

Annual Emissions Testing

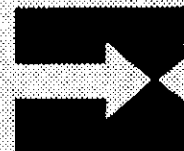
Multiple Sources

Georgia Gulf Chemicals and Vinyls, LLC

Aberden, Mississippi

June 11, 2001 - June 15, 2001

ENTEC Project No.: 20126



ENTEC

Emission Testing Services

Entec Services, Inc.

25 Commerce Avenue - Suite 104
Hueytown, Alabama 35023

Telephone: (205) 491-6676
Fax: (205) 491-6614

**Results of the June 11, 2001 – June 15, 2001
Particulate Emissions Compliance Test on Multiple Sources
at the
Georgia Gulf Chemicals and Vinyl's, LLC
facility in Aberdeen, Mississippi**

Submitted to:

Georgia Gulf

Post Office Box 91
New Highway 25
Aberdeen, Mississippi 39730-0091

Attention: Mr. Kenny Akins

Entec Project No. 20126

Date Report Submitted: July 13, 2001

Approved By:


Lynn Beane
Project Manager

Table of Contents

	<u>Page No.</u>
Executive Summary	1
Detailed Test Results of Particulate Emissions	3

Appendices

A	-	Test Procedures
B	-	Field Data Sheets
C	-	Laboratory Analysis
D	-	Lead Laboratory Certificates
E	-	Equipment Calibrations
F	-	Test Calculations

Executive Summary

Entec Services, Inc. was retained by Georgia Gulf to perform compliance testing for pollutant gas emissions at the Georgia Gulf facility located in Aberdeen, Mississippi. Mr. Tim Draheim, Mr. Lynn Beane, Mr. Bradley Hall, Mr. Steve Blakenship and Mr. Kevin Rosenburg of Entec Services, Inc conducted the testing on June 11-15, 2001.

Emissions testing was performed in accordance with EPA CFR 40 Part 60 Appendix "A" methods 1, 2, 3, 4, 5, and 12. Three, seventy-two (72) minute test runs were performed on the following sources with production at normal operating conditions.

- 681 Silo Baghouse
- 682 Silo Baghouse
- 683 Silo Baghouse
- 684 Silo Baghouse
- 685 Silo Baghouse
- 686 Silo Baghouse
- 689 Silo Baghouse
- 690 Silo Baghouse
- 691 Silo Baghouse
- AC-009 Lead System

Prior to the first test run a preliminary velocity measurement of the exhaust gas was determined to verify the absence of cyclonic flow in the gas stream and to allow the selection of the appropriate nozzle diameter for isokinetic sample withdrawal. Two Nutech Model 2010, and a Nutech Model 201 sampling trains which meet the specifications in the above- cited reference methods, were used to isokinetically extract the particulate samples by means of a heated stainless steel probe and heated filter

compartment. Integrated flue gas samples for Fyrite analysis were extracted from the exhaust gases for determination of the flue gas oxygen and carbon dioxide.

Due to the short exhaust configuration on each of the silo baghouse sources, an extension of the exhaust was attached and sealed to the outlet of each source in order for the test locations to meet the requirements of CFR 40 Part 60 Appendix A Method 1. Testing was conducted from two test ports oriented at 90 degree on the exhaust stack. The test ports were located at a minimum of 2.0 duct diameters downstream and 8.0 duct diameters upstream from the nearest disturbance. A 12 point traverse was used to determine the exhaust gas volumetric flow and to collect a representative sample of the particulate emissions. Each traverse was conducted for a total sampling time of seventy-two (72) minutes for each test run.

No difficulties were encountered in the field collection of the samples or in the laboratory analysis of the samples by Entec Services, Inc. Testing was conducted in accordance with the applicable CFR 40 Part 60 Appendix "A" test procedures.

On the basis of these facts and a complete review of the data and results, it is our opinion that the results reported herein are accurate and closely reflect the actual values, which existed at the time the testing was conducted.

Test results indicate the sources tested have an average combined emission rate of 0.200 lbs/ hr of particulate emissions. The AC-009 Lead System has an average emissions rate of 0.00005 lbs per hour.

Georgia Gulf

Aberdeen, Mississippi

681 Silo Baghouse

Particulate Emissions Test Summary
June 13, 2001

<i>Test No.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>Average</i>
<i>Time;</i>	<i>1330-1500</i>	<i>1520-1645</i>	<i>0840-1000</i>	<i>N/A</i>
<i>Stack Temperature Fahrenheit</i>	106.9	104.4	77.3	96.2
<i>Stack Moisture, %</i>	1.0	1.6	0.9	1.2
<i>Oxygen Concentration, %</i>	21.0	21.0	21.0	21.0
<i>Carbon Dioxide Concentration %</i>	0.0	0.0	0.0	0.0
<i>Stack Gas Flow ACFM</i>	760.8	764.1	713.3	746.0
<i>Stack Gas Flow DSCFM</i>	703.7	706.0	695.0	701.6
<i>Particulate Concentration at Standard Conditions, Grains/Ft³</i>	0.0010	0.0036	0.0015	0.0020
<i>Particulate Emissions lbs per hour</i>	0.006	0.022	0.009	0.012

Georgia Gulf

Aberdeen, Mississippi

682 Silo Baghouse

Particulate Emissions Test Summary
June 12, 2001

Test No.	1	2	3	Average
Time;	1510-1700	1715-1835	1855-2015	N/A
Stack Temperature Fahrenheit	111.9	109.6	101.5	107.7
Stack Moisture, %	1.1	0.8	0.9	0.9
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	946.3	919.4	913.3	926.3
Stack Gas Flow DSCFM	861.4	843.1	848.3	850.9
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0015	0.0018	0.0024	0.0019
Particulate Emissions lbs per hour	0.011	0.013	0.017	0.014

Georgia Gulf

Aberdeen, Mississippi

683 Silo Baghouse

Particulate Emissions Test Summary
June 13, 2001

Test No.	1	2	3	Average
Time;	0805-0930	1000-1130	1200-1315	N/A
Stack Temperature Fahrenheit	100.2	105.3	99.1	101.5
Stack Moisture, %	1.9	1.2	1.0	1.4
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	818.9	839.2	830.5	829.5
Stack Gas Flow DSCFM	760.2	777.0	779.5	772.2
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0019	0.0010	0.0014	0.0014
Particulate Emissions lbs per hour	0.012	0.007	0.009	0.009

Georgia Gulf

Aberdeen, Mississippi

684 Silo Baghouse

Particulate Emissions Test Summary

June 12, 2001

Test No.	1	2	3	Average
Time;	0910-1045	1105-1225	1330-1500	N/A
Stack Temperature Fahrenheit	105.4	106.4	108.8	106.9
Stack Moisture, %	0.9	0.8	0.9	0.9
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	988.7	1,008.9	972.9	990.2
Stack Gas Flow DSCFM	912.2	930.0	892.1	911.4
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0022	0.0014	0.0018	0.0018
Particulate Emissions lbs per hour	0.017	0.011	0.014	0.014

Georgia Gulf

Aberdeen, Mississippi

685 Silo Baghouse

Particulate Emissions Test Summary

June 12, 2001

Test No.	1	2	3	Average
Time;	0952-1130	1159-1320	0820-0935	N/A
Stack Temperature Fahrenheit	110.3	106.9	104.0	107.0
Stack Moisture, %	1.8	1.5	1.2	1.5
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	1,918	1,622	1,927	1,822
Stack Gas Flow DSCFM	1,737	1,482	1,784	1,668
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0049	0.0033	0.0055	0.0046
Particulate Emissions lbs per hour	0.073	0.042	0.084	0.067

Georgia Gulf

Aberdeen, Mississippi

686 Silo Baghouse

Particulate Emissions Test Summary
June 12, 2001

Test No.	1	2	3	Average
Time;	1525-1640	1700-1825	1845-2005	N/A
Stack Temperature Fahrenheit	110.3	111.4	100.4	107.4
Stack Moisture, %	1.4	1.4	1.6	1.5
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	696.1	697.4	681.3	691.6
Stack Gas Flow DSCFM	633.5	633.4	629.6	632.2
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0031	0.0072	0.0058	0.0053
Particulate Emissions lbs per hour	0.017	0.039	0.031	0.029

Georgia Gulf

Aberdeen, Mississippi

689 Silo Baghouse

Particulate Emissions Test Summary

June 13, 2001

<i>Test No.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>Average</i>
<i>Time;</i>	<i>1135-1300</i>	<i>1333-1447</i>	<i>1511-1630</i>	<i>N/A</i>
<i>Stack Temperature Fahrenheit</i>	98.8	97.0	97.9	97.9
<i>Stack Moisture, %</i>	1.7	1.5	1.2	1.4
<i>Oxygen Concentration, %</i>	21.0	21.0	21.0	21.0
<i>Carbon Dioxide Concentration %</i>	0.0	0.0	0.0	0.0
<i>Stack Gas Flow ACFM</i>	555.2	615.3	650.6	607.1
<i>Stack Gas Flow DSCFM</i>	517.8	576.8	610.4	568.3
<i>Particulate Concentration at Standard Conditions, Grains/Ft³</i>	0.0065	0.0095	0.0024	0.0062
<i>Particulate Emissions lbs per hour</i>	0.029	0.047	0.013	0.030

Georgia Gulf

Aberdeen, Mississippi

690 Silo Baghouse

Particulate Emissions Test Summary
June 14, 2001

Test No.	1	2	3	Average
Time;	0856-1020	1045-1200	1225-1340	N/A
Stack Temperature Fahrenheit	88.6	83.3	93.1	88.3
Stack Moisture, %	1.3	1.8	1.8	1.6
Oxygen Concentration, %	21.0	21.0	21.0	21.0
Carbon Dioxide Concentration %	0.0	0.0	0.0	0.0
Stack Gas Flow ACFM	656.5	614.1	636.7	635.8
Stack Gas Flow DSCFM	624.3	586.9	597.5	602.9
Particulate Concentration at Standard Conditions, Grains/Ft ³	0.0035	0.0027	0.0018	0.0026
Particulate Emissions lbs per hour	0.019	0.013	0.009	0.014

Georgia Gulf

Aberdeen, Mississippi

691 Silo Baghouse

Particulate Emissions Test Summary
June 14, 2001

<i>Test No.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>Average</i>
<i>Time;</i>	<i>1115-1230</i>	<i>1255-1415</i>	<i>1435-1600</i>	<i>N/A</i>
<i>Stack Temperature Fahrenheit</i>	79.5	104.3	105.3	96.4
<i>Stack Moisture, %</i>	0.8	1.0	0.8	0.9
<i>Oxygen Concentration, %</i>	21.0	21.0	21.0	21.0
<i>Carbon Dioxide Concentration %</i>	0.0	0.0	0.0	0.0
<i>Stack Gas Flow ACFM</i>	704.0	733.1	738.0	725.0
<i>Stack Gas Flow DSCFM</i>	684.3	679.4	684.3	682.7
<i>Particulate Concentration at Standard Conditions, Grains/Ft³</i>	0.0016	0.0021	0.0021	0.0019
<i>Particulate Emissions lbs per hour</i>	0.009	0.012	0.012	0.011

Georgia Gulf

Aberdeen, Mississippi

AC-009 Lead System

Emissions Test Summary

June 11, 2001

<i>Test No.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>Average</i>
<i>Time;</i>	<i>1355-1500</i>	<i>1543-1650</i>	<i>1720-1825</i>	<i>N/A</i>
<i>Stack Temperature Fahrenheit</i>	98.3	99.0	97.3	98.2
<i>Stack Moisture, %</i>	1.3	2.8	2.5	2.2
<i>Oxygen Concentration, %</i>	21.0	21.0	21.0	21.0
<i>Carbon Dioxide Concentration %</i>	0.0	0.0	0.0	0.0
<i>Stack Gas Flow ACFM</i>	314.3	315.8	299.2	309.8
<i>Stack Gas Flow DSCFM</i>	295.4	292.1	278.3	288.6
<i>Lead Concentration, ppm</i>	0.0060	0.0043	0.0044	0.0049
<i>Lead Emissions lbs per hour</i>	0.00006	0.00004	0.00004	0.00005

2.0 Detailed Test Results

ENTEC Services, Inc.

25 Commerce Ave, Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 681

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6-13-2001	6-13-2001	6-14-2001	
Time Began-Ended	1330-1500	1520-1645	840-1000	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	30.05	30.05	29.97	30.02
Stack Pressure, Inches of mercury	30.04	30.04	29.96	30.01
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.001	1.001	1.001	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	51.390	48.640	48.840	49.623
Meter Temperature, Degrees F	101.5	98.2	71.5	90.4
Avg. Orifice Delta H, Inches of Water	1.58	1.59	1.46	1.55
Volume H2O Collected, MilliLiters	10.9	16.0	9.7	12.2
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.2778	0.2791	0.2670	0.2746
Stack Temperature, Degrees F	106.9	104.4	77.3	96.2
Total particulate collected, grams	0.0031	0.0108	0.0047	0.0062

CALCULATED DATA

Standard Meter Volume, Cubic Feet	48.751	46.419	48.803	47.991
Standard Water Volume, Cubic Feet	0.513	0.753	0.457	0.574
Moisture Fraction	0.010	0.016	0.009	0.012
Molecular Weight Of Stack Gas	28.727	28.667	28.740	28.711
Density Of Stack Gas	0.0697	0.0699	0.0734	0.0710
Average Stack Gas Velocity, Feet/Second	16.152	16.223	15.144	15.840
Stack Gas Flow @ Stack Conditions, ACFM	760.8	764.1	713.3	746.0
Stack Gas Flow @ Standard Conditions, DSCFM	703.7	706.0	695.0	701.6
Isokinetic Sampling Rate, Percent	98.49	93.48	99.83	97.27
Particulate concentration @ Std. Cond., Grains/Cu.Ft.	0.0010	0.0036	0.0015	0.0020
Particulate emissions, lbs per hour	0.006	0.022	0.009	0.012

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 682

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6-12-2001	6-12-2001	6-12-2001	
Time Began-Ended	1510-1700	1715-1835	1855-2015	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.86	29.86	29.86	29.86
Stack Pressure, Inches of mercury	29.84	29.84	29.84	29.84
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.001	1.001	1.001	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	64.510	61.170	60.450	62.043
Meter Temperature, Degrees F	110.2	120.6	103.9	111.5
Avg. Orifice Delta H, Inches of Water	2.38	2.26	2.26	2.30
Volume H2O Collected, MilliLiters	14.2	9.3	11.0	11.5
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.3429	0.3336	0.3337	0.3367
Stack Temperature, Degrees F	111.9	109.6	101.5	107.7
Total particulate collected, grams	0.0057	0.0064	0.0087	0.0069

CALCULATED DATA

Standard Meter Volume, Cubic Feet	60.001	55.860	56.840	57.567
Standard Water Volume, Cubic Feet	0.668	0.438	0.518	0.541
Moisture Fraction	0.011	0.008	0.009	0.009
Molecular Weight Of Stack Gas	28.721	28.756	28.742	28.739
Density Of Stack Gas	0.0686	0.0690	0.0700	0.0692
Average Stack Gas Velocity, Feet/Second	20.091	19.521	19.390	19.667
Stack Gas Flow @ Stack Conditions, ACFM	946.3	919.4	913.3	926.3
Stack Gas Flow @ Standard Conditions, DSCFM	861.4	843.1	848.3	850.9
Isokinetic Sampling Rate, Percent	99.03	94.20	95.26	96.17
Particulate concentration @ Std.Cond., Grains/Cu.Ft.	0.0015	0.0018	0.0024	0.0019
Particulate emissions, lbs per hour	0.011	0.013	0.017	0.014

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 683

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/13/01	6/13/01	6/13/01	
Time Began-Ended	0805-0930	1000-1130	1200-1315	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	30.05	30.05	30.05	30.05
Stack Pressure, Inches of mercury	30.04	30.04	30.04	30.04
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.001	1.001	1.001	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	53.070	52.800	54.780	53.550
Meter Temperature, Degrees F	87.1	95.5	99.5	94.0
Avg. Orifice Delta H, Inches of Water	1.83	1.90	1.89	1.87
Volume H2O Collected, Milliliters	20.9	13.5	10.9	15.1
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.300	0.306	0.305	0.30
Stack Temperature, Degrees F	100.2	105.3	99.1	101.5
Total particulate collected, grams	0.0063	0.0034	0.0047	0.0048

CALCULATED DATA

Standard Meter Volume, Cubic Feet	51.704	50.667	52.193	51.522
Standard Water Volume, Cubic Feet	0.984	0.635	0.513	0.711
Moisture Fraction	0.019	0.012	0.010	0.014
Molecular Weight Of Stack Gas	28.638	28.706	28.734	28.693
Density Of Stack Gas	0.0703	0.0699	0.0707	0.0703
Average Stack Gas Velocity, Feet/Second	17.387	17.818	17.632	17.612
Stack Gas Flow @ Stack Conditions, ACFM	818.9	839.2	830.5	829.5
Stack Gas Flow @ Standard Conditions, DSCFM	760.2	777.0	779.5	772.2
Isokinetic Sampling Rate, Percent	96.70	92.71	95.20	94.87
Particulate concentration @ Std. Cond., Grains/Cu.Ft.	0.0019	0.0010	0.0014	0.0014
Particulate emissions, lbs per hour	0.012	0.007	0.009	0.009

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 684

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	06/12/01	06/12/01	06/12/01	
Time Began-Ended	910-1045	1105-1225	1330-1500	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.86	29.86	29.86	29.86
Stack Pressure, Inches of mercury	29.84	29.84	29.84	29.84
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.001	1.001	1.001	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	64.030	64.130	63.820	63.993
Meter Temperature, Degrees F	94.1	99.1	104.4	99.2
Avg. Orifice Delta H, Inches of Water	2.67	2.75	2.54	2.65
Volume H2O Collected, MilliLiters	11.8	10.7	11.7	11.4
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.3604	0.3671	0.3532	0.3603
Stack Temperature, Degrees F	105.4	106.4	108.8	106.9
Total particulate collected, grams	0.0086	0.0054	0.0069	0.0070

CALCULATED DATA

Standard Meter Volume, Cubic Feet	61.330	60.887	59.989	60.735
Standard Water Volume, Cubic Feet	0.555	0.504	0.551	0.537
Moisture Fraction	0.009	0.008	0.009	0.009
Molecular Weight Of Stack Gas	28.743	28.751	28.741	28.745
Density Of Stack Gas	0.0695	0.0694	0.0691	0.0693
Average Stack Gas Velocity, Feet/Second	20.991	21.420	20.657	21.023
Stack Gas Flow @ Stack Conditions, ACFM	988.7	1,008.9	972.9	990.2
Stack Gas Flow @ Standard Conditions, DSCFM	912.2	930.0	892.1	911.4
Isokinetic Sampling Rate, Percent	95.59	93.09	95.60	94.76
Particulate concentration @ Std.Cond., Grains/Cu.Ft.	0.0022	0.0014	0.0018	0.0018
Particulate emissions, lbs per hour	0.017	0.011	0.014	0.014

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 685

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/12/01	6/12/01	6/13/01	
Time Began-Ended	0952-1130	1159-1320	0820-935	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.86	29.86	30.05	29.92
Stack Pressure, Inches of mercury	29.81	29.82	29.98	29.87
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.008	1.008	1.008	
Nozzle Diameter, Inches	0.254	0.254	0.254	
Meter Volume, Cubic feet	56.465	48.671	56.777	53.971
Meter Temperature, Degrees F	94.9	97.4	86.3	92.9
Avg. Orifice Delta H, Inches of Water	2.22	1.60	2.15	1.99
Volume H2O Collected, Milliliters	21.1	15.0	15.0	17.0
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.6949	0.5889	0.7037	0.6625
Stack Temperature, Degrees F	110.3	106.9	104.0	107.1
Total particulate collected, grams	0.0174	0.0101	0.0200	0.0158

CALCULATED DATA

Standard Meter Volume, Cubic Feet	54.319	46.545	55.830	52.231
Standard Water Volume, Cubic Feet	0.993	0.706	0.706	0.802
Moisture Fraction	0.018	0.015	0.012	0.015
Molecular Weight Of Stack Gas	28.645	28.678	28.705	28.676
Density Of Stack Gas	0.0686	0.0691	0.0699	0.0692
Average Stack Gas Velocity, Feet/Second	40.732	34.430	40.911	38.691
Stack Gas Flow @ Stack Conditions, ACFM	1.918	1.622	1.927	1.822
Stack Gas Flow @ Standard Conditions, DSCFM	1.737	1.482	1.784	1.668
Isokinetic Sampling Rate, Percent	96.90	97.32	96.96	97.06
Particulate concentration @ Std. Cond., Grains/Cu.Ft.	0.0049	0.0033	0.0055	0.0046
Particulate emissions, lbs per hour	0.073	0.042	0.084	0.067

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 686

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/12/01	6/12/01	6/12/01	
Time Began-Ended	1525-1640	1700-1825	1845-2005	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.86	29.86	29.86	29.86
Stack Pressure, Inches of mercury	29.85	29.85	29.85	29.85
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.008	1.008	1.008	
Nozzle Diameter, Inches	0.370	0.370	0.370	
Meter Volume, Cubic feet	44.280	43.836	43.857	43.991
Meter Temperature, Degrees F	98.8	99.7	93.4	97.3
Avg. Orifice Delta H, Inches of Water	1.24	1.24	1.21	1.23
Volume H2O Collected, MilliLiters	13.0	13.0	15.0	13.7
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.2525	0.2524	0.2489	0.2513
Stack Temperature, Degrees F	110.3	111.4	100.4	107.4
Total particulate collected, grams	0.0085	0.0194	0.0158	0.0146

CALCULATED DATA

Standard Meter Volume, Cubic Feet	42.204	41.709	42.200	42.038
Standard Water Volume, Cubic Feet	0.612	0.612	0.706	0.643
Moisture Fraction	0.014	0.014	0.016	0.015
Molecular Weight Of Stack Gas	28.685	28.683	28.662	28.677
Density Of Stack Gas	0.0688	0.0686	0.0699	0.0691
Average Stack Gas Velocity, Feet/Second	14.780	14.808	14.466	14.684
Stack Gas Flow @ Stack Conditions, ACFM	696.1	697.4	681.3	691.6
Stack Gas Flow @ Standard Conditions, DSCFM	633.5	633.4	629.6	632.2
Isokinetic Sampling Rate, Percent	97.29	96.17	97.89	97.11
Particulate concentration @ Std.Cond., Grains/Cu.Ft.	0.0031	0.0072	0.0058	0.0053
Particulate emissions, lbs per hour	0.017	0.039	0.031	0.029

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 689

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6-13-2001	6-13-2001	6-13-2001	
Time Began-Ended	1135-1300	1333-1447	1511-1630	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	30.05	30.05	30.05	30.05
Stack Pressure, Inches of mercury	30.04	30.04	30.04	30.04
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.008	1.008	1.008	
Nozzle Diameter, Inches	0.440	0.440	0.440	
Meter Volume, Cubic feet	48.734	55.728	58.347	54.270
Meter Temperature, Degrees F	92.4	93.9	91.1	92.5
Avg. Orifice Delta H, Inches of Water	1.69	2.05	2.28	2.01
Volume H2O Collected, MilliLiters	17.0	17.0	15.0	16.3
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.2040	0.2263	0.2391	0.2231
Stack Temperature, Degrees F	98.8	97.0	97.9	97.9
Total particulate collected, grams	0.0200	0.0335	0.0089	0.0208

CALCULATED DATA

Standard Meter Volume, Cubic Feet	47.331	54.029	56.886	52.749
Standard Water Volume, Cubic Feet	0.800	0.800	0.706	0.769
Moisture Fraction	0.017	0.015	0.012	0.014
Molecular Weight Of Stack Gas	28.660	28.682	28.707	28.683
Density Of Stack Gas	0.0706	0.0709	0.0708	0.0707
Average Stack Gas Velocity, Feet/Second	11.788	13.065	13.813	12.889
Stack Gas Flow @ Stack Conditions, ACFM	555.2	615.3	650.6	607.1
Stack Gas Flow @ Standard Conditions, DSCFM	517.8	576.8	610.4	568.3
Isokinetic Sampling Rate, Percent	94.41	96.73	96.25	95.80
Particulate concentration @ Std.Cond..Grains/Cu.Ft.	0.0065	0.0095	0.0024	0.0062
Particulate emissions, lbs per hour	0.029	0.047	0.013	0.030

ENTEC Services, Inc.

25 Commerce Ave, Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 690

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/14/01	6/14/01	6/14/01	
Time Began-Ended	0856-1020	1045-1200	1225-1340	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.97	29.97	29.97	29.97
Stack Pressure, Inches of mercury	29.96	29.96	29.96	29.96
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.008	1.008	1.008	
Nozzle Diameter, Inches	0.440	0.440	0.440	
Meter Volume, Cubic feet	58.407	56.067	57.851	57.442
Meter Temperature, Degrees F	86.0	85.2	89.8	87.0
Avg. Orifice Delta H, Inches of Water	2.43	2.15	2.25	2.28
Volume H2O Collected, Milliliters	16.0	21.0	22.0	19.7
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.243	0.228	0.235	0.24
Stack Temperature, Degrees F	88.6	83.3	93.1	88.3
Total particulate collected, grams	0.0129	0.0095	0.0065	0.0096

CALCULATED DATA

Standard Meter Volume, Cubic Feet	57.344	55.094	56.379	56.272
Standard Water Volume, Cubic Feet	0.753	0.988	1.036	0.926
Moisture Fraction	0.013	0.018	0.018	0.016
Molecular Weight Of Stack Gas	28.699	28.649	28.644	28.664
Density Of Stack Gas	0.0718	0.0724	0.0711	0.0717
Average Stack Gas Velocity, Feet/Second	13.939	13.038	13.519	13.499
Stack Gas Flow @ Stack Conditions, ACFM	656.5	614.1	636.7	635.8
Stack Gas Flow @ Standard Conditions, DSCFM	624.3	586.9	597.5	602.9
Isokinetic Sampling Rate, Percent	94.86	96.95	97.45	96.42
Particulate concentration @ Std.Cond., Grains/Cu.Ft.	0.0035	0.0027	0.0018	0.0026
Particulate emissions, lbs per hour	0.019	0.013	0.009	0.014

ENTEC Services, Inc.

25 Commerce Ave, Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: Silo No. 691

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/14/01	6/14/01	6/14/01	
Time Began-Ended	1115-1230	1255-1415	1435-1600	
Sampling Time, Minutes	72	72	72	72
Stack Area, Square Feet	0.785	0.785	0.785	
Barometric Pressure, Inches of mercury	29.97	29.97	29.97	29.97
Stack Pressure, Inches of mercury	29.96	29.96	29.96	29.96
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.001	1.001	1.001	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	50.060	47.870	52.130	50.020
Meter Temperature, Degrees F	83.5	95.1	104.1	94.2
Avg. Orifice Delta H, Inches of Water	1.42	1.44	1.49	1.45
Volume H2O Collected, MilliLiters	8.0	10.2	8.5	8.9
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.2633	0.2677	0.2693	0.2668
Stack Temperature, Degrees F	79.5	104.3	105.3	96.4
Total particulate collected, grams	0.0051	0.0063	0.0067	0.0060

CALCULATED DATA

Standard Meter Volume, Cubic Feet	48.915	45.799	49.083	47.932
Standard Water Volume, Cubic Feet	0.377	0.480	0.400	0.419
Moisture Fraction	0.008	0.010	0.008	0.009
Molecular Weight Of Stack Gas	28.757	28.728	28.752	28.746
Density Of Stack Gas	0.0732	0.0699	0.0698	0.0709
Average Stack Gas Velocity, Feet/Second	14.946	15.564	15.669	15.393
Stack Gas Flow @ Stack Conditions, ACFM	704.0	733.1	738.0	725.0
Stack Gas Flow @ Standard Conditions, DSCFM	684.3	679.4	684.3	682.7
Isokinetic Sampling Rate, Percent	101.62	95.84	101.98	99.81
Particulate concentration @ Std. Cond., Grains/Cu.Ft.	0.0016	0.0021	0.0021	0.0019
Particulate emissions, lbs per hour	0.009	0.012	0.012	0.011

ENTEC Services, Inc.

25 Commerce Ave. Suite 104-Hueytown, Alabama 35023

PARTICULATE EMISSIONS CALCULATIONS

Client: Georgia Gulf

Job No.: 21126

Source: AC-009 Lead System

Data Input By: Tim Draheim

INPUT DATA

Run Number	1	2	3	AVERAGE
Date	6/11/01	6/11/01	6/11/01	
Time Began-Ended	1355-1500	1543-1650	1720-1825	
Sampling Time, Minutes	60	60	60	60
Stack Area, Square Feet	0.348	0.348	0.348	
Barometric Pressure, Inches of mercury	30.15	30.15	30.15	30.15
Stack Pressure, Inches of mercury	30.15	30.15	30.15	30.15
Pitot Tube Correction factor	0.84	0.84	0.84	
Meter Correction Factor	1.008	1.008	1.008	
Nozzle Diameter, Inches	0.375	0.375	0.375	
Meter Volume, Cubic feet	39.021	39.214	37.209	38.481
Meter Temperature, Degrees F	89.3	90.3	89.8	89.8
Avg. Orifice Delta H, Inches of Water	1.46	1.46	1.32	1.41
Volume H2O Collected, MilliLiters	11.0	23.3	20.0	18.1
CO2 Concentration, Percent	0.0	0.0	0.0	0.0
O2 Concentration, Percent	21.0	21.0	21.0	21.0
Avg. Sq. Rt. of Delta P, Inches of Water	0.261	0.261	0.248	0.26
Stack Temperature, Degrees F	98.3	99.0	97.3	98.2
Total Lead collected, micrograms	57.02	40.36	39.60	45.66

CALCULATED DATA

Standard Meter Volume, Cubic Feet	38.217	38.342	36.399	37.652
Standard Water Volume, Cubic Feet	0.518	1.097	0.941	0.852
Moisture Fraction	0.013	0.028	0.025	0.022
Molecular Weight Of Stack Gas	28.695	28.539	28.567	28.600
Density Of Stack Gas	0.0710	0.0705	0.0708	0.0708
Average Stack Gas Velocity, Feet/Second	15.054	15.123	14.329	14.835
Stack Gas Flow @ Stack Conditions, ACFM	314.3	315.8	299.2	309.8
Stack Gas Flow @ Standard Conditions, DSCFM	295.4	292.1	278.3	288.6
Isokinetic Sampling Rate, Percent	97.84	99.29	98.92	98.68
Lead concentration, ppm	0.0061	0.0043	0.0045	0.0050
Lead emissions, lbs per hour	0.00006	0.00004	0.00004	0.00005

Allowable Emission Limits by MDEQ = 0.11 lbs per hour

Appendix A

Test Procedures

Procedures

The particulate emission rates were determined using EPA Methods 1-5, and 12 of the CFR Title 40, Part 60, Appendix A. The calibration and quality assurance procedures of EPA CFR 40 Part 60 Appendix A Methods 1-5, and 12 of the "Quality Assurance Handbook for Air Pollution Measurement System" Volume III Stationary Source-Specific Methods were followed throughout the duration of the field and laboratory testing.

The most current revision of each method (as described in the Federal Register) was used.

Stack Gas Volumetric Flow

Due to low velocity pressures of the flue gas, the velocity of the gas stream was determined according to EPA Reference Method 1 and 2 by reading the instantaneous velocity head with an Airdata Multimeter electronic micro-manometer at each sampling point with a calibrated S-type pitot tube attached adjacent to the sample nozzle. The stack pressure was measured with the static side of an S-type pitot tube. A calibrated pyrometer was used to measure stack temperature at each sampling point. The stack was tested for cyclonic flow according to EPA Reference Method 1.

Stack Gas Molecular Weight

The carbon dioxide, carbon monoxide and oxygen concentrations was determined using EPA Reference Method 3. An integrated sample of the flue gas was extracted from the gas stream during each particulate test run at a constant flow rate and collected in a 7.5-liter tedlar bag. The bags were then returned to the laboratory and analyzed by Fyrite analysis. Standard commercially prepared solutions were used in the Fyrite analyzer. The molecular weight of the gas was calculated using the moisture, oxygen, carbon monoxide and carbon dioxide content and the measured stack gas temperature.

The tedlar bags used for collecting the gas samples were verified to be leak free prior to collecting the bag samples. The Fyrite sampling system was also verified to be leak free prior to the analysis.

Moisture Content

The moisture content used for calculating the gas stream flow rate was determined by measuring the amount of condensed moisture in the stainless steel condenser of the sampling train as described in EPA Reference Method 4 at the completion of each test.

The moisture collection system consists of one stainless steel impinger, with an silica gel column attached to the condenser outlet. The stainless steel impinger is loaded with 100 ml of deionized water and the drying column is loaded with fresh silica gel. Ice is placed around the condenser to maintain a temperature $<68^{\circ}$ F. The outlet temperature of the condenser is monitored and recorded throughout the duration of the testing to verify the temperature is below $<68^{\circ}$ F.

Particulate Loading

The particulate sample train consists of a heated stainless steel sample probe and liner equipped with a S-type pitot tube and thermocouple. The probe is attached to a sample module consisting of a heated filter compartment which houses the in-line filter holder equipped with a pre-weighed glass fiber filter for the collection of the particulate. The sample module is connected to a control module by means of an umbilical cord, which is connected to a stainless steel condenser for the collection of the condensed moisture. The control module consist of a dry gas meter, calibrated orifice, leak free pump, two inclined manometers, temperature controllers for the heated filter compartment and probe and a thermocouple indicator to monitor the required temperatures during the testing.

Particulate samples are collected as follows: The sample gas is drawn through the sampling probe isokinetically and passed through a 3-inch Whartman glass fiber filter

Particulate samples are collected as follows: The sample gas is drawn through the sampling probe isokinetically and passed through a 3-inch Whartman glass fiber filter where particulates are removed. The sample gas is pulled through the umbilical line and through an ice-cooled condenser and desiccant-packed column, which absorbs any remaining moisture. The sample gas then passes through a vacuum pump followed by a dry gas meter. The dry gas meter integrates the sample gas flow throughout the duration of the test. A calibrated orifice attached to the outlet of the dry gas meter provides real time flow rate data.

A representative particulate sample is acquired by sampling for equal periods of time at the centroid of a number of equal area regions in the exhaust stack. The sampling rate is adjusted at each test point maintaining an isokinetic sampling condition.

After the sampling is complete, the filter is removed and placed in a storage container for shipment back to the laboratory for analysis. The nozzle, probe liner and inlet side of the filter holder are quantitatively washed with a pure grade acetone and stored in a marked container. The samples are transferred back to the laboratory where they are logged in and analyzed. The volume of acetone rinse is noted and transferred to a tared flask and evaporated off at 97-105 °F. This temperature is used to prevent condensation of atmospheric moisture due to the cooling effects induced by the evaporating acetone. The acetone-free sample is placed in an oven and dried at 105 °C for thirty minutes and then placed in a desiccator. After the sample has desiccated for twenty-four hours the sample is weighed to the nearest 0.1 mg. The filter sample is transferred to the original petri dish in which the original weight was obtained and placed in a drying oven for 2 hours at 105 °C. The filter and petri dish are then placed in a desiccator. After the filter and petri dish have desiccated for twenty-four hours the sample is weighed to the nearest 0.1 mg. Visual examination of the samples are made to determine if any unusual characteristics of the samples are observed. The weight of the acetone rinse is corrected for the weight of the acetone blank.

Appendix B

Field Data Sheets

681 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/13/2001

Source: Silo No. 681

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.10	0.3162	2.03	100	101	109
1-2	0.08	0.2828	1.62	101	102	110
1-3	0.08	0.2828	1.62	101	101	112
1-4	0.08	0.2828	1.62	102	102	113
1-5	0.09	0.3000	1.83	101	101	112
1-6	0.07	0.2646	1.42	103	102	112
1-7	0.07	0.2646	1.42	103	102	113
1-8	0.08	0.2828	1.62	105	103	112
1-9	0.06	0.2449	1.22	104	103	112
1-10	0.10	0.3162	2.03	106	103	114
1-11	0.05	0.2236	1.02	105	103	113
1-12	0.05	0.2236	1.02	106	103	113
2-1	0.07	0.2646	1.42	105	103	111
2-2	0.09	0.3000	1.83	106	104	112
2-3	0.10	0.3162	2.03	104	103	108
2-4	0.08	0.2828	1.62	104	103	105
2-5	0.08	0.2828	1.62	102	102	104
2-6	0.07	0.2646	1.42	100	101	100
2-7	0.08	0.2828	1.62	99	100	99
2-8	0.09	0.3000	1.83	98	100	98
2-9	0.05	0.2236	1.02	98	100	97
2-10	0.09	0.3000	1.83	96	97	96
2-11	0.08	0.2828	1.62	96	97	95
2-12	0.08	0.2828	1.62	95	96	95
		0.2778	1.58	101.5		106.9

Plant	Georgia Gravel		
Site	S10 681		
Date	6/13/01		
Run #	1	Stack Diameter	12
Time	1330	Meter #	E-13
1500		Avg.	
Moisture		Probe	558-41A
Impinger #1		Gp Value	0.64
Impinger #2			K = 20.3
Impinger #3			
Impinger #4			
Totals			
Initial	100	Final	100
Gas Analyses		Totals	10.9
CO2	0.0		
O2	21.0		
CO			
N2			
Leak Check		Pre-test Volume @ 0.06	0.06
Post-test Volume @ 0.06			
Probe Washings		Crucible #	
Final			
Initial			
Net			
Filter Weights		Filter #	050
Final			
Initial			
Net			
Total			51.390 cu.ft.

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1 / 1	3	774.41	.10	2.03	100	101	109	250	48	
1 / 2	6	776.58	.08	1.62	101	102	110	250	48	
1 / 3	9	778.69	.08	1.62	101	102	112	254	48	
1 / 4	12	780.88	.08	1.62	102	102	113	254	48	
1 / 5	15	782.89	.09	1.83	101	101	112	250	48	
1 / 6	18	785.00	.07	1.42	103	102	112	254	48	
1 / 7	21	787.07	.07	1.42	103	102	113	250	48	
1 / 8	24	789.16	.08	1.62	105	103	112	256	48	
1 / 9	27	791.27	.06	1.22	104	103	112	256	48	
1 / 10	30	793.34	.10	2.03	106	103	114	254	48	
1 / 11	33	795.44	.05	1.02	105	103	113	250	48	
1 / 12	36	797.52	.05	1.02	106	103	111	250	48	
2 / 1	3	799.46	.07	1.42	105	103	111	252	48	
2 / 2	6	801.45	.09	1.83	104	104	107	255	48	
2 / 3	9	803.79	.10	2.03	104	103	106	250	48	
2 / 4	12	806.20	.08	1.62	104	103	105	251	48	
2 / 5	15	808.71	.08	1.62	102	102	104	256	48	
2 / 6	18	810.85	.07	1.42	106	101	100	251	47	
2 / 7	21	813.12	.08	1.62	99	100	99	255	47	
2 / 8	24	815.38	.09	1.83	98	100	98	254	48	
2 / 9	27	817.01	.05	1.02	96	100	97	253	48	
2 / 10	30	818.98	.09	1.83	96	97	96	257	48	
2 / 11	33	821.18	.08	1.62	96	97	95	258	48	
2 / 12	36	823.41	.08	1.62	95	96	95	251	48	

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/13/2001

Source: Silo No. 681

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.10	0.3162	2.03	90	94	93
1-2	0.08	0.2828	1.62	90	91	94
1-3	0.08	0.2828	1.62	90	91	104
1-4	0.07	0.2646	1.42	90	91	94
1-5	0.06	0.2449	1.22	91	91	94
1-6	0.08	0.2828	1.62	93	91	95
1-7	0.09	0.3000	1.83	94	91	98
1-8	0.08	0.2828	1.62	95	91	97
1-9	0.08	0.2828	1.62	96	92	98
1-10	0.07	0.2646	1.42	97	92	100
1-11	0.07	0.2646	1.42	98	92	100
1-12	0.05	0.2236	1.02	99	93	102
2-1	0.07	0.2646	1.42	101	95	107
2-2	0.09	0.3000	1.83	104	96	109
2-3	0.10	0.3162	2.03	106	97	111
2-4	0.08	0.2828	1.62	108	99	112
2-5	0.06	0.2449	1.22	109	100	110
2-6	0.09	0.3000	1.83	111	102	110
2-7	0.08	0.2828	1.62	110	102	114
2-8	0.08	0.2828	1.62	111	104	115
2-9	0.08	0.2828	1.62	111	104	115
2-10	0.07	0.2646	1.42	108	102	113
2-11	0.09	0.3000	1.83	104	101	112
2-12	0.08	0.2828	1.62	103	101	108
		0.2791	1.59	98.2		104.4

Plant <u>Georgia Gulf</u>	Moisture Impinger #1 Impinger #2 Impinger #3 Impinger #4 Totals		Initial 140 140 0 <u>868.2</u> <u>868.2</u>	Final — — <u>8</u> <u>8</u> <u>8842</u>	Totals — — <u>8</u> <u>8</u> <u>18</u>	Gas Analyses CO2 O2 CO N2	0.0 21.0 — —	0.0 21.0 — —	Average 0.0 21.0 — —
Site <u>Site 681</u>	Stack Diameter 12"		Nozzle Calibrations Pre-test Post-test		Barometric Pressure 30.05	Leak Check Pre-test Volume @ 100 l		Probe Washings Crucible # Final Initial Net	
Date <u>6-13-01</u>	Meter # <u>F-13</u>		Avg. —		Stack Pressure — .09	Post-test Volume @ 10 l		Vac 15	
Run # <u>2</u>	Cp Value 0.84		Final Initial Net		Meter Readings #1 #2 #3 #4	Total 48.640 cu.ft.		Filter Weights Filter # Final Initial Net	
Time <u>1526</u> <u>1645</u>	Probe <u>E58424</u> <u>K=20.3</u>		—		—	—		—	

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1 / 1	3	826.04	.10	2.03	90	94	93	259	48	—
1 / 2	6	828.09	.08	1.62	90	91	94	253	48	—
1 / 3	9	830.12	.08	1.62	90	91	94	250	48	—
1 / 4	12	831.15	.07	1.42	90	91	94	254	48	—
1 / 5	15	834.16	.08	1.22	91	91	95	255	48	—
1 / 6	18	836.29	.08	1.62	93	91	98	253	48	—
1 / 7	21	838.22	.09	1.83	94	91	97	262	48	—
1 / 8	24	840.24	.08	1.62	95	92	98	251	48	—
1 / 9	27	842.27	.08	1.62	96	92	97	251	48	—
1 / 10	30	844.27	.07	1.42	97	92	98	252	48	—
1 / 11	33	846.29	.07	1.42	98	92	100	251	48	—
1 / 12	36	848.31	.05	1.02	99	93	102	261	48	—
2 / 1	3	850.21	.07	1.42	101	95	107	250	48	—
2 / 2	6	852.39	.09	1.85	104	96	109	254	48	—
2 / 3	9	854.72	.10	2.03	106	97	111	262	48	—
2 / 4	12	856.90	.08	1.62	108	99	112	259	48	—
2 / 5	15	858.71	.06	1.21	109	100	100	250	48	—
2 / 6	18	860.64	.09	1.83	111	102	110	250	48	—
2 / 7	21	862.54	.08	1.62	110	102	114	250	48	—
2 / 8	24	864.48	.08	1.62	111	104	115	255	48	—
2 / 9	27	866.40	.08	1.62	111	104	115	254	48	—
2 / 10	30	868.32	.07	1.42	108	102	113	250	48	—
2 / 11	33	870.27	.09	1.85	104	101	112	267	48	—
2 / 12	36	872.21	.08	1.62	103	101	108	261	48	—

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 681

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.07	0.2646	1.42	82	81	84
1-2	0.06	0.2449	1.22	82	81	84
1-3	0.08	0.2828	1.62	66	64	85
1-4	0.09	0.3000	1.83	66	64	70
1-5	0.07	0.2646	1.42	67	65	70
1-6	0.05	0.2236	1.02	69	66	73
1-7	0.05	0.2236	1.02	70	66	74
1-8	0.06	0.2449	1.22	71	67	74
1-9	0.09	0.3000	1.83	71	67	75
1-10	0.07	0.2646	1.42	73	68	76
1-11	0.09	0.3000	1.83	74	69	77
1-12	0.10	0.3162	2.03	73	68	77
2-1	0.08	0.2828	1.62	73	68	77
2-2	0.09	0.3000	1.83	74	69	78
2-3	0.06	0.2449	1.22	74	70	78
2-4	0.06	0.2449	1.22	74	71	77
2-5	0.08	0.2828	1.62	74	70	77
2-6	0.07	0.2646	1.42	74	70	78
2-7	0.05	0.2236	1.02	75	71	78
2-8	0.05	0.2236	1.02	75	71	79
2-9	0.06	0.2449	1.22	76	72	78
2-10	0.07	0.2646	1.42	75	72	78
2-11	0.09	0.3000	1.83	75	71	79
2-12	0.09	0.3000	1.83	76	72	80
		0.2670	1.46	71.5		77.3

Plant Georgia G&L

Site 5.10.681

Date 6/14/01

Run # 3

Stack Diameter 12"

Meter # E-13

Time Start 8:40 AM
Stop 10:00 AM

Moisture Impinger #1 100
Impinger #2 100
Impinger #3 0
Impinger #4 870.3
Totals 870.3

Gas Analyses CO2 0.0
O2 21.0
CO 0.0
N2 0.0

Leak Check Pre-test Volume @ 0.001
Post-test Volume @ 0.002

Probe Washings Crucible # Final
Initial
Net

Filler Weights Filter # 318
Final
Initial
Net

Barometric Pressure 29.97

Stack Pressure 11

Meter Readings #1 896.400
#2 921.440
#3 896.400
Net 25.040

Probe Cp Value K=20.3

Avg. 20.3

Post / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Temperatures (°F)	Oven	Impinger	Vacuum
1 / 1	3	874.56	.07	1.42	82	81	84	256	40	1
1 / 2	6	876.41	.06	1.22	82	81	84	255	40	1
1 / 3	9	878.38	.08	1.62	66	64	85	251	40	1
1 / 4	12	880.44	.09	1.83	66	64	70	252	41	1
1 / 5	15	882.55	.07	1.42	67	65	70	253	41	1
1 / 6	18	884.32	.05	1.02	69	66	73	257	41	1
1 / 7	21	886.09	.05	1.02	70	66	74	254	41	1
1 / 8	24	888.00	.06	1.22	71	67	74	251	41	1
1 / 9	27	889.87	.09	1.83	73	67	75	253	41	1
1 / 10	30	892.01	.07	1.42	73	69	76	256	41	1
1 / 11	33	894.11	.09	1.83	74	69	77	253	41	1
1 / 12	36	896.40	.10	2.03	73	68	77	253	41	1
2 / 1	39	898.49	.08	1.62	73	68	77	256	42	1
1 / 2	42	900.77	.09	1.83	74	69	78	257	42	1
1 / 3	45	903.05	.06	1.22	74	70	78	255	42	1
1 / 4	48	904.91	.06	1.22	74	71	77	258	42	1
1 / 5	51	906.76	.08	1.62	74	70	77	256	42	1
1 / 6	54	908.87	.07	1.42	74	70	77	256	42	1
1 / 7	57	910.97	.05	1.02	75	71	78	253	42	1
1 / 8	60	913.08	.05	1.02	75	71	79	255	42	1
1 / 9	63	914.95	.06	1.22	75	72	78	254	42	1
1 / 10	66	916.99	.07	1.42	75	72	78	256	42	1
1 / 11	69	919.77	.09	1.83	75	71	79	257	43	1
1 / 12	72	921.44	.09	1.83	76	72	80	254	43	1

Field Notes:

682 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 682

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.10	0.3162	2.02	108	109	113
1-2	0.11	0.3317	2.22	107	108	113
1-3	0.13	0.3606	2.63	104	106	110
1-4	0.12	0.3464	2.42	107	109	114
1-5	0.12	0.3464	2.42	108	109	112
1-6	0.11	0.3317	2.22	110	110	111
1-7	0.10	0.3162	2.02	111	110	111
1-8	0.09	0.3000	1.82	112	110	112
1-9	0.11	0.3317	2.22	111	109	110
1-10	0.13	0.3606	2.63	112	111	112
1-11	0.14	0.3742	2.83	114	112	111
1-12	0.13	0.3606	2.63	112	111	110
2-1	0.11	0.3317	2.22	113	112	112
2-2	0.12	0.3464	2.42	111	112	112
2-3	0.12	0.3464	2.42	111	112	112
2-4	0.11	0.3317	2.22	109	110	111
2-5	0.13	0.3606	2.63	108	109	111
2-6	0.14	0.3742	2.83	108	108	111
2-7	0.11	0.3317	2.22	109	110	112
2-8	0.13	0.3606	2.63	111	110	113
2-9	0.12	0.3464	2.42	108	109	111
2-10	0.11	0.3317	2.22	111	111	113
2-11	0.11	0.3317	2.22	115	113	114
2-12	0.13	0.3606	2.63	116	114	114
		0.3429	2.38	110.2		111.9

Plant	Georgia Gulf		
Site	Silo # 682		
Date	6/12/01		
Moisture Impinger #1	Initial	Final	Totals
Moisture Impinger #2	100		
Moisture Impinger #3	0		
Moisture Impinger #4	820.6	829.8	9.2
Totals	820.6	834.8	14.2
Stack Diameter	12" = 7.055 ft ²		
Run #	1		
Meter #	F-13		
Time	3:10		
Probe	588-412		
Cp Value	0.84		
Avg.			
Stack Pressure	-0.31		
Barometric Pressure	29.86		
Leak Check			
Pre-test Volume @	0.005		
Post-test Volume @			
Probe Washings			
Crucible #			
Final			
Initial			
Net			
Filler Weights			
Filler #			038
Final			
Initial			
Net			
Total			64.510 cu.ft.

Port / Point	Time	Meter Reading	ΔP	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	426.35	.10	2.02	108	107	113	250	42	1
1	2	428.69	.11	2.22	107	108	113	257	43	1
1	3	431.37	.13	2.63	104	106	110	256	37	1
1	4	434.10	.12	2.42	107	109	114	252	43	1
1	5	436.75	.12	2.42	108	109	112	252	47	1
1	6	439.39	.11	2.22	110	110	111	256	45	1
1	7	442.03	.10	2.02	111	110	111	253	38	1
1	8	444.69	.09	1.82	112	110	112	257	41	1
1	9	447.21	.11	2.22	111	109	110	254	42	1
1	10	449.98	.13	2.63	112	111	112	253	44	1
1	11	452.86	.14	2.83	114	112	111	257	46	1
1	12	455.72	.13	2.63	112	111	110	252	42	1
2	1	458.24	.11	2.22	113	112	112	256	42	1
1	2	460.77	.12	2.42	111	112	112	252	42	1
1	3	463.56	.12	2.42	111	112	112	252	42	1
1	4	466.07	.11	2.22	109	110	111	253	41	1
1	5	468.65	.13	2.63	108	109	111	253	41	1
1	6	471.13	.14	2.83	108	108	111	253	41	1
1	7	474.39	.11	2.22	109	110	112	255	42	1
1	8	477.08	.13	2.63	111	110	112	255	43	1
1	9	479.78	.12	2.42	108	109	113	252	43	1
1	10	482.57	.12	2.42	111	111	113	255	43	1
1	11	485.07	.11	2.22	113	113	114	252	43	1
1	12	487.76	.13	2.63	116	114	114	254	44	1

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 682

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.09	0.3000	1.82	111	113	109
1-2	0.10	0.3162	2.02	112	116	111
1-3	0.10	0.3162	2.02	115	118	113
1-4	0.12	0.3464	2.42	118	121	113
1-5	0.13	0.3606	2.63	117	121	111
1-6	0.11	0.3317	2.22	120	123	112
1-7	0.12	0.3464	2.42	122	124	112
1-8	0.10	0.3162	2.02	123	124	112
1-9	0.12	0.3464	2.42	123	125	111
1-10	0.12	0.3464	2.42	124	126	110
1-11	0.11	0.3317	2.22	123	127	111
1-12	0.12	0.3464	2.42	123	127	110
2-1	0.10	0.3162	2.02	121	127	109
2-2	0.10	0.3162	2.02	122	127	111
2-3	0.12	0.3464	2.42	121	126	109
2-4	0.11	0.3317	2.22	121	126	109
2-5	0.14	0.3742	2.83	121	126	109
2-6	0.11	0.3317	2.22	120	125	108
2-7	0.10	0.3162	2.02	119	124	107
2-8	0.09	0.3000	1.82	118	124	107
2-9	0.13	0.3606	2.63	117	122	107
2-10	0.12	0.3464	2.42	113	117	106
2-11	0.11	0.3317	2.22	112	116	106
2-12	0.11	0.3317	2.22	112	115	107
		0.3336	2.26	120.6		109.6

Plant Georgia 611C

Site S-1b #1682

Date 6/12/01

Run #	Stack Diameter	Meter #	Avg.
2	12	F-13	

Moisture

Impinger #1	Impinger #2	Impinger #3	Impinger #4	Totals
480	100	0	829.8	829.8
Final	5	831.1	839.1	9.3

Gas Analyses

CO2	O2	CO	N2	Average
0.0	21.0	0.0	21.0	0.0

Leak Check

Pre-test Volume @	Post-test Volume @	Vac. "	Vac. "
0.03	0.06	15	5

Probe Washings

Crucible #	Final	Initial	Net

Filler Weights

Filler #	Final	Initial	Net
640			

Total

61.170 cu.ft.

Port / Point

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	490.36	0.09	1.82	113	113	109	250	36	1
1	2	492.75	0.10	2.02	112	116	111	250	38	1
1	3	495.17	0.10	2.02	115	118	113	256	41	1
1	4	497.54	0.12	2.42	118	121	113	256	43	1
1	5	500.27	0.13	2.63	117	121	111	256	43	1
1	6	502.90	0.11	2.29	120	123	112	255	44	1
1	7	505.48	0.12	2.42	122	124	112	251	44	1
1	8	508.01	0.10	2.02	123	124	112	251	45	1
1	9	510.67	0.12	2.42	123	125	111	254	46	1
1	10	513.08	0.12	2.42	124	126	110	254	46	1
1	11	515.62	0.11	2.22	124	127	111	254	46	1
1	12	518.27	0.12	2.42	123	127	110	252	46	1
2	1	520.83	0.10	2.02	121	127	109	250	45	1
1	2	523.21	0.10	2.02	122	127	111	253	45	1
1	3	526.47	0.12	2.42	121	126	109	253	44	1
1	4	528.98	0.11	2.22	121	126	109	252	44	1
1	5	531.79	0.11	2.83	121	126	109	250	45	1
1	6	534.70	0.11	2.22	120	125	108	254	46	1
1	7	536.61	0.10	2.02	119	124	107	253	45	1
1	8	538.91	0.09	1.82	118	124	107	254	45	1
1	9	541.41	0.13	2.63	117	122	107	256	45	1
1	10	544.12	0.12	2.42	117	117	106	256	45	1
1	11	546.67	0.11	2.22	112	116	106	250	46	1
1	12	549.64	0.11	2.22	112	115	107	251	46	1

Field Notes:

ENTECH Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 682

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.10	0.3162	2.02	102	109	103
1-2	0.09	0.3000	1.82	101	108	103
1-3	0.12	0.3464	2.42	102	108	103
1-4	0.11	0.3317	2.22	103	108	104
1-5	0.10	0.3162	2.02	104	109	104
1-6	0.10	0.3162	2.02	105	109	104
1-7	0.10	0.3162	2.02	106	109	104
1-8	0.11	0.3317	2.22	106	109	103
1-9	0.12	0.3464	2.42	107	109	103
1-10	0.12	0.3464	2.42	106	108	102
1-11	0.13	0.3606	2.63	105	108	102
1-12	0.11	0.3317	2.22	104	106	102
2-1	0.12	0.3464	2.42	104	106	100
2-2	0.11	0.3317	2.22	103	105	100
2-3	0.12	0.3464	2.42	103	104	100
2-4	0.13	0.3606	2.63	102	103	100
2-5	0.11	0.3317	2.22	101	103	100
2-6	0.09	0.3000	1.82	101	101	100
2-7	0.10	0.3162	2.02	101	101	100
2-8	0.12	0.3464	2.42	100	100	100
2-9	0.13	0.3606	2.63	101	99	100
2-10	0.12	0.3464	2.42	101	99	100
2-11	0.12	0.3464	2.42	100	98	100
2-12	0.10	0.3162	2.02	100	98	100
		0.3337	2.26	103.9		101.5

Plant Georgia Gulf

Site 310 # 682

Date 6/12/01

Run # 3

Time 6:55
8:15

Moisture
Impinger #1
Impinger #2
Impinger #3
Impinger #4
Totals

Initial 100
100
0
834.1
834.1

Final —
—
6
839.1
845.1

Totals —
—
6
5
11

Gas Analyses
CO2 0.0
O2 01.0
CO —
N2 —

Average 0.0
01.0
—
—

Leak Check
Pre-test Volume @ 0.09
Post-test Volume @ 0.09

Probe Washings
Crucible #
Final
Initial
Net

Barometric Pressure 29.86

Stack Pressure -0.31

Meter Readings
#1 579.540
#2 609.630
#3 574.540
#4 60.450

Final Initial Net
579.540
574.540
30.410

Probe Cp Value 0.84

Probe ESL 42A

Stack Diameter 12

Meter # F-13

Avg. 16 = 20.2

Port / Point

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	551.61	0.10	2.02	102	102	103	255	47	—
1	2	554.00	0.09	1.82	101	108	103	255	47	—
1	3	556.38	0.12	2.42	102	108	103	255	47	—
1	4	558.76	0.11	2.22	103	108	104	254	47	—
1	5	561.15	0.10	2.02	104	109	104	253	47	—
1	6	563.52	0.10	2.02	105	109	104	256	47	—
1	7	565.99	0.10	2.02	106	109	104	255	47	—
1	8	568.68	0.11	2.22	106	107	103	253	47	—
1	9	571.48	0.12	2.42	107	109	103	254	47	—
1	10	574.10	0.12	2.42	106	108	102	251	47	—
1	11	576.86	0.13	2.63	105	108	102	254	47	—
1	12	579.59	0.11	2.22	104	106	102	256	47	—
2	1	582.20	0.12	2.42	104	106	100	250	47	—
1	2	584.85	0.11	2.22	103	105	100	250	47	—
1	3	587.42	0.12	2.42	103	104	100	250	47	—
1	4	590.06	0.13	2.63	102	103	100	253	47	—
1	5	592.52	0.11	2.22	102	103	100	250	47	—
1	6	594.89	0.09	1.82	101	101	100	250	47	—
1	7	597.07	0.10	2.02	101	101	100	251	47	—
1	8	599.55	0.12	2.42	100	100	100	251	47	—
1	9	602.17	0.13	2.63	101	99	100	253	47	—
1	10	604.74	0.12	2.42	101	99	100	250	47	—
1	11	607.26	0.12	2.42	100	98	100	250	47	—
1	12	609.63	0.10	2.02	100	98	100	252	47	—

Field Notes:

683 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6-13-00

Source: Silo No. 683

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.10	0.3162	2.02	83	81	91
1-2	0.09	0.3000	1.82	81	80	95
1-3	0.09	0.3000	1.82	83	81	96
1-4	0.08	0.2828	1.62	84	81	97
1-5	0.09	0.3000	1.82	85	82	98
1-6	0.10	0.3162	2.02	86	83	98
1-7	0.10	0.3162	2.02	87	83	99
1-8	0.10	0.3162	2.02	87	83	98
1-9	0.09	0.3000	1.82	89	84	99
1-10	0.08	0.2828	1.62	89	84	101
1-11	0.08	0.2828	1.62	89	84	101
1-12	0.09	0.3000	1.82	90	85	101
2-1	0.09	0.3000	1.82	89	85	101
2-2	0.08	0.2828	1.62	90	85	101
2-3	0.08	0.2828	1.62	90	86	102
2-4	0.09	0.3000	1.82	91	86	101
2-5	0.09	0.3000	1.82	92	87	102
2-6	0.09	0.3000	1.82	92	87	102
2-7	0.08	0.2828	1.62	92	87	103
2-8	0.10	0.3162	2.02	97	88	103
2-9	0.08	0.2828	1.62	93	88	103
2-10	0.10	0.3162	2.02	93	89	104
2-11	0.10	0.3162	2.02	94	89	104
2-12	0.10	0.3162	2.02	95	90	104
		0.3004	1.83	87.1		100.2

Plant Georgia Gulf

Silo 5.10 683

Date 6/13/01

Run # 1

Stack Diameter 12"

Meter # E-13

Time Start 8:05 am
Stop 9:30 am

Moisture Impinger #1 100
Impinger #2 100
Impinger #3 0
Impinger #4 828.0
Totals 828.0

Initial 100
Final 14

Totals 14
6.9
20.9

Gas Analyses
CO2 0.0
O2 21.0
CO 0.0
N2 0.0

Leak Check
Pre-test Volume @ 0.000
Post-test Volume @ 0.000

Barometric Pressure 30.05

Stack Pressing -0.15

Meter Readings
#1 637.730
#2 664.070
#3 610.000
#4 637.730
Net 16.730

Probe Cp Value 0.84

Probe ESP-42A

K = 20.2

Probe Washings
Crucible #
Final
Initial
Net

Filter Weights
Filter # 644
Final
Initial
Net

Average 0.0
20.0

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	613.35	.10	2.02	83	81	91	250	48	1
1	2	613.59	.09	1.85	81	80	95	250	48	1
1	3	617.83	.07	1.85	83	81	96	250	48	1
1	4	610.02	.08	1.62	84	81	97	250	48	1
1	5	622.15	.09	1.85	85	82	98	250	48	1
1	6	624.41	.10	2.02	86	83	98	250	48	1
1	7	626.78	.10	2.02	87	83	98	250	48	1
1	8	629.10	.10	2.02	87	83	98	250	48	1
1	9	631.35	.09	1.85	89	84	99	250	48	1
1	10	633.56	.08	1.62	89	84	101	250	48	1
1	11	635.57	.08	1.62	89	84	101	250	48	1
1	12	637.73	.09	1.85	90	85	101	250	48	1
2	1	639.95	.07	1.85	89	85	101	250	48	1
1	2	642.18	.08	1.62	90	85	101	250	48	1
1	3	644.15	.08	1.62	90	86	102	250	48	1
1	4	646.50	.07	1.85	91	86	101	250	48	1
1	5	648.52	.07	1.85	92	87	102	250	48	1
1	6	650.01	.07	1.85	92	87	102	250	48	1
1	7	652.81	.08	2.02	92	87	103	250	48	1
1	8	655.17	.10	2.02	92	88	103	250	48	1
1	9	657.19	.08	1.62	93	88	103	250	48	1
1	10	659.35	.10	2.02	93	89	104	250	48	1
1	11	661.85	.10	2.02	94	89	104	250	48	1
1	12	664.07	.10	2.02	95	90	104	250	48	1

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6-13-01

Source: Silo No. 683

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.08	0.2828	1.62	92	93	103
1-2	0.09	0.3000	1.82	91	92	103
1-3	0.09	0.3000	1.82	92	92	104
1-4	0.10	0.3162	2.02	93	93	104
1-5	0.08	0.2828	1.62	94	93	104
1-6	0.09	0.3000	1.82	95	94	104
1-7	0.09	0.3000	1.82	95	94	105
1-8	0.10	0.3162	2.02	96	94	106
1-9	0.11	0.3317	2.22	97	95	106
1-10	0.10	0.3162	2.02	97	95	106
1-11	0.10	0.3162	2.02	97	96	107
1-12	0.11	0.3317	2.22	96	95	106
2-1	0.08	0.2828	1.62	95	95	106
2-2	0.08	0.2828	1.62	96	96	107
2-3	0.09	0.3000	1.82	95	95	106
2-4	0.10	0.3162	2.02	96	96	106
2-5	0.10	0.3162	2.02	96	95	106
2-6	0.11	0.3317	2.22	98	96	106
2-7	0.10	0.3162	2.02	98	96	107
2-8	0.08	0.2828	1.62	98	96	106
2-9	0.09	0.3000	1.82	97	99	104
2-10	0.10	0.3162	2.02	99	98	106
2-11	0.10	0.3162	2.02	98	100	105
2-12	0.09	0.3000	1.82	99	97	103
		0.3065	1.90	95.5		105.3

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6-13-01

Source: Silo No. 683

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.08	0.2828	1.62	98	98	104
1-2	0.09	0.3000	1.82	97	98	104
1-3	0.09	0.3000	1.82	97	98	103
1-4	0.10	0.3162	2.02	98	99	103
1-5	0.08	0.2828	1.62	98	98	103
1-6	0.11	0.3317	2.22	99	99	103
1-7	0.10	0.3162	2.02	100	99	104
1-8	0.11	0.3317	2.22	100	99	104
1-9	0.09	0.3000	1.82	99	98	103
1-10	0.09	0.3000	1.82	99	98	102
1-11	0.09	0.3000	1.82	98	97	104
1-12	0.08	0.2828	1.62	97	96	100
2-1	0.09	0.3000	1.82	99	98	102
2-2	0.09	0.3000	1.82	100	98	102
2-3	0.10	0.3162	2.02	100	98	102
2-4	0.11	0.3317	2.22	102	98	102
2-5	0.10	0.3162	2.02	102	99	105
2-6	0.08	0.2828	1.62	103	99	104
2-7	0.10	0.3162	2.02	103	100	104
2-8	0.09	0.3000	1.82	103	100	102
2-9	0.11	0.3317	2.22	103	100	10
2-10	0.08	0.2828	1.62	103	101	103
2-11	0.09	0.3000	1.82	104	101	102
2-12	0.09	0.3000	1.82	103	101	103
		0.3051	1.89	99.5		99.1

Plant Georgie Gulf

Site Silo 683

Date 6-13-01

Run # 3

Slack Diameter 12.11

Meter # 12.0.27m

Time 1:15 pm

Probe 64-42A

Cp Value 0.84

Avg. 6-20.2

Moisture Impinger #1 0

Moisture Impinger #2 0

Moisture Impinger #3 0

Moisture Impinger #4 0

Totals 0

Initial 0

Final 0

Totals 0

Gas Analyses

CO2 0.0

O2 21.0

CO 0.0

N2 79.0

Leak Check

Pre-test Volume @ 0.000

Post-test Volume @ 0.000

Vac " 15

Vac " 5

Probe Washings

Crucible #

Final

Initial

Net

Filler Weights

Filler # 049

Final

Initial

Net

Total 54.780

cu.ft.

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	719.24	.08	1.62	98	98	104	267	48	1
1	2	721.39	.08	1.85	97	98	104	250	48	1
1	3	723.50	.07	1.85	97	98	103	250	48	1
1	4	725.89	.10	2.02	98	98	103	260	48	1
1	5	728.07	.08	1.62	98	98	103	258	48	1
1	6	730.45	.11	2.22	99	99	103	250	48	1
1	7	732.86	.10	2.02	100	99	104	255	48	1
1	8	735.27	.11	2.22	100	99	104	251	48	1
1	9	737.69	.09	1.85	99	98	103	261	48	1
1	10	740.11	.09	1.85	99	98	103	251	48	1
1	11	742.51	.08	1.62	98	97	104	258	48	1
1	12	744.88	.08	1.85	98	96	100	251	48	1
2	1	747.02	.09	1.85	97	98	102	251	48	1
2	2	749.16	.09	1.85	99	98	102	257	48	1
2	3	751.52	.10	2.02	100	98	102	264	48	1
2	4	753.88	.11	2.22	102	98	107	259	48	1
2	5	756.25	.10	2.02	102	99	103	265	48	1
2	6	758.54	.08	1.62	103	99	104	255	48	1
2	7	760.94	.10	2.02	103	100	104	254	48	1
2	8	763.14	.09	1.85	103	100	103	251	48	1
2	9	765.42	.11	2.22	103	100	103	263	48	1
2	10	767.55	.08	1.62	103	101	103	251	48	1
2	11	769.75	.09	1.85	104	101	102	253	48	1
2	12	771.93	.09	1.85	105	101	103	250	48	1

Field Notes:

684 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 684

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.11	0.3317	2.22	86	86	106
1-2	0.21	0.4583	4.24	87	86	106
1-3	0.18	0.4243	3.64	88	86	107
1-4	0.11	0.3317	2.22	90	87	107
1-5	0.15	0.3873	3.03	91	87	106
1-6	0.19	0.4359	3.84	92	88	107
1-7	0.12	0.3464	2.42	93	88	106
1-8	0.10	0.3162	2.02	93	88	106
1-9	0.08	0.2828	1.62	93	88	105
1-10	0.11	0.3317	2.22	94	88	105
1-11	0.15	0.3873	3.03	94	89	104
1-12	0.12	0.3464	2.42	95	89	104
2-1	0.10	0.3162	2.02	96	90	104
2-2	0.11	0.3317	2.22	96	91	104
2-3	0.18	0.4243	3.64	96	90	103
2-4	0.19	0.4359	3.84	97	91	103
2-5	0.13	0.3606	2.63	97	91	103
2-6	0.09	0.3000	1.82	97	91	104
2-7	0.11	0.3317	2.22	97	92	103
2-8	0.12	0.3464	2.42	98	92	105
2-9	0.14	0.3742	2.83	96	95	109
2-10	0.10	0.3162	2.02	97	95	108
2-11	0.12	0.3464	2.42	97	95	108
2-12	0.15	0.3873	3.03	98	96	107
		0.3604	2.67	94.1		105.4

ENTEC Services, Inc.

25 Commerce Ave., Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 684

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.11	0.3317	2.22	96	95	107
1-2	0.12	0.3464	2.42	96	95	107
1-3	0.15	0.3873	3.03	97	95	107
1-4	0.17	0.4123	3.43	97	96	107
1-5	0.13	0.3606	2.63	98	96	107
1-6	0.12	0.3464	2.42	99	97	107
1-7	0.09	0.3000	1.82	100	97	108
1-8	0.11	0.3317	2.22	101	97	107
1-9	0.13	0.3606	2.63	100	96	105
1-10	0.17	0.4123	3.43	99	96	104
1-11	0.20	0.4472	4.04	98	96	103
1-12	0.15	0.3873	3.03	99	96	104
2-1	0.12	0.3464	2.42	100	97	105
2-2	0.14	0.3742	2.83	100	97	105
2-3	0.12	0.3464	2.42	101	98	106
2-4	0.19	0.4359	3.84	102	98	106
2-5	0.15	0.3873	3.03	102	98	107
2-6	0.11	0.3317	2.22	103	99	108
2-7	0.16	0.4000	3.23	103	100	107
2-8	0.09	0.3000	1.82	103	100	106
2-9	0.11	0.3317	2.22	103	101	107
2-10	0.15	0.3873	3.03	104	101	107
2-11	0.16	0.4000	3.23	105	102	108
2-12	0.12	0.3464	2.42	106	102	108
		0.3671	2.75	99.1		106.4

Plant Georgia, Inc. 6416

Site Silo #684

Date 6/12/01

Moisture Impinger #1 0

Moisture Impinger #2 854.5

Moisture Impinger #3 858.2

Moisture Impinger #4 865.2

Totals 10.7

Run # 2

Stack Diameter 12" = 785 ft²

Meter # E-13-1.001

Time 11:05

Time 12:25

Probe 551-424

Cp Value 0.84

K = 20.2

Gas Analyses

CO₂ 0.0

O₂ 21.0

CO 0.0

N₂ 0.0

Average 0.0

Leak Check

Pre-test Volume @ 0.003

Post-test Volume @ 0.004

Barometric Pressure 29.86

Stack Pressure -0.34

Probe Washings

Crucible #

Final

Initial

Net

Filter Weights

Filter # 033

Final

Initial

Net

Total 64.130 cu.ft.

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	296.62	.11	2.02	96	95	107	250	48	1
1	2	299.22	.12	2.42	96	95	107	250	42	1
1	3	302.08	.15	3.03	97	95	107	251	40	2
1	4	305.11	.17	3.43	97	96	107	251	40	2
1	5	307.87	.13	2.63	98	96	107	253	41	1
1	6	310.57	.12	2.42	97	97	107	252	42	1
1	7	313.11	.09	1.82	100	97	108	254	46	1
1	8	315.53	.11	2.02	101	97	107	252	48	1
1	9	317.91	.13	2.63	100	96	105	252	48	1
1	10	320.51	.17	3.13	99	96	104	253	48	1
1	11	323.15	.20	4.04	98	96	103	253	50	1
1	12	326.02	.15	3.03	99	96	104	254	47	1
1	13	328.61	.12	2.42	100	97	105	256	47	1
1	14	331.43	.14	2.83	100	97	105	254	47	1
1	15	334.26	.12	2.42	101	98	106	252	48	1
1	16	337.31	.19	3.84	102	98	106	255	48	1
1	17	340.28	.15	3.03	102	98	107	253	48	1
1	18	342.57	.11	2.02	103	99	108	251	48	1
1	19	344.99	.16	3.23	103	100	107	250	38	1
1	20	347.27	.09	1.82	103	100	106	255	36	1
1	21	349.64	.11	2.02	103	101	107	253	37	1
1	22	352.41	.15	3.03	104	101	107	254	37	1
1	23	355.28	.16	3.23	105	102	108	256	37	1
1	24	358.36	.12	2.42	106	102	108	254	37	1

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 684

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.12	0.3464	2.42	100	101	104
1-2	0.15	0.3873	3.03	100	101	108
1-3	0.13	0.3606	2.63	101	101	109
1-4	0.17	0.4123	3.43	101	101	108
1-5	0.16	0.4000	3.23	102	101	106
1-6	0.13	0.3606	2.63	102	101	106
1-7	0.12	0.3464	2.42	102	101	105
1-8	0.11	0.3317	2.22	103	101	106
1-9	0.09	0.3000	1.82	104	101	106
1-10	0.10	0.3162	2.02	104	101	107
1-11	0.15	0.3873	3.03	106	102	107
1-12	0.17	0.4123	3.43	106	102	108
2-1	0.12	0.3464	2.42	106	104	110
2-2	0.11	0.3317	2.22	105	105	110
2-3	0.13	0.3606	2.63	106	104	111
2-4	0.14	0.3742	2.83	107	106	111
2-5	0.11	0.3317	2.22	108	106	112
2-6	0.09	0.3000	1.82	109	106	111
2-7	0.10	0.3162	2.02	108	106	111
2-8	0.09	0.3000	1.82	109	106	110
2-9	0.12	0.3464	2.42	109	107	111
2-10	0.13	0.3606	2.63	110	107	112
2-11	0.14	0.3742	2.83	110	107	112
2-12	0.14	0.3742	2.83	110	107	111
		0.3532	2.54	104.4		108.8

Plant	Georgia Gulf		
Silo	Silo #684		
Date	6/12/01		
Run #	3		
Stack Diameter	12" = 785 ft ²		
Meter #	E-13 = 1.001		
Probe	E81-41A		
Cp Value	0.84		
Start	1:30 PM		
Stop	3:00 PM		
Moisture	Impinger #1		
	Impinger #2		
	Impinger #3		
	Impinger #4		
Totals			
Initial	Final		
	6		
	5.7		
	11.7		
Totals			
CO ₂	0.0		
O ₂	21.0		
CO			
N ₂			
Gas Analyses			
Average	0.0		
	21.0		
Leak Check			
Pre-test Volume @	0.11		
Post-test Volume @	6.02		
Vac	3"		
Filler Weights			
Filler #	036		
Final			
Initial			
Net			
Total	63.820 cu.ft.		
Barometric Pressure	29.86		
Stack Pressure	-0.34		
Meter Readings			
#1	390.770		
#2	422.490		
#3	358.610		
#4	370.790		
Final	32.120		
Initial	31.700		
Net			
Probe	K = 20.2		

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	361.28	.12	2.42	100	101	104	250	42	1
1	2	364.01	.15	3.03	100	101	103	255	40	1
1	3	366.57	.13	2.62	101	101	109	254	40	1
1	4	369.52	.17	3.43	101	101	108	257	42	1
1	5	372.59	.16	3.23	102	101	106	254	43	1
1	6	375.29	.13	2.62	102	101	106	255	41	1
1	7	377.71	.12	2.42	102	101	105	257	42	1
1	8	380.44	.11	2.22	103	101	106	255	43	1
1	9	382.71	.09	1.82	104	101	106	254	43	1
1	10	385.17	.10	2.02	104	101	107	250	44	1
1	11	388.01	.15	3.03	106	102	107	255	44	1
1	12	390.79	.17	3.43	106	102	108	255	44	1
2	1	393.49	.12	2.42	106	104	110	255	37	1
1	2	396.22	.11	2.22	105	105	110	256	36	1
1	3	398.77	.13	2.62	106	104	111	255	36	1
1	4	401.51	.14	2.83	107	106	111	256	37	1
1	5	404.07	.11	2.22	108	106	112	253	37	1
1	6	406.58	.09	1.82	109	106	111	254	39	1
1	7	409.03	.10	2.02	108	106	111	253	38	1
1	8	411.48	.09	1.82	109	106	110	254	39	1
1	9	414.05	.12	2.42	109	107	111	255	40	1
1	10	416.78	.13	2.62	110	107	112	255	40	1
1	11	419.62	.11	2.83	110	107	112	255	41	1
1	12	422.49	.14	2.83	110	107	111	256	42	1

Field Notes:

685 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 685

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.95	0.9747	4.09	92	90	105
1-2	0.87	0.9327	3.74	92	90	108
1-3	0.84	0.9165	3.61	93	90	107
1-4	0.69	0.8307	2.97	94	91	108
1-5	0.65	0.8062	2.80	94	91	108
1-6	0.56	0.7483	2.41	95	92	108
1-7	0.44	0.6633	1.89	95	2	109
1-8	0.32	0.5657	1.38	94	92	108
1-9	0.25	0.5000	1.08	96	94	112
1-10	0.24	0.4899	1.03	96	95	112
1-11	0.21	0.4583	0.90	97	96	111
1-12	0.19	0.4359	0.82	97	96	111
2-1	0.87	0.9327	3.74	98	96	110
2-2	0.89	0.9434	3.83	100	96	109
2-3	0.79	0.8888	3.40	101	96	110
2-4	0.64	0.8000	2.75	102	96	111
2-5	0.68	0.8246	2.92	103	97	112
2-6	0.54	0.7348	2.32	103	97	111
2-7	0.43	0.6557	1.85	104	98	113
2-8	0.35	0.5916	1.51	105	98	113
2-9	0.30	0.5477	1.29	105	98	112
2-10	0.27	0.5196	1.16	105	98	113
2-11	0.22	0.4690	0.95	105	98	113
2-12	0.20	0.4472	0.86	105	99	113
		0.6949	2.22	94.9		110.3

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 685

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.68	0.8246	2.92	97	96	104
1-2	0.66	0.8124	2.84	97	96	106
1-3	0.58	0.7616	2.49	97	96	106
1-4	0.50	0.7071	2.15	97	96	107
1-5	0.32	0.5657	1.38	96	96	108
1-6	0.25	0.5000	1.08	96	96	108
1-7	0.20	0.4472	0.86	96	96	107
1-8	0.16	0.4000	0.69	96	96	107
1-9	0.20	0.4472	0.86	98	96	108
1-10	0.21	0.4583	0.90	98	96	108
1-11	0.17	0.4123	0.73	97	96	109
1-12	0.17	0.4123	0.73	97	96	108
2-1	0.78	0.8832	3.35	97	96	108
2-2	0.69	0.8307	2.97	98	97	107
2-3	0.61	0.7810	2.62	100	97	107
2-4	0.54	0.7348	2.32	100	97	106
2-5	0.44	0.6633	1.89	100	97	106
2-6	0.36	0.6000	1.55	101	98	106
2-7	0.30	0.5477	1.29	101	98	106
2-8	0.20	0.4472	0.86	101	98	106
2-9	0.22	0.4690	0.95	101	98	106
2-10	0.25	0.5000	1.08	98	97	107
2-11	0.23	0.4796	0.99	98	97	107
2-12	0.20	0.4472	0.86	98	97	108
		0.5889	1.60	97.4		106.9

Plant	62-6215	Initial	Final	Totals	Gas Analyses	Average
Site	Anderson, MS.	100	100	100	CO2	0.0
Impinger #1		0	0	0	O2	21.0
Impinger #2		814	814	814	CO	21.0
Impinger #3		814	814	814	N2	0.0
Impinger #4		814	814	814		
Totals		814	814	814		
Date	6.12-01					

Run	# 2	Stack Diameter	12"
Time	1154	Meter #	1-12
Time	1320		

Probe	38-36	Cp Value	0.84
Initial		Final	
Initial		Initial	
Initial		Initial	

Barometric Pressure	29.86	Slack Pressure	0.61 = 29.80
Pre-test Volume @	0.001	Post-test Volume @	0.000
Leak Check			
Pre-test Volume @	0.001	Post-test Volume @	0.000
Probe Washings			
Crucible #			
Final			
Initial			
Net			
Filler Weights			
Filler #			034
Final			
Initial			
Net			
Total			48.671

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	360.605	.68	2.92	97	96	104	250	55	3
1	2	363.370	.66	2.94	97	96	106	250	55	3
1	3	365.930	.58	2.49	97	96	106	250	55	3
1	4	368.310	.50	2.19	97	96	107	250	55	3
1	5	370.255	.32	1.33	96	96	108	250	55	3
1	6	372.025	.23	1.08	96	96	108	250	55	2
1	7	373.510	.20	.86	96	96	107	250	55	1
1	8	375.010	.16	.69	96	96	107	250	55	1
1	9	376.560	.20	.86	98	96	108	250	55	1
1	10	378.130	.31	.90	98	96	108	250	55	1
1	11	379.600	.17	.73	97	96	109	250	55	1
1	12	381.220	.17	.73	97	96	108	250	55	1
2	1	384.370	.78	3.35	97	96	108	250	55	3
2	2	387.415	.69	2.97	98	97	107	250	55	3
2	3	389.700	.61	2.62	100	97	107	250	55	3
2	4	392.215	.54	2.32	100	97	106	250	55	3
2	5	394.455	.44	1.87	100	97	106	250	55	2
2	6	396.465	.36	1.55	101	98	106	250	55	2
2	7	398.290	.30	1.29	101	98	106	250	55	1
2	8	399.845	.20	.86	101	98	106	250	55	1
2	9	401.515	.22	.95	101	98	106	250	55	1
2	10	403.160	.25	1.08	98	97	107	250	55	1
2	11	404.440	.23	.97	98	97	107	250	55	1
2	12	406.471	.20	.86	98	97	108	250	55	1

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave., Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 685

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.65	0.8062	2.80	77	76	93
1-2	0.68	0.8246	2.92	77	77	97
1-3	0.55	0.7416	2.37	78	77	98
1-4	0.51	0.7141	2.19	82	79	100
1-5	0.47	0.6856	2.02	84	79	100
1-6	0.44	0.6633	1.89	85	80	101
1-7	0.41	0.6403	1.76	86	81	102
1-8	0.38	0.6164	1.63	86	81	102
1-9	0.38	0.6164	1.63	86	82	102
1-10	0.38	0.6164	1.63	88	83	103
1-11	0.42	0.6481	1.81	89	83	103
1-12	0.40	0.6325	1.72	89	83	106
2-1	0.37	0.6083	1.59	90	84	106
2-2	0.39	0.6245	1.68	91	84	107
2-3	0.45	0.6708	1.94	91	84	108
2-4	0.45	0.6708	1.94	91	84	108
2-5	0.57	0.7550	2.45	93	86	107
2-6	0.54	0.7348	2.32	93	86	107
2-7	0.68	0.8246	2.92	95	88	108
2-8	0.60	0.7746	2.58	94	89	108
2-9	0.57	0.7550	2.45	96	89	108
2-10	0.46	0.6782	1.98	97	90	107
2-11	0.62	0.7874	2.67	97	90	107
2-12	0.64	0.8000	2.75	99	91	107
		0.7037	2.15	86.3		104.0

686 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 686

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.05	0.2236	0.97	97	97	108
1-2	0.06	0.2449	1.16	98	97	107
1-3	0.05	0.2236	0.97	98	97	108
1-4	0.06	0.2449	1.16	98	98	108
1-5	0.08	0.2828	1.55	99	98	109
1-6	0.08	0.2828	1.55	100	99	109
1-7	0.07	0.2646	1.36	100	99	109
1-8	0.06	0.2449	1.16	99	98	109
1-9	0.06	0.2449	1.16	99	99	109
1-10	0.06	0.2449	1.16	99	99	110
1-11	0.07	0.2646	1.36	99	99	110
1-12	0.06	0.2449	1.16	99	99	110
2-1	0.05	0.2236	0.97	99	99	111
2-2	0.05	0.2236	0.97	99	99	111
2-3	0.05	0.2236	0.97	98	97	112
2-4	0.06	0.2449	1.16	98	97	111
2-5	0.06	0.2449	1.16	99	98	112
2-6	0.08	0.2828	1.55	99	98	112
2-7	0.07	0.2646	1.36	99	98	112
2-8	0.08	0.2828	1.55	100	99	112
2-9	0.07	0.2646	1.36	101	98	113
2-10	0.08	0.2828	1.55	101	99	112
2-11	0.07	0.2646	1.36	101	99	112
2-12	0.06	0.2449	1.16	102	100	111
		0.2525	1.24	98.8		110.3

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 686

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.06	0.2449	1.16	100	99	113
1-2	0.05	0.2236	0.97	100	99	112
1-3	0.05	0.2236	0.97	99	100	113
1-4	0.05	0.2236	0.97	99	100	113
1-5	0.06	0.2449	1.16	99	100	113
1-6	0.06	0.2449	1.16	100	101	112
1-7	0.08	0.2828	1.55	101	101	112
1-8	0.07	0.2646	1.36	100	101	111
1-9	0.06	0.2449	1.16	99	101	110
1-10	0.07	0.2646	1.36	99	100	111
1-11	0.05	0.2236	0.97	98	100	111
1-12	0.05	0.2236	0.97	98	100	111
2-1	0.06	0.2449	1.16	99	101	111
2-2	0.06	0.2449	1.16	99	101	111
2-3	0.07	0.2646	1.36	99	101	111
2-4	0.07	0.2646	1.36	99	101	111
2-5	0.05	0.2236	0.97	99	101	111
2-6	0.07	0.2646	1.36	98	100	111
2-7	0.07	0.2646	1.36	99	100	111
2-8	0.08	0.2828	1.55	99	100	111
2-9	0.08	0.2828	1.55	99	100	111
2-10	0.08	0.2828	1.55	99	100	111
2-11	0.08	0.2828	1.55	100	100	110
2-12	0.06	0.2449	1.16	99	100	111
		0.2524	1.24	99.7		111.4

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/12/2001

Source: Silo No. 686

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.06	0.2449	1.16	94	96	104
1-2	0.05	0.2236	0.97	94	96	105
1-3	0.05	0.2236	0.97	95	96	104
1-4	0.05	0.2236	0.97	95	96	104
1-5	0.07	0.2646	1.36	95	96	103
1-6	0.07	0.2646	1.36	95	96	103
1-7	0.08	0.2828	1.55	95	96	103
1-8	0.07	0.2646	1.36	95	96	103
1-9	0.07	0.2646	1.36	95	96	102
1-10	0.06	0.2449	1.16	94	95	102
1-11	0.07	0.2646	1.36	94	95	101
1-12	0.06	0.2449	1.16	94	95	101
2-1	0.05	0.2236	0.97	93	95	100
2-2	0.05	0.2236	0.97	93	94	100
2-3	0.05	0.2236	0.97	92	93	99
2-4	0.05	0.2236	0.97	92	93	99
2-5	0.04	0.2000	0.78	91	93	98
2-6	0.07	0.2646	1.36	91	92	98
2-7	0.08	0.2828	1.55	91	92	98
2-8	0.06	0.2449	1.16	90	92	97
2-9	0.06	0.2449	1.16	90	92	97
2-10	0.08	0.2828	1.55	90	91	97
2-11	0.08	0.2828	1.55	90	90	96
2-12	0.07	0.2646	1.36	91	90	96
		0.2489	1.21	93.4		100.4

Plant	60a-6-1F	Run #	3
Site	Abbeville, MS	Stack Diameter	12"
Moisture		Meter #	E-12
Impinger #1		Time	1845
Impinger #2			2005
Impinger #3		Probe	60a-178
Impinger #4		Cp Value	0.64
Totals			
Initial	180	Final	517.025
Final	180	Initial	494.900
	0	Net	22.125
	823		
	823		
Totals	15		
Gas Analyses			
CO2	0.0		
O2	21.0		
CO			
N2			
Average	0.0		
	21.0		
Leak Check			
Pre-test	0.000		
Volume @			
Post-test	0.000		
Volume @			
Vac	12"		
Vac	6"		
Probe Washings			
Crucible #			
Final			
Initial			
Net			
Filter Weights			
Filter #	091		
Final			
Initial			
Net			
Total	43.957		
cu.ft.			

Port / Point	Time	Meter Reading	Δ p	Δ h	Inlet	Outlet	Stack	Impinger	Vacuum
1 / 1	3	496.500	.06	1.16	94	96	104	54	
1 / 2	6	488.375	.05	.97	94	96	105	53	
1 / 3	9	500.025	.05	.97	95	96	104	51	
1 / 4	12	501.945	.05	.97	95	96	104	50	
1 / 5	15	503.850	.07	1.36	95	96	103	51	
1 / 6	18	505.760	.07	1.36	95	96	103	52	
1 / 7	21	507.715	.08	1.55	95	96	103	55	
1 / 8	24	509.746	.07	1.36	95	96	103	40	
1 / 9	27	511.635	.07	1.36	95	96	103	38	
1 / 10	30	513.395	.06	1.16	94	95	102	37	
1 / 11	33	515.265	.07	1.36	94	95	102	37	
1 / 12	36	517.036	.06	1.36	94	95	101	37	
2 / 1	39	518.680	.05	.97	95	96	100	37	
2 / 2	42	520.330	.05	.97	95	96	100	36	
2 / 3	45	521.170	.05	.97	93	93	99	37	
2 / 4	48	523.610	.05	.97	92	93	98	38	
2 / 5	51	525.395	.06	1.16	91	93	98	38	
2 / 6	54	527.350	.07	1.36	91	92	98	38	
2 / 7	57	529.255	.08	1.55	90	92	97	39	
2 / 8	60	531.040	.08	1.16	90	92	97	39	
2 / 9	63	532.855	.07	1.16	90	92	97	39	
2 / 10	66	534.865	.08	1.55	90	91	97	38	
2 / 11	69	536.975	.08	1.36	91	90	96	37	
2 / 12	72	538.757	.07	1.36	91	90	96		

Field Notes:

689 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/13/2001

Source: Silo No. 689

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.03	0.1732	1.18	91	90	102
1-2	0.03	0.1732	1.18	92	91	104
1-3	0.06	0.2449	2.36	92	91	101
1-4	0.07	0.2646	2.76	90	92	99
1-5	0.05	0.2236	1.97	90	91	97
1-6	0.05	0.2236	1.97	90	91	96
1-7	0.03	0.1732	1.18	91	91	97
1-8	0.02	0.1414	0.79	91	91	97
1-9	0.03	0.1732	1.18	92	91	100
1-10	0.05	0.2236	1.97	93	92	102
1-11	0.06	0.2449	2.36	94	92	99
1-12	0.04	0.2000	1.58	94	93	97
2-1	0.04	0.2000	1.58	95	93	98
2-2	0.04	0.2000	1.58	92	93	96
2-3	0.05	0.2236	1.97	91	92	94
2-4	0.07	0.2646	2.76	92	92	96
2-5	0.05	0.2236	1.97	94	92	100
2-6	0.03	0.1732	1.18	94	92	98
2-7	0.02	0.1414	0.79	93	93	98
2-8	0.02	0.1414	0.79	94	94	100
2-9	0.04	0.2000	1.58	95	94	101
2-10	0.04	0.2000	1.58	95	94	102
2-11	0.05	0.2236	1.97	95	95	100
2-12	0.06	0.2449	2.36	93	94	97
		0.2040	1.69	92.4		98.8

Plant	Ga. Gulf		
Site	Abbeville, Ms.		
Date	5/6/68		
Run #	6-13-01		
Stack Diameter	12" = 0.785		
Meter #	E-12		
Time	11:35		
	15:00		
Probe	ESP-38		
Cp Value	0.84		
	K= 39.4		
Moisture			
Impinger #1	108		
Impinger #2	140		
Impinger #3	0		
Impinger #4	873		
Totals	873		
Initial	890		
Final	17		
Totals	17		
Gas Analyses			
CO2	0.0		
O2	21.0		
CO	0.0		
N2	21.0		
Average	0.0		
Leak Check			
Pre-test Volume @	0.000		
Post-test Volume @	0.000		
Vac	15"		
Vac	5"		
Barometric Pressure	30.05		
Slack Pressure	-0.11 = 30.04		
Meter Readings			
#1	620.275		
#2	644.884		
#3	620.275		
#4	37.609		
Final	596.150		
Initial	37.609		
Net	620.275		
Filter Weights			
Filter #	047		
Final			
Initial			
Net			
Probe Washings			
Crucible #			
Final			
Initial			
Net			

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Stack	Oven	Impinger	Vacuum
1	1	586.750	.03	1.182	91	10	102	250	43	1
	2	600.630	.03	1.182	92	91	104	250	43	1
	3	602.580	.06	2.36	92	91	101	250	43	1
	4	604.510	.07	2.76	90	92	95	250	43	1
	5	606.550	.05	1.97	90	91	97	250	40	1
	6	608.635	.05	1.97	90	91	96	250	39	1
	7	610.850	.03	1.18	91	91	97	250	37	1
	8	612.245	.02	0.79	91	91	97	250	37	1
	9	613.965	.03	1.18	92	91	100	250	39	1
	10	615.420	.05	1.97	93	92	102	250	36	1
	11	618.295	.06	2.36	94	92	99	250	36	1
	12	620.275	.04	1.58	94	93	97	250	35	1
2	1	622.340	.07	1.58	95	93	98	250	35	1
	2	624.390	.04	1.58	92	93	16	250	35	1
	3	626.645	.05	1.97	91	92	14	250	35	1
	4	629.345	.07	2.76	92	92	16	250	34	1
	5	631.630	.05	1.97	94	92	100	250	34	1
	6	633.835	.03	1.18	94	92	98	250	35	1
	7	635.835	.02	0.79	93	93	98	250	34	1
	8	636.430	.02	0.79	94	94	100	250	35	1
	9	638.315	.04	1.58	95	94	101	250	35	1
	10	640.365	.04	1.58	95	94	102	250	35	1
	11	642.615	.05	1.97	95	95	100	250	35	1
	12	644.484	.06	2.36	93	94	97	250	35	1

Field Notes: pto 67.8 on Suck Meter Reading

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/13/2001

Source: Silo No. 689

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.04	0.2000	1.58	90	93	96
1-2	0.07	0.2646	2.76	90	93	97
1-3	0.07	0.2646	2.76	92	93	100
1-4	0.08	0.2828	3.15	93	93	100
1-5	0.07	0.2646	2.76	95	93	100
1-6	0.06	0.2449	2.36	94	94	100
1-7	0.05	0.2236	1.97	94	94	99
1-8	0.04	0.2000	1.58	95	95	100
1-9	0.05	0.2236	1.97	96	94	100
1-10	0.05	0.2236	1.97	96	95	100
1-11	0.04	0.2000	1.58	97	96	101
1-12	0.04	0.2000	1.58	96	96	100
2-1	0.06	0.2449	2.36	94	96	100
2-2	0.06	0.2449	2.36	94	95	98
2-3	0.06	0.2449	2.36	94	95	99
2-4	0.06	0.2449	2.36	94	95	97
2-5	0.07	0.2646	2.76	95	95	97
2-6	0.05	0.2236	1.97	96	94	96
2-7	0.05	0.2236	1.97	96	94	95
2-8	0.04	0.2000	1.58	95	93	92
2-9	0.03	0.1732	1.18	94	93	91
2-10	0.03	0.1732	1.18	93	91	91
2-11	0.04	0.2000	1.58	92	91	90
2-12	0.04	0.2000	1.58	91	90	90
		0.2263	2.05	93.9		97.0

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/13/2001

Source: Silo No. 689

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.04	0.2000	1.58	87	86	96
1-2	0.04	0.2000	1.58	87	86	97
1-3	0.04	0.2000	1.58	88	86	100
1-4	0.06	0.2449	2.36	88	86	100
1-5	0.06	0.2449	2.36	89	86	100
1-6	0.06	0.2449	2.36	90	86	100
1-7	0.06	0.2449	2.36	90	86	99
1-8	0.08	0.2828	3.15	90	86	100
1-9	0.07	0.2646	2.76	90	86	100
1-10	0.07	0.2646	2.76	91	86	100
1-11	0.06	0.2449	2.36	92	87	101
1-12	0.05	0.2236	1.97	93	87	100
2-1	0.05	0.2236	1.97	94	88	100
2-2	0.05	0.2236	1.97	95	88	98
2-3	0.05	0.2236	1.97	95	89	99
2-4	0.07	0.2646	2.76	96	90	97
2-5	0.08	0.2828	3.15	97	90	97
2-6	0.08	0.2828	3.15	99	91	96
2-7	0.07	0.2646	2.76	100	94	92
2-8	0.06	0.2449	2.36	100	96	94
2-9	0.05	0.2236	1.97	101	97	94
2-10	0.04	0.2000	1.58	98	91	96
2-11	0.04	0.2000	1.58	97	91	97
2-12	0.06	0.2449	2.36	97	90	97
		0.2391	2.28	91.1		97.9

Plant 6a. 6a. f
Abundant MS.
 Site Sila 689
 Date 6-18-51

Stack Diameter
12" = 7.85

Meter #
6892 = 1.008 Avg.

Probe
68-78 Cp Value
0.84

Moisture
 Impinger #1
 Impinger #2
 Impinger #3
 Impinger #4
 Totals

Nozzle Calibrations
 Pre-test
 Post-test

Barometric Pressure
30.05

Stack Pressure
-0.10 = 30.04

Meter Readings
 #1
 #2
 #3
 #4

Gas Analyses
 CO2
 O2
 CO
 N2

Leak Check
 Pre-test
 Volume @
 Post-test
 Volume @

Probe Washings
 Crucible #
 Final
 Initial
 Net

Filler Weights
 Filter #
 Final
 Initial
 Net

Total
58.347 cu.ft.

Port / Point

Meter

Reading

Time

Δh

Δp

Inlet

Outlet

Oven

Impinger

Vacuum

Temperatures (°F)

1	1	703.050	1.04	87	86	250	33	2
1	2	705.115	0.04	87	86	250	33	2
1	3	707.145	0.04	88	86	250	33	2
1	4	709.315	0.06	88	86	250	33	2
1	5	711.455	0.04	89	86	250	33	2
1	6	714.335	0.06	90	86	250	33	2
1	7	716.805	0.04	90	86	250	33	2
1	8	719.655	0.04	90	86	250	33	2
1	9	722.335	0.07	90	86	250	33	2
1	10	725.050	0.07	91	86	250	33	2
1	11	727.810	0.05	91	87	250	33	2
1	12	731.810	0.05	92	87	250	33	2
2	1	734.135	0.05	93	88	250	33	2
2	2	736.415	0.05	93	88	250	33	2
2	3	739.015	0.05	94	89	250	33	2
2	4	741.815	0.05	94	89	250	33	2
2	5	744.215	0.05	95	90	250	33	2
2	6	746.415	0.05	95	91	250	33	2
2	7	748.815	0.05	96	92	250	33	2
2	8	751.315	0.05	96	92	250	33	2
2	9	753.815	0.05	97	93	250	33	2
2	10	756.315	0.05	97	93	250	33	2
2	11	758.815	0.05	97	93	250	33	2
2	12	761.315	0.05	97	93	250	33	2

Field Notes:

690 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 690

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.04	0.2000	1.61	85	82	86
1-2	0.04	0.2000	1.61	85	82	87
1-3	0.04	0.2000	1.61	86	82	87
1-4	0.04	0.2000	1.61	86	82	87
1-5	0.06	0.2449	2.42	86	82	87
1-6	0.07	0.2646	2.82	86	82	87
1-7	0.08	0.2828	3.22	88	83	88
1-8	0.10	0.3162	4.03	87	83	88
1-9	0.08	0.2828	3.22	87	83	88
1-10	0.07	0.2646	2.82	87	84	87
1-11	0.04	0.2000	1.61	88	84	88
1-12	0.04	0.2000	1.61	88	84	88
2-1	0.05	0.2236	2.02	88	84	88
2-2	0.05	0.2236	2.02	88	84	88
2-3	0.05	0.2236	2.02	88	85	88
2-4	0.04	0.2000	1.61	88	85	89
2-5	0.06	0.2449	2.42	88	85	89
2-6	0.07	0.2646	2.82	89	85	89
2-7	0.08	0.2828	3.22	89	86	90
2-8	0.06	0.2449	2.42	90	86	91
2-9	0.08	0.2828	3.22	90	86	91
2-10	0.08	0.2828	3.22	91	86	91
2-11	0.06	0.2449	2.42	91	87	92
2-12	0.07	0.2646	2.82	91	87	92
		0.2433	2.43	86.0		88.6

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 690

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.03	0.1732	1.21	88	85	92
1-2	0.03	0.1732	1.21	87	85	92
1-3	0.04	0.2000	1.61	86	85	92
1-4	0.04	0.2000	1.61	87	85	91
1-5	0.04	0.2000	1.61	87	85	91
1-6	0.06	0.2449	2.42	88	86	91
1-7	0.05	0.2236	2.02	87	85	88
1-8	0.07	0.2646	2.82	86	85	87
1-9	0.07	0.2646	2.82	85	82	80
1-10	0.08	0.2828	3.22	85	83	81
1-11	0.07	0.2646	2.82	86	83	81
1-12	0.06	0.2449	2.42	88	83	83
2-1	0.05	0.2236	2.02	88	83	84
2-2	0.05	0.2236	2.02	88	83	89
2-3	0.06	0.2449	2.42	89	84	82
2-4	0.07	0.2646	2.82	89	84	81
2-5	0.08	0.2828	3.22	85	83	78
2-6	0.08	0.2828	3.22	85	83	76
2-7	0.06	0.2449	2.42	85	83	75
2-8	0.04	0.2000	1.61	85	83	76
2-9	0.03	0.1732	1.21	85	83	76
2-10	0.04	0.2000	1.61	86	84	78
2-11	0.04	0.2000	1.61	85	83	77
2-12	0.04	0.2000	1.61	86	84	78
		0.2282	2.15	85.2		83.3

Plant <u>6-6-18</u>	Molature Impinger #1 Impinger #2 Impinger #3 Impinger #4 Totals	Initial 100 100 0 869 869	Final 13 877 810	Totals 13 8 21	Gas Analyses CO2 O2 CO N2	Average 0.0 21.0
Site <u>Silo 690</u>	Stack Diameter <u>18" x 385</u>	Nozzle Calibrations Pre-test Post-test	Barometric Pressure <u>29.97</u>	Leak Check Pre-test Volume @ Post-test Volume @	Probe Washings Crucible # Final Initial Net	
Date <u>6-14-01</u>	Meter # <u>6-12-1.058</u>	Avg. <u>0.84</u>	Stack Pressure <u>-0.10-24.98</u>	Filler Weights Filter # Final Initial Net		
Run # <u>2</u>	Probe <u>651-18</u>	Cp Value <u>0.84</u>	Meter Readings #1 #2 #3	Total <u>56.067</u>		
Time <u>10:45</u>						
Time <u>12:00</u>						

Port / Point	Time	Meter Reading	Δ p	Δ h	Inlet	Outlet	Temperatures (°F)	Stack	Oven	Impinger	Vacuum
1	1	814.240	.03	1.21	88	85	92	92	250	55	1
1	2	811.415	.03	1.21	87	85	92	92	250	55	1
1	3	823.625	.04	1.61	86	85	92	91	250	55	1
1	4	825.685	.04	1.61	87	85	91	91	250	50	1
1	5	827.805	.04	1.61	87	85	91	91	250	40	1
1	6	830.015	.06	2.42	86	85	88	88	250	40	1
1	7	832.350	.06	2.02	87	85	88	88	250	40	1
1	8	834.890	.07	2.82	86	85	87	87	250	40	1
1	9	837.880	.07	2.82	85	85	80	80	250	40	1
1	10	840.530	.08	2.22	85	83	81	81	250	40	3
1	11	843.085	.07	2.82	86	83	81	81	250	40	3
1	12	845.650	.06	2.42	88	83	83	83	250	40	3
2	11	847.160	.05	2.02	88	83	84	84	250	40	3
1	14	850.285	.05	2.02	81	83	81	81	250	40	2
1	15	853.045	.06	2.42	84	84	82	82	250	40	2
1	16	855.870	.07	2.12	85	84	81	81	250	40	2
1	17	858.440	.08	3.22	85	83	78	78	250	40	2
1	18	861.215	.07	3.22	85	83	76	76	250	40	2
1	19	863.780	.06	2.42	85	83	75	75	250	40	2
1	20	865.840	.04	1.61	85	83	76	76	250	40	2
1	21	867.745	.03	1.21	85	83	76	76	250	40	2
1	22	869.790	.04	1.61	86	84	78	78	250	40	2
1	23	871.885	.04	1.61	85	83	77	77	250	40	2
1	24	873.967	.04	1.61	86	84	78	78	250	40	2

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 690

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.04	0.2000	1.61	82	81	88
1-2	0.04	0.2000	1.61	84	82	89
1-3	0.04	0.2000	1.61	84	83	89
1-4	0.05	0.2236	2.02	84	83	89
1-5	0.05	0.2236	2.02	86	84	90
1-6	0.05	0.2236	2.02	88	85	93
1-7	0.05	0.2236	2.02	89	85	96
1-8	0.07	0.2646	2.82	91	86	94
1-9	0.07	0.2646	2.82	92	87	91
1-10	0.08	0.2828	3.22	92	88	89
1-11	0.07	0.2646	2.82	92	88	87
1-12	0.05	0.2236	2.02	91	87	90
2-1	0.05	0.2236	2.02	92	88	93
2-2	0.04	0.2000	1.61	93	88	94
2-3	0.05	0.2236	2.02	94	89	95
2-4	0.05	0.2236	2.02	95	89	95
2-5	0.06	0.2449	2.42	95	89	95
2-6	0.06	0.2449	2.42	95	89	95
2-7	0.06	0.2449	2.42	96	91	96
2-8	0.08	0.2828	3.22	97	92	97
2-9	0.09	0.3000	3.63	98	92	97
2-10	0.06	0.2449	2.42	99	93	97
2-11	0.04	0.2000	1.61	99	93	97
2-12	0.04	0.2000	1.61	99	93	98
		0.2345	2.25	89.8		93.1

691 Silo Baghouse
Field Data Sheets

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 691

Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.06	0.2449	1.22	82	84	80
1-2	0.08	0.2828	1.62	82	83	82
1-3	0.09	0.3000	1.83	83	83	81
1-4	0.08	0.2828	1.62	83	83	80
1-5	0.10	0.3162	2.03	83	83	80
1-6	0.07	0.2646	1.42	83	83	79
1-7	0.07	0.2646	1.42	83	82	78
1-8	0.08	0.2828	1.62	83	82	76
1-9	0.06	0.2449	1.22	83	82	75
1-10	0.06	0.2449	1.22	83	81	74
1-11	0.07	0.2646	1.42	83	81	73
1-12	0.08	0.2828	1.62	83	81	74
2-1	0.05	0.2236	1.02	83	81	74
2-2	0.07	0.2646	1.42	84	81	76
2-3	0.08	0.2828	1.62	84	81	76
2-4	0.07	0.2646	1.42	85	81	77
2-5	0.09	0.3000	1.83	86	81	78
2-6	0.06	0.2449	1.22	87	82	88
2-7	0.07	0.2646	1.42	88	82	81
2-8	0.08	0.2828	1.62	88	82	84
2-9	0.05	0.2236	1.02	88	83	82
2-10	0.05	0.2236	1.02	89	83	82
2-11	0.06	0.2449	1.22	89	83	88
2-12	0.05	0.2236	1.02	90	84	90
		0.2633	1.42	83.5		79.5

Plant	Moisture	Initial	Final	Totals	Gas Analyses	Average
414 G _W 1C	Impinger #1	100	—	—	CO ₂ 0.0	0.0
	Impinger #2	100	—	—	O ₂ 21.0	21.0
	Impinger #3	0	4	4	CO	
Site 5.10 694	Impinger #4	876.0	880.0	4	N ₂	
Date 1/1	Totals	876	884	8		

Run #	Stack Diameter	Nozzle Calibrations	Barometric Pressure	Leak Check	Probe Washings
		Pre-test		Pre-test	Crucible #
1	12" = .785	.375	29.97	Volume @ Vac ^u	
		.375		Volume @ 15"	Final
		.375		Volume @	Initial
		.375		Volume @	Net
Time			Stack Pressure	Post-test	
11:15			29.97 - .13	Volume @ Vac ^u	
12:2			-29.96	Volume @ 7"	Filter Weights

Probe	Gp Value	Meter Readings				Filter #
		#1	#2	#3	#4	
258-42A	0.89	947.250	972.070			Final
		922.010	947.230			Initial
		25.240	24.820			Net
						Total
						50.060 cu.ft.

Port / Point	Time	Meter Reading	Δp	Δh	Inlet	Outlet	Temperatures (°F)	Slack	Oven	Impinger	Vacuum
1	1	923.61	.66	1.22	82	84		80	250	46	1
1	3	925.58	.68	1.62	82	83		82	250	46	1
1	5	927.75	.69	1.82	83	83		80	253	46	1
1	7	929.11	.68	1.62	83	83		80	255	47	1
1	9	932.01	.67	2.03	83	83		80	255	47	1
1	11	934.30	.67	1.42	83	83		79	256	47	1
1	13	936.61	.67	1.42	83	82		78	257	47	1
1	15	938.65	.68	1.62	83	82		76	257	47	1
1	17	940.51	.66	1.22	83	82		75	258	47	1
1	19	942.72	.66	1.22	83	81		74	251	47	1
1	21	944.99	.67	1.42	83	81		73	250	47	1
1	23	947.23	.68	1.62	83	81		74	251	47	1
1	25	949.37	.68	1.02	83	81		74	255	47	1
1	27	951.09	.67	1.42	84	81		76	250	47	1
1	29	952.84	.68	1.62	84	81		76	253	48	1
1	31	954.58	.67	1.42	84	81		77	258	48	1
1	33	956.72	.69	1.83	84	81		78	257	48	1
1	35	958.94	.66	1.22	84	82		88	254	48	1
1	37	961.13	.67	1.42	84	82		84	252	48	1
1	39	963.31	.68	1.62	84	82		81	253	48	1
1	41	965.47	.65	1.02	84	82		82	254	48	1
1	43	967.66	.65	1.02	84	83		82	250	48	1
1	45	969.80	.66	1.12	84	83		88	253	48	1
1	47	972.07	.65	1.02	84	84		90	251	48	1

Field Notes: Rained during test on/off

ENTECH Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 691

Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.06	0.2449	1.20	88	86	95
1-2	0.07	0.2646	1.40	89	86	100
1-3	0.06	0.2449	1.20	90	87	102
1-4	0.08	0.2828	1.60	92	88	101
1-5	0.09	0.3000	1.80	94	89	102
1-6	0.09	0.3000	1.80	95	90	103
1-7	0.07	0.2646	1.40	95	90	104
1-8	0.07	0.2646	1.40	96	90	105
1-9	0.08	0.2828	1.60	96	91	105
1-10	0.06	0.2449	1.20	96	92	105
1-11	0.07	0.2646	1.40	98	93	105
1-12	0.08	0.2828	1.60	99	94	106
2-1	0.07	0.2646	1.40	100	94	105
2-2	0.08	0.2828	1.60	101	95	106
2-3	0.07	0.2646	1.40	101	95	106
2-4	0.09	0.3000	1.80	101	96	106
2-5	0.06	0.2449	1.20	101	96	106
2-6	0.07	0.2646	1.40	99	95	105
2-7	0.06	0.2449	1.20	99	95	104
2-8	0.05	0.2236	1.00	99	95	105
2-9	0.07	0.2646	1.40	101	96	106
2-10	0.08	0.2828	1.60	102	97	107
2-11	0.09	0.3000	1.80	103	98	107
2-12	0.06	0.2449	1.20	103	98	107
		0.2677	1.44	95.1		104.3

Plant GA G₂ LC
Aborden, Ms.
 Site S-10 # 601
 Date 6/14/01

Moisture
 Impinger #1
 Impinger #2
 Impinger #3
 Impinger #4
 Totals

Initial
 100
 100
 0
 856.0
 856.0

Totals
 100
 100
 5
 5.2
 10.2

Gas Analyses
 CO₂
 O₂
 CO
 N₂

0.0
 21.0
 0.0
 21.0
 0.0
 21.0

Run
 # 2

Stack Diameter
12" = 785 sq in

Nozzle Calibrations
 Pre-Test
 Post-Test

Barometric Pressure
29.97

Leak Check
 Pre-test
 Volume @

0.003
 0.001

Time
17:55 PM

Meter #
E-13

Stack Pressure
1.13 = 24.98

Post-test
 Volume @

0.001

Probe
58-98A

Cp Value
0.84

Meter Readings
978.060
974.100
24.680

Filler Weights
 Filler #
 Final
 Initial
 Net

0.19

Time
17:15 PM

Probe
58-98A

Cp Value
0.84

Meter Readings
978.060
974.100
24.680

Post-test
 Volume @

0.001

Port / Point

Meter
 Reading

Δp

Δh

Temperatures (°F)

Outlet

1	1	3	975.99	.06	1.22	88	86	95	260	44	1
1	2	6	978.03	.07	1.42	89	86	100	252	44	1
1	3	7	979.81	.06	1.22	90	87	102	257	44	1
1	4	12	981.87	.08	1.62	92	88	101	251	44	1
1	5	15	984.06	.09	1.83	94	89	102	253	44	1
1	6	18	986.13	.09	1.83	95	90	103	254	44	1
1	7	21	988.65	.07	1.42	95	90	104	255	43	1
1	8	24	990.72	.07	1.42	96	90	105	251	45	1
1	9	27	992.85	.08	1.62	96	91	105	252	45	1
1	10	30	994.63	.06	1.22	96	91	105	251	45	1
1	11	33	996.62	.07	1.42	98	92	105	253	45	1
1	12	36	998.86	.08	1.62	99	93	106	254	45	1
2	1	39	000.63	.07	1.42	100	94	105	251	45	1
1	2	42	003.72	.08	1.62	101	95	106	252	45	1
1	3	45	005.03	.07	1.42	101	95	106	257	45	1
1	4	48	007.27	.09	1.83	101	96	106	253	45	1
1	5	51	009.28	.06	1.22	101	96	106	253	45	1
1	6	54	011.22	.07	1.42	99	95	105	256	45	1
1	7	57	013.14	.06	1.22	99	95	104	253	45	1
1	8	60	014.96	.05	1.02	99	95	105	257	45	1
1	9	63	016.73	.07	1.42	101	96	106	258	45	1
1	10	66	018.51	.08	1.62	102	97	107	256	45	1
1	11	69	020.27	.09	1.83	103	98	107	251	46	1
1	12	72		.06	1.22	103	98	107	254	46	1

Field Notes:

ENTEC Services, Inc.

25 Commerce Ave.-Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/14/2001

Source: Silo No. 691

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.08	0.2828	1.62	100	99	100
1-2	0.07	0.2646	1.42	98	97	100
1-3	0.09	0.3000	1.83	99	98	101
1-4	0.10	0.3162	2.03	100	99	101
1-5	0.08	0.2828	1.62	102	100	102
1-6	0.07	0.2646	1.42	104	102	103
1-7	0.05	0.2236	1.02	104	102	103
1-8	0.09	0.3000	1.83	105	103	103
1-9	0.07	0.2646	1.42	106	102	104
1-10	0.10	0.3162	2.03	107	103	105
1-11	0.09	0.3000	1.83	107	102	106
1-12	0.08	0.2828	1.62	106	102	107
2-1	0.07	0.2646	1.42	106	102	107
2-2	0.09	0.3000	1.83	106	103	106
2-3	0.07	0.2646	1.42	106	102	107
2-4	0.06	0.2449	1.22	108	103	108
2-5	0.05	0.2236	1.02	108	104	106
2-6	0.06	0.2449	1.22	109	104	108
2-7	0.06	0.2449	1.22	109	104	109
2-8	0.07	0.2646	1.42	110	104	108
2-9	0.09	0.3000	1.83	110	104	108
2-10	0.06	0.2449	1.22	111	104	108
2-11	0.05	0.2236	1.02	111	105	109
2-12	0.06	0.2449	1.22	111	106	109
		0.2693	1.49	104.1		105.3

AC-009 Lead System
Field Data Sheets

ENTECH Services, Inc.

25 Commerce Ave., Suite 104 Hueytown, Alabama 35023

Client: Georgia Gulf Date: 6/11/2001
Source: AC-009 Lead System Run No.: 1

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.06	0.2449	1.27	87	88	97
1-2	0.06	0.2449	1.27	88	88	98
1-3	0.06	0.2449	1.27	90	89	99
1-4	0.07	0.2646	1.48	91	90	99
1-5	0.09	0.3000	1.90	92	89	99
1-6	0.11	0.3317	2.32	92	89	100
2-1	0.05	0.2236	1.06	91	89	98
2-2	0.05	0.2236	1.06	91	89	98
2-3	0.06	0.2449	1.27	90	89	99
2-4	0.07	0.2646	1.48	90	88	98
2-5	0.07	0.2646	1.48	89	88	98
2-6	0.08	0.2828	1.69	89	88	97
		0.2613	1.46	89.3		98.3

ENTEC Services, Inc.

25 Commerce Ave., Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf Date: 6/11/2001
Source: AC-009 Lead System Run No.: 2

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.05	0.2236	1.06	88	87	96
1-2	0.06	0.2449	1.27	90	87	98
1-3	0.06	0.2449	1.27	90	88	98
1-4	0.09	0.3000	1.90	91	88	99
1-5	0.10	0.3162	2.11	92	88	101
1-6	0.10	0.3162	2.11	93	89	101
2-1	0.07	0.2646	1.48	93	89	101
2-2	0.06	0.2449	1.27	93	90	101
2-3	0.06	0.2449	1.27	93	88	99
2-4	0.06	0.2449	1.27	93	90	98
2-5	0.06	0.2449	1.27	93	90	98
2-6	0.06	0.2449	1.27	93	90	98
		0.2613	1.46	90.25		99.0

ENTEC Services, Inc.

25 Commerce Ave., Suite 104-Hueytown, Alabama 35023

Client: Georgia Gulf

Date: 6/11/2001

Source: AC-009 Lead System

Run No.: 3

PARTICULATE FIELD DATA, METHOD 5

Traverse Point	Delta P	Sq. Rt. Delta P	Delta H	Tm In (°F)	Tm Out (°F)	Ts (°F)
1-1	0.05	0.2236	1.06	87	87	96
1-2	0.05	0.2236	1.06	88	87	96
1-3	0.05	0.2236	1.06	89	87	97
1-4	0.05	0.2236	1.06	91	88	98
1-5	0.07	0.2646	1.48	92	88	98
1-6	0.07	0.2646	1.48	93	89	98
2-1	0.05	0.2236	1.06	93	89	97
2-2	0.05	0.2236	1.06	93	89	98
2-3	0.06	0.2449	1.27	92	89	98
2-4	0.07	0.2646	1.48	92	89	97
2-5	0.07	0.2646	1.48	92	89	97
2-6	0.11	0.3317	2.32	93	89	98
					91.25	97.3
		0.2480	1.32			

Appendix C

Laboratory Analysis

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 681 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	050	317	318
Initial Weight, grams - Date/Time 6/04/01	3.6549	3.6197	3.6165
Final Weight, grams - Date/Time 6/20/01	3.6554	3.6205	3.6172
Total Weight of Particulate on Filter, grams	0.0006	0.0008	0.0007
Acetone Wash			
Wash Bottle ID #	F19	F2	F9
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	73.6330	74.5793	74.0263
Final Weight, grams - Date/Time 6/20/01	73.6355	74.5893	74.0303
Total Weight of Acetone Wash, grams	0.0025	0.0100	0.0040
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0031	0.0108	0.0047

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 682 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	038	040	042
Initial Weight, grams - Date/Time 6/04/01	3.6502	3.6007	3.6547
Final Weight, grams - Date/Time 6/20/01	3.6506	3.6011	3.6549
Total Weight of Particulate on Filter, grams	0.0004	0.0004	0.0002
Acetone Wash			
Wash Bottle ID #	F11	F14	F17
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	73.0404	76.0543	74.5421
Final Weight, grams - Date/Time 6/20/01	73.0457	76.0603	74.5506
Total Weight of Acetone Wash, grams	0.0053	0.0060	0.0085
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0057	0.0064	0.0087

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 683 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	044	046	049
Initial Weight, grams - Date/Time 6/04/01	3.8057	3.6789	3.6682
Final Weight, grams - Date/Time 6/20/01	3.8059	3.6792	3.6686
Total Weight of Particulate on Filter, grams	0.0002	0.0003	0.0004
Acetone Wash			
Wash Bottle ID #	F3	F4	F5
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	73.4347	74.2071	71.5950
Final Weight, grams - Date/Time 6/20/01	73.4408	74.2102	71.5993
Total Weight of Acetone Wash, grams	0.0061	0.0031	0.0043
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0063	0.0034	0.0047

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 684 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	032	033	036
Initial Weight, grams - Date/Time 6/04/01	3.6126	3.7178	3.5772
Final Weight, grams - Date/Time 6/20/01	3.6129	3.7195	3.5779
Total Weight of Particulate on Filter, grams	0.0003	0.0017	0.0007
Acetone Wash			
Wash Bottle ID #	F6	F7	F8
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	72.7601	72.7832	72.0445
Final Weight, grams - Date/Time 6/20/01	72.7684	72.7869	72.0507
Total Weight of Acetone Wash, grams	0.0083	0.0037	0.0062
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0086	0.0054	0.0069

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 685 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	035	034	045
Initial Weight, grams - Date/Time 6/04/01	3.7827	3.6069	3.7537
Final Weight, grams - Date/Time 6/20/01	3.7832	3.6075	3.7540
Total Weight of Particulate on Filter, grams	0.0005	0.0006	0.0003
Acetone Wash			
Wash Bottle ID #	F10	F12	F13
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	72.6826	73.6277	71.8940
Final Weight, grams - Date/Time 6/20/01	72.6995	73.6372	71.9137
Total Weight of Acetone Wash, grams	0.0169	0.0095	0.0197
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0174	0.0101	0.0200

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 686 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	037	039	041
Initial Weight, grams - Date/Time 6/04/01	3.6391	3.6287	3.6030
Final Weight, grams - Date/Time 6/20/01	3.6401	3.6294	3.6038
Total Weight of Particulate on Filter, grams	0.0010	0.0007	0.0008
Acetone Wash			
Wash Bottle ID #	F15	F18	F20
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	73.3130	74.1307	71.2340
Final Weight, grams - Date/Time 6/20/01	73.3205	74.1494	71.2490
Total Weight of Acetone Wash, grams	0.0075	0.0187	0.0150
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0085	0.0194	0.0158

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 689 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	047	048	051
Initial Weight, grams - Date/Time 6/04/01	3.5910	3.6609	3.6691
Final Weight, grams - Date/Time 6/20/01	3.5918	3.6619	3.6697
Total Weight of Particulate on Filter, grams	0.0008	0.0010	0.0006
Acetone Wash			
Wash Bottle ID #	F1	F2	F3
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	75.5672	74.5780	73.4340
Final Weight, grams - Date/Time 6/20/01	75.5864	74.6105	73.4423
Total Weight of Acetone Wash, grams	0.0192	0.0325	0.0083
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0200	0.0335	0.0089

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 690 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

	Filters		
Run Identification	1	2	3
Filter ID #	319	322	020
Initial Weight, grams - Date/Time 6/04/01	3.6262	3.7294	3.8077
Final Weight, grams - Date/Time 6/20/01	3.6268	3.7299	3.8082
Total Weight of Particulate on Filter, grams	0.0006	0.0005	0.0005
	Acetone Wash		
Wash Bottle ID #	F4	F5	F6
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	74.2068	71.5951	72.7601
Final Weight, grams - Date/Time 6/20/01	74.2191	71.6041	72.7661
Total Weight of Acetone Wash, grams	0.0123	0.0090	0.0060
	Acetone Blank		
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
	Total Weight of Particulate		
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0129	0.0095	0.0065

Laboratory Data

Particulate Matter Gravimetric Analysis

Client: Georgia Gulf – Silo Baghouse No. 691 Job No.: 20126

City/State Aberdeen, Mississippi Analyst: Lynn Beane

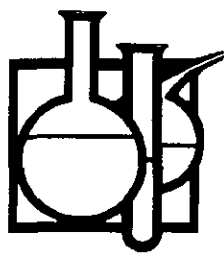
Barometric Pressure, in hg 29.92 Lab Amb. Temp, F 74 Rel Humidity in Lab, % 33

Analytical Balance ID OHAUS Date June 20, 2001

Filters			
Run Identification	1	2	3
Filter ID #	325	019	020
Initial Weight, grams - Date/Time 6/04/01	3.7806	3.7970	3.7990
Final Weight, grams - Date/Time 6/20/01	3.7816	3.7981	3.7993
Total Weight of Particulate on Filter, grams	0.0010	0.0011	0.0003
Acetone Wash			
Wash Bottle ID #	F7	F8	F9
Volume of Acetone Used, ml	100	100	100
Initial Weight, grams - Date/Time 6/04/01	72.7830	72.0434	74.0240
Final Weight, grams - Date/Time 6/20/01	72.7871	72.0486	74.0304
Total Weight of Acetone Wash, grams	0.0041	0.0052	0.0064
Acetone Blank			
Wash Bottle ID #	F-1	F-1	F-1
Initial Weight, grams - Date/Time 6/04/01	75.5662	75.5662	75.5662
Final Weight, grams - Date/Time 6/20/01	75.5662	75.5662	75.5662
Total Weight of Acetone blank, grams	0.0000	0.0000	0.0000
Total Weight of Particulate			
Total Weight of Residue in Acetone Wash, grams (ml used) * (acetone blank, g/ml)	0.0000	0.0000	0.0000
Total Weight of Particulate Matter Collected grams	0.0051	0.0063	0.0067

Appendix D

Lead Laboratory Certificates



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 002
Sampler :
Sample ID : .1N HNO3 Blank, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

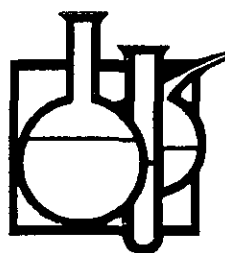
PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	0.65	Total ug	RPB 6/22/01	9:00	7421 (3)

HNO₃ Blank

Approved by: Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

RECEIVED JUN 27 2001

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 001
Sampler :
Sample ID : D.I. Water Blank, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

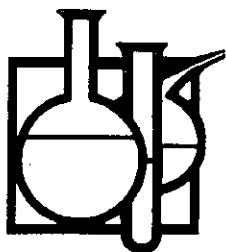
PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	0.36	Total ug	RPB 6/22/01	9:00	7421 (3)

H₂O Blank

Approved by:

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 009
Sampler :
Sample ID : Run 1 Filter 217, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	0.89	Total ug	RPB 6/22/01	9:00	7421 (3)

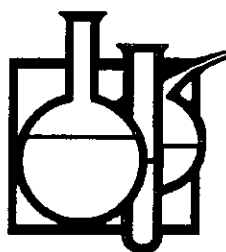
Run 1 - FILTER

Approved by:

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 006
Sampler :
Sample ID : Run 1 IMP Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	1.74	Total ug	RPB 6/22/01	9:00	7421 (3)

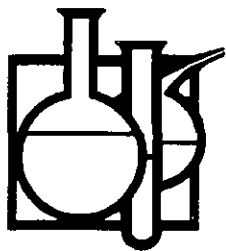
Run 1 - IMP WASH

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 003
Sampler :
Sample ID : Run 1 Probe Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	55.4	Total ug	RPB 6/22/01	9:00	7421 (3)

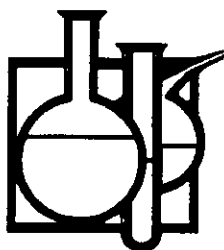
Run 1 - PROBE WASH

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 010
Sampler :
Sample ID : Run 2 Filter 218, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	<0.15	Total ug	RPB 6/22/01	9:00	7421 (3)

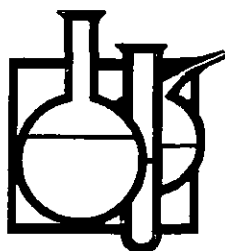
Run 2 - Filter

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 007
Sampler :
Sample ID : Run 2 IMP Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	4.67	Total ug	RPB 6/22/01	9:00	7421 (3)

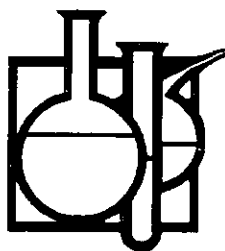
Run 2 - IMP. WASH

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 004
Sampler :
Sample ID : Run 2 Probe Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	36.7	Total ug	RPB 6/22/01	9:00	7421 (3)

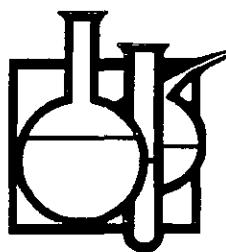
Run 2 - Probe Wash

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



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305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 011
Sampler :
Sample ID : Run 3 Filter 219, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	0.53	Total ug	RPB 6/22/01	9:00	7421 (3)

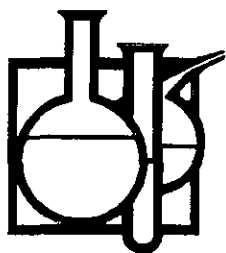
Run 3 - Filter

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 008
Sampler :
Sample ID : Run 3 IMP Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	2.48	Total ug	RPB 6/22/01	9:00	7421 (3)

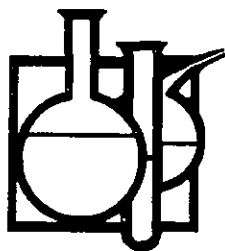
Run 3 - IMP. WASH

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995



GUARDIAN SYSTEMS, INC.

305 Ashville Road
P.O. Box 190
Leeds, Alabama 35094

Telephone 205/699-6647
Wats 800/738-5719
Fax 205/699-3882

Page: 1

Entec Services, Inc.
25 Commerce Avenue
Suite 104
Hueytown, AL 35023
Attention: Mr. Mike Caudle

Report Date: 6/25/01
Receive Date: 6/18/01
Receive Time: 14:46

Control No : 0106-00336 Sample # 005
Sampler :
Sample ID : Run 3 Probe Wash, Georgia Gulf

Sample Date: 6/11/01
Sample Time: 14:00

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD
Lead	37.6	Total ug	RPB 6/22/01	9:00	7421 (3)

Run 3 - Probe Wash

Approved by: _____

Charles M. Johnson

— METHOD REFERENCES —

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983, August 1993, May 1994
- (2) Standard Methods for the Examination of Water and Waste Water, 18th. Edition, 1992
- (3) Test Methods for Evaluating Solid Wastes Physical Chemical Method SW-846, 3rd Edition, Update IV December 1996
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A, Revised July 1995
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, Revised July 1991, August 1995

ENTEC Services Inc.

Chain of Custody
Sample Analysis Request

Page ____ of ____

Requested Completion Date _____

Results To: Entec Services, Inc Ext. _____(Explain) Guardian Systems25 Commerce Ave Suite 104305 Ashville RdHueytown, AL 35023Leeds, AL 35094

Dept. No. _____

Site Representative Tim Draheim Requested By Tim DraheimCollector(s) Tim Draheim Date Sampled 6-11-01 Time 2:00 AM ☒ PMLocation of Sampling (Name of Facility, etc.) Georgia GulfAnalyses Requested Method 12 was used. Lead testATTN: Jerry HorncastleSpecial Handling and/or Storage Please return cooler and Ice packsRelinquished By Tim Draheim Date/Time 6-18-01 Received By [Signature] Date/Time 6-18-01

Sample No.	Field Information (Sample Description, Date, Etc.)	Lab ID
1	Distilled Water Blank 100ml	
2	.1N HNO ₃ Blank 200 ml	
3	Probe Wash Run 1 100 mL	
4	Probe Wash Run 2 100 mL	
5	Probe Wash Run 3 100 mL	
6	Imp Wash Run 1 405 mL	
7	Imp Wash Run 2 319 mL	
8	Imp Wash Run 3 314 mL	
9	3" Glass Fiber filter Run 1 #217	
10	3" Glass Fiber filter Run 2 #218	
11	3" Glass Fiber filter Run 3 #219	

NOTE: See instructions on reverse side.

Shaded areas used when chain of custody is required.

Appendix E

Equipment Calibration

ENTECH Services, Inc.
EPA Method 5
Meter Box Calibration
Pre-Test Calibration Orifice Method

Model #: Flutech 2010 Date: 04-20-01
Serial #: E12 Barometric Pressure: 30.15
Theoretical Critical Vacuum: 14.22

-CRITICAL ORIFICE READINGS-									
DRY GAS METER READINGS									
dl H ₂ O	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Temps. Outlet (deg F)	Final Temps. Inlet (deg F)	Final Temps. Outlet (deg F)	Ambient Temperature Initial (deg F)
4.00	7.00	126.346	133.757	7.411	84.0	81.0	85.0	81.0	75.0
2.00	10.00	151.500	159.154	7.654	77.0	74.0	78.0	75.0	75.0
1.20	10.00	120.300	126.346	6.046	82.0	80.0	85.0	82.0	75.0
0.68	15.00	113.439	120.300	6.861	80.0	78.0	84.0	80.0	75.0
0.31	20.00	107.135	113.439	6.304	78.0	76.0	82.0	78.0	75.0

***** RESULTS *****

DRY GAS METER									
ORIFICE					ORIFICE				
DRY GAS METER					DRY GAS METER				
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED
V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)	V _{in} (std)
7.333	207.7	7.455	211.1	7.499	1.017	0.009	1.951	49.56	0.089
7.632	216.1	7.691	217.8	7.736	1.008	0.000	1.893	48.09	0.031
5.917	168.4	5.983	169.4	6.019	1.006	-0.002	1.854	47.10	-0.007
6.762	191.5	6.785	192.1	6.825	1.003	-0.004	1.846	46.88	-0.016
6.231	176.5	6.257	177.2	6.294	1.004	-0.003	1.765	44.84	-0.097
Average Y					Average Y				
1.008					1.862				
47.29					average dl H ₂ O				

ENTEC Services, Inc.
EPA Method 5
Meter Box Calibration
Pre-Test Calibration Orifice Method

Model #: Mulech 2010
Serial #: E13

Date: 03-30-01
Barometric Pressure: 29.65
Theoretical Critical Vacuum: 14.08

CRITICAL ORIFICE READINGS:									
DRY GAS METER READINGS					ORIFICE				
dl (in H ₂ O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Outlet (deg F)	Final Temps. Inlet (deg F)	Outlet (deg F)	Average (deg F)
3.80	7.00	420.945	428.339	7.394	72.0	70.0	74.0	70.0	73.0
2.00	10.00	428.339	436.010	7.671	76.0	71.0	77.0	71.0	74.0
1.10	10.00	436.010	442.005	5.995	77.0	72.0	77.0	72.0	74.0
0.65	15.00	442.005	455.154	6.858	78.0	75.0	78.0	76.0	74.0
0.29	20.00	448.296	448.296	6.271	77.0	73.0	78.0	75.0	74.0

***** RESULTS *****

DRY GAS METER					ORIFICE				
VOLUME CORRECTED					CALIBRATION FACTOR				
Vm (slu) (cu ft)	Vm (slu) (liters)	Vm (slu) (cu ft)	Vm (slu) (liters)	Vm (slu) (cu ft)	Value (in H ₂ O)	Value (mm H ₂ O)	Variation (in H ₂ O)	Variation (mm H ₂ O)	Average dl @
7.394	209.4	7.394	209.4	7.394	1.904	48.36	0.097	0.097	
7.608	215.5	7.621	215.8	7.729	1.921	48.00	0.115	0.115	
5.922	167.7	5.929	167.9	6.013	1.743	44.27	-0.064	-0.064	
6.738	180.8	6.723	180.4	6.819	1.790	45.47	-0.016	-0.016	
6.168	174.7	6.200	175.6	6.288	1.674	42.53	-0.132	-0.132	
Average Y					1.806	45.88			average dl @

Entec Services, Inc.
EPA Method 5
Post-Test Meter Box Calibration
Orifice Method

Project: Ga. Gulf
 Source: Silos Plant Wide

Date: 06/19/01
 Barometric Pressure: 30.01 (in. Hg)
 Theoretical Critical Vacuum: 14.16 (in. Hg)

Model #: Nutech Model 2010
 Meter Box ID #: E-12

----- DRY GAS METER READINGS ----- -CRITICAL ORIFICE READINGS-

dH (in H2O)	Time (min)	Volume		Initial Temps.		Final Temps.		Orifice Serial#	K' Orifice Coefficient (see above)	Actual		-- Ambient Temperature --	
		Initial (cu ft)	Final (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)			Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.32	20.00	980.800	987.200	81.0	80.0	82.0	81.0	40	0.240	21.0	79.0	80.0	79.5
0.32	20.00	987.200	993.670	82.0	81.0	82.0	81.0	40	0.240	21.0	80.0	80.0	80.0
0.32	20.00	993.670	999.948	82.0	81.0	83.0	82.0	40	0.240	21.0	80.0	80.0	80.0

***** RESULTS *****

--- DRY GAS METER ---				----- ORIFICE -----				-- DRY GAS METER --				----- ORIFICE -----			
VOLUME CORRECTED		VOLUME CORRECTED		VOLUME CORRECTED		VOLUME CORRECTED		CALIBRATION FACTOR Y		CALIBRATION FACTOR dH@		CALIBRATION FACTOR dH@		CALIBRATION FACTOR dH@	
Vm(std)	Vm(std)	Vcr(std)	Vcr(std)	Vcr(std)	Vcr(std)	Vcr(std)	Vcr(std)	Value	Variation	Value	Variation	Value	Variation	Value	Variation
(cu ft)	(liters)	(cu ft)	(liters)	(cu ft)	(liters)	(cu ft)	(liters)	(number)	(number)	(in H2O)	(in H2O)	m H2O	(in H2O)	m H2O	(in H2O)
6.267	177.5	6.202	177.5	6.320	177.5	6.320	177.5	0.990	-0.003	1.834	-0.001	46.59	0.001	46.59	0.001
6.330	177.5	6.199	177.5	6.323	177.5	6.323	177.5	0.979	-0.014	1.834	0.001	46.59	0.001	46.59	0.001
6.137	177.5	6.199	177.5	6.323	177.5	6.323	177.5	1.010	0.017	1.833	-0.001	46.59	-0.001	46.59	-0.001
Average Y ----->								0.993		1.834		46.59		<----- Average dH@	

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg; acceptable tolerance of individual values from the average is +0.2.

Entec Services, Inc.
EPA Method 5
Post-Test Meter Box Calibration
Orifice Method

Project: Georgia Gulf
Source: Silo Testing Plant wide

Date: 06/18/01
Barometric Pressure: 30.04 (in. Hg)
Theoretical Critical Vacuum: 14.17 (in. Hg)

Model #: Nutech Model 2010

Meter Box ID #: E-13

----- DRY GAS METER READINGS ----- -CRITICAL ORIFICE READINGS-

dH (in H ₂ O)	Time (min)	Volume		Initial Temps.		Final Temps.		Orifice Serial#	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	-- Ambient Temperature	
		Initial (cu ft)	Final (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)				Initial (deg F)	Final (deg F)
0.29	20.00	98.100	104.500	94.0	88.0	88.0	85.0	40	0.240	21.0	82.0	84.0
0.29	20.00	104.500	110.900	88.0	86.0	88.0	86.0	40	0.240	21.0	84.0	84.0
0.29	20.00	110.900	117.450	88.0	86.0	89.0	87.0	40	0.240	21.0	84.0	85.0
												84.5

***** RESULTS *****

--- DRY GAS METER ---				----- ORIFICE -----				-- DRY GAS METER --				----- ORIFICE -----			
VOLUME		VOLUME		VOLUME		VOLUME		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR	
RECTE		CORRECTED		CORRECTED		NOMINAL		Y		Y		dh@		dh@	
Vm(std)	Vm(std)	Vm(std)	Vcr(std)	Vcr(std)	Vcr(std)	Vcr	Vcr	Value	Variation	Value	Variation	Value	Variation	Value	Variation
(cu ft)	(liters)	(cu ft)	(liters)	(cu ft)	(liters)	(cu ft)	(cu ft)	(number)	(number)	(in H ₂ O)	(in H ₂ O)	mm H ₂ O	(in H ₂ O)	(in H ₂ O)	(in H ₂ O)
6.185	175.1	6.188	175.1	6.341	175.1	6.341	1.001	1.653	0.010	1.653	0.003	41.99	-0.003	41.99	-0.003
6.204	175.1	6.182	175.1	6.347	175.1	6.347	0.996	1.658	0.006	1.658	0.002	41.99	0.002	41.99	0.002
6.344	175.1	6.179	175.1	6.350	175.1	6.350	0.974	1.658	-0.016	1.658	0.002	41.99	0.002	41.99	0.002
				Average Y ----->				0.990				1.656			
												41.99			
												<----- Average dh@			

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +0.02.

For Orifice Calibration Factor dh@, the orifice differential pressure in inches of H₂O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +0.2.

Pitot Tube Calibration

Project: Georgia Gulf

Date: 05/11/01

Pitot Tube ID: ESP-38A

Calibrated By: TD

"A" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (A)
1	0.94	1.30	0.842	0.001
2	0.93	1.30	0.837	0.003
3	0.94	1.30	0.842	0.001
		Cp (Side A)	0.840	

"B" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (B)
1	0.94	1.30	0.842	0.000
2	0.94	1.30	0.842	0.000
3	0.94	1.30	0.842	0.000
		Cp (Side B)	0.842	

Pitot Tube Calibration

Project: Georgia Gulf

Date: 05/11/01

Pitot Tube ID: ESP-42A

Calibrated By: TD

"A" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (A)
1	0.80	1.10	0.844	0.000
2	0.80	1.10	0.844	0.000
3	0.80	1.10	0.844	0.000
		Cp (Side A)	0.844	

"B" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (B)
1	0.80	1.10	0.844	0.002
2	0.79	1.10	0.839	0.004
3	0.80	1.10	0.844	0.002
		Cp (Side B)	0.843	

Pitot Tube Calibration

Project: Georgia Gulf

Date: 05/10/01

Pitot Tube ID: ESP-62A

Calibrated By: TD

"A" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (A)
1	0.80	1.10	0.844	0.000
2	0.80	1.10	0.844	0.000
3	0.80	1.10	0.844	0.000
		Cp (Side A)	0.844	

"B" Side Calibration

Run No.	delta P _{std} in. H ₂ O	delta P _(s) in. H ₂ O	Cp _(s)	Deviation Cp _(s) - Cp (B)
1	0.80	1.10	0.844	0.000
2	0.80	1.10	0.844	0.000
3	0.80	1.10	0.844	0.000
		Cp (Side B)	0.844	

THERMOCOUPLE CALIBRATION

Client: Georgia Gulf

Date:

06/08/01

Source: ACC-009 Lead System

Tech:

Tim Draheim

Thermocouple Identification		Reference Thermometer Temperature	Thermocouple Potentiometer Temperature	% Temperature Difference
Meter Box In (Console E-12)	Cold	47	46	0.20
	Ambient	70	72	-0.38
	Hot	248	250	-0.28
Meter Box Out (Console E-12)	Cold	52	50	0.39
	Ambient	69	69	0.00
	Hot	253	254	-0.14
Heater Box (HB-01)	Cold	51	50	0.20
	Ambient	71	72	-0.19
	Hot	254	252	0.28
Stack Gas Probe ESP-62A	Cold	49	49	0.00
	Ambient	73	74	-0.19
	Hot	264	264	0.00
Impinger Exit (CB-01)	Cold	46	47	-0.20
	Ambient	75	75	0.00
	Hot	235	234	0.14

$$\% \text{ Difference} = \frac{[(\text{Ref. Thermometer} + 460) - (\text{Thermocouple} + 460)]}{(\text{Ref. Thermometer} + 460)} \times 100 < 1.5\%$$

THERMOCOUPLE CALIBRATION

Client: Georgia Gulf

Date: 06/08/01

Source: Silos No. 691,681,683,684,682

Tech: Tim Draheim

Thermocouple Identification		Reference Thermometer Temperature	Thermocouple Potentiometer Temperature	% Temperature Difference
Meter Box In (Console E-13)	Cold	49	49	0.00
	Ambient	70	71	-0.19
	Hot	251	250	0.14
Meter Box Out (Console E-13)	Cold	51	50	0.20
	Ambient	68	69	-0.19
	Hot	255	254	0.14
Heater Box (HB-05)	Cold	49	50	-0.20
	Ambient	72	72	0.00
	Hot	253	252	0.14
Stack Gas Probe ESP-42A	Cold	49	49	0.00
	Ambient	73	74	-0.19
	Hot	264	262	0.28
Impinger Exit CB-5	Cold	49	47	0.39
	Ambient	72	74	-0.38
	Hot	234	231	0.43

$$\% \text{ Difference} = \frac{[(\text{Ref. Thermometer} + 460) - (\text{Thermocouple} + 460)]}{(\text{Ref. Thermometer} + 460)} \times 100 < 1.5\%$$

THERMOCOUPLE CALIBRATION

Client: Georgia Gulf

Date: 06/08/01

Source: Silos No. 690,685,686,689

Tech: Tim Draheim

Thermocouple Identification		Reference Thermometer Temperature	Thermocouple Potentiometer Temperature	% Temperature Difference
Meter Box In (Console E-12)	Cold	48	48	0.00
	Ambient	71	70	0.19
	Hot	251	250	0.14
Meter Box Out (Console E-12)	Cold	50	50	0.00
	Ambient	69	68	0.19
	Hot	254	254	0.00
Heater Box (HB-01)	Cold	50	50	0.00
	Ambient	72	72	0.00
	Hot	252	251	0.14
Stack Gas Probe ESP-38	Cold	49	49	0.00
	Ambient	73	74	-0.19
	Hot	258	257	0.14
Impinger Exit (CB-01)	Cold	48	48	0.00
	Ambient	76	75	0.19
	Hot	233	230	0.43

$$\% \text{ Difference} = \frac{((\text{Ref. Thermometer} + 460) - (\text{Thermocouple} + 460))}{(\text{Ref. Thermometer} + 460)} \times 100 < 1.5\%$$

Appendix F

Test Calculations

TEST CALCULATIONS

I. Determination of Moisture in Stack Gases

- a. Volume of Water Vapor Collected (Cubic Feet):

$$V_{wstd} = 0.04707 * (V_{lc})$$
- b. Dry Gas Volume Through Meter (Cubic Feet):

$$V_{mstd} = 17.64 * V_m * Y * \{ (P_{bar} + (H/13.6)) / T_m \}$$
- c. Moisture Content (Percent):

$$B_{ws} = V_{wstd} / \{ V_{wstd} + V_{mstd} \} * 100$$
- d. Wet Molecular Weight : (Ms)

$$M_s = \{ M_d * (1 - B_{ws}) \} + \{ 18.0 * B_{ws} \}$$

II. Actual Stack Gas Volume Sampled (Cubic Feet):

$$V_{ma} = \{ V_{mstd} * T_s * P_{std} \} / \{ (1 - B_{ws}) * T_{std} * P_s \}$$

III. Determination of Stack Gas Velocity & Volumetric Flow Rate

- a. Stack Gas Velocity (Feet per Second):

$$V_s = K_p * C_p * (S_{qR} P) * \{ S_{qR} (T_s / (P_s * M_s)) \}$$
- b. Stack Volumetric Flow Rate (Cubic Feet per Minute):
 1. Dry Standard Conditions (Qs)

$$Q_s = 60 * (1 - B_{ws}) * V_s * A_s * (T_{std}/T_s) * (P_s/P_{std})$$
 2. Actual Conditions (Qa)

$$Q_a = V_s * A_s * 60$$

IV. Determination of Particulate Concentration (Grainloading)

- a. Dry Standard Conditions: (cs)

$$c_s = 0.01543 * (M_n / V_{mstd})$$
- b. Actual Conditions: (csl)

$$c_{sl} = 0.01543 * (M_n / V_{ma})$$

V. Emission Rate (Pounds per Hour)

$$E = 60 * Q_s * c_s / 7000$$

VI. Determination of Acceptability of Sampling Results: (I)

$$I = (0.0945 * T_s * V_{mstd}) / \{ O * V_s * P_s * A_n * (1 - B_{ws}) \}$$

NOMENCLATURE

As	Cross-sectional area of stack, square feet
An	Cross-sectional area of nozzle, square feet
ACF	Actual cubic feet of gas at stack conditions
ACFM	Actual cubic feet of gas per minute at stack conditions
Bws	Proportion by volume of water vapor in gas stream
cs	Particulate concentration in stack gas, gr/dscf
csl	Particulate concentration in stack gas, gr/ACF
Ca	Acetone blank residue concentration, mg/g
Cp	Pitot tube coefficient
delta H	Pressure drop across orifice meter, inches water
dp	Nozzle diameter, inches
delta P	Velocity head of stack gas, inches water
dscf	Cubic feet of dry gas corrected to standard conditions
E	Particulate emission rate, pounds/hour
E/Btu	Particulate Emission Rate, pounds/mmBtu
F	F-factor, 9640 dscf/MMBTU's of heat input
Kp	Constant (85.49)
Ma	Mass of residue of acetone after evaporation, mg
Maw	Mass of residue of acetone blank, mg
Mf	Particulate matter collected on filter, mg
Mn	Total particulate matter collected, mg
I	Percent of isokinetic sampling
Pa	Density of acetone, mg/ml
Pbar	Barometric pressure, inches mercury
Pm	Barometric pressure of dry gas meter, in. mercury
Ps	Absolute stack gas pressure, inches mercury
Pstd	Barometric pressure, standard conditions, 29.92 "Hg
Qa	Volumetric flow rate, actual conditions, ACF/min
Qs	Volumetric flow rate, dry standard conditions, dscf/min
Tm	Absolute average dry gas meter temperature, degree R
Ts	Absolute average stack gas temperature, degree R
Tstd	Absolute temperature at standard conditions, 528 R
O	Total sampling time, minutes
Va	Volume of acetone blank, ml
Vaw	Volume of acetone used in wash, ml
Vf	Final volume of impinger contents, ml
Vi	Initial volume of impinger contents, ml
Vlc	Total volume collected in impingers and silica gel, ml
Vm	Volume of gas sampled through gas meter, cubic feet
Vma	Stack gas volume sampled, ACF
Vmstd	Volume of gas sampled through gas meter, cubic feet
Vs	Average stack gas velocity, feet/sec
Vwstd	Volume of water vapor in gas sampled, standard cubic feet
Wa	Weight of residue in acetone wash, mg
Wf	Final weight of filter or probe wash beaker, g
Wi	Initial weight of filter or probe wash beaker, g
Y	Dry gas meter calibration factor