59
Nitrogen	0.17		0.36	0.36
Sulfur	0.03		0.06	0.06
Ash	1.91		4.04	3.99
Oxygen*	19.97		42.37	41.81
Total	100.00		100.00	100.00
Chlorine**				

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic	_____	_____
Total	0.03	0.06

Water Soluble Alkalies (%)

Na2O	
K2O	

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 5.10
Lb. SO2/MM Btu= 0.15
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

ppb
ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E[redacted]

February 25, 2002

Ms. Fawn Howard
Golder Associates
6241 NW 23rd Street
Suite 500
Gainesville, FL 32653-1500

Dear Ms. Howard:

Enclosed are the analytical results for the Sugar Cane bagasse samples received January 9, 22, 29, and February 5, 2002.

All data were determined in accordance with published procedures (*EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, December 1996, 3rd Edition incl. Updates I–III; and/or *Standard Methods for the Examination of Water and Wastewater*, 18th edition, revised 1992). Our laboratory is NELAP-certified by the Florida Department of Health (FDH No. E82001) and our CompQAP is approved by FDEP (No. 870017G).

If you have any questions concerning this report, please contact me.

Sincerely,

Paul Berman
Project Manager

/cms

Enclosures

FEB 27 2002

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

ppb

ENVIRONMENTAL LABORATORIES, INC.

REPORT OF ANALYSES (SN-00001216)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn.: Ms. Fawn Howard

PROJECT NAME: GOLDER 1/11/02
DATE: 02/15/02
FDH # E82001
DEP CQAP # 870017G

SAMPLE RECEIVED 1/9/02 (Page 1 of 1)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME	MATRIX
216807	01/04/02		CLIENT	01/09/02	1000	VG

CLIENT STATION ID: BAGASSE SAMPLE 1/4/02
LAB #: 216807

ANALYSIS	UNITS	METHOD	
TOTAL SOLIDS	%	EPA 160.3/	42.5 Q
ARSENIC IN SEDIMENT	mg/kg	EPA 6010/	0.6
BERYLLIUM IN SED.	mg/kg	EPA 6010/	0.1 U
CADMIUM IN SEDIMENT	mg/kg	EPA 6010/	0.1 U
CHROMIUM IN SEDIMENT	mg/kg	EPA 6010/	0.2
LEAD IN SEDIMENT	mg/kg	EPA 6010/	0.3 U
MANGANESE IN SEDIMENT	mg/kg	EPA 6010/	18.4
MERCURY IN SEDIMENT	mg/kg	EPA 7471/	0.10 U
NICKEL IN SEDIMENT	mg/kg	EPA 6010/	0.2 U
SELENIUM IN SEDIMENT	mg/kg	EPA 6010/	0.7

U = Result below detection limit
Q = Result analyzed out of holding time

SAMPLE PREPPED AND ANALYZED FOLLOWING SW846 METHODS

PROJECT MANAGER Paul Beinn

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

REPORT OF ANALYSES (SN-00001217)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER 1/22/02
DATE: 02/15/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 1/22/02 (Page 1 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
217215	01/20/02		GOLDER	01/22/02	1605	VG
217216	01/20/02		ATLANTIC SUGAR	01/22/02	1605	VG
217217	01/20/02		SUGAR CANE GROWERS COOP	01/22/02	1605	VG

ANALYSIS	UNITS	METHOD	CLIENT STATION ID: US SUGAR BRYANT LAB #: 217215	ATLANTIC SUGAR 217216	SUGAR CANE GROWERS COOP 217217
%SOLIDS	%	EPA 160.3/	50.4	46.4	46.0
AS/S/ICP	mg/kg	EPA 6010/	1.0	0.7	0.6
BE/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CD/S/ICP	mg/kg	EPA 6010/	0.1 U	0.1 U	0.1 U
CR/S/ICP	mg/kg	EPA 6010/	0.2	0.1	0.1 U
PB/S/ICP	mg/kg	EPA 6010/	0.5 U	0.4 U	0.3 U
MN/S/ICP	mg/kg	EPA 6010/	13.2	10.1	8.8
HG/S/CVAA	mg/kg	EPA 7471/	0.10 U	0.10 U	0.10 U
NI/S/ICP	mg/kg	EPA 6010/	0.4 U	0.4 U	0.2 U
SE/S/ICP	mg/kg	EPA 6010/	1.2	1.4	1.0

U = Result below detection limit

SAMPLES PREPPED AND ANALYZED FOLLOWING SW846 METHODS

PROJECT MANAGER Paul Benn

ENVIRONMENTAL LABORATORIES, INC.
NELAP Certified — FDH # E82001

REPORT OF ANALYSES (SN-00001217)

GOLDER ASSOCIATES, INC.
6241 NW 23RD STREET
SUITE 500
GAINESVILLE, FL 32653-1500
Attn: Ms. Fawn Howard

PROJECT NAME: GOLDER 1/22/02
DATE: 02/15/02
FDH # E82001
DEP CQAP # 870017G

SAMPLES RECEIVED 1/22/02 (Page 2 of 2)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	TIME	MATRIX
217218	01/20/02		US SUGAR CLEWISTON	01/22/02	1605	VG
217219	01/20/02		US SUGAR CLEWISTON	01/22/02	1605	VG

			CLIENT STATION ID:	USS CLEWISTON	USS CLEWISTON D UPE
			LAB #:	217218	217219
ANALYSIS	UNITS	METHOD			
%SOLIDS	%	EPA 160.3/		49.4	48.7
AS/S/ICP	mg/kg	EPA 6010/		0.6	0.6
BE/S/ICP	mg/kg	EPA 6010/		0.1 U	0.1 U
CD/S/ICP	mg/kg	EPA 6010/		0.1 U	0.1 U
CR/S/ICP	mg/kg	EPA 6010/		0.4	0.6
PB/S/ICP	mg/kg	EPA 6010/		0.3	0.2
MN/S/ICP	mg/kg	EPA 6010/		8.1	7.5
HG/S/CVAA	mg/kg	EPA 7471/		0.10 U	0.10 U
NI/S/ICP	mg/kg	EPA 6010/		0.2 U	0.2
SE/S/ICP	mg/kg	EPA 6010/		1.0	1.0

U = Result below detection limit
SAMPLES PREPPED AND ANALYZED FOLLOWING SW846 METHODS

PROJECT MANAGER Paul Berman

6821 SW ARCHER ROAD, GAINESVILLE, FL 32608 (352) 377-2349 Fax (352) 395-6639 ppb@ppb-envlabs.com

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 1

TOTAL SOLIDS VG Method: EPA 160.3 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217218	USS CLEWISTON	50.2	48.6	1.6	2.29	NO DATA

NO SPIKE QC DATA FOUND

NO REFERENCE QC DATA FOUND

ARSENIC IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	0.9	1.1	0.20	14.14	57.05

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	105	107	63 TO 152	1.33	27.72

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV AS	2000	2050	102	52 TO 175

BERYLLIUM IN SED. mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	<0.1	<0.1	0	0.00	NO DATA

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	101	102	90 TO 106	0.70	6.57

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 2

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV BE	2000	2030	102	NO DATA

CADMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	<0.1	<0.1	0	0.00	72.34

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	100	96	74 TO 127	2.89	3.90

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV CD	2000	2040	102	51 TO 174

CHROMIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	0.2	0.2	0	0.00	76.17

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	99	100	89 TO 106	0.71	6.14

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV CR	2000	2020	101	30 TO 154

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 3

LEAD IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	<0.5	<0.4	0.050	15.71	51.72

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	97	106	68 TO 133	6.27	13.64

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV PB	2000	2040	102	8 TO 229

MANGANESE IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	11.6	14.8	3.2	17.14	7.26

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	92	104	88 TO 126	8.66	NO DATA

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV MN	2000	2000	100	75 TO 114

MERCURY IN SEDIMENT mg/kg VG Method: EPA 7471 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	<0.10	<0.10	0	0.00	0.00

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 4

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217216	ATLANTIC SUGAR	96	---	46 TO 152	----	----

References

Reference ID	Target	Found	% Recovery	Control Limits
MS2710	32.6	34.6	106	-2 TO 159

NICKEL IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	<0.4	<0.4	0	0.00	95.70

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	96	98	87 TO 102	1.46	5.15

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV NI	2000	2020	101	NO DATA

SELENIUM IN SEDIMENT mg/kg VG Method: EPA 6010 Alt. Method: None

Duplicates

PPB Number	Client ID	Value 1	Value 2	Range	% RSD	QC Control Limit
217215	US SUGAR BRYANT	1.3	1.1	0.20	11.79	42.95

Spikes

PPB Number	Client ID	% MS	% MSD	Spike Recovery Control Limits	% RSD	% RSD Control Limit
217217	SUGAR CANE GROWERS COOP	118	120	83 TO 130	1.19	7.98
217217	SUGAR CANE GROWERS COOP	110	---	83 TO 130	----	----

QC REPORT FOR GOLDER ASSOCIATES, INC. 02/15/02 PAGE 5

References

Reference ID	Target	Found	% Recovery	Control Limits
ICV SE	2000	2050	102	44 TO 188

DATE, TIME, ANALYST REPORT

ANALYSIS	METHOD	PREP DATE	PREP BY	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS BY	MATRIX
%SOLIDS	EPA 160.3	/ /		01/24/02	1700	AJS	VG
AS/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
BE/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
CD/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
CR/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
HG/S/CVAA	EPA 7471	/ /		02/04/02	0930	AMW	VG
MN/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
NI/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
PB/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG
SE/S/ICP	EPA 6010	01/22/02	ECS	02/05/02	2134	ECS	VG

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 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
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & Revised/Renewal 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: **United States Sugar Corporation**	
2. Site Name: **Clewiston Mill**	
3. Facility Identification Number: **0510003**	
4. Facility Location...: Street Address or Other Locator: **W.C. Owens Ave. and S.R. 832** City: **Clewiston** County: **Hendry** Zip Code: **33440**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Neil Smith, Vice President and General Manager, Sugar Processing Operations**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce de Leon Avenue** City: **Clewiston** State: **Florida** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 902-2703** ext. Fax: **(863) 902-2729**
4. Application Contact Email Address: **nsmith@ussugar.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	9-14-06
2. Project Number(s):	0510003-040-AV
3. PSD Number (if applicable):	
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 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 used in the health-based compliance alternative (HBCA) 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
001	Clewiston Boiler No. 1		
002	Clewiston Boiler No. 2		
009	Clewiston Boiler No. 4		
014	Clewiston Boiler No. 7		
028	Clewiston Boiler No. 8		

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, 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.* _____ _____ 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:
   Neil Smith, Vice President and General Manager, Sugar Processing Operations

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☒ 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.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **United States Sugar Corporation**
   Street Address: **111 Ponce de Leon Avenue**
   City: **Clewiston** State: **Florida** Zip Code: **33440**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(863) 902-2703** ext. Fax: **(863) 902-2729**

5. Application Responsible Official Email Address: **nsmith@ussugar.com**

6. Application Responsible Official Certification:
   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.

   Signature _____ Date 9/11/06

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext.**545** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **dbuff@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(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

(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.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, 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.

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, 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 ☐, 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.

(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 ☒, 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.

David A. Buff
Signature

9/13/06
Date

(seal)

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **506.1** North (km) **2956.9**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26/44/06** Longitude (DD/MM/SS) **80/56/19**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **20**	6. Facility SIC(s): **2061** **2062**
7. Facility Comment : **The facility location above is for the Clewiston Mill. The Bryant Mill location is as follows: UTM Coordinates: Zone 17, 537.8 km East and 2969.1 km North; Latitude: 26°50'41" North, and Longitude: 80°37'09" West.**			

Facility Contact

1. Facility Contact Name: **Neil Smith, Vice President and General Manager, Sugar Processing Operations**
2. Facility Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce de Leon Avenue** City: **Clewiston** State: **Florida** Zip Code: **33440**
3. Facility Contact Telephone Numbers: Telephone: **(863) 902-2703** ext. Fax: **(863) 902-2729**
4. Facility Contact Email Address: **nsmith@ussugar.com**

Facility Primary Responsible Official

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

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official 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. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	
One or more emission units potentially subject to NESHAP for asbestos removal in the event that the facility may wish to perform asbestos removal in the future.	

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	N
Sulfur Dioxide - SO_2	A	N
Nitrogen Oxides - NO_x	A	N
Carbon Monoxide - CO	A	N
Particulate Matter - PM_{10}	A	N
Sulfuric Acid Mist - SAM	A	N
Total Hazardous Air Pollutants - HAPs	A	N
Volatile Organic Compounds - VOC	A	N
Acetaldehyde - H001	A	N
Acrolein - H006	A	N
Benzene - H017	A	N
P-Cresol - H052	A	N
Formaldehyde - H095	A	N
Hydrogen Chloride - H106	A	N
Mercury - H114	B	N
Naphthalene - H132	A	N
Phenol - H144	A	N
Polycyclic Organic Matter - H151	A	N
Styrene - H163	A	N
Toluene - H169	A	N
Dibenzofuran - H058	A	N
Ammonia - NH_3	B	N
Manganese Cmpds - H113	A	N

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 Nos. 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:

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) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**May 2005**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**May 2005**
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**May 2005**

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: ☐ Attached, Document ID:____ ☐ Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: ☐ Attached, Document ID:____
3. Rule Applicability Analysis: ☐ Attached, Document ID:____
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID:_____
   ☒ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☒ Attached, Document ID:**USS-FI-CV3**
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☒ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT USS-FI-CV3

COMPLIANCE REPORT AND PLAN

ATTACHMENT USS-FI-CV3

COMPLIANCE REPORT AND PLAN

United States Sugar Corporation certifies that the Clewiston Mill and the Bryant Mill, as of the date of this application, are in compliance with each applicable requirement addressed in this Title V air permit revision application.

I, the undersigned, am responsible official as defined in Chapter 62-213, 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.

Compliance statements for this facility will be submitted on an annual basis to FDEP, before March 1st of each year.

Signature, Responsible Official

9/11/06
Date

EMISSION UNIT 1

BOILER NO. 1

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.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

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

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in this Section:
Boiler No. 1

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
Vibrating grate boiler fired by carbonaceous fuel and No. 2 fuel oil with a maximum sulfur content of 0.05% by weight.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Joy Turbulaire Impingement Scrubber, Size 125, Type D

2. Control Device or Method Code(s): **001**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **245,000 lb/hr steam**	
3. Maximum Heat Input Rate: **495.6** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel firing. Maximum for No. 2 fuel oil is 130 MMBtu/hr and 6,000,000 gal/yr. Boiler Nos. 1, 2, and 4 have a combined fuel oil cap of 6,000,000 gal/yr.**	

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: **BLR-1**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **8.0** feet
8. Exit Temperature: **150°F**	9. Actual Volumetric Flow Rate: **250,000** acfm	10. Water Vapor: %
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:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; All boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **68.83**	5. Maximum Annual Rate: **602,980**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.09 (dry basis)**	8. Maximum % Ash: **8.4 (dry basis)**	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 495.6 MMBtu/hr and 3,600 Btu/lb wet bagasse. Wet bagasse averages approximately 52-percent moisture.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Distillate oil; Grades 1 and 2.**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **0.963**	5. Maximum Annual Rate: **6,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on 130 MMBtu/hr and 6,000,000 gallons of No. 2 fuel oil per year. Also includes facility generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils. Combined fuel oil usage in Boiler Nos. 1, 2, and 4 limited to 6,000,000 gal/yr. Permit No. 0510003-039-AC.**		

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	001		EL
PM10	001		NS
SO2	001		EL
NOx			NS
CO			NS
VOC			NS
SAM			NS
PB	001		NS
HAPs (Total Hazardous Air Pollutants)			NS
H001 (Acetaldehyde)			NS
H006 (Acrolein)			NS
H017 (Benzene)			NS
H021 (Beryllium)	001		NS
H052 (p-cresol)			NS
H058 (Dibenzofurans)			NS
H095 (Formaldehyde)			NS
H106 (Hydrogen Chloride)	001		EL
H114 (Mercury)	001		EL
H132 (Naphthalene)			NS
H144 (Phenol)			NS
H151 (POMs)			NS
H163 (Styrene)			NS
H169 (Toluene)			NS
H113 (Manganese Compounds)	001		EL

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: **Manganese Compounds (H113)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.80** lb/hour **3.51** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.00162 lb/MMBtu** Reference: **Fuel Analysis**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Bagasse: 495.6 MMBtu/hr x 0.00162 lb/MMBtu = 0.80 lb/hr** **0.80 lb/hr x 8,760 hr/yr x ton/2000 lb = 3.51 TPY**	
11. Potential Fugitive and Actual Emissions Comment: **Maximum emissions representative of bagasse firing. Emission factor represents 90 percent confidence level of fuel analysis data.**	

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.00162 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.80** lb/hour **3.51** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions representative of bagasse firing only. Emission factor represents 90 percent confidence level of fuel analysis data.**	

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: **HCl (H106)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **42.13** lb/hour **184.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.085 lb/MMBtu** Reference: **Test data**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.085 lb/MMBtu x 495.6 MMBtu/hr = 42.13 lb/hr** **42.13 lb/hr x 8,760 hr/yr x ton/2,000 lb = 184.5 TPY**	
11. Potential Fugitive and Actual Emissions Comment: **Maximum emissions representative of bagasse firing.**	

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **0.085 lb/MMBtu**	4. Equivalent Allowable Emissions: **42.13** lb/hour **184.5** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test using EPA Method 26A.**	
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: **Hg (H114)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.00446** lb/hour **0.0195** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **9x10^{-6} lb/MMBtu** Reference: **40 CFR 63 Subpart DDDDD**	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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Bagasse: 495 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00446 lb/hr
Fuel Oil: 130 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00117 lb/hr

Annual: 0.00446 lb/hr x 8,760 hr/yr x ton/2,000 lb= 0.0195 TPY

11. Potential Fugitive and Actual Emissions Comment:

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: **RULE**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **9 x 10^{-6} lb/MMBtu**	4. Equivalent Allowable Emissions: **0.00446** lb/hour **0.0195** tons/year
5. Method of Compliance: **Fuel Analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 63 Subpart DDDDD**	

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):	

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: **VE30**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **30** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-017-AV and 0510003-036-AC, and Rule 62-296.410(1)(b)1., F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 6

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **Custom Design** Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors pressure drop across wet scrubber. Monitored to ensure proper operation of scrubber. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 2 of 6

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **ITT Barton or equivalent** Model Number: **Flowco F500**	Serial Number: **See Comment**
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Permit No. 0510003-017-AV. Monitors fuel oil flow to Boiler No. 1. No serial # or installation date provided because monitors are routinely replaced to ensure optimum performance.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 3 of 6

1. Parameter Code: **Nozzle Pressure**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber spray nozzle pressure. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 4 of 6

1. Parameter Code: **Steam Temp**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Preferred Instruments or equivalent** Model Number: **PCC-III Controller** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam temperature. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **5** of **6**

1. Parameter Code: **Steam Pressure**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam pressure. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor **6** of **6**

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621D** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam flow rate. Permit No. 0510003-017-AV.**	

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**
   ☐ 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)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☒ Attached, Document ID: **HBCA Report** ☐ Not Applicable

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))
   ☐ Attached, Document ID: _____ ☐ 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.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

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

Additional Requirements Comment

ATTACHMENT USS-EU1-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

Boiler No. 1

ATTACHMENT USS-EU1-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

62-296.410(1)(b), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62-297.310(1), F.A.C.: General Compliance Test Requirements

62-297.310(2)(b), F.A.C.: General Compliance Test Requirements

62-297.310(3), F.A.C.: General Compliance Test Requirements

62-297.310(4), F.A.C.: General Compliance Test Requirements

62-297.310(5), F.A.C.: General Compliance Test Requirements

62-297.310(6), F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)3., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)4., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)5., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)9., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)10., F.A.C.: General Compliance Test Requirements

62-297.310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6)(c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7)(e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 8

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25)(a), F.A.C.: EPA Test Method 25A

Permit No. 0510003-036-AC

40 CFR 63.1 – 63.16 – Subpart A – General Provisions: Boiler No. 1 is subject to the notification requirements of Subpart DDDDD.

40 CFR 63.7485 – Subpart DDDDD – Applicability: Boiler No. 1 is an industrial boiler of size > 10 MMBtu/hr located at a major source of HAPs.

40 CFR 63.7490 – Subpart DDDDD – Applicability: Boiler No. 1 is subject to the requirements of Subpart DDDDD for existing boilers.

40 CFR 63.7495 – Subpart DDDDD – Compliance Dates – Boiler No. 1 must meet notification requirements and comply by September 13, 2007.

40 CFR 63.7499 – Subpart DDDDD – Subcategories: Boiler No. 1 is in the large solid fuel subcategory.

40 CFR 63.7506 – Subpart DDDDD – Limited Requirements: Boiler No. 1 must only meet the notification requirements of 63.9(b) at this time.

40 CFR 63.7545 – Subpart DDDDD – Notifications: Boiler No. 1 must submit the required notification by March 12, 2005.

40 CFR 63 – Subpart DDDDD – Appendix A – Health-Based Compliance Alternative Demonstration

ATTACHMENT USS-EU1-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 1

ATTACHMENT USS-EU1-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 1 is designed to operate while combusting carbonaceous fuel alone at a maximum heat input rate of 495.6 MMBtu/hr (maximum 24-hour average); or, No. 2 fuel oil alone at a maximum fuel oil heat input rate of 130 MMBtu/hr; or, a combination of carbonaceous fuel and No. 2 fuel oil. The boiler may also burn small quantities of petroleum-contaminated soils (up to 500 cubic yards per season) and facility-generated, on-specification used oil. The maximum sulfur content in the fuel oil is limited to 0.05 percent by weight. This unit has no limits on hours of operation and may operate for 8,760 hours per year.

EMISSION UNIT 2

BOILER NO. 2

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.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

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

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in this Section:
Boiler No. 2

3. Emissions Unit Identification Number: **002**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **Vibrating grate boiler fired by carbonaceous fuel and No. 2 fuel oil with a maximum sulfur content of 0.05% by weight.**

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Joy Turbulair Impingement Scrubber, Size 125, Type D

2. Control Device or Method Code(s): **001**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **215,000 lb/hr steam**	
3. Maximum Heat Input Rate: **447** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel of 215,000 lb/hr steam. Maximum heat input for No. 2 fuel oil is 130 MMBtu/hr and 6,000,000 gal/yr. Boiler Nos. 1, 2, and 4 have a combined fuel oil cap of 6,000,000 gal/yr.**	

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: **BLR-2**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **8.0** feet
8. Exit Temperature: **150** °F	9. Actual Volumetric Flow Rate: **250,000** acfm	10. Water Vapor: %
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:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; All boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons burned**	
4. Maximum Hourly Rate: **62.08**	5. Maximum Annual Rate: **543,850**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.09 (dry basis)**	8. Maximum % Ash: **8.4 (dry basis)**	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 447 MMBtu/hr and 3,600 Btu/lb wet bagasse. Wet bagasse averages approximately 52-percent moisture.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2.**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **0.963**	5. Maximum Annual Rate: **6,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on 130 MMBtu/hr and 6,000,000 gallons of No. 2 fuel oil per year. Also includes facility generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils. Combined fuel oil usage in Boiler Nos. 1, 2, and 4 limited to 6,000,000 gal/yr. Permit No. 0510003-039-AC.**		

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	001		EL
PM10	001		NS
SO2	001		EL
NOx			NS
CO			NS
VOC			NS
SAM			NS
PB	001		NS
HAPs (Total Hazardous Air Pollutants)			NS
H001 (Acetaldehyde)			NS
H006 (Acrolein)			NS
H017 (Benzene)			NS
H021 (Beryllium)	001		NS
H052 (p-cresol)			NS
H058 (Dibenzofurans)			NS
H095 (Formaldehyde)			NS
H106 (Hydrogen Chloride)	001		EL
H114 (Mercury)	001		EL
H132 (Naphthalene)			NS
H144 (Phenol)			NS
H151 (POMs)			NS
H163 (Styrene)			NS
H169 (Toluene)			NS
H113 (Manganese Compounds)	001		EL

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: **Manganese Compounds (H113)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.72** lb/hour **3.17** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.00162 lb/MMBtu** Reference: **Fuel Analysis**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
Bagasse: 447 MMBtu/hr x 0.00162 lb/MMBtu = 0.72 lb/hr
0.72 lb/hr x 8,760 hr/yr x ton/2,000 lb = 3.17 TPY

11. Potential Fugitive and Actual Emissions Comment:
Maximum emissions representative of bagasse firing. Emission factor based on 90 percent confidence level of fuel analysis data.

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.00162 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.72** lb/hour **3.17** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions representative of bagasse firing only. Emission factor based on 90 percent confidence level for fuel analysis data.**	

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: **HCl (H106)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **38.0** lb/hour **166.4** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.085 lb/MMBtu** Reference: **Test data**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.085 lb/MMBtu x 447 MMBtu/hr = 38.0 lb/hr** **38.0 lb/hr x 8,760 hr/yr x ton/2,000 lb = 166.4 TPY**	
11. Potential Fugitive and Actual Emissions Comment: **Maximum emissions representative of bagasse firing.**	

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.085 lb/MMBtu**	4. Equivalent Allowable Emissions: **38.0** lb/hour **166.4** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test using EPA Method 26A.**	
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: **Hg (H114)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.0040** lb/hour **0.0176** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **9 x 10^{-6} lb/MMBtu** Reference: **40 CFR 63 Subpart DDDDD**	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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Bagasse: 447 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.0040 lb/hr

Fuel Oil: 130 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00117 lb/hr

Annual: 0.0040 lb/hr x 8,760 hr/yr x ton/2,000 lb = 0.0176 TPY

11. Potential Fugitive and Actual Emissions Comment:

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: **RULE**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **9×10^{-6} lb/MMBtu**	4. Equivalent Allowable Emissions: **0.0040** lb/hour **0.0176** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 63 Subpart DDDDD**	

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):	

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: **VE30**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **30 %** Exceptional Conditions: **40 %** Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Permit Nos. 0510003-017-AV and 0510003-036-AC, and Rule 62-296.410(1)(b)1., F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 6

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Custom Design** Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors pressure drop across wet scrubber. Monitored to ensure proper operation of scrubber. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 2 of 6

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **ITT Barton or equivalent** Model Number: **Flowco F500** Serial Number: **See Comment**	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Permit No. 0510003-017-AV. Monitors fuel oil flow to Boiler No. 2. No serial # or installation date provided because monitors are routinely replaced to ensure optimum performance.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **3** of **6**

1. Parameter Code: **Nozzle Pressure**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber spray nozzle pressure. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor **4** of **6**

1. Parameter Code: **Steam Temp**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **Preferred Instruments or equivalent** Model Number: **PCC-III Controller**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam temperature. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **5** of **6**

1. Parameter Code: **Steam Pressure**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam pressure. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor **6** of **6**

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621D** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam flow rate. Permit No. 0510003-017-AV.**	

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**
   ☐ 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)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☒ Attached, Document ID: **HBCA Report** ☐ Not Applicable

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))
   ☐ Attached, Document ID: _____ ☐ 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.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **USS-EU1-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **USS-EU2-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT USS-EU2-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 2

ATTACHMENT USS-EU2-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 2 is designed to operate while combusting carbonaceous fuel alone at a maximum heat input rate of 447 MMBtu/hr (maximum 24-hour average) or No. 2 fuel oil alone at a maximum fuel oil heat input rate of 130 MMBtu/hr. The boiler may also burn small quantities of petroleum-contaminated soils (up to 500 cubic yards per season) and facility-generated, on-specification used oil. The maximum sulfur content in the fuel oil is limited to 0.05 percent by weight. This unit has no limits on hours of operation and may operate for 8,760 hours per year.

EMISSION UNIT 3

BOILER NO. 4

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.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

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

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Boiler No. 4

3. Emissions Unit Identification Number: **009**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    Traveling grate boiler fired by carbonaceous fuel and fuel oil with a maximum sulfur content of 0.05 percent by weight. Fuel oil can include facility-generated, on-specification used oil.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

   Joy Turbulaire Impingement Scrubber, Size 200, Type D

2. Control Device or Method Code(s): **001**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **300,000 lb/hr steam**	
3. Maximum Heat Input Rate: **633** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input rate based on 1-hour maximum steam rate of 300,000 lb/hr for carbonaceous fuel firing. The maximum permitted 24-hour average heat input rate for firing carbonaceous fuel is 600 MMBtu/hr, and the maximum permitted 1-hour average heat input rate for firing No. 2 fuel oil is 326 MMBtu/hr (Permit Nos. 0510003-018-AC and 0510003-039-AC). Maximum annual heat input is limited to 2,880,000 MMBtu/yr (Permit No. 0510003-010/PSD-FL-272A).**	

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: **BLR-4**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **150** feet	7. Exit Diameter: **8.2** feet
8. Exit Temperature: **160** °F	9. Actual Volumetric Flow Rate: **281,000** acfm	10. Water Vapor: %
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: **Stack parameters based on test data.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; All boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **87.92**	5. Maximum Annual Rate: **400,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.24 (dry)**	8. Maximum % Ash: **8.4 (dry basis)**	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 633 MMBtu/hr and 3,600 Btu/lb wet bagasse. Annual rate is maximum allowable from Permit No. 0510003-010-AC/PSD-FL-272A, equivalent to 2,880,000 MMBtu/yr @ 3,600 Btu/lb for wet bagasse. Bagasse may include incidental amounts of on-specification used oil.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **2.417**	5. Maximum Annual Rate: **6,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on 326 MMBtu/hr and 6,000,000 gallons of fuel oil per year (Permit Nos. 0510003-018-AC and 0510003-039-AC). Includes combustion of facility-generated, on-specification used oil. Annual rate represents cap for Boiler Nos. 1, 2, and 4 combined.**		

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	001		EL
PM_{10}	001		NS
SO_2	001		EL
NO_x			EL
CO			EL
VOC			EL
SAM			NS
HAPs (total Hazardous Air Pollutants)			
H106 (Hydrogen Chloride)	001		EL
H114 (Mercury)	001		EL
H113 (Manganese Compounds)	001		EL

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: **Manganese Compounds (H113)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.03** lb/hour **2.33** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.00162 lb/MMBtu** Reference: **Fuel Analysis**	7. Emissions Method Code: **1**
8.a. Baseline Actual Emission (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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Bagasse: 633 MMBtu/hr x 0.00162 lb/MMBtu = 1.03 lb/hr

Annual emissions based on heat input rate of 2,880,000 MMBtu during consecutive any 12 months.

2,880,000 MMBtu/yr x 0.00162 lb/MMBtu x 1 ton/2,000 lb = 2.33 ton/yr

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Maximum emissions representative of bagasse firing. Emission factor based on 90 percent confidence level of fuel analysis data.

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **0.00162 lb/MMBtu**	4. Equivalent Allowable Emissions: **1.03** lb/hour **2.33** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions representative of bagasse firing only. Emission factor based on 90 percent confidence level of fuel analysis data.**	

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: **HCl (H106)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **53.8** lb/hour **122.4** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.085 lb/MMBtu** Reference: **Test Data**	7. Emissions Method Code: **1**
8.a. Baseline Actual Emission (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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: **Bagasse – 633 MMBtu/hr x 0.085 lb/MMBtu = 53.8 lb/hr**

Annual: **Bagasse – 2,880,000 MMBtu/hr x 0.085 lb/MMBtu ÷ 2,000 lb/ton = 122.4 TPY**

11. Pollutant Potential/Estimated Fugitive Emissions Comment:

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **0.085 lb/MMBtu**	4. Equivalent Allowable Emissions: **53.8** lb/hour **122.4** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test using EPA Method 26A.**	
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: **Hg (H114)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.0057** lb/hour **0.01296** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **9 x 10^{-6} lb/MMBtu** Reference: **40 CFR 63 Subpart DDDDD**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emission (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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Bagasse: 633 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.0057 lb/hr

Annual emissions based on heat input rate of 2,880,000 MMBtu during any consecutive 12 months.

2,880,000 MMBtu/yr x 9 x 10^{-6} lb/MMBtu x 1 ton/2,000 lb = 0.01296 TPY

Fuel Oil:
130 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00117 lb/hr
834,000 MMBtu/yr x 9 x 10^{-6} lb/MMBtu x 1 ton/2,000 lb = 0.00375 TPY

11. Pollutant Potential/Estimated Fugitive Emissions Comment:
Maximum emissions representative of bagasse firing only.

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: **RULE**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **9 x 10^{-6} lb/MMBtu**	4. Equivalent Allowable Emissions: **0.0057** lb/hour **0.01296** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 63 Subpart DDDDD**	

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):	

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 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: **40 %** Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Applies to carbonaceous fuel burning only. Permit 0510003-017-AV.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: **27 %** Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Applies to fuel oil burning only. Permit No. 0510003-018-AC.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 9

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **Custom Design** Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors pressure drop across wet scrubber. Monitored to ensure proper operation of scrubber. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 2 of 9

1. Parameter Code: **Nozzle PRESSURE**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber spray nozzle pressure. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 3 of 9

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Rosemount, Inc., or equivalent** Model Number: **8711/8712** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber liquid flow rate. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 4 of 9

1. Parameter Code: **Steam TEMP**	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Preferred Instruments or equivalent** Model Number: **PCC-III Controller** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam temperature. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **5** of **9**

1. Parameter Code: **Steam PRESSURE**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam pressure. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor **6** of **9**

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621D** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam flow rate. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 7 of 9

1. Parameter Code: O_2	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Rosemount Analytical, Inc., or equivalent** Model Number: **3000** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors flue gas oxygen content. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 8 of 9

1. Parameter Code: CO	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo Environmental Instruments, Inc., or equivalent** Model Number: **48C** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors flue gas carbon monoxide content. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **9** of **9**

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ITT Barton or equivalent** Model Number: **Flowco F500** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors fuel oil flow to Boiler No. 4. No serial number or installation date provided because monitors are routinely replaced to ensure optimum performance. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☐ Other	
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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 al
tered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**
   ☐ 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)
   Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☒ Attached, Document ID: **HBCA Report** ☐ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **USS-EU3-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **USS-EU3-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT USS-EU3-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

Boiler No. 4

ATTACHMENT USS-EU3-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

62-296.410(2)(b), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62-297.310(1), F.A.C.: General Compliance Test Requirements

62-297.310(2)(b), F.A.C.: General Compliance Test Requirements

62-297.310(3), F.A.C.: General Compliance Test Requirements

62-297.310(4), F.A.C.: General Compliance Test Requirements

62-297.310(5), F.A.C.: General Compliance Test Requirements

62-297.310(6), F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)3., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)4., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)5., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)9., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)10., F.A.C.: General Compliance Test Requirements

62-297.310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6)(c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7)(e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 8

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25)(a), F.A.C.: EPA Test Method 25A

40 CFR 63.1 – 63.16 – Subpart A – General Provisions: Boiler No. 4 is subject to the notification requirements of Subpart DDDDD.

40 CFR 63.7485 – Subpart DDDDD – Applicability: Boiler No. 4 is an industrial boiler of size > 10 MMBtu/hr located at a major source of HAPs.

40 CFR 63.7490 – Subpart DDDDD – Applicability: Boiler No. 4 is subject to the requirements of Subpart DDDDD for existing boilers.

40 CFR 63.7495 – Subpart DDDDD – Compliance Dates – Boiler No. 4 must meet notification requirements and comply by September 13, 2007.

40 CFR 63.7499 – Subpart DDDDD – Subcategories: Boiler No. 4 is in the large solid fuel subcategory.

40 CFR 63.7506 – Subpart DDDDD – Limited Requirements: Boiler No. 4 must only meet the notification requirements of 63.9(b) at this time.

40 CFR 63.7545 – Subpart DDDDD – Notifications: Boiler No. 4 must submit the required notification by March 12, 2005.

40 CFR 63, Subpart DDDDD – Appendix A – Health-Based Compliance Alternative Demonstration Permit No. 0510003-039-AC

ATTACHMENT USS-EU3-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 4

ATTACHMENT USS-EU3-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 4 is permitted to operate while combusting carbonaceous fuel alone at a heat input rate of 633 MMBtu/hr (maximum 1-hour average) and 600 MMBtu/hr (maximum 24-hour average); No. 2 fuel oil alone at a maximum fuel oil heat input rate of 326 MMBtu/hr; or a combination of carbonaceous fuel and No. 2 fuel oil at a combined maximum heat input of 633 MMBtu/hr (maximum 1-hour average). Carbonaceous fuel may include incidental amounts of on-specification used oil.

The unit is limited to a maximum of 6,000,000 gallons of No. 2 residual fuel oil for a 12-month period and 2,417 gallons per hour. The sulfur content of No. 2 fuel oil is limited to 0.05 percent by weight. No. 2 fuel oil may include facility-generated, on-specification used oil. The hours of operation for this unit are not restricted (8,760 hours per year).

EMISSION UNIT 4

BOILER NO. 7

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.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

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

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in this Section:
Boiler No. 7

3. Emissions Unit Identification Number: **014**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
Spreader-stoker, vibrating grate boiler fired by carbonaceous fuel and distillate fuel oil (Grade Nos. 1 and 2) with a maximum sulfur content of 0.05 percent by weight. Fuel oil can include facility-generated, on-specification used oil.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Electrostatic Precipitator
Wet Sand Separator

2. Control Device or Method Code(s): **010, 099**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **385,000 lb/hr steam**	
3. Maximum Heat Input Rate: **812** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year

6. Operating Capacity/Schedule Comment:

Maximum heat input rate based on 1-hour maximum steam rate of 385,000 lb/hr for carbonaceous fuel firing. The maximum permitted 24-hour average heat input rate for firing carbonaceous fuel is 738 MMBtu/hr, and the maximum permitted 1-hour average heat input rate for firing No. 2 fuel oil is 326 MMBtu/hr (Permit No. 0510003-018-AC).

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: **BLR-7**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **225** feet	7. Exit Diameter: **8.0** feet
8. Exit Temperature: **335** °F	9. Actual Volumetric Flow Rate: **285,000** acfm	10. Water Vapor: %
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: **Stack parameters based on recent stack testing.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; All boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **112.78**	5. Maximum Annual Rate: **897,900**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.24 (dry)**	8. Maximum % Ash: **8.4 (dry basis)**	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on a heat input rate of 812 MMBtu/hr (1-hour maximum) and annual rate based on a heat input rate of 738 MMBtu/hr (24-hour maximum). Both annual and hourly maximums were based on a heating value of 3,600 Btu/lb wet bagasse (Permit No. 0510003-017-AV).**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **2.417**	5. Maximum Annual Rate: **4,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates, and the maximum sulfur content of the distillate fuel oil, based on current permit limits (Permit No. 0510003-018-AC). Includes combustion of facility-generated, on-specification used oil (Permit No. 0510003-024-AC).**		

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	099	010	EL
PM_{10}	099	010	EL
SO_2			EL
NO_x			EL
CO			EL
VOC			EL
SAM			EL
Benzene - H017			NS
Formaldehyde - H095			NS
Total Hazardous Air Pollutants - HAPs			NS
Hydrogen Chloride - H106	001		EL
Mercury - H114	001		EL
Manganese Compounds - H113	001		EL

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: **Manganese Compounds (H113)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.32** lb/hour **5.24** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.00162 lb/MMBtu** Reference: **Fuel Analysis**	7. Emissions Method Code: **1**

8. Calculation of Emissions:

Bagasse:
Hourly: 812 MMBtu/hr x 0.00162 lb/MMBtu = 1.32 lb/hr
Annual: 738 MMBtu/hr x 8,760 hr/yr x 0.00162 lb/MMBtu x 1 ton/2,000 lb = 5.24 TPY

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Maximum emissions representative of bagasse firing. Emission factor based on 90 percent confidence level of fuel analysis data.

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.00162 lb/MMBtu**	4. Equivalent Allowable Emissions: **1.32** lb/hour **5.24** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions representative of bagasse firing only. Emission factor based on 90 percent confidence level of fuel analysis data.**	

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: **HCl (H106)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **75.5** lb/hour **300.6** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.093 lb/MMBtu** Reference: **Test Data**	7. Emissions Method Code: **1**
8. Calculation of Emissions: **Hourly: 812 MMBtu/hr x 0.093 lb/MMBtu = 75.5 lb/hr** **Annual: 738 MMBtu/hr x 0.093 lb/MMBtu = 68.63 lb/hr** **68.63 lb/hr x 8,760 hr/yr x ton/2,000 lb = 300.6 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Maximum emissions representative of bagasse firing.**	

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **0.093 lb/MMBtu**	4. Equivalent Allowable Emissions: **75.5** lb/hour **300.6** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test using EPA Method 26A.**	
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: **Hg (H114)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.00731** lb/hour **0.0291** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **9 x 10^{-6} lb/MMBtu** Reference: **40 CFR 63 Subpart DDDDD**	7. Emissions Method Code: **0**

8. Calculation of Emissions:

Bagasse:
Hourly: 812 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00731 lb/hr
Annual: 738 MMBtu/hr x 8,760 hr/yr x 9 x 10^{-6} lb/MMBtu x 1 ton/2,000 lb = 0.0291 TPY

No. 2 Fuel Oil:
Hourly: 326 MMBtu/hr x 9 x 10^{-6} lb/MMBtu = 0.00293 lb/hr
Annual: 607,500 MMBtu/yr x 9 x 10^{-6} lb/MMBtu x 1 ton/2,000 lb = 0.00273 TPY

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
Factors based on carbonaceous fuel firing.

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: **RULE**	2. Future Effective Date of Allowable Emissions: **09/13/07**
3. Allowable Emissions and Units: **9 x 10^{-6} lb/MMBtu**	4. Equivalent Allowable Emissions: **0.00731** lb/hour **0.0291** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **40 CFR 63 Subpart DDDDD**	

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):	

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 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-212.400(5), F.A.C., and Permit 0510003-017-AV.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-018-AC.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621D** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Fuel oil flow measurement instrument. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621D** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Steam production measurement instrument. Permit No. 0510003-017-AV.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor **3** of **4**

1. Parameter Code: **Steam Pressure Monitor**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Steam pressure measurment instrument. Permit No. 0510003-017-AV.**	

Continuous Monitoring System: Continuous Monitor **4** of **4**

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **600T** Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **STeam temperature measurement instrument. Permit No. 0510003-017-AV.**	

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**
   ☐ 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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☒ Attached, Document ID: **HBCA Report** ☐ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **USS-EU4-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **USS-EU4-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT USS-EU4-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

Boiler No. 7

ATTACHMENT USS-EU4-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

62-296.410(2)(b), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62-297.310(1), F.A.C.: General Compliance Test Requirements

62-297.310(2)(b), F.A.C.: General Compliance Test Requirements

62-297.310(3), F.A.C.: General Compliance Test Requirements

62-297.310(4), F.A.C.: General Compliance Test Requirements

62-297.310(5), F.A.C.: General Compliance Test Requirements

62-297.310(6), F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)3., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)4., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)5., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)9., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)10., F.A.C.: General Compliance Test Requirements

62-297.310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6)(c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7)(e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 8

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25)(a), F.A.C.: EPA Test Method 25A

40 CFR 60, Subpart Db
Permit No. 0510003-018-AC
Permit No. AC 26-238006/PSD-FL-208
Permit No. 0510003-022-AC

40 CFR 63.1 – 63.16 – Subpart A – General Provisions: Boiler No. 7 is subject to the notification requirements of Subpart DDDDD.

40 CFR 63.7485 – Subpart DDDDD – Applicability: Boiler No. 7 is an industrial boiler of size > 10 MMBtu/hr located at a major source of HAPs.

40 CFR 63.7490 – Subpart DDDDD – Applicability: Boiler No. 7 is subject to the requirements of Subpart DDDDD for existing boilers.

40 CFR 63.7495 – Subpart DDDDD – Compliance Dates – Boiler No. 7 must meet notification requirements and comply by September 13, 2007.

40 CFR 63.7499 – Subpart DDDDD – Subcategories: Boiler No. 7 is in the large solid fuel subcategory.

40 CFR 63.7506 – Subpart DDDDD – Limited Requirements: Boiler No. 7 must only meet the notification requirements of 63.9(b) at this time.

40 CFR 63.7545 – Subpart DDDDD – Notifications: Boiler No. 7 must submit the required notification by March 12, 2005.

40 CFR 63, Subpart DDDDD – Appendix A – Health-Based Compliance Alternative Demonstration

ATTACHMENT USS-EU4-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 7

ATTACHMENT USS-EU4-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 7 is permitted to operate while combusting carbonaceous fuel alone at a heat input rate of 812 MMBtu/hr (maximum 1-hour average) and 738 MMBtu/hr (maximum 24-hour average); No. 2 fuel oil alone at a maximum fuel oil heat input rate of 326 MMBtu/hr; or a combination of carbonaceous fuel and No. 2 fuel oil at a combined maximum heat input of 812 MMBtu/hr (maximum 1-hour average). No. 2 fuel oil may also include facility-generated, on-specification used oil. Carbonaceous fuel may include incidental amounts of on-specification used oil. During any calendar year, the maximum quantity of No. 2 fuel oil (maximum 0.05 percent sulfur content by weight) burned in Boiler No. 7 shall not exceed 4,500,000 gallons. The annual capacity factor (ACF) for No. 2 fuel oil is limited to 10 percent. This unit has no limits on hours of operation and may operate for 8,760 hours per year.

EMISSION UNIT 5

BOILER NO. 8

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.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

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

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in this Section: **Boiler No. 8**

3. Emissions Unit Identification Number: **028**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**Nov. 2003**	**March 2005**	**20**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

Stoker boiler fired by carbonaceous fuel and low sulfur No. 2 fuel oil. Fuel oil can include facility-generated, on-specification used oil.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Electrostatic Precipitator
Dry Sand Separator
Selective Non-Catalytic Reduction System (SNCR)
Dry Cyclone

2. Control Device or Method Code(s): **010, 099, 107, 076**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate: **633,000 lb/hr**		
3. Maximum Heat Input Rate: **1,185** million Btu/hr		
4. Maximum Incineration Rate:	pounds/hr tons/day	
5. Requested Maximum Operating Schedule:		
	24 hours/day	**7** days/week
	52 weeks/year	**8,760** hours/year

6. Operating Capacity/Schedule Comment:

Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel firing. Maximum 24-hour average firing for carbonaceous fuel is 1,077 MMBtu/hr, based on a 24-hour steam rate of 575,000 lb/hr. Maximum for No. 2 fuel oil is 562 MMBtu/hr. Maximum annual heat input limited to 6,767,100 MMBtu/yr.

See Attachments USS-EU5-B6a and USS-EU5-B6b.

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: **BLR-8**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **199** feet	7. Exit Diameter: **13.0** feet
8. Exit Temperature: **315** °F	9. Actual Volumetric Flow Rate: **395,000** acfm	10. Water Vapor: **24** %
11. Maximum Dry Standard Flow Rate: **270,000** 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: **Stack parameters are based on biomass firing at the maximum 24-hour heat input rate. Maximum standard flow rates are at 7-percent oxygen.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External combustion boilers; industrial; bagasse; all boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **164.58**	5. Maximum Annual Rate: **939,875**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.1 (dry)**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on bagasse firing at 1,185 MMBtu/hr (1-hour max) and maximum annual rate based on 6,767,100 MMBtu/yr. See Attachment USS-EU5-B6b.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External combustion boilers; industrial; distillate oil; grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1000 Gallons**	
4. Maximum Hourly Rate: **4.161**	5. Maximum Annual Rate: **6,073.6**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum rates based on fuel oil firing at 562 MMBtu/hr and a maximum of 6,073,600 gallons of fuel oil per year.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External combustion boilers; industrial; wood/bark (>50,000 lb/hr steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **131.67**	5. Maximum Annual Rate: **831,339**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05 (dry)**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **8.14**
10. Segment Comment: **Maximum hourly rate based on 1,185 MMBtu/hr (1-hour max) and 4,070 Btu/lb (wet) for wood/bark. Maximum annual rate based on 6,767,100 MMBtu/yr.**		

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:		

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	099	010	EL
PM_{10}	099	010	EL
SO_2			EL
NO_X	107		EL
CO			EL
VOC			EL
SAM			NS
PB	099	010	NS
H017 (Benzene)			NS
H095 (Formaldehyde)			NS
H106 (Hydrogen Chloride)	010		EL
H114 (Mercury)	099	010	EL
HAPs			NS
NH_3 (Ammonia)			EL
H113 (Manganese Compounds)	099	010	EL

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: **Manganese Compounds (H113)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **6.75** lb/hour **19.29** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0057 lb/MMBtu for wood firing** Reference: **Fuel Analysis**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Maximum 1-hour rate: 1,185 MMBtu/hr x 0.0057 lb/MMBtu = 6.75 lb/hr
Maximum 24-hour rate: 1,077 MMBtu/hr x 0.0057 lb/MMBtu = 6.14 lb/hr
Maximum annual rate: 6,767,100 MMBtu/yr x 0.0057 lb/MMBtu ÷ 2,000 lb/ton = 19.29 TPY

11. Potential Fugitive and Actual Emissions Comment:

Potential emissions representative of wood firing. Based on 90 percent confidence level of fuel analysis data.

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.0057 lb/MMBtu**	4. Equivalent Allowable Emissions: **6.75** lb/hour **19.29** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on wood firing. Emission factor based on 90 percent confidence level for fuel analysis data.**	

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: **H114 (Mercury)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.0036** lb/hour **0.0102** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3x10^{-6} lb/MMBtu** Reference: **40 CFR 63, Subpart DDDDD, Table 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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Maximum 1-hour rate: 1,185 MMBtu/hr x 3x10^{-6} lb/MMBtu = 0.0036 lb/hr
Maximum 24-hour rate: 1,077 MMBtu/hr x 3x10^{-6} lb/MMBtu = 0.0032 lb/hr
Maximum annual rate: 6,767,100 MMBtu/yr x 3x10^{-6} lb/MMBtu ÷ 2,000 lb/ton = 0.0102 TPY

11. Potential Fugitive and Actual Emissions Comment:

Potential emissions representative of carbonaceous fuel firing.

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: **RULE**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **$3x10^{-6}$ lb/MMBtu**	4. Equivalent Allowable Emissions: **0.0036** lb/hour **0.0102** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on 40 CFR 63, Subpart DDDDD, Table 1.**	

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: **HCl**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **391.1** lb/hour **507.6** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.33 lb/MMBtu for wood** Reference: **Test data**	7. Emissions Method Code: **1**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Maximum 1-hour rate: 1,185 MMBtu/hr x 0.33 lb/MMBtu = 391.1 lb/hr
Maximum 24-hour rate: 1,077 MMBtu/hr x 0.33 lb/MMBtu = 355.4 lb/hr
Maximum annual rate: 6,767,100 MMBtu/yr
Maximum annual wood burning:
200,000 TPY x 4,070 Btu/lb x 2,000 lb/ton = 1,628,000 MMBtu/yr

HCl = 1,628,000 MMBtu/yr x 0.33 lb/MMBtu x ton/2,000 lb = 268.6 TPY

Remainder due to bagasse firing:
6,767,100 MMBtu/yr – 1,628,000 MMBtu/yr = 5,139,100 MMBtu/yr

HCl = 5,139,100 MMBtu/yr x 0.093 lb/MMBtu x ton/2,000 lb = 239.0 TPY

Total = 268.6 TPY + 239.0 TPY = 507.6 TPY

11. Potential Fugitive and Actual Emissions Comment:

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: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.33 lb/MMBtu for wood**	4. Equivalent Allowable Emissions: **391.1** lb/hour **268.6** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test using EPA Method 26A.**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on wood firing.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions: **9/13/07**
3. Allowable Emissions and Units: **0.093 lb/MMBtu for bagasse**	4. Equivalent Allowable Emissions: **110.2** lb/hour **239.0** tons/year
5. Method of Compliance: **Fuel analysis and initial stack test.**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on bagasse firing.**	

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):	

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: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-212.400(5), F.A.C., BACT and NSPS Subpart Db.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

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: **EM**	2. Pollutant(s): **CO**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Based on 40 CFR 63, Subpart DDDDD and Permit No. 0510003-030-AC/PSD-FL-333B.**	

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

1. Parameter Code: **EM**	2. Pollutant(s): **NO_x**
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Based on BACT and Permit No. 0510003-030-AC/PSD-FL-333B.**	

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2005**

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)
   ☒ Attached, Document ID: **USSC-EU5-I2** ☐ Previously Submitted, Date

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **February 2005**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **May 2006**
   ☐ 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)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☒ Attached, Document ID: **HBCA Report** ☐ Not Applicable

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))
   ☐ Attached, Document ID: _____ ☐ 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.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **USS-EU5-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **USS-EU5-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT USS-EU5-B6a

BOILER LOAD DATA

Boiler No. 8

ATTACHMENT USSC-EU5-B6a

BOILER LOAD DATA

1. Boiler No. 8 – Annual Steam Production Basis:

Based on 75 percent capacity factor for originally permitted 1-hour steam rate of 550,000 lb/hr.

550,000 lb/hr steam x 8,760 hr/yr x 0.75 = 3.6135 x 10^9 lb steam per year

2. Steam Enthalpy Calculation

A. Steam conditions: 600 psig, 750°F
= 615 psia, 750°F
Enthalpy = 1,379 Btu/lb

B. Feedwater condition: 800 psig, 250°F
= 815 psia, 250°F
Enthalpy = 218 Btu/lb

C. Net Enthalpy: 1,379 – 218 = 1,161 Btu/lb steam

3. Heat Input Calculation (based on 62 percent thermal efficiency)

A. Maximum 1-hour:
633,000 lb/hr steam x 1,161 Btu/lb ÷ 0.62 = 1,185 MMBtu/hr

B. Maximum 24-hour:
575,000 lb/hr steam x 1,161 Btu/lb ÷ 0.62 = 1,077 MMBtu/hr

C. Annual rate:
3.6135 x 10^9 lb steam/yr x 1,161 Btu/lb ÷ 0.62 = 6,767,100 MMBtu/yr

4. Furnace Data

Furnace Type = Membrane Wall
Furnace Volume = 50,520 ft^3
Heat Release Rate (Bagasse) = 1,185 MMBtu/hr ÷ 50,520 ft^3 = 23,456 Btu/ft^3-hr
Heat Release Rate (No. 2 Fuel Oil) = 562 MMBtu/hr ÷ 50,520 ft^3 = 11,124 Btu/ft^3-hr

ATTACHMENT USS-EU5-B6b

HEAT INPUT RATES AND MAXIMUM FUEL USAGE

Boiler No. 8

ATTACHMENT USSC-EU5-B6b
BOILER NO. 8 MAXIMUM FUEL USAGE AND HEAT INPUT RATES, U.S. SUGAR CLEWISTON

Fuel	Heat Input	Heat Transfer Efficiency (%)	Fuel Firing Rate	
	Maximum Short-Term (MMBtu/hr)			
Bagasse (1-hour max) [a]	1,185	62	329,167	lb/hr
Bagasse (24-hour max) [b]	1,077	62	299,167	lb/hr
Wood Chips (1-hour max) [a]	1,185	62	291,155	lb/hr
Wood Chips (24-hour max) [b]	1,077	62	264,619	lb/hr
No. 2 Fuel Oil [c]	562	62	4,161	gal/hr
	Annual Average (MMBtu/yr)			
NORMAL OPERATION (100% BAGASSE)				
Bagasse	6,767,100	62	939,875	TPY
Wood Chips	0	62	0	TPY
No. 2 Fuel Oil	0	62	0	gal/yr
TOTAL	6,767,100			
100% WOOD CHIPS				
Bagasse	0	62	0	TPY
Wood Chips	6,767,100	62	831,339	TPY
No. 2 Fuel Oil	0	62	0	gal/yr
TOTAL	6,767,100			
10% FUEL OIL FIRING[d]				
Biomass	5,823,648	62	808,840	TPY
No. 2 Fuel Oil	943,452	62	6,073,600	gal/yr
TOTAL	6,767,100			

[a] Based on 633,000 lb/hr steam and 1,161 Btu/lb net enthalpy.

[b] Based on 575,000 lb/hr steam and 1,161 Btu/lb net enthalpy.

[c] Based on 300,000 lb/hr steam and 1,161 Btu/lb net enthalpy.

[d] Less than 10 percent of potential annual heat input to boiler, based on boiler design capacity (24-hr).

Notes:

Annual heat input based on 75% capacity factor (3.6135E+09 lbs steam/yr).

Fuels may be burned in combination, not to exceed total heat input.

Based on fuel heating values as follows:

Bagasse - 3,600 Btu/lb

Wood chips - 4,070 Btu/lb

No. 2 Fuel Oil - 135,000 Btu/gal

ATTACHMENT USS-EU5-I2

FUEL ANALYSIS OR SPECIFICATION

Boiler No. 8

ATTACHMENT USSC-EU5-I2

BOILER NO. 8 FUEL ANALYSIS

Parameter	Carbonaceous Fuel [a]		No. 2 Fuel Oil
	Bagasse	Wood Chips	(0.05% S max)
Density (lb/gal)	--	--	6.83
Approximate Heating Value (Btu/l	3,600 [b]	4,070 [b]	19,910
Approximate Heating Value (Btu/;	--	--	135,000
Ultimate Analysis (dry basis):			
Carbon	47.6%	40.70%	84.7%
Hydrogen	6.0%	4.90%	15.3%
Nitrogen	0.38%	0.37%	0.015%
Oxygen	42.1%	33.20%	0.38%
Sulfur	0.03% - 0.07%	0.05%	0.05%
Ash/Inorganic	2.6% - 5.3%	20.80%	0.06% [c]
Moisture	49% - 55%	38.50%	0.51% [c]

Represents typical values.

[a] Source: U.S. Sugar fuel analysis averages.

[b] Wet basis.

[c] Source: Perry's Chemical Engineer's Handbook. Sixth Edition, 1984. Represents average fuel characteristics.

ATTACHMENT USS-EU5-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

Boiler No. 8

ATTACHMENT USS-EU5-IV1a

IDENTIFICATION OF APPLICABLE REQUIREMENTS

Boiler No. 8

40 CFR 60.40b(a): 40 CFR 63, Subpart Db Applicability

40 CFR 60.40b(j): 40 CFR 63, Subpart Db Applicability

40 CFR 60.42b(a): Standard for Sulfur Dioxide

40 CFR 60.42b(j)(2): Standard for Sulfur Dioxide

40 CFR 60.43b(e): Standard for Particulate Matter and Opacity

40 CFR 60.43b(f): Standard for Particulate Matter and Opacity

40 CFR 60.43b(g): Standard for Particulate Matter and Opacity

40 CFR 60.45b(a): Compliance and Performance Test Methods for Sulfur Dioxide

40 CFR 60.45b(j): Compliance and Performance Test Methods for Sulfur Dioxide

40 CFR 60.46b(a): Compliance and Performance Test Methods for PM

40 CFR 60.46b(d)7: Compliance and Performance Test Methods for PM

40 CFR 60.47b(f): Emission Monitoring for Sulfur Dioxide

40 CFR 60.48b(a): Emission Monitoring for Particulate Matter and Nitrogen Oxides

40 CFR 60.49b(a): Reporting and Recordkeeping Requirements

40 CFR 60.49b(d): Reporting and Recordkeeping Requirements

40 CFR 60.49b(f): Reporting and Recordkeeping Requirements

40 CFR 60.49b(h)(1): Reporting and Recordkeeping Requirements

40 CFR 60.49b(h)(3): Reporting and Recordkeeping Requirements

40 CFR 60.49b(j): Reporting and Recordkeeping Requirements

40 CFR 60.49b(o): Reporting and Recordkeeping Requirements

40 CFR 60.49b(r): Reporting and Recordkeeping Requirements

62-204.800(b)(3), F.A.C.: NSPS Subpart Db – Adopted by Reference

62-212.400, F.A.C.: Prevention of Significant Deterioration

62-296.410(2), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62.297.310(1), F.A.C.: General Compliance Test Requirements

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Boiler No. 8

62-297-310(2)(b), F.A.C.: General Compliance Test Requirements

62-297-310(3), F.A.C.: General Compliance Test Requirements

62-297-310(4), F.A.C.: General Compliance Test Requirements

62-297-310(5), F.A.C.: General Compliance Test Requirements

62-297-310(6), F.A.C.: General Compliance Test Requirements

62-297-310(7), F.A.C.: General Compliance Test Requirements

62-297-310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 6C

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25a), F.A.C.: EPA Test Method 25A

40 CFR 63 – Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
(See Attachment USS-EU5-IV1b)

Permit No. 0510003-035-AC

Permit No. 0510003-030-AC/PSD-FL-333B

ATTACHMENT USS-EU5-IV1b
NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	**Sec. 63.7480 What is the purpose of this subpart?**	
Y	This subpart establishes national emission limits and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits and work practice standards.	
Y	**Sec. 63.7485 Am I subject to this subpart?**	
Y	You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in Sec. 63.7575 that is located at, or is part of, a major source of HAP as defined in Sec. 63.2 or Sec. 63.761 (40 CFR part 63, subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in Sec. 63.7491.	Clewiston is a major source of HAPs, and Boiler No. 8 has a heat input capacity of greater than 10 MMBtu/hr.
Y	**Sec. 63.7490 What is the affected source of this subpart?**	
Y	(a) This subpart applies to new, reconstructed, or existing affected sources as described in paragraphs (a)(1) and (2) of this section.	
N	(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory located at a major source as defined in Sec. 63.7575.	
Y	(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater located at a major source as defined in Sec. 63.7575.	Construction of Boiler No. 8 began after Jan. 13, 2003.
Y	(b) A boiler or process heater is new if you commence construction of the boiler or process heater after January 13, 2003, and you meet the applicability criteria at the time you commence construction.	Construction of Boiler No. 8 began after Jan. 13, 2003.
N	(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in Sec. 63.2, you commence reconstruction after January 13, 2003, and you meet the applicability criteria at the time you commence reconstruction.	
N	(d) A boiler or process heater is existing if it is not new or reconstructed.	
N	**Sec. 63.7491 Are any boilers or process heaters not subject to this subpart?**	
N	The types of boilers and process heaters listed in paragraphs (a) through (o) of this section are not subject to this subpart.	
N	(a) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Cb or subpart Eb.	
N	(b) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.	
N	(c) An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity, and supplies more than one-third of its potential electric output capacity, and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.	
N	(d) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (e.g., hazardous waste boilers).	
N	(e) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.	
N	(f) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.	
N	(g) A boiler or process heater that is used specifically for research and development. This does not include units that only provide heat or steam to a process at a research and development facility.	
N	(h) A hot water heater as defined in this subpart.	
N	(i) A refining kettle covered by 40 CFR part 63, subpart X.	
N	(j) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.	

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Applicable?	What This Subpart Covers	Applicability Rationale
N	(k) Blast furnace stoves as described in the EPA document, entitled ``National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants--Background Information for Proposed Standards," (EPA-453/R-01-005).	
N	(l) Any boiler and process heater specifically listed as an affected source in another standard(s) under 40 CFR part 63.	
N	(m) Any boiler and process heater specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act (CAA).	
N	(n) Temporary boilers as defined in this subpart.	
N	(o) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.	
Y	**Sec. 63.7495 When do I have to comply with this subpart?**	
Y	(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by November 12, 2004 or upon startup of your boiler or process heater, whichever is later.	Boiler No. 8 wil comply upon startup.
N	(b) If you have an existing boiler or process heater, you must comply with this subpart no later than September 13, 2007.	
N	(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.	
N	(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.	
N	(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.	
Y	(d) You must meet the notification requirements in Sec. 63.7545 according to the schedule in Sec. 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.	
Y	**Emission Limits and Work Practice Standards**	
Y	**Sec. 63.7499 What are the subcategories of boilers and process heaters?**	
Y	The subcategories of boilers and process heaters are large solid fuel, limited use solid fuel, small solid fuel, large liquid fuel, limited use liquid fuel, small liquid fuel, large gaseous fuel, limited use gaseous fuel, and small gaseous fuel. Each subcategory is defined in Sec. 63.7575.	Boiler No. 8 is in the large solid fuel category.
Y	**Sec. 63.7500 What emission limits, work practice standards, and operating limits must I meet?**	
Y	(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section.	
Y	(1) You must meet each emission limit and work practice standard in Table 1 to this subpart that applies to your boiler or process heater, except as provided under Sec. 63.7507.	Boiler No. 8 must meet MACT standards for new sources.
Y	Table 1: PM - 0.025 lb/MMBtu, or TSM - 0.0003 lb/MMBtu*	New source standard.
Y	HCl - 0.02 lb/MMBtu*	New source standard.
Y	Hg - 3E-06 lb/MMBtu	New source standard.
Y	CO - 400 ppmvd @ 7% O2, 30-day rolling average	New source standard.
Y	* May opt to demonstrate compliance with health-based alternative for HCl and TSM.	New source standard.
Y	(2) You must meet each operating limit in Tables 2 through 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Tables 2 through 4 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under Sec. 63.8(f).	Boiler No. 8 uses an ESP control device.

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	Tables 2, 3 and 4: PM, TSM, Hg - if using ESP control with additional wet control system: maintain minimum voltage and secondary current or total power input to the ESP at or above compliance test values. If using a dry ESP, install continuous opacity monitor and maintain opacity less than 10% as a 1-hour block average.	Boiler No. 8 uses an ESP control.
N	HCl - maintain minimum scrubber effluent pH, pressure drop and liquid flow rate at or above compliance test values.	Boiler No. 8 does not operate any control device for HCl to meet the Boiler MACT rule.
Y	Fuel Analysis - maintain fuel type such that Hg, TSM and HCl emission rates are less than applicable limits.	Boiler No. 8 will use Fuel Analysis and maintain fuel type such that Hg emission rate is less than applicable limit.
Y	(b) As provided in Sec. 63.6(g), EPA may approve use of an alternative to the work practice standards in this section.	Boiler No. 8 may request some alternatives to test procedures.
Y	**General Compliance Requirements**	
Y	**Sec. 63.7505 What are my general requirements for complying with this subpart?**	
Y	(a) You must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.	
Y	(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in Sec. 63.6(e)(1)(i).	
Y	(c) You can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to Sec. 63.7530(d) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using performance testing.	Boiler No. 8 will demonstrate compliance with Hg limits through fuel analysis.
Y	(d) If you demonstrate compliance with any applicable emission limit through performance testing, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under Sec. 63.8(f).	Boiler No. 8 will demonstrate compliance with the PM and HCl limits through stack testing.
Y	(1) For each continuous monitoring system (CMS) required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your CMS.	A site-specific monitoring is submitted as required.
Y	(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);	A site-specific monitoring is submitted as required.
Y	(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and	A site-specific monitoring is submitted as required.
Y	(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).	A site-specific monitoring is submitted as required.
Y	(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.	A site-specific monitoring is submitted as required.
Y	(i) Ongoing operation and maintenance procedures in accordance with the general requirements of Sec. 63.8(c)(1), (c)(3), and (c)(4)(ii);	A site-specific monitoring is submitted as required.

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	(ii) Ongoing data quality assurance procedures in accordance with the general requirements of Sec. 63.8(d); and	A site-specific monitoring is submitted as required
Y	(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of Sec. 63.10(c), (e)(1), and (e)(2)(i).	A site-specific monitoring is submitted as required.
Y	(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.	A site-specific monitoring is submitted as required.
Y	(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.	A site-specific monitoring is submitted as required.
Y	(e) If you have an applicable emission limit or work practice standard, you must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in Sec. 63.6(e)(3).	A SSM Plan has been developed for Boiler No. 8.
Y	**Sec. 63.7506 Do any boilers or process heaters have limited requirements?**	
N	(a) New or reconstructed boilers and process heaters in the large liquid fuel subcategory or the limited use liquid fuel subcategory that burn only fossil fuels and other gases and do not burn any residual oil are subject to the emission limits and applicable work practice standards in Table 1 to this subpart. You are not required to conduct a performance test to demonstrate compliance with the emission limits. You are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, you must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 to this subpart.	Boiler No. 8 is not in the liquid fuel subcategory.
N	(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in Sec. 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.	Boiler No. 8 is not in the liquid fuel subcategory.
N	(2) To demonstrate continuous compliance with the applicable emission limits, you must also keep records that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. You must also include a signed statement in each semiannual compliance report required in Sec. 63.7550 that indicates you burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.	Boiler No. 8 is not in the liquid fuel subcategory.
N	(b) The affected boilers and process heaters listed in paragraphs (b)(1) through (3) of this section are subject to only the initial notification requirements in Sec. 63.9(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
N	(1) Existing large and limited use gaseous fuel units.	Boiler No. 8 is not in the gaseous fuel subcategory.
N	(2) Existing large and limited use liquid fuel units.	Boiler No. 8 is not in the liquid fuel subcategory.
N	(3) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil. New or reconstructed small liquid fuel boilers and process heaters that commence burning of any other type of liquid fuel must comply with all applicable requirements of this subpart and subpart A of this part upon startup of burning the other type of liquid fuel.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
N	(c) The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in Sec. 63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.

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Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
N	(1) Existing small solid fuel boilers and process heaters.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
N	(2) Existing small liquid fuel boilers and process heaters.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
N	(3) Existing small gaseous fuel boilers and process heaters.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
N	(4) New or reconstructed small gaseous fuel units.	Boiler No. 8 is not in the gaseous fuel or liquid fuel subcategories.
Y	**Sec. 63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?**	
Y	(a) As an alternative to the requirement for large solid fuel boilers located at a single facility to demonstrate compliance with the HCl emission limit in Table 1 to this subpart, you may demonstrate eligibility for the health-based compliance alternative for HCl emissions under the procedures prescribed in appendix A to this subpart.	U.S. Sugar has submitted an HBCA demonstration for the facility for HCl
Y	(b) In lieu of complying with the TSM emission standards in Table 1 to this subpart based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM emission standards in Table 1 based on the sum of emissions for seven selected metals (by excluding manganese emissions from the summation of TSM emissions) under the procedures prescribed in appendix A to this subpart.	U.S. Sugar has submitted an HBCA demonstration for the facility for Mn.
Y	**Testing, Fuel Analyses, and Initial Compliance Requirements**	
Y	**Sec. 63.7510 What are my initial compliance requirements and by what date must I conduct them?**	
Y	(a) For affected sources that elect to demonstrate compliance with any of the emission limits of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to Sec. 63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to Sec. 63.7521 and Table 6 to this subpart, establishing operating limits according to Sec. 63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to Sec. 63.7525.	Boiler No. 8 has demonstrated initial compliance through a combination of methods.
Y	(b) For affected sources that elect to demonstrate compliance with the emission limits for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to Sec. 63.7521 and Table 6 to this subpart and establish operating limits according to Sec. 63.7530 and Table 8 to this subpart.	Boiler No. 8 has demonstrated compliance with the Hg limit through fuel analysis.
Y	(c) For affected sources that have an applicable work practice standard, your initial compliance requirements depend on the subcategory and rated capacity of your boiler or process heater. If your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, your initial compliance demonstration is conducting a performance test for carbon monoxide according to Table 5 to this subpart. If your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, your initial compliance demonstration is conducting a performance evaluation of your continuous emission monitoring system for carbon monoxide according to Sec. 63.7525(a).	Boiler No. 8 is subject to the CO work practice standard.
N	(d) For existing affected sources, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified for your source in Sec. 63.7495 and according to the applicable provisions in Sec. 63.7(a)(2) as cited in Table 10 to this subpart.	Boiler No. 8 is not an existing affected source.

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Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	(e) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003 and November 12, 2004, you must demonstrate initial compliance with either the proposed emission limits and work practice standards or the promulgated emission limits and work practice standards no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, according to Sec. 63.7(a)(2)(ix).	Boiler No. 8 demonstrated compliance with the promulgated emission limits and work practice standards within 180 days of startup.
N	(f) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003, and November 12, 2004, and you chose to comply with the proposed emission limits and work practice standards when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits and work practice standards within 3 years after November 12, 2004 or within 3 years after startup of the affected source, whichever is later.	Boiler No. 8 demonstrated compliance with the promulgated emission limits and work practice standards within 180 days of startup.
N	(g) If your new or reconstructed affected source commences construction or reconstruction after November 12, 2004, you must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.	Boiler No. 8 commenced construction prior to November 12, 2004.
Y	**Sec. 63.7515 When must I conduct subsequent performance tests or fuel analyses?**	
Y	(a) You must conduct all applicable performance tests according to Sec. 63.7520 on an annual basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Annual performance tests must be completed between 10 and 12 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.	
Y	(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant (particulate matter, HCl, mercury, or TSM) for at least 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months after the previous performance test.	
Y	(c) If your boiler or process heater continues to meet the emission limit for particulate matter, HCl, mercury, or TSM, you may choose to conduct performance tests for these pollutants every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.	
Y	(d) If a performance test shows noncompliance with an emission limit for particulate matter, HCl, mercury, or TSM, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.	
N	(e) If you have an applicable work practice standard for carbon monoxide and your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, you must conduct annual performance tests for carbon monoxide according to Sec. 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.	Boiler No. 8 is not in any of the limited use subcategories, and has a heat input capacity less than 100 MMBtu/hr.
Y	(f) You must conduct a fuel analysis according to Sec. 63.7521 for each type of fuel burned no later than 5 years after the previous fuel analysis for each fuel type. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in Sec. 63.7540.	
Y	(g) You must report the results of performance tests and fuel analyses within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to Sec. 63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in Sec. 63.7550.	
Y	**Sec. 63.7520 What performance tests and procedures must I use?**	

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Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	(a) You must conduct all performance tests according to Sec. 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in Sec. 63.7(c) if you elect to demonstrate compliance through performance testing.	Boiler No. 8 will demonstrate compliance with the PM and HCl limits through performance testing.
Y	(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.	
N	(c) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to Sec. 63.7506(a).	Boiler No. 8 is not in one of the liquid fuel subcategories.
Y	(d) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at the maximum normal operating load while burning the type of fuel or mixture of fuels that have the highest content of chlorine, mercury, and total selected metals, and you must demonstrate initial compliance and establish your operating limits based on these tests. These requirements could result in the need to conduct more than one performance test.	Boiler No. 8 will demonstrate compliance with the PM and HCl limits through performance testing.
Y	(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.	
Y	(f) You must conduct three separate test runs for each performance test required in this section, as specified in Sec. 63.7(e)(3). Each test run must last at least 1 hour.	Boiler No. 8 will demonstrate compliance with the PM and HCl limits through performance testing.
Y	(g) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A to part 60 of this chapter to convert the measured particulate matter concentrations, the measured HCl concentrations, the measured TSM concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.	Boiler No. 8 will demonstrate compliance with the PM and HCl limits through performance testing.
Y	**Sec. 63.7521 What fuel analyses and procedures must I use?**	
Y	(a) You must conduct fuel analyses according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable.	Boiler No. 8 will conduct fuel analysis for Mn, HCl, and Hg.
Y	(b) You must develop and submit a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.	Boiler No. 8 will submit a site-specific fuel analysis plan for Mn, Hg and HCl.
Y	(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to demonstrate compliance.	Boiler No. 8 will submit a site-specific fuel analysis plan for Mn, Hg and HCl.
Y	(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.	Boiler No. 8 will submit a site-specific fuel analysis plan for Mn, Hg and HCl.
Y	(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.	
Y	(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.	
Y	(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.	
Y	(iv) For each fuel type, the analytical methods, with the expected minimum detection levels, to be used for the measurement of selected total metals, chlorine, or mercury.	

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that will be used.	Boiler No. 8 will submit a site-specific fuel analysis plan for Mn, Hg and HCl.
N	(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.	Boiler No. 8 will not rely upon a fuel analysis from a fuel supplier.
Y	(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.	Boiler No. 8 will submit a site-specific fuel analysis plan for Mn, Hg and HCl.
Y	(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.	
Y	(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.	Boiler No. 8 will submit a request for an alternative test procedure since it is not practical to stop the belt feeder.
Y	(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal intervals during the testing period.	
Y	(2) If sampling from a fuel pile or truck, collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.	
Y	(i) For each composite sample, select a minimum of five sampling locations uniformly spaced over the surface of the pile.	
Y	(ii) At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.	
Y	(iii) Transfer all samples to a clean plastic bag for further processing.	
Y	(d) Prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.	
Y	(1) Throughly mix and pour the entire composite sample over a clean plastic sheet.	
Y	(2) Break sample pieces larger than 3 inches into smaller sizes.	
Y	(3) Make a pie shape with the entire composite sample and subdivide it into four equal parts.	
Y	(4) Separate one of the quarter samples as the first subset.	
Y	(5) If this subset is too large for grinding, repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.	
Y	(6) Grind the sample in a mill.	
Y	(7) Use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.	
Y	(e) Determine the concentration of pollutants in the fuel (mercury, chlorine, and/or total selected metals) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.	
N	**Sec. 63.7522 Can I use emission averaging to comply with this subpart?**	Boiler No. 8 is not eligible for the emissions averaging option.
N	(a) As an alternative to meeting the requirements of Sec. 63.7500, if you have more than one existing large solid fuel boiler located at your facility, you may demonstrate compliance by emission averaging according to the procedures in this section in a State that does not choose to exclude emission averaging.	

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N	(b) For each existing large solid fuel boiler in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on November 12, 2004 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on November 12, 2004.	
N	(c) You may average particulate matter or TSM, HCl, and mercury emissions from existing large solid fuel boilers to demonstrate compliance with the limits in Table 1 to this subpart if you satisfy the requirements in paragraphs (d), (e), and (f) of this section.	
N	(d) The weighted average emissions from the existing large solid fuel boilers participating in the emissions averaging option must be in compliance with the limits in Table 1 to this subpart at all times following the compliance date specified in Sec. 63.7495.	
N	(e) You must demonstrate initial compliance according to paragraphs (e)(1) or (2) of this section.	
N	(1) You must use Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.	
N	Where:	
N	AveWeighted = Average weighted emissions for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in Sec. 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Hm = Maximum rated heat input capacity of boiler, i, in units of million Btu per hour.	
N	n = Number of large solid fuel boilers participating in the emissions averaging option.	
N	(2) If you are not capable of monitoring heat input, you can use Equation 2 of this section as an alternative to using equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.	
N	Where:	
N	AveWeighted = Average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in Sec. 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Sm = Maximum steam generation by boiler, i, in units of pounds.	
N	Cf = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.	
N	(f) You must demonstrate continuous compliance on a 12-month rolling average basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) and (2). The first 12-month rolling-average period begins on the compliance date specified in Sec. 63.7495.	
N	(1) For each calendar month, you must use Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual heat capacity for each existing large solid fuel boiler participating in the emissions averaging option.	
N	Where:	

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N	AveWeighted Emissions = 12-month rolling average weighted emission level for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in Sec. 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Hb = The average heat input for each calendar month of boiler, i, in units of million Btu.	
N	n = Number of large solid fuel boilers participating in the emissions averaging option.	
N	(2) If you are not capable of monitoring heat input, you can use Equation 4 of this section as an alternative to using Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual steam generation from the large solid fuel boilers participating in the emissions averaging option.	
N	Where:	
N	AveWeighted Emissions = 12-month rolling average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Er = Emission rate, calculated during the most recent compliance test (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in Sec. 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.	
N	Sa = Actual steam generation for each calender month by boiler, i, in units of pounds.	
N	Cf = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.	
N	(g) You must develop and submit an implementation plan for emission averaging to the applicable regulatory authority for review and approval according to the following procedures and requirements in paragraphs (g)(1) through (4).	
N	(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.	
N	(2) You must include the information contained in paragraphs g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:	
N	(i) The identification of all existing large solid fuel boilers in the averaging group, including for each either the applicable HAP emission level or the control technology installed on;	
N	(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group of large solid fuel boilers;	
N	(iii) The specific control technology or pollution prevention measure to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple sources, the owner or operator must identify each source;	
N	(iv) The test plan for the measurement of particulate matter (or TSM), HCl, or mercury emissions in accordance with the requirements in Sec. 63.7520;	
N	(v) The operating parameters to be monitored for each control system or device and a description of how the operating limits will be determined;	
N	(vi) If you request to monitor an alternative operating parameter pursuant to Sec. 63.7525, you must also include:	
N	(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and	

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N	(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable regulatory authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and	
N	(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating conditions.	
N	(3) Upon receipt, the regulatory authority shall review and approve or disapprove the plan according to the following criteria:	
N	(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and	
N	(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.	
N	(4) The applicable regulatory authority shall not approve an emission averaging implementation plan containing any of the following provisions:	
N	(i) Any averaging between emissions of differing pollutants or between differing sources; or	
N	(ii) The inclusion of any emission source other than an existing large solid fuel boiler.	
Y	**Sec. 63.7525 What are my monitoring, installation, operation, and maintenance requirements?**	
Y	(a) If you have an applicable work practice standard for carbon monoxide, and your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, you must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in Sec. 63.7495.	Boiler No. 8 is subject to the CO work practice standard.
Y	(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR, part 60, appendix B, and according to the site-specific monitoring plan developed according to Sec. 63.7505(d).	Boiler No. 8 is subject to the CO work practice standard.
Y	(2) You must conduct a performance evaluation of each CEMS according to the requirements in Sec. 63.8 and according to PS 4A of 40 CFR part 60, appendix B.	Boiler No. 8 is subject to the CO work practice standard.
Y	(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.	Boiler No. 8 is subject to the CO work practice standard.
Y	(4) The CEMS data must be reduced as specified in Sec. 63.8(g)(2).	Boiler No. 8 is subject to the CO work practice standard.
Y	(5) You must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.	Boiler No. 8 is subject to the CO work practice standard.
Y	(6) For purposes of calculating data averages, you must not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when your boiler or process heater is operating at less than 50 percent of its rated capacity. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.	Boiler No. 8 is subject to the CO work practice standard.
N	(b) If you have an applicable opacity operating limit, you must install, operate, certify, and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date specified in Sec. 63.7495.	Boiler No. 8 is subject to an opacity standard since it uses a dry ESP. However, an alternative will be requested of monitoring ESP parameters.

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N	(1) Each COMS must be installed, operated, and maintained according to PS 1 of 40 CFR part 60, appendix B.	An alternative will be requested of monitoring ESP parameters.
N	(2) You must conduct a performance evaluation of each COMS according to the requirements in Sec. 63.8 and according to PS 1 of 40 CFR part 60, appendix B.	An alternative will be requested of monitoring ESP parameters.
N	(3) As specified in Sec. 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.	An alternative will be requested of monitoring ESP parameters.
N	(4) The COMS data must be reduced as specified in Sec. 63.8(g)(2).	An alternative will be requested of monitoring ESP parameters.
N	(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in Sec. 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.	An alternative will be requested of monitoring ESP parameters.
N	(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of Sec. 63.8(e). Identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.	An alternative will be requested of monitoring ESP parameters.
N	(7) You must determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.	An alternative will be requested of monitoring ESP parameters.
Y	(c) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in Sec. 63.7495.	Boiler No. 8 will have CMS for the ESP.
Y	(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.	Boiler No. 8 will have CMS for the ESP.
Y	(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.	Boiler No. 8 will have CMS for the ESP.
Y	(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.	Boiler No. 8 will have CMS for the ESP.
Y	(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.	Boiler No. 8 will have CMS for the ESP.
Y	(5) Record the results of each inspection, calibration, and validation check.	Boiler No. 8 will have CMS for the ESP.
N	(d) If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (c) and (d)(1) through (4) of this section.	Boiler No. 8 will not have an operating limit that requires a flow measurement device.
N	(1) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.	Boiler No. 8 will not have an operating limit that requires a flow measurement device.

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Applicable?	What This Subpart Covers	Applicability Rationale
N	(2) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.	Boiler No. 8 will not have an operating limit that requires a flow measurement device.
N	(3) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.	Boiler No. 8 will not have an operating limit that requires a flow measurement device.
N	(4) Conduct a flow sensor calibration check at least semiannually.	Boiler No. 8 will not have an operating limit that requires a flow measurement device.
N	(e) If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (c) and (e)(1) through (6) of this section.	Boiler No. 8 will not have a pressure measuring device.
N	(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.	Boiler No. 8 will not have a pressure measuring device.
N	(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.	Boiler No. 8 will not have a pressure measuring device.
N	(3) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.	Boiler No. 8 will not have a pressure measuring device.
N	(4) Check pressure tap pluggage daily.	Boiler No. 8 will not have a pressure measuring device.
N	(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.	Boiler No. 8 will not have a pressure measuring device.
N	(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.	Boiler No. 8 will not have a pressure measuring device.
N	(f) If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (c) and (f)(1) through (3) of this section.	Boiler No. 8 will not have a pH measuring device.
N	(1) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.	Boiler No. 8 will not have a pH measuring device.
N	(2) Ensure the sample is properly mixed and representative of the fluid to be measured.	Boiler No. 8 will not have a pH measuring device.
N	(3) Check the pH meter's calibration on at least two points every 8 hours of process operation.	Boiler No. 8 will not have a pH measuring device.
Y	(g) If you have an operating limit that requires the use of equipment to monitor voltage and secondary current (or total power input) of an electrostatic precipitator (ESP), you must use voltage and secondary current monitoring equipment to measure voltage and secondary current to the ESP.	Boiler No. 8 will be required to measure ESP operating parameters.
N	(h) If you have an operating limit that requires the use of equipment to monitor sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (h)(1) through (3) of this section.	Boiler No. 8 will not utilize sorbent injection.
N	(1) Locate the device in a position(s) that provides a representative measurement of the total sorbent injection rate.	Boiler No. 8 will not utilize sorbent injection.

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N	(2) Install and calibrate the device in accordance with manufacturer's procedures and specifications.	Boiler No. 8 will not utilize sorbent injection.
N	(3) At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.	Boiler No. 8 will not utilize sorbent injection.
N	(i) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (i)(1) through (8) of this section.	Boiler No. 8 will not use a fabric filter.
N	(4) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.	Boiler No. 8 will not use a fabric filter.
N	(5) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA 454/R-98-015, September 1997.	Boiler No. 8 will not use a fabric filter.
N	(6) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.	Boiler No. 8 will not use a fabric filter.
N	(7) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.	Boiler No. 8 will not use a fabric filter.
N	(8) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.	Boiler No. 8 will not use a fabric filter.
N	(9) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.	Boiler No. 8 will not use a fabric filter.
N	(10) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.	Boiler No. 8 will not use a fabric filter.
N	(11) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.	Boiler No. 8 will not use a fabric filter.
Y	**Sec. 63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?**	
Y	(a) You must demonstrate initial compliance with each emission limit and work practice standard that applies to you by either conducting initial performance tests and establishing operating limits, as applicable, according to Sec. 63.7520, paragraph (c) of this section, and Tables 5 and 7 to this subpart OR conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to Sec. 63.7521, paragraph (d) of this section, and Tables 6 and 8 to this subpart.	Boiler No. 8 conducted initial performance tests for PM and HCl and fuel analysis for Hg.
N	(b) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to Sec. 63.7506(a).	Boiler No. 8 is not in one of the liquid fuel subcategories.
Y	(c) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Tables 2 through 4 to this subpart that applies to you according to the requirements in Sec. 63.7520, Table 7 to this subpart, and paragraph (c)(4) of this section, as applicable. You must also conduct fuel analyses according to Sec. 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (c)(1) through (3) of this section, as applicable.	Boiler No. 8 conducted initial performance tests for PM, PM and HCl and fuel analysis for Hg.
Y	(1) You must establish the maximum chlorine fuel input (Cinput) during the initial performance testing according to the procedures in paragraphs (c)(1)(i) through (iii) of this section.	Boiler No. 8 conducted initial performance tests and fuel analysis for HCl.
Y	(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.	

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Y	(ii) During the performance testing for HCl, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci).	
Y	(iii) You must establish a maximum chlorine input level using Equation 5 of this section.	
Y	Where:	
Y	Clinput = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.	
Y	Ci = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to Sec. 63.7521, in units of pounds per million Btu.	
Y	Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
Y	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.	
N	(2) If you choose to comply with the alternative TSM emission limit instead of the particulate matter emission limit, you must establish the maximum TSM fuel input level (TSMinput) during the initial performance testing according to the procedures in paragraphs (c)(2)(i) through (iii) of this section.	Boiler No. 8 will not choose to comply with the alternative TSM limit.
N	(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.	
N	(ii) During the performance testing for TSM, you must determine the fraction of total heat input from each fuel burned (Qi) based on the fuel mixture that has the highest content of total selected metals, and the average TSM concentration of each fuel type burned (Mi).	
N	(iii) You must establish a baseline TSM input level using Equation 6 of this section.	
N	Where:	
N	TSMinput = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.	
N	Mi = Arithmetic average concentration of TSM in fuel type, i, analyzed according to Sec. 63.7521, in units of pounds per million Btu.	
N	Qi = Fraction of total heat input from based fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
N	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.	
N	(3) You must establish the maximum mercury fuel input level (Mercuryinput) during the initial performance testing using the procedures in paragraphs (c)(3)(i) through (iii) of this section.	Boiler No. 8 will comply with the Hg limit through fuel analysis.
N	(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.	

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Applicable?	What This Subpart Covers	Applicability Rationale
N	(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HGi).	
N	(iii) You must establish a maximum mercury input level using Equation 7 of this section.	
N	Where:	
N	Mercuryinput = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.	
N	HGi = Arithmetic average concentration of mercury in fuel type, i, analyzed according to Sec. 63.7521, in units of pounds per million Btu.	
N	Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
N	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.	
Y	(4) You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section.	
N	(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in Sec. 63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, HCl, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.	Boiler No. 8 no longer utilizes a wet scrubber.
N	(ii) For an electrostatic precipitator, you must establish the minimum voltage and secondary current (or total power input), as defined in Sec. 63.7575, as your operating limits during the three-run performance test.	Boiler No. 8 utilizes an ESP.
N	(iii) For a dry scrubber, you must establish the minimum sorbent injection rate, as defined in Sec. 63.7575, as your operating limit during the three-run performance test.	Boiler No. 8 will not utilize a dry scrubber.
N	(iv) The operating limit for boilers or process heaters with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in Sec. 63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.	Boiler No. 8 will not utilize a fabric filter.
Y	(d) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to Sec. 63.7521 and follow the procedures in paragraphs (d)(1) through (5) of this section.	Boiler No. 8 will comply with the Hg limit through fuel analysis.
Y	(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.	Fuel analysis have been conducted for both bagasse and wood fuel.
Y	(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 8 of this section.	
Y	Where:	
Y	P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu.	

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to Sec. 63.7521, in units of pounds per million Btu.	
Y	SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to Sec. 63.7521, in units of pounds per million Btu.	
Y	t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.	
Y	(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 9 of this section must be less than the applicable emission limit for HCl.	Boiler No. 8 will comply with the HCl limit through fuel analysis and a site-specific risk analysis.
Y	Where:	
Y	HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.	
Y	Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.	
Y	Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
Y	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.	
Y	1.028 = Molecular weight ratio of HCl to chlorine.	
N	(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.	Boiler No. 8 will not choose to comply with the alternative TSM limit.
N	Where:	
N	TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu.	
N	Mi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.	
N	Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
N	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.	
Y	(5) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must be less than the applicable emission limit for mercury.	Boiler No. 8 will comply with the Hg limit hrough fuel analysis.
Y	Where:	
Y	Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.	
Y	HGi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.	

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.	
Y	n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.	
Y	(e) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in Sec. 63.7545(e).	
Y	**Continuous Compliance Requirements**	
Y	**Sec. 63.7535 How do I monitor and collect data to demonstrate continuous compliance?**	
Y	(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by Sec. 63.7505(d).	
Y	(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.	
Y	(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. Boilers and process heaters that have an applicable carbon monoxide work practice standard and are required to install and operate a CEMS, may not use data recorded during periods when the boiler or process heater is operating at less than 50 percent of its rated capacity.	Boiler No. 8 will have a CEMS for CO.
Y	**Sec. 63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?**	
Y	(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (10) of this section.	
Y	(1) Following the date on which the initial performance test is completed or is required to be completed under Sec. 63.7 and 63.7510, whichever date comes first, you must not operate above any of the applicable maximum operating limits or below any of the applicable minimum operating limits listed in Tables 2 through 4 to this subpart at all times except during periods of startup, shutdown and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits.	
Y	(2) You must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of TSM, HCl, and mercury, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of TSM, chlorine, and mercury than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance testing).	
N	(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of Sec. 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.	Boiler No. 8 will demonstrate compliance with HCl by performance testing.
N	(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to Sec. 63.7521(b).	
N	(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.	
N	(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 9 of Sec. 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.	

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Y	(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel type or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 5 of Sec. 63.7530. If the results of recalculating the maximum chlorine input using Equation 5 of Sec. 63.7530 are higher than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in Sec. 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in Sec. 63.7530(c).	
N	(5) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 10 of Sec. 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.	Boiler No. 8 will not choose to comply with the alternative TSM limit.
N	(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to Sec. 63.7521(b).	
N	(ii) You must determine the new mixture of fuels that will have the highest content of TSM.	
N	(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 10 of Sec. 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.	
N	(6) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 6 of Sec. 63.7530. If the results of recalculating the maximum total selected metals input using Equation 6 of Sec. 63.7530 are higher than the maximum TSM input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in Sec. 63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in Sec. 63.7530(c).	Boiler No. 8 will not choose to comply with the alternative TSM limit.
Y	(7) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of Sec. 63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.	Boiler No. 8 will comply with the Hg limit through fuel analysis.
Y	(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to Sec. 63.7521(b).	
Y	(ii) You must determine the new mixture of fuels that will have the highest content of mercury.	
Y	(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of Sec. 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.	
N	(8) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 7 of Sec. 63.7530. If the results of recalculating the maximum mercury input using Equation 7 of Sec. 63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in Sec. 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in Sec. 63.7530(c).	Boiler No. 8 will comply with the Hg limit through fuel analysis.

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Applicable?	What This Subpart Covers	Applicability Rationale
N	(9) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your SSMP, and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.	Boiler No. 8 will not utilize a fabric filter.
Y	(10) If you have an applicable work practice standard for carbon monoxide, and you are required to install a CEMS according to Sec. 63.7525(a), then you must meet the requirements in paragraphs (a)(10)(i) through (iii) of this section.	Boiler No. 8 will have a CEMS for CO.
Y	(i) You must continuously monitor carbon monoxide according to Sec. 63.7525(a) and 63.7535.	
Y	(ii) Maintain a carbon monoxide emission level below your applicable carbon monoxide work practice standard in Table 1 to this subpart at all times except during periods of startup, shutdown, malfunction, and when your boiler or process heater is operating at less than 50 percent of rated capacity.	
Y	(iii) Keep records of carbon monoxide levels according to Sec. 63.7555(b).	
Y	(b) You must report each instance in which you did not meet each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that apply to you. You must also report each instance during a startup, shutdown, or malfunction when you did not meet each applicable emission limit, operating limit, and work practice standard. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in Sec. 63.7550.	
Y	(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP as required in Sec. 63.7505(e).	
Y	(d) Consistent with Sec. Sec. 63.6(e)and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in Sec. 63.6(e).	
N	**Sec. 63.7541 How do I demonstrate continuous compliance under the emission averaging provision?**	Boiler No. 8 is not eligible for the emissions averaging provision.
N	(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.	
N	(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing large solid fuel boilers participating in the emissions averaging option as determined in Sec. 63.7522(f) and (g);	
N	(2) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a dry control system, maintain opacity at or below the applicable limit;	
N	(3) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test; and	
N	(4) For each existing solid fuel boiler participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.	

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Applicable?	What This Subpart Covers	Applicability Rationale
N	(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (4) of this section, except during periods of startup, shutdown, and malfunction, is a deviation.	
Y	**Notification, Reports, and Records**	
Y	**Sec. 63.7545 What notifications must I submit and when?**	
Y	(a) You must submit all of the notifications in Sec. Sec. 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified.	
N	(b) As specified in Sec. 63.9(b)(2), if you startup your affected source before November 12, 2004, you must submit an Initial Notification not later than 120 days after November 12, 2004. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.	Boiler No. 8 startup was after Nov. 12, 2004.
N	(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by Sec. 63.9(b)(2).	
N	(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by Sec. 63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.	
Y	(c) As specified in Sec. 63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after November 12, 2004, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.	Boiler No. 8 submitted the initial notification within 15 days of startup.
Y	(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.	Boiler No. 8 has submitted the Notification of Intent at least 30 days prior to beginning testing.
Y	(e) If you are required to conduct an initial compliance demonstration as specified in Sec. 63.7530(a), you must submit a Notification of Compliance Status according to Sec. 63.9(h)(2)(ii). For each initial compliance demonstration, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to Sec. 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable.	The Notification of Compliance Status will be submitted within 60 days following completion of the performance tests.
Y	(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.	
Y	(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.	
Y	(3) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.	
Y	(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.	
Y	(5) Identification of whether you plan to demonstrate compliance by emissions averaging.	
Y	(6) A signed certification that you have met all applicable emission limits and work practice standards.	

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Applicable?	What This Subpart Covers	Applicability Rationale
Y	(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable work practice standard in Table 1 to this subpart.	
Y	(8) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.	
Y	(9) If you had a deviation from any emission limit or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.	
Y	**Sec. 63.7550 What reports must I submit and when?**	
Y	(a) You must submit each report in Table 9 to this subpart that applies to you.	
Y	(b) Unless the EPA Administrator has approved a different schedule for submission of reports under Sec. 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.	
Y	(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in Sec. 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in Sec. 63.7495.	
Y	(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in Sec. 63.7495.	
Y	(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.	
Y	(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.	
Y	(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.	
Y	(c) The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.	
Y	(1) Company name and address.	
Y	(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.	
Y	(3) Date of report and beginning and ending dates of the reporting period.	
Y	(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure.	
Y	(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.	

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Y	(6) A signed statement indicating that you burned no new types of fuel. Or, if you did burn a new type of fuel, you must submit the calculation of chlorine input, using Equation 5 of Sec. 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 9 of Sec. 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of TSM input, using Equation 6 of Sec. 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate using Equation 10 of Sec. 63.7530 that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of mercury input, using Equation 7 of Sec. 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of Sec. 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).	
Y	(7) If you wish to burn a new type of fuel and you can not demonstrate compliance with the maximum chlorine input operating limit using Equation 5 of Sec. 63.7530, the maximum TSM input operating limit using Equation 6 of Sec. 63.7530, or the maximum mercury input operating limit using Equation 7 of Sec. 63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.	
Y	(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.	
Y	(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in Sec. 63.10(d)(5)(i).	
Y	(10) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.	
Y	(11) If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in Sec. 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period.	
Y	(d) For each deviation from an emission limit or operating limit in this subpart and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where you are not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.	
Y	(1) The total operating time of each affected source during the reporting period.	
Y	(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.	
Y	(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.	
Y	(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative TSM limit, a deviation from the HCl emission limit, or a deviation from the mercury emission limit.	

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Y	(e) For each deviation from an emission limitation and operating limit or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit, operating limit, or work practice standard, you must include the information in paragraphs (c) (1) through (10) of this section and the information required in paragraphs (e) (1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in Sec. 63.7505(d).	
Y	(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., what you deviated from).	
Y	(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.	
Y	(3) The date, time, and duration that each CMS was out of control, including the information in Sec. 63.8(c)(8).	
Y	(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.	
Y	(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.	
Y	(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.	
Y	(7) A summary of the total duration of CMSs downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.	
Y	(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.	
Y	(9) A brief description of the source for which there was a deviation.	
Y	(10) A brief description of each CMS for which there was a deviation.	
Y	(11) The date of the latest CMS certification or audit for the system for which there was a deviation.	
Y	(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.	
Y	(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.	
N	(g) If you operate a new gaseous fuel unit that is subject to the work practice standard specified in Table 1 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected unit, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in Sec. 63.7575. The notification must include the information specified in paragraphs (g)(1) through (5) of this section.	Boiler No. 8 is not in the new gaseous fuel category.
N	(1) Company name and address.	
N	(2) Identification of the affected unit.	
N	(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began..	

ATTACHMENT USS-EU5-IV1b
NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
N	(4) Type of alternative fuel that you intend to use.	
N	(5) Dates when the alternative fuel use is expected to begin and end.	
Y	**Sec. 63.7555 What records must I keep?**	
Y	(a) You must keep records according to paragraphs (a)(1) through (3) of this section.	
Y	(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in Sec. 63.10(b)(2)(xiv).	
Y	(2) The records in Sec. 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.	
Y	(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in Sec. 63.10(b)(2)(viii).	
Y	(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b)(1) through (5) of this section.	
Y	(1) Records described in Sec. 63.10(b)(2) (vi) through (xi).	
Y	(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in Sec. 63.6(h)(7)(i) and (ii).	
Y	(3) Previous (i.e., superseded) versions of the performance evaluation plan as required in Sec. 63.8(d)(3).	
Y	(4) Request for alternatives to relative accuracy test for CEMS as required in Sec. 63.8(f)(6)(i).	
Y	(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.	
Y	(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that applies to you.	
Y	(d) For each boiler or process heater subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (5) of this section.	
Y	(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.	
Y	(2) You must keep records of monthly hours of operation by each boiler or process heater. This requirement applies only to limited-use boilers and process heaters.	
Y	(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 5 of Sec. 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of Sec. 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.	
N	(4) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 6 of Sec. 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 10 of Sec. 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.	Boiler No. 8 is not choosing to comply with the alternative TSM limit.

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NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of Sec. 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of Sec. 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.	
N	(e) If your boiler or process heater is subject to an emission limit or work practice standard in Table 1 to this subpart and has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e)(1) and (2) of this section.	Boiler No. 8 does not have a 10 percent capacity factor limitation.
N	(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.	
N	(2) Fuel use records for the days the boiler or process heater was operating.	
Y	**Sec. 63.7560 In what form and how long must I keep my records?**	
Y	(a) Your records must be in a form suitable and readily available for expeditious review, according to Sec. 63.10(b)(1).	
Y	(b) As specified in Sec. 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.	
Y	(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Sec. 63.10(b)(1). You can keep the records off site for the remaining 3 years.	
Y	**Other Requirements and Information**	
Y	**Sec. 63.7565 What parts of the General Provisions apply to me?**	
Y	Table 10 to this subpart shows which parts of the General Provisions in Sec. Sec. 63.1 through 63.15 apply to you.	
Y	**Sec. 63.7570 Who implements and enforces this subpart?**	
Y	(a) This subpart can be implemented and enforced by U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.	
Y	(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, the U.S. EPA retains oversight of this subpart and can take enforcement actions, as appropriate.	
Y	(1) Approval of alternatives to the non-opacity emission limits and work practice standards in Sec. 63.7500(a) and (b) under Sec. 63.6(g).	
Y	(2) Approval of alternative opacity emission limits in Sec. 63.7500(a) under Sec. 63.6(h)(9).	
Y	(3) Approval of major change to test methods in Table 5 to this subpart under Sec. 63.7(e)(2)(ii) and (f) and as defined in Sec. 63.90.	
Y	(4) Approval of major change to monitoring under Sec. 63.8(f) and as defined in Sec. 63.90.	
Y	(5) Approval of major change to recordkeeping and reporting under Sec. 63.10(f) and as defined in Sec. 63.90.	
Y	**Sec. 63.7575 What definitions apply to this subpart?**	
Y	Terms used in this subpart are defined in the CAA, in Sec. 63.2 (the General Provisions), and in this section as follows:	

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NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	**Annual capacity factor** means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year, and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.	
Y	**Bag leak detection system** means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.	
Y	**Biomass fuel** means unadulterated wood as defined in this subpart, wood residue, and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); animal litter; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.	
Y	**Blast furnace gas** fuel-fired boiler or process heater means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total heat input (based on an annual average) from blast furnace gas.	
Y	**Boiler** means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.	
Y	**Coal** means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388-991 .\1\, ``Standard Specification for Classification of Coals by Rank \1\" (incorporated by reference, see Sec. 63.14(b)), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, for the purposes of this subpart. Coal derived gases are excluded from this definition.	
Y	**Coal refuse** means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.	
Y	**Commercial/institutional boiler** means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.	
Y	**Construction/demolition material** means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.	
Y	**Deviation.** (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:	
Y	(i) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard;	
Y	(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or	
Y	(iii) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.	
Y	(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.	
Y	**Distillate oil** means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396-02a, ``Standard Specifications for Fuel Oils 1" (incorporated by reference, see Sec. 63.14(b)).	

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NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	**Dry scrubber** means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition.	
Y	**Electric utility steam generating unit** means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.	
Y	**Electrostatic precipitator** means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper.	
Y	**Fabric filter** means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.	
Y	**Federally enforceable** means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.	
Y	**Firetube boiler** means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.	
Y	**Fossil fuel** means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.	
Y	**Fuel type** means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.	
Y	**Gaseous fuel** includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.	
Y	**Heat input** means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.	
Y	**Hot water heater** means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210[deg]F (99[deg]C).	
Y	**Industrial boiler** means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.	
Y	**Large gaseous fuel subcategory** includes any watertube boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.	
Y	**Large liquid fuel subcategory** includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent. Large gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.	
Y	**Large solid fuel subcategory** includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.	

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NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	**Limited use gaseous fuel subcategory** includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.	
Y	**Limited use liquid fuel subcategory** includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent. Limited use gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.	
Y	**Limited use solid fuel subcategory** includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.	
Y	**Liquid fossil fuel** means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.	
Y	**Liquid fuel** includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.	
Y	**Minimum pressure drop** means 90 percent of the lowest test-run average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.	
Y	**Minimum scrubber effluent pH** means 90 percent of the lowest test-run average effluent pH measured at the outlet of the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.	
Y	**Minimum scrubber flow rate** means 90 percent of the lowest test-run average flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.	
Y	**Minimum sorbent flow rate** means 90 percent of the lowest test-run average sorbent (or activated carbon) flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.	
Y	**Minimum voltage or amperage** means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.	
Y	**Natural gas** means:	
Y	(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or	
Y	(2) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-03a, "Standard Specification for Liquid Petroleum Gases" (incorporated by reference, see Sec. 63.14(b)).	
Y	**Opacity** means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.	
Y	**Particulate matter** means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.	
Y	**Period of natural gas curtailment or supply interruption** means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.	
Y	**Process heater** means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.	

ATTACHMENT USS-EU5-IV1b
NATIONAL EMISSION STANDARDS
U.S. SUGAR BOILER NO. 8

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Applicable?	What This Subpart Covers	Applicability Rationale
Y	**Residual oil** means crude oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396-02a, ``Standard Specifications for Fuel Oils 1" (incorporated by reference, see Sec. 63.14(b)).	
Y	**Responsible official** means responsible official as defined in 40 CFR 70.2.	
Y	**Small gaseous fuel subcategory** includes any firetube boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and any boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.	
Y	**Small liquid fuel subcategory** includes any firetube boiler that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input. Small gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.	
Y	**Small solid fuel subcategory** includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.	
Y	**Solid fuel** includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.	
Y	**Temporary boiler** means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.	
Y	**Total selected metals** means the combination of the following metallic HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.	
Y	**Unadulterated wood** means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.	
Y	**Waste heat boiler** means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are not considered waste heat boilers, but are considered boilers. Waste heat boilers are also referred to as heat recovery steam generators.	
Y	**Watertube boiler** means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.	
Y	**Wet scrubber** means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.	
Y	**Work practice standard** means any design, equipment, work practice, or operational standard, or combination thereof that is promulgated pursuant to section 112(h) of the CAA.	

ATTACHMENT USS-EU5-IV3

ALTERNATIVE METHODS OF OPERATION

Boiler No. 8

ATTACHMENT USS-EU5-IV3

ALTERNATIVE METHODS OF OPERATION

U.S. Sugar Clewiston Boiler No. 8 is permitted to fire carbonaceous fuel (bagasse and wood chips) as the primary fuel and distillate fuel oil as a restricted alternate fuel for startup and supplemental use. The boiler has a maximum steam production capacity of 575,000 lb/hr based on a maximum heat input rate of 1,077 MMBtu/hr (24-hour average). The sulfur content of distillate fuel oil is limited to 0.05 percent by weight. The operating hours of the boiler are not limited (8,760 hr/yr). Bagasse and wood chips can include incidental amounts of on-specification used oil.