Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

#49

AIR EMISSIONS COMPLIANCE TEST REPORT

FOR

LOUISIANA PACIFIC
DUNGANNON, VIRGINIA

TEST DATES: SEPTEMBER 10 - 11, 1996
REPORT DATE: OCTOBER 11, 1996

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Specializing In
Toxic Emission Measurement and Control

96-815-T

ETS CONTRACT NO. 96-815-T

Dave

REPORT CERTIFICATION

The sampling and analysis performed for this report was carried out under my direction and supervision.

DATE: 10-11-96

SIGNATURE: K. B. Baird

Kevin Baird
Project Manager
ETS, Inc.

The sampling and analysis performed for this report were carried out under my direction and supervision.

DATE: 10/11/96

SIGNATURE: A. A. Hetz

Andrew A. Hetz
Manager - Field Services
ETS, Inc.

I have reviewed all testing details and results in this report and hereby certify that the test report is authentic and accurate.

DATE: 10/11/96

SIGNATURE: Joseph F. Szalay

Joseph F. Szalay

P.E.: E-015225

STATE OF: Ohio

STATE OF OHIO
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Table 1 - Summary of Test Program - Louisiana Pacific

TEST LOCATION	TEST METHOD	ANALYTE	NO. OF VALID RUNS	UNITS	EMISSIONS LIMIT
RTO Stack	EPA Method 5/202	TSP PM_{10}	3	lb/hr lb/hr	16.5 16.5
	BIF Method 0011	Formaldehyde -	3 -	lb/hr	1.26
	EPA Draft Method	Methylene Bisphenyl Isocyanate (MDI)	3	lb/hr	0.10
	EPA Method 7E	NO_x	3	lb/hr	24.3
	EPA Method 10	CO	3	lb/hr	31.9
	EPA Method 25A/18	VOC[1]/ Methane	3	lb/hr	9.4
	EPA Method 9	Visible Emissions	3	%	10
Press Exhaust	EPA Method 25A	VOC[1]	3	lb/hr	N/A
Dryer Exhaust	EPA Method 25A	VOC[1]	3	lb/hr	N/A
Konus Stack	EPA Method 5/202	TSP PM_{10}	3	lb/hr lb/hr	6.1 4.3
	BIF Method 0011	Formaldehyde	3	lb/hr	.0366
	EPA Method 7E	NO_x	3	lb/hr	15.7
	EPA Method 6C	SO_2	3	lb/hr	15.5
	EPA Method 10	CO	3	lb/hr	21.6
	EPA Method 25A	VOC	3	lb/hr	1.4
	EPA Method 9	Visible Emissions	3	%	20

[1]Simultaneous testing will be performed at these locations to demonstrate DRE.

1.0 INTRODUCTION

1.1 Background: An air emissions compliance test program was conducted on the Regenerative Thermal Oxidizer (RTO), the Press Outlet, the Dryer Exhaust, and the Konus stack processes at Louisiana Pacific located in Dungannon, Virginia. The test program was conducted from September 10 through 11, 1996 by ETS, Incorporated (ETS) of Roanoke, Virginia. ETS personnel participating in the test program were Kevin Baird, Troy Pryor, Dave Vecellio, Colgate Selden, Sean Warden, James McKenna, Adam Sitterding, Jody Ray, and Patrick McGuire. Project coordination was provided by Mickey Mullins of Louisiana Pacific. The test program was witnessed by a representative of the Virginia Department of Environmental Quality (VDEQ).

1.2 Objective: The purpose of the test program was to determine the compliance of total suspended particulate (TSP), particulate matter less than 10 microns in diameter (PM_{10}), formaldehyde, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen oxides (NO_x), methylene bisphenyl isocyanate (MDI), total hydrocarbons (VOCs), methane, and visible emissions with limits contained in the facility's VDEQ permit. In addition, VOC reduction efficiency was determined.

1.3 Test Program: Table 1 shows the emission limit for each process and pollutant in the testing program.

Gas temperature, moisture content, molecular weight, gas velocity, and volumetric flow rate were measured concurrently with each test. The testing was conducted in accordance with the procedures of Appendix A of the Code of Federal Regulations, Title 40, Part 60 (40 CFR 60). Appendix A contains a test log which provides the exact dates and times for each of the tests.

2.0 SUMMARY OF RESULTS

Table 2 presents a summary of the average emissions for all locations tested. Tables 3 and 4 summarize the results of the total particulate testing conducted at the RTO stack and the Konus stack, respectively. The results of the MDI testing performed at the RTO stack are presented in Table 5. Tables 6 and 7 summarize the results of the visible emissions testing conducted at the RTO stack and the Konus stack, respectively. The results of the formaldehyde, NO_x, CO, and VOC testing performed at the RTO stack are presented in Table 8. The results of the formaldehyde, SO_2, NO_x, CO, and VOC testing performed at the Konus stack are presented in Table 9. Tables 10 and 11 summarize the results of the VOC testing conducted at the Press Outlet and the Dryer Outlet, respectively. Table 12 presents a summary of the VOC reduction efficiency calculated for the RTO stack.

TABLE 2

SUMMARY OF AVERAGE EMISSIONS
LOUISIANA PACIFIC
SEPTEMBER 1996 COMPLIANCE TEST PROGRAM

TEST LOCATION	TEST PARAMETER	REPORTING UNITS	AVERAGE EMISSIONS	EMISSION LIMIT
RTO Stack	Total Particulate	lb/hr	13.80	16.5
	PM10	lb/hr	11.43	16.5
	Methylene Bisphenyl Isocyanate	lb/hr	< 6.34E-03	0.10
	Opacity	%	0.00	10
	Formaldehyde	lb/hr	0.153	1.26
	NOx	lb/hr	9.21	24.3
	CO	lb/hr	19.72	31.9
	VOC	lb/hr	2.03	9.4
	VOC Reduction	%	88.58	NA
Konus Stack	Total Particulate	lb/hr	3.77	6.1
	PM10	lb/hr	3.61	4.3
	Opacity	%	0.01	20
	Formaldehyde	lb/hr	1.24E-03	0.0366
	SO2	lb/hr	0.31	15.5
	NOx	lb/hr	2.93	15.7
	CO	lb/hr	3.48	21.6
	VOC	lb/hr	0.44	1.4
Press Outlet	VOC	lb/hr	7.19	NA
Dryer Outlet	VOC	lb/hr	10.31	NA

TABLE 5

SUMMARY OF MDI EMISSIONS
LOUISIANA PACIFIC

RTO OUTLET

RUN I.D.	RTO-MDI-R1	RTO-MDI-R2	RTO-MDI-R3	AVERAGE
DATE	09/11/96	09/11/96	09/11/96	
TIME STARTED	09:40	12:35	14:38	
TIME ENDED	11:00	13:45	15:48	
SAMPLING PARAMETERS				
Metered Volume - dcf	47.453	47.041	47.273	47.256
Corrected Volume - dscf	43.993	43.641	43.670	43.768
Total Test Time - min	60	60	60	60
% Isokinetics	102.1	107.8	108.2	106.0
GAS PARAMETERS				
Gas Temperature - ° F	283	284	286	284
Oxygen - %	18.8	18.8	18.8	18.8
Carbon Dioxide - %	1.7	1.7	1.7	1.7
Moisture - %	4.7	9.9	11.3	8.6
GAS FLOWRATE				
Velocity - ft/sec	44.73	44.48	45.17	44.79
Actual Volume - acfm	134889	134153	136244	135095
Standard Volume - dscfm	87568	82253	82031	83951
MDI EMISSIONS				
Sample - µg	< 25.0	< 25.0	< 25.0	< 25.0
Blank - µg	< 5.0	< 5.0	< 5.0	< 5.0
Corrected Sample - µg	< 25.0	< 25.0	< 25.0	< 25.0
Conc. - ppmdv	< 1.93E-03	< 1.94E-03	< 1.94E-03	< 1.94E-03
Mass Rate - lb/hr	< 6.58E-03	< 6.23E-03	< 6.21E-03	< 6.34E-03

NOTE:
< = not detected in one or more laboratory samples

TABLE 6

SUMMARY OF VISIBLE EMISSIONS TESTING
LOUISIANA PACIFIC

LOCATION	RUN I.D.	DATE	START TIME	END TIME	MAX. 6-MIN. VALUE	TOTAL TEST TIME AVERAGE
RTO STACK	RTO-M9-R1	09/10/96	12:26	13:43	0.00	0.00
	RTO-M9-R2	09/10/96	14:30	15:45	0.00	0.00
	RTO-M9-R3	09/10/96	16:30	17:49	0.00	0.00
	AVERAGE				0.00	0.00

TABLE 7

SUMMARY OF VISIBLE EMISSIONS TESTING
LOUISIANA PACIFIC

LOCATION	RUN I.D.	DATE	START TIME	END TIME	MAX. 6-MIN. VALUE	TOTAL TEST TIME AVERAGE
KONUS STACK	KS-M9-R1	09/11/96	10:20	11:37	0.21	0.02
	KS-M9-R2	09/11/96	12:30	13:47	0.00	0.00
	KS-M9-R3	09/11/96	14:50	15:59	0.00	0.00
	AVERAGE				0.07	0.01

TABLE 8

SUMMARY OF FORMALDEHYDE, NOx, CO, AND VOC EMISSIONS
LOUISIANA PACIFIC

RTO OUTLET

RUN I.D.	RTO-0011-R1	RTO-0011-R2	RTO-0011-R3	AVERAGE
DATE	09/10/96	09/10/96	09/10/96	
TIME STARTED	12:30	14:30	16:30	
TIME ENDED	13:40	15:40	17:40	
SAMPLING PARAMETERS				
Metered Volume - dcf	39.516	40.988	41.052	40.519
Corrected Volume - dscf	35.930	36.888	37.830	36.882
Total Test Time - min	60	60	60	60
% Isokinetics	104.9	107.1	107.6	106.6
GAS PARAMETERS				
Gas Temperature - ° F	283	286	285	284
Oxygen - %	18.7	18.8	18.8	18.8
Carbon Dioxide - %	1.8	1.8	1.8	1.8
Moisture - %	13.0	13.6	13.4	13.3
GAS FLOWRATE				
Velocity - ft/sec	44.20	44.93	45.71	44.95
Actual Volume - acfm	133300	135500	137860	135553
Standard Volume - dscfm	79050	79490	81147	79896
FORMALDEHYDE EMISSIONS				
Sample - µg	590.0	580.0	510.0	560.0
Blank - µg	28.0	28.0	28.0	28.0
Corrected Sample - µg	562.0	552.0	482.0	532.0
Conc. - ppmdv	0.442	0.423	0.360	0.409
Mass Rate - lb/hr	0.164	0.157	0.137	0.153
NOx EMISSIONS (as NO2)				
Concentration - ppmdv	15.81	16.16	16.30	16.09
Mass Rate - lb/hr	8.95	9.20	9.48	9.21
CO EMISSIONS				
Concentration - ppmdv	66.07	50.20	53.64	56.64
Mass Rate - lb/hr	22.78	17.40	18.98	19.72
VOC EMISSIONS (as Propane)				
Concentration - ppmwv	4.31	3.39	1.96	3.22
Concentration - ppmdv	4.95	3.92	2.26	3.71
Butane Conc - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Ethane Conc. - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Methane Conc. - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Total Non-Methane Conc. - ppmdv	4.95	3.92	2.26	3.71
Mass Rate - lb/hr	2.69	2.14	1.26	2.03

TABLE 9

SUMMARY OF FORMALDEHYDE, SO2, NOx, CO, AND VOC EMISSIONS
LOUISIANA PACIFIC

KONUS STACK

RUN I.D.	KS-M0011-R1	KS-M0011-R2	KS-M0011-R3	AVERAGE
DATE	09/11/96	09/11/96	09/11/96	
TIME STARTED	10:20	12:35	14:50	
TIME ENDED	11:30	13:45	16:00	
SAMPLING PARAMETERS				
Metered Volume - dcf	37.776	34.361	39.622	37.253
Corrected Volume - dscf	35.249	31.277	36.065	34.197
Total Test Time - min	60	60	60	60
% Isokinetics	103.7	102.7	102.9	103.1
GAS PARAMETERS				
Gas Temperature - ° F	274	280	278	277
Oxygen - %	17.6	17.7	17.5	17.6
Carbon Dioxide - %	3.1	3.0	3.3	3.1
Moisture - %	7.2	4.8	6.2	6.1
GAS FLOWRATE				
Velocity - ft/sec	28.18	24.78	28.90	27.29
Actual Volume - acfm	15880	13966	16290	15379
Standard Volume - dscfm	10160	9102	10475	9912
FORMALDEHYDE EMISSIONS				
Sample - µg	44.0	77.0	60.0	60.3
Blank - µg	28.0	28.0	28.0	28.0
Corrected Sample - µg	16.0	49.0	32.0	32.3
Conc. - ppmdv	0.013	0.044	0.025	0.027
Mass Rate - lb/hr	6.10E-04	1.89E-03	1.23E-03	1.24E-03
NOx EMISSIONS (as NO2)				
Concentration - ppmdv	40.62	41.31	42.03	41.32
Mass Rate - lb/hr	2.96	2.69	3.15	2.93
SO2 EMISSIONS				
Concentration - ppmdv	3.03	5.95	0.82	3.27
Mass Rate - lb/hr	0.31	0.54	0.09	0.31
CO EMISSIONS				
Concentration - ppmdv	78.54	90.75	73.35	80.88
Mass Rate - lb/hr	3.48	3.60	3.35	3.48
VOC EMISSIONS (as Propane)				
Concentration - ppmwv	8.45	8.61	1.46	6.17
Concentration - ppmdv	9.11	9.04	1.56	6.57
Mass Rate - lb/hr	0.64	0.57	0.11	0.44

TABLE 10

SUMMARY OF VOC EMISSIONS
LOUISIANA PACIFIC

PRESS OUTLET

RUN I.D.	PO-M1-4-R1	PO-M1-4-R2	PO-M1-4-R3	AVERAGE
DATE	09/10/96	09/10/96	09/10/96	
M1-4 START TIME	12:30	14:32	16:30	
M1-4 END TIME	13:00	15:07	17:00	
M25A START TIME	12:30	14:30	16:30	
M25A END TIME	13:30	15:30	17:30	
SAMPLING PARAMETERS				
Metered Volume - dcf	23.203	26.908	23.590	24.567
Corrected Volume - dscf	21.684	24.714	22.116	22.838
Total Test Time - min	60	60	60	60
GAR PARAMETERS				
Gas Temperature - ° F	127	130	129	129
Oxygen - %	20.6	20.6	20.6	20.6
Carbon Dioxide - %	0.1	0.1	0.1	0.1
Moisture - %	2.7	3.9	2.2	2.9
GAS FLOWRATE				
Velocity - ft/sec	46.97	49.02	50.09	48.69
Actual Volume - acfm	43997	45914	46913	45608
Standard Volume - dscfm	36821	37778	39359	37986
VOC EMISSIONS (as Propane)				
Concentration - ppmwv	30.56	33.86	16.22	26.88
Concentration - ppmdv	31.41	35.23	16.58	27.74
Mass Rate - lb/hr	7.94	9.14	4.48	7.19

TABLE 11

SUMMARY OF VOC EMISSIONS
LOUISIANA PACIFIC

DRYER OUTLET

RUN I.D.	DO-M1-4-R1	DO-M1-4-R2	DO-M1-4-R3	AVERAGE
DATE	09/10/96	09/10/96	09/10/96	
M1-4 START TIME	12:35	14:35	16:32	
M1-4 END TIME	13:05	15:05	17:02	
M25A START TIME	12:30	14:30	16:30	
M25A END TIME	13:30	15:30	17:30	
SAMPLING PARAMETERS				
Metered Volume - dcf	22.924	22.813	20.697	22.1446667
Corrected Volume - dscf	20.309	20.333	18.522	19.721
Total Test Time - min	60	60	60	60
GAS PARAMETERS				
Gas Temperature - ° F	178	176	176	177
Oxygen - %	17.3	17.9	17.5	17.6
Carbon Dioxide - %	3.4	2.8	3.2	3.1
Moisture - %	20.0	18.6	18.0	18.9
GAS FLOWRATE				
Velocity - ft/sec	70.19	71.71	72.10	71.33
Actual Volume - acfm	52919	54070	54360	53783
Standard Volume - dscfm	32805	34178	34634	33872
VOC EMISSIONS (as Propane)				
Concentration - ppmwv	51.11	29.80	27.38	36.10
Concentration - ppmdv	63.87	36.63	33.40	44.63
Mass Rate - lb/hr	14.39	8.60	7.94	10.31

TABLE 12

SUMMARY OF VOC REDUCTION EFFICIENCY
LOUISIANA PACIFIC

RTO OUTLET

RUN I.D.	RTO-M25A-R1	RTO-M25A-R2	RTO-M25A-R3	AVERAGE
DATE	09/10/96	09/10/96	09/10/96	
TIME STARTED	12:30	14:30	16:30	
TIME ENDED	13:40	15:40	17:40	
SAMPLING PARAMETERS				
Metered Volume - dcf	39.516	40.988	41.052	40.519
Corrected Volume - dscf	35.930	36.888	37.830	36.882
Total Test Time - min	60	60	60	60
GAS PARAMETERS				
Gas Temperature - ° F	283	286	285	284
Oxygen - %	18.7	18.8	18.8	18.8
Carbon Dioxide - %	1.8	1.8	1.8	1.8
Moisture - %	13.0	13.6	13.4	13.3
GAS FLOWRATE				
Velocity - ft/sec	44.20	44.93	45.71	44.95
Actual Volume - acfm	133300	135500	137860	135553
Standard Volume - dscfm	79050	79490	81147	79896
PRESS OUTLET				
VOC LOADINGS (as Propane)				
Concentration - ppmwv	30.56	33.86	16.22	26.88
Concentration - ppmdv	31.41	35.23	16.58	27.74
Mass Rate - lb/hr	7.94	9.14	4.48	7.19
DRYER EXHAUST				
VOC LOADINGS (as Propane)				
Concentration - ppmwv	51.11	29.80	27.38	36.10
Concentration - ppmdv	63.87	36.63	33.40	44.63
Mass Rate - lb/hr	14.39	8.60	7.94	10.31
RTO INLET*				
VOC LOADINGS (as Propane)				
Mass Rate - lb/hr	22.33	17.74	12.42	17.50
VOC EMISSIONS (as Propane)				
Concentration - ppmwv	4.31	3.39	1.96	3.22
Concentration - ppmdv	4.95	3.92	2.26	3.71
Butane Conc - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Ethane Conc. - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Methane Conc. - mg/m3	< 5.00	< 5.00	< 5.00	< 5.00
Total Non-Methane Conc. - ppmdv	4.95	3.92	2.26	3.71
Mass Rate - lb/hr	2.69	2.14	1.26	2.03
VOC Efficiency - %	87.96	87.93	89.85	88.58

*VOC loadings at the RTO Inlet are the sum of the loadings from the Press Outlet and Dryer Exhaust.

3.0 SAMPLING AND ANALYTICAL PROCEDURES

All sampling and analytical procedures followed those recommended by the U.S. Environmental Protection Agency (EPA), Title 40, Part 60, Appendix A of the Code of Federal Regulations (40 CFR 60), or other methods generally accepted by the EPA and the VDEQ. The following specific methods were used:

- EPA Method 1 for determination of sampling and traverse points;
- EPA Method 2 for determination of flue gas velocity and volumetric flow rate;
- EPA Methods 3 for determination of flue gas composition and molecular weight (sampling procedure);
- EPA Methods 3A for determination of flue gas composition and molecular weight (analytical procedure);
- EPA Method 4 for determination of flue gas moisture content;
- EPA Method 5/202 for determination of total particulate matter and particulate matter less than 10 microns (as total suspended and condensible particulate) emissions;
- EPA Method 6C for determination of SO_2 emissions;
- EPA Method 7E for determination of NO_x emissions;
- EPA Method 9 for determination of visible emissions;
- EPA Method 10 for determination of CO emissions;
- BIF Method 0011 for determination of formaldehyde emissions;
- EPA Method 18 for determination of methane emissions;
- EPA Method 25A for determination of volatile organic compounds (VOCs);
- Draft EPA MACT Method for determination of methyl bisphenyl isocyanate (MDI) emissions.

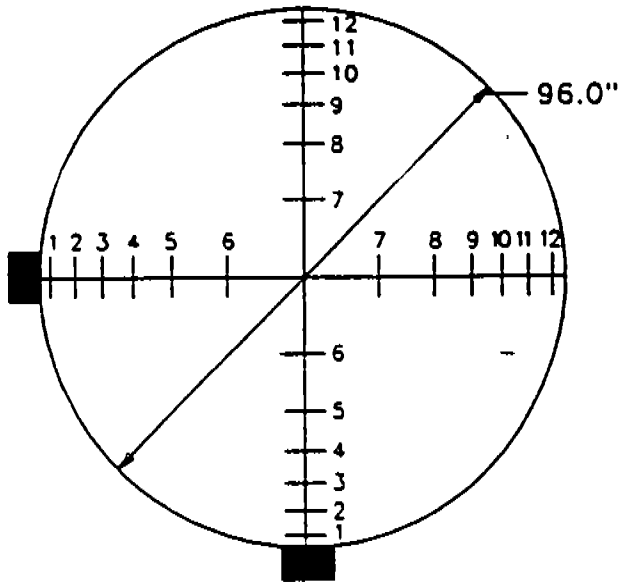
Appendices G through K contain the raw field data for the testing. Laboratory data for the analyses are contained in Appendices L through O.

3.1 Sampling Procedures

3.1.1 Sampling Point Determination - EPA Method 1: EPA Reference Method 1 was used to determine the number and location of the sampling and traverse points at each test location. The following sections discuss the sampling and traverse point location for each test location.

3.1.1.1 Sampling Point Determination - RTO Stack: A total of 24 sampling and traverse points (12 for each of two ports) was utilized for all pollutant sampling at the RTO stack. Figure 1 shows the location of the sampling and traverse points for the RTO stack.

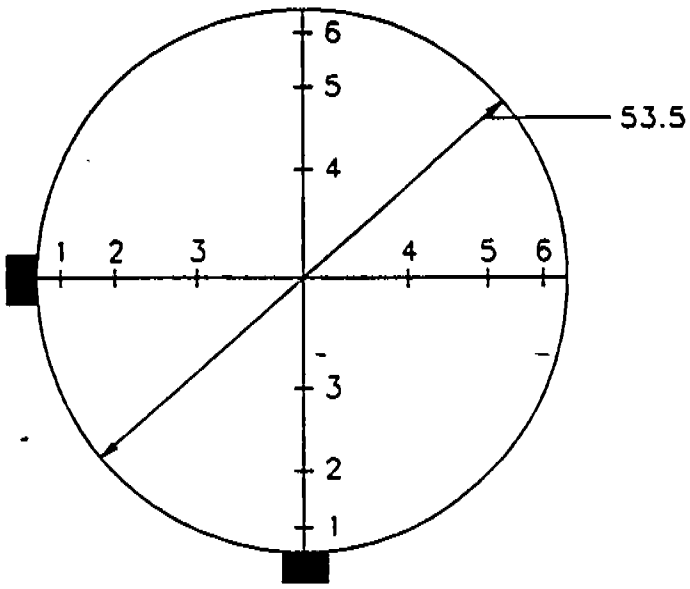
3.1.1.2 Sampling Point Determination - Press Outlet: Figure 2 shows the location of the traverse points for the Press Outlet. A total of 12 sampling and traverse points (6 for each of two ports) was utilized for all gas flow rate measurements conducted at the Press Outlet.



POINT	% ID	DISTANCE FROM INSIDE OF PORT (inches)
1	2.1	2.04
2	6.7	6.43
3	11.8	11.34
4	17.7	17.02
5	25.0	24.00
6	35.6	34.14
7	64.4	61.86
8	75.0	72.00
9	82.3	78.98
10	88.2	84.66
11	93.3	89.57
12	97.9	93.96

INSIDE STACK DIAMETER	96.0 in	8.0 ft

Figure 1 - Sampling and Traverse Points for the RTO Stack



POINT	% ID	DISTANCE FROM INSIDE OF PORT (inches)
1	4.4	2.33
2	14.6	7.83
3	29.6	15.83
4	70.4	37.67
5	85.4	45.67
6	95.6	51.17

INSIDE STACK DIAMETER	53.5 in	4.5 ft

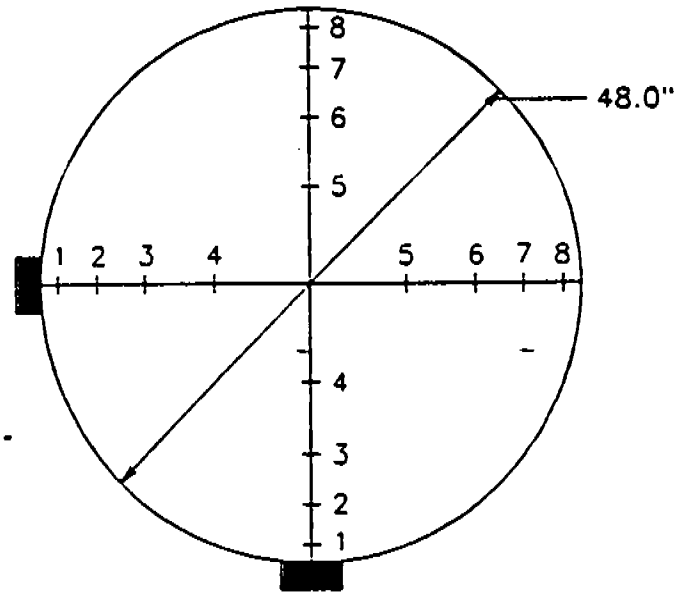
Figure 2 - Sampling and Traverse Points for the Press Outlet

3.1.1.3 Sampling Point Determination - Dryer Exhaust: Figure 3 shows the location of the traverse points for the Dryer Exhaust. A total of 16 traverse points (8 for each of two ports) was utilized for all gas flow rate measurements conducted at the Dryer Exhaust.

3.1.1.4 Sampling Point Determination - Konus Stack: A total of 20 sampling and traverse points (10 for each of two ports) was utilized for all pollutant sampling at the Konus Stack. Figure 4 shows the location of the sampling and traverse points for the Konus stack.

3.1.2 Volumetric Measurements - EPA Method 2: EPA Reference Method 2 was used to determine the velocity and volumetric flow rates of the stack gases. Stainless steel Type-S pitot tubes were used to measure the gas velocity heads. The pitot tubes were calibrated against a NIST traceable pitot tube in accordance with Method 2. Calibrated Type-K thermocouples were used to determine gas temperatures.

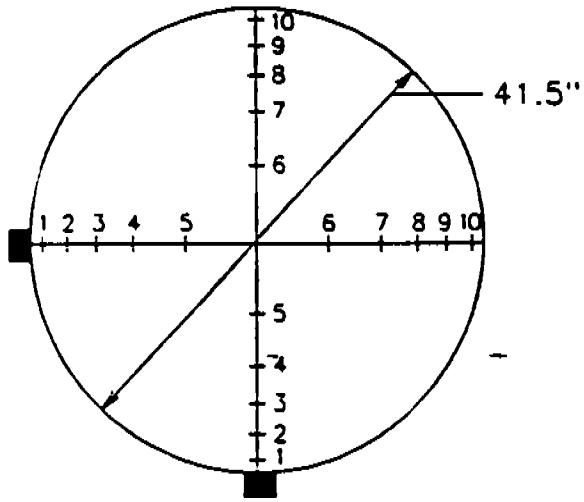
Velocity and temperature measurements were made at each of the points traversing the test locations as shown in Figures 1 through 4. These measurements were performed in conjunction with the pollutant sampling described below.



POINT	% ID	DISTANCE FROM INSIDE OF PORT (inches)
1	3.2	1.55
2	10.5	5.03
3	19.4	9.30
4	32.3	15.51
5	67.7	32.49
6	80.6	38.70
7	89.5	42.97
8	96.8	46.45

INSIDE STACK DIAMETER	48.0 in	4.0 ft

Figure 3 - Sampling and Traverse Points for the Dryer Exhaust



POINT	% ID	DISTANCE FROM INSIDE OF PORT (inches)
1	2.6	1.06
2	8.2	3.39
3	14.6	6.08
4	22.6	9.38
5	34.2	14.19
6	65.8	27.31
7	77.4	32.12
8	85.4	35.42
9	91.8	38.11
10	97.4	40.44

INSIDE STACK DIAMETER	41.5 in	3.5 ft

Figure 4 - Sampling and Traverse Points for Konus Stack

3.1.3 Molecular Weight Determination - EPA Method 3 and 3A: Gas compositional measurements (O_2 and CO_2) were performed in accordance with EPA Methods 3 and 3A of 40 CFR 60.

3.1.3.1 Molecular Weight Determination - EPA Method 3: Gas compositional measurements (O_2 and CO_2) for determining the average molecular weight of the stack gases were done in accordance with EPA Reference Method 3. Multi-point, integrated sampling was used to obtain a constant rate sample of flue gas concurrent with the pollutant testing. Sampling was of the same duration (except purges following port changes) as the pollutant runs.

A stainless steel probe was affixed to the pollutant sampling probe for this purpose. A peristaltic pump, delivering 500 to 750 ml/min of flue gas, was used to fill a Tedlar bag. Moisture was removed from the sample gas by means of an air-cooled condenser located prior to the pump. Figure 5 shows a schematic of the Method 3 sampling train.

3.1.3.2 Molecular Weight Determination - EPA Method 3A: For sampling performed in conjunction with the continuous emissions testing, gas compositional measurements (O_2 and CO_2) for determining the average molecular weight of the stack gases were done instrumentally in accordance with EPA Reference Method 3A. Sampling was

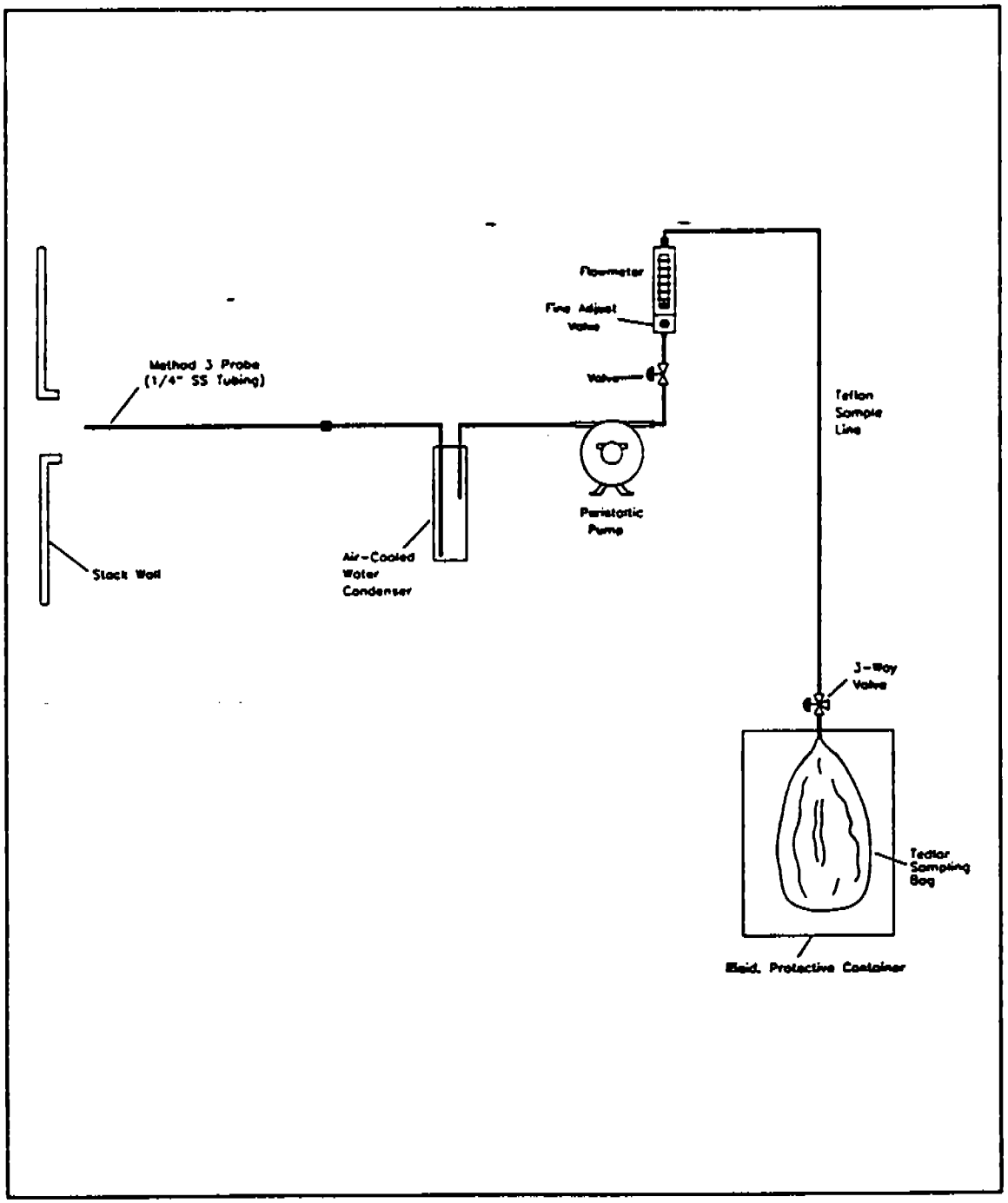


Figure 5 - EPA Method 3 Sampling Train

done by obtaining integrated gas samples as part of the continuous emissions monitoring discussed in Section 3.1.8.

3.1.4 Flue Gas Moisture Content - EPA Method 4: Flue gas moisture was measured in conjunction with each of the pollutant tests according to the sampling and analytical procedures outlined in EPA Method 4. The flue gas moisture for each test was determined by gravimetric analyses of the water collected in the impinger condensers of the pollutant sampling train. All impingers were contained in an ice bath throughout the testing in order to assure complete condensation of the moisture in the flue gas stream. Any moisture which was not condensed in the impingers was captured in the silica gel contained in the final impinger.

3.1.5 Particulate and PM_{10} Sampling: Sampling for total suspended particulate and particulate matter less than 10 microns (PM_{10}) was performed in accordance with EPA Method 5 of 40 CFR 60 in conjunction with EPA Method 202 of 40 CFR 51.

3.1.5.1 Sampling Train Description: Figure 6 shows the major components of the Method 5/202 sampling train. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle for isokinetic gas withdrawal.

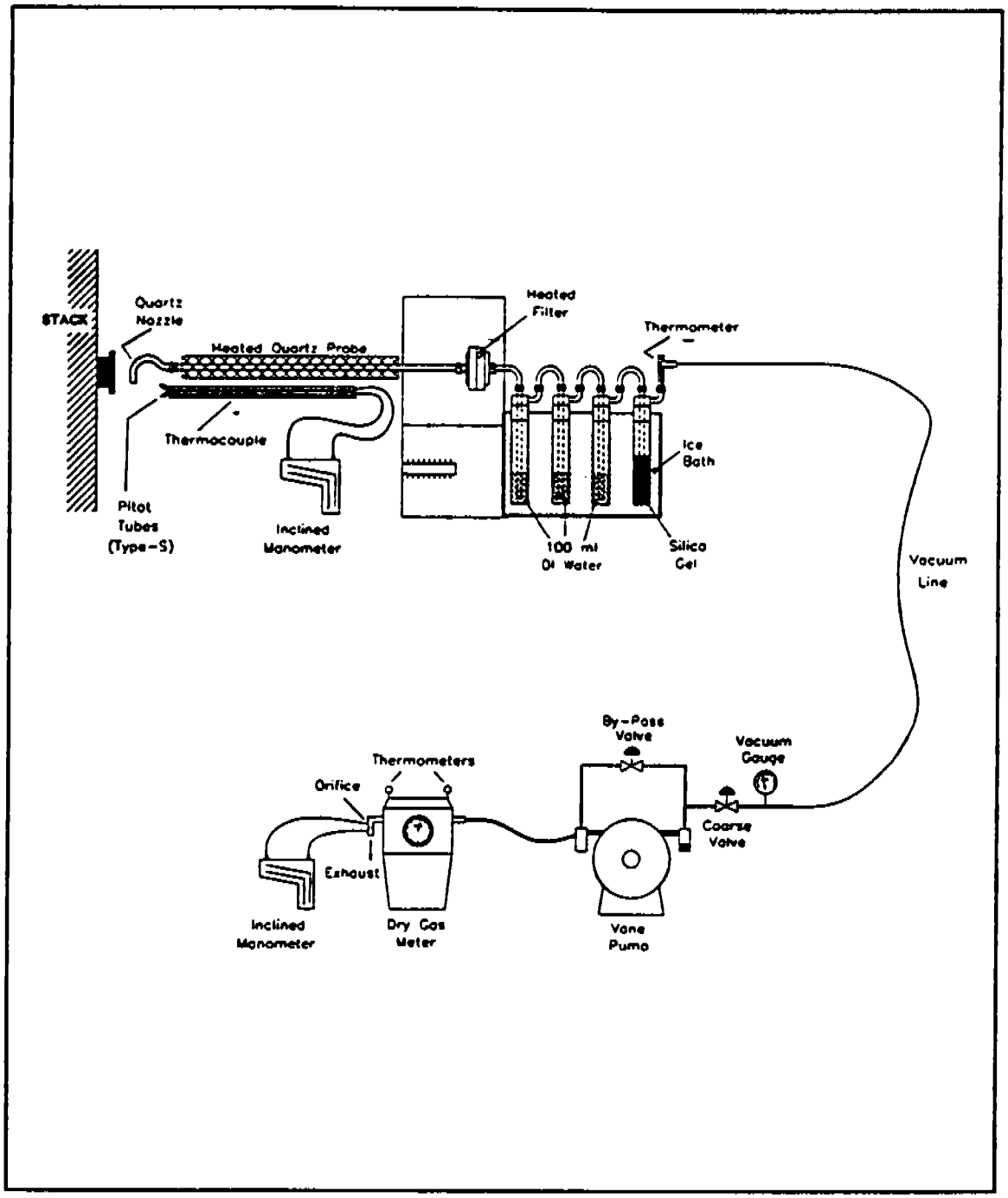


Figure 6 - EPA Method 5/202 Sampling Train

From the nozzle and probe, sample gas was pulled through a heated glass fiber filter which was maintained at 248°F ± 25°F to prevent water condensation. Sample gas was subsequently passed through an impinger train consisting of five glass impingers immersed in an ice bath. The first, second, and third impingers each initially contained 100 milliliters of deionized distilled water, the fourth impinger was initially empty, and the fifth impinger initially contained approximately 200 grams of silica gel.

3.1.5.2 Sampling Train Operation: Sampling was done in accordance with EPA Method 5 procedures and specifications, including leak checking, isokinetic sampling rate and stack traversing. At the RTO stack, sampling was conducted for 2.5 minutes at each of the 24 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports. At the Konus stack, sampling was conducted for three minutes at each of the 20 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports.

3.1.5.3 Sample Recovery and Clean-Up: Recovery of the front-half of the sampling train (probe plus filter and associated glassware) was performed in accordance with EPA Method 5 procedures. The probe and front-half glassware was rinsed with acetone three times each and brushed between rinses with a Teflon fiber brush. Exposed filters were removed from the filter housing with Teflon tweezers and placed into a pre-cleaned glass petri dish. The dish was sealed externally with Teflon tape.

The back-half of the sampling train (impingers plus connecting glassware) was recovered in accordance with EPA Method 202 procedures. The pH of the first impinger was measured immediately after the test. If the pH was less than 4.5, then the entire impinger train was purged for one hour using purified air in accordance with Method 202 procedures. If the pH of the first impinger exceeded 4.5, then the purge was omitted.

After purging (if applicable), the contents of the first three impingers were measured and transferred to glass jars. The first four impingers and all back-half glassware were rinsed twice with water. All water rinses were collected with the impinger contents. The back-half glassware was then rinsed twice with methylene chloride. These rinses were collected into a separate glass jar.

The silica gel from the fourth impinger was transferred back to its original Nalgene container. The amount of moisture collected in the sampling train was quantified in order to determine the stack gas moisture content in accordance with EPA Method 4.

3.1.5.4 Field Blanks: Acetone, water, and methylene chloride field blanks were collected during the test program. Each blank was taken from the same reagent stock used for testing.

3.1.6 Formaldehyde Determination - BIF Method 0011: Formaldehyde sampling was performed in accordance with the procedures described in 40 CFR 266, Appendix IX, Section 3.5.

3.1.6.1 Sampling Train Description: A diagram of the BIF Method 0011 sampling train is provided in Figure 7. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle for isokinetic gas withdrawal. After the probe, effluent gas was drawn into a train of four impingers immersed in an ice bath. The first two impingers initially contained 100 ml of DNPH. The third impinger was initially empty and the fourth impinger initially contained approximately 200 grams of silica gel.

3.1.6.2 Sampling Train Operation: Sampling was done in accordance with EPA Method 5 procedures and specifications, including leak checking, isokinetic sampling rate and stack traversing. At the Konus stack, sampling was conducted for three minutes at each of the 20 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports. . At the RTO stack, sampling was conducted for 2.5 minutes at each of the 24 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports.

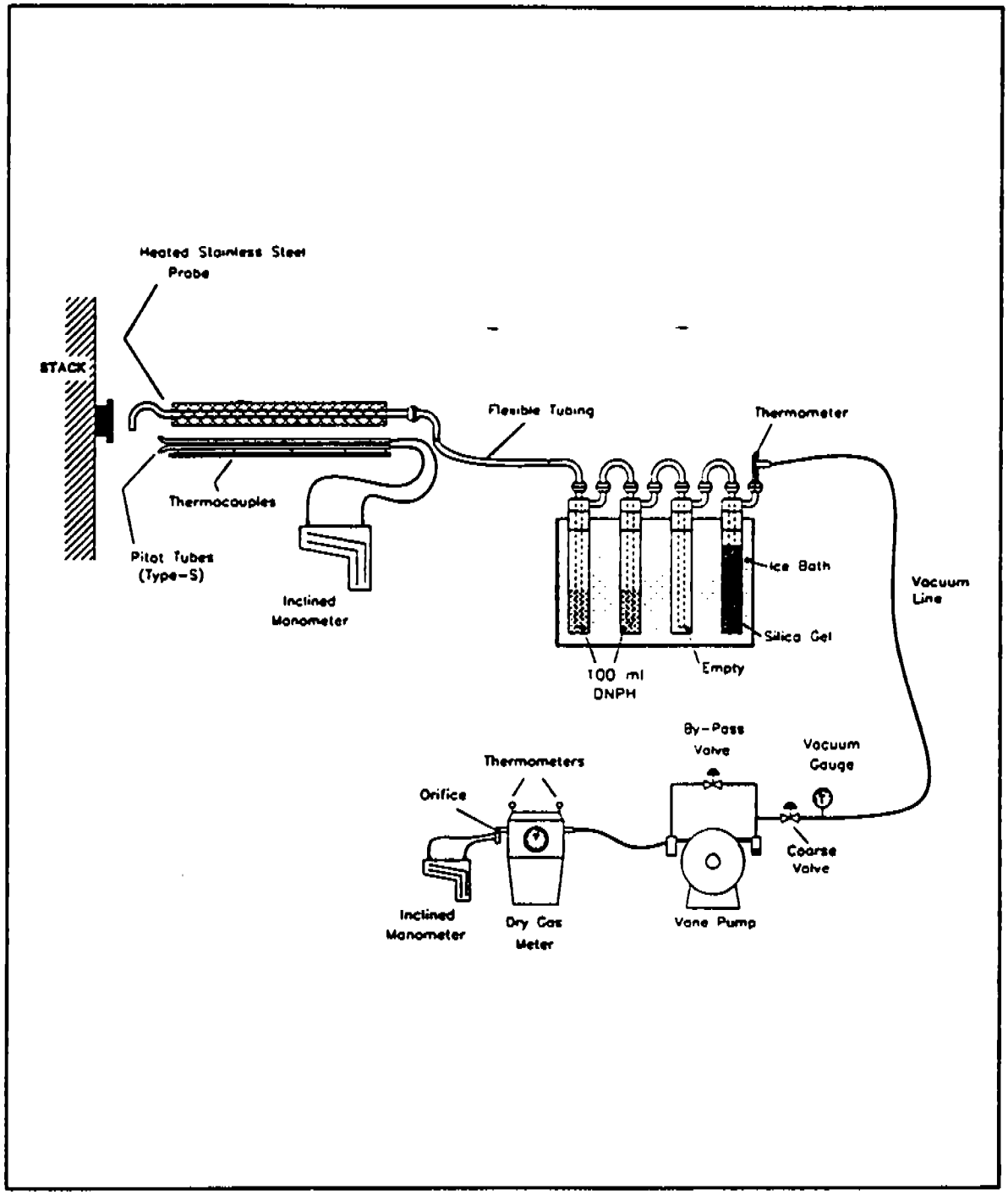


Figure 7 - BIF Method 0011 Sampling Train

3.1.6.3 Sample Recovery and Clean-up: Recovery of the front-half of the sampling train (probe and associated glassware) was performed as follows. The probe and front-half glassware were rinsed with methylene chloride three times each and brushed between rinses with a Teflon fiber brush.

The back-half of the sampling train (impingers plus connecting glassware) was recovered in accordance with BIF Method 0011 procedures. The contents of the first three impingers were measured and transferred to an amber flint glass jar. The first three impingers and all back-half glassware were rinsed three times with methylene chloride. All rinses were collected with the impinger contents. The back-half glassware was then rinsed with distilled water. The water rinse was collected into the same amber glass jar.

The silica gel from the fourth impinger was transferred back to its original Nalgene container. The amount of moisture collected in the sampling train was quantified in order to determine the stack gas moisture content in accordance with EPA Method 4.

3.1.6.4 Sample Storage and Transport: Immediately upon recovery, all samples were placed into insulated coolers packed with ice, thus protecting the samples from light and heat.

The samples remained inside the coolers during transport to the analytical laboratory. While in the custody of ETS, the temperatures inside the coolers were periodically checked to insure that the samples did not exceed 32°F. All samples were express mailed directly to the analytical lab for analysis. While at the lab, the samples were kept in a refrigerated compartment until analyzed.

3.1.6.5 Blanks: One field blank was collected during the BIF Method 0011 testing. The field blank consisted of a reagent blank from the batch of DNPH reagent and a methylene chloride reagent blank.

3.1.7 Methylene Bisphenyl Isocyanate (MDI) Sampling - Draft EPA MACT Method: Sampling for MDI was conducted in accordance with Draft EPA MACT Method.

3.1.7.1 Sampling Train Description: Figure 8 illustrates the sampling train for measuring MDI. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle for isokinetic gas withdrawal.

After the probe, the gases passed into a impinger train consisting of six impingers packed in ice water with a water-cooled glass condenser placed between the first and second impingers. The first impinger initially contained 300 milliliters of absorbing solution (1-(2-pyridyl) piperazine in toluene). Coolant water maintained at

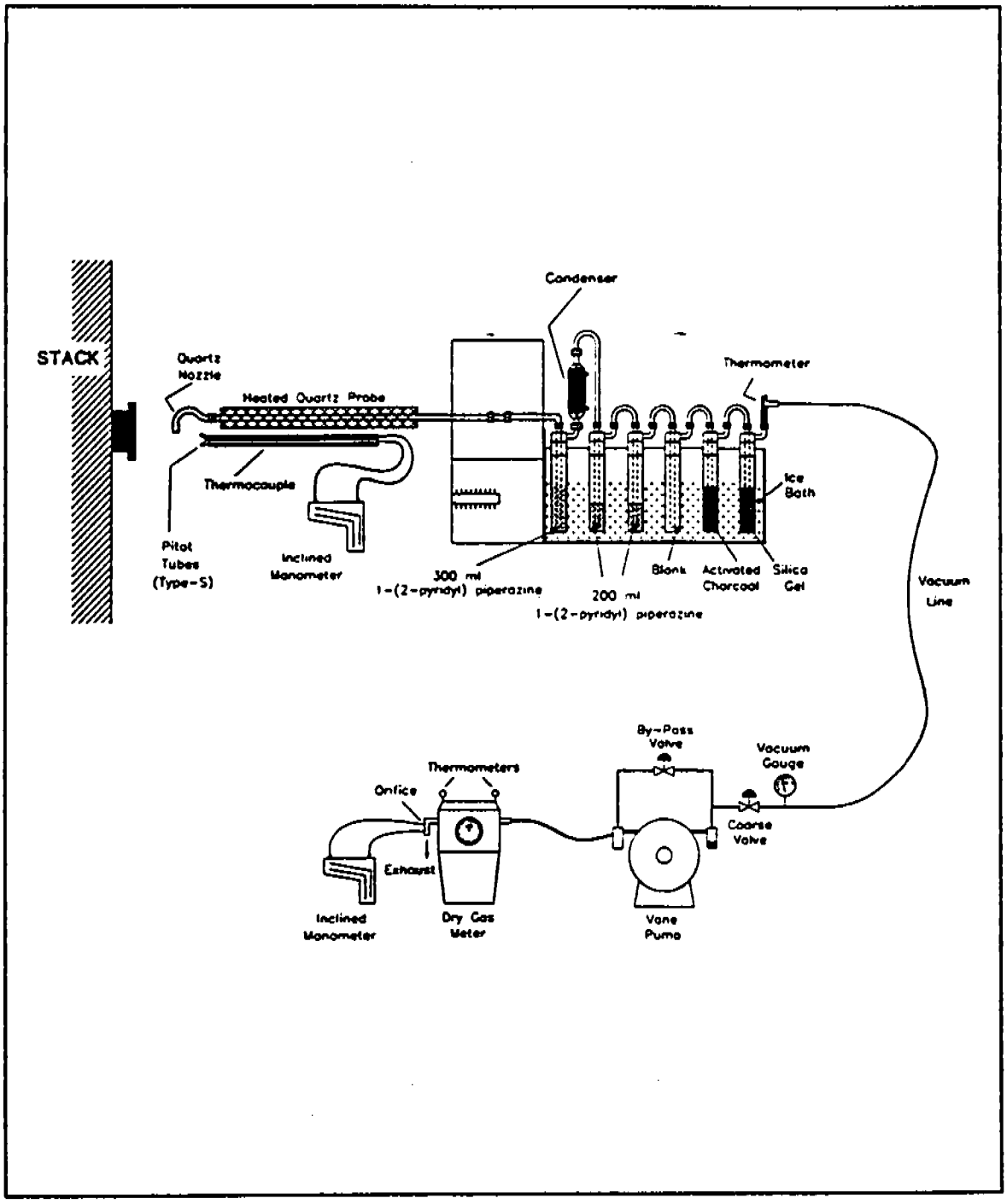


Figure 8 - Sampling Train for MDI

wet-ice temperature was continuously recirculated into the condenser using a submersible water pump. The condenser minimized the evaporation of toluene from the first impinger. The second and third impingers each initially contained 200 milliliters of absorbing solution. The fourth impinger was initially left empty. The fifth and sixth impinger each initially contained approximately 200 grams of activated charcoal and 200 grams of silica gel, respectively.

All components from the nozzle to the sixth impinger were made of glass. All connections from the probe to the exit stem of the sixth impinger were sealed with Teflon O-rings. Sealing grease was not used on any connections before the sixth impinger.

3.1.7.2 Sample Train Operation: Sampling was performed in general accordance with EPA Method 5 procedures and specifications, including leak checking, isokinetic sampling rate, and stack traversing.

At the RTO stack, sampling was performed for 2.5 minutes at each of the 24 traverse points, yielding a 60-minute test per run. A minimum sample volume of 35.31 dry standard cubic feet was obtained for each test run.

3.1.7.3 Sample Recovery and Clean-up: At the completion of each test, the probe was removed from the train and the ends of the sampling train capped with Teflon tape. The probe was recovered immediately on the sampling platform, while the remainder of the sampling train was transported to a clean-up site for recovery. Sample recovery proceeded as follows:

1) Front-half Rinse: The probe and all connecting lines between the probe and first impinger were rinsed three times with toluene. A Teflon-fiber probe brush was used to brush the probe between rinses. Following the toluene rinse, the probe and all connecting lines between the probe and first impinger was rinsed with acetonitrile. All rinses were collected into a pre-cleaned amber glass bottle fitted with a Teflon-lined screw cap.

2) Impinger 1 Recovery: The condensate collected in the first impinger were transferred to a graduated cylinder and the volume recorded. The liquid was then transferred into the amber glass bottle containing the probe rinses. The impinger was rinsed with toluene and then acetonitrile. The rinses were collected into the same bottle.

3) Impingers 2-4 Recovery: The liquid volumes in impingers two through four were recorded for the Method 4 moisture determination. The liquids were then transferred in a pre-cleaned amber glass bottle fitted with a Teflon-lined screw

cap. A toluene rinse followed by an acetonitrile rinse was performed on impingers two through four along with the condenser and any connecting glassware. These rinses were collected in the same amber bottle.

4) Activated Charcoal: The activated charcoal in the fifth impinger was transferred into its original plastic container and sealed.

5) Silica Gel: The silica gel in the sixth impinger was transferred into its original plastic container and sealed.

3.1.7.4 Sample Storage and Transport: Immediately upon recovery, all samples including liquid rinses were placed into insulated coolers packed with ice, thus protecting the samples from light and heat.

The samples remained inside the coolers during transport to the analytical laboratory. While in the custody of ETS, the temperatures inside the coolers were periodically measured to insure that the samples did not exceed 32°F. All samples were express mailed directly to the analytical lab for analysis. While at the lab, the samples were kept in a refrigerated compartment until analyzed.

3.1.7.5 Field Blanks: One field blank was collected during the test program for MDI. The field blank consisted of a reagent blank from the batch of absorbing solution, a toluene reagent blank, and an acetonitrile reagent blank.

3.1.8 Continuous Monitoring for SO_2, NO_x, CO, THC, O_2 and CO_2 -Instrumental Methods: Instrumental monitoring of the stack gases was performed in accordance with the following procedures:

GAS	REFERENCE METHOD	INSTRUMENT TYPE
SO_2	Method 6C	Western Research 721AT SO_2 Analyzer
NO_x	Method 7E	TECO Model 10AR Chemiluminescence NO_x Analyzer
CO	Method 10	TECO Model 48 NDIR CO Analyzer
THC	Method 25A	J.U.M. Engineering Model VE7 FID Total Hydrocarbon Analyzer
O_2	Method 3A	Teledyne Model 320A Chemical Cell Portable O_2 Analyzer
CO_2	Method 3A	FUJI Model 3300 A NDIR CO_2 Analyzer

All of the analyzers except the hydrocarbon analyzer measured gas concentrations on a dry volume basis. The hydrocarbon analyzer measured the concentrations on a wet volume basis as propane.

3.1.8.1 Sampling System Description: An integrated, remote instrumental system housing the pollutant gas analyzers as well as the diluent gas (O_2 and CO_2) monitors was used. Figure 9 outlines the general schematic of the system. The design incorporated two extractive systems - one for the dry analyzers and one for the wet hydrocarbon analyzer. All of the instruments were housed in a trailer located at ground level.

The dry sampling system consisted of a heated stainless steel probe located at the stack port location. A heated glass fiber filter was attached to the probe for rough particulate removal. A short section of heated Teflon sample line was used to deliver the sample to an ice-cooled condenser designed to remove the flue gas moisture. An unheated Teflon sample line was used to transport the dry gas sample from the stack port location down to the instrumental system. The sample gas exiting the Teflon sample line was pumped to the SO_2, NO_x, CO, CO_2, and O_2 monitors.

The sampling system for the hydrocarbon analyzer incorporated a heated stainless steel probe, a heated glass fiber filter, and a heated Teflon sample line. The sample line was heated along its entire length from the stack sampling location to the analyzer.

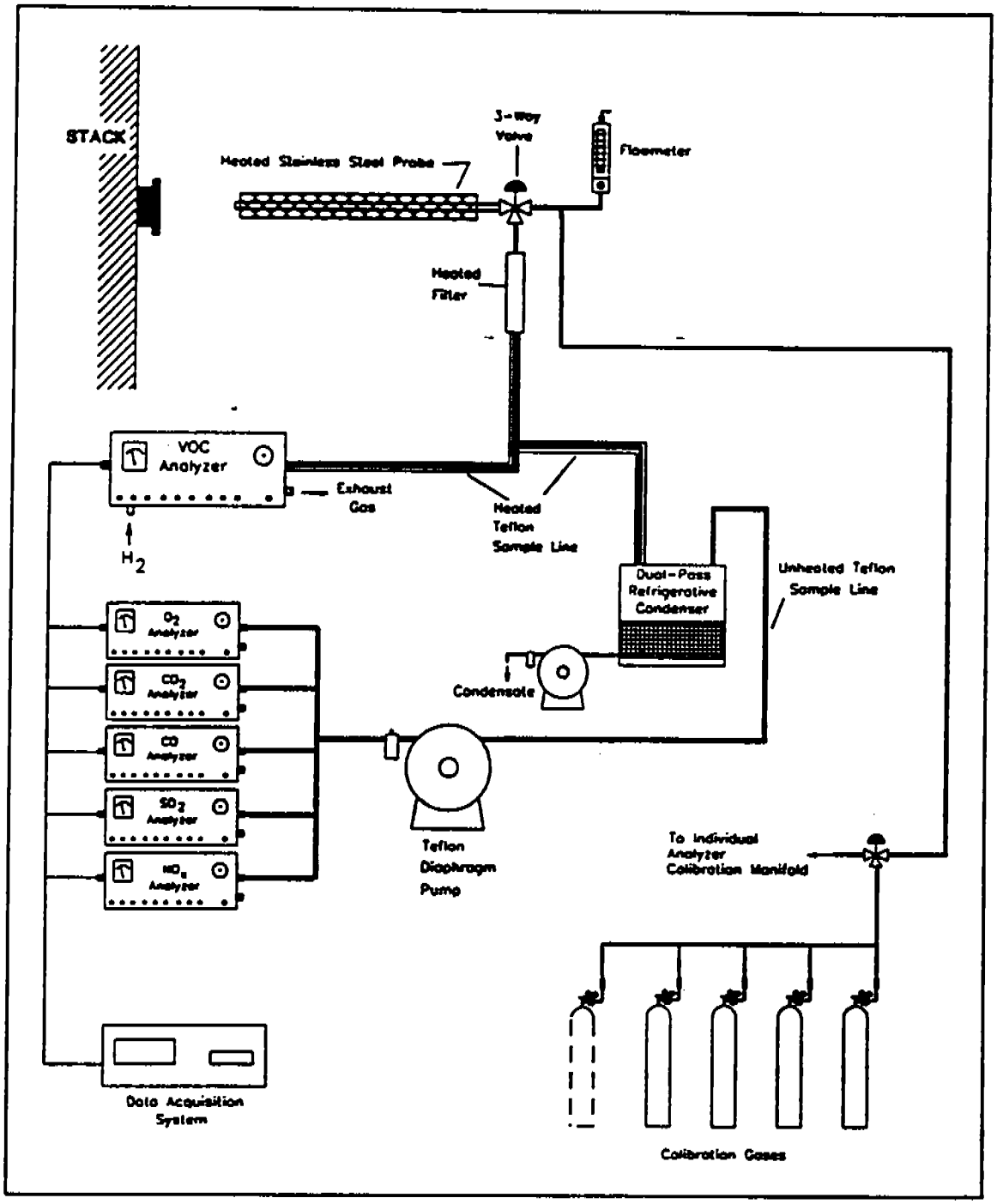


Figure 9 - Continuous Emissions Monitoring System for EPA Methods 3A, 6C, 7E, 10 and 25A.

3.1.8.2 Data Acquisition System: The response outputs of the monitors were recorded digitally by a Campbell Scientific Model CR10WP multi-channel data acquisition system. The system sampled at a rate of 60 Hz and stored one-minute average values.

3.1.8.3 Dry System Calibration: At the beginning of each test run, the O_2, CO_2, SO_2, and NO_x monitors on the dry sampling system were zeroed; using Zero Nitrogen and spanned using a certified calibration gas with a concentration of 80 to 100 percent of the instrument span. Following calibration a mid range gas, 40 to 60 percent of the instrument span, were introduced to each monitor. The mid range response error did not exceed two percent of the instrument span as required by EPA Reference Method 6C.

The CO monitor was zeroed using Zero Nitrogen and spanned using a known concentration of CO in nitrogen. Following calibration, the CO monitor was challenged with two additional gas concentrations corresponding to approximately 60 percent and 30 percent of instrument span. All calibration gases were EPA Protocol 1 certified to be within ±2 percent of stated concentration.

After calibrating the O_2, CO_2, SO_2, and NO_x monitors, calibration gas was introduced remotely through the probe in order to verify the absence of sampling system bias. The bias error did not exceed five percent of the instrument span as required by EPA Reference Method 6C.

After each test run, Zero Nitrogen and either a mid or high range calibration gas was introduced remotely through the sampling system to each monitor to check for calibration drift error. In accordance with Method 6C, the calibration drift did not exceed three percent of the instrument span for all valid test runs.

3.1.8.4 Wet System Calibration: All calibration gas standards used were EPA Protocol 1 certified. At the beginning of each test period, the VOC measurement system was zeroed, using Zero Nitrogen, and spanned, using a calibration gas with a concentration of 80 to 90 percent of the instrument span. Following calibration a mid range gas (45 to 55 percent of the instrument span) and then a low range calibration gas (25 to 35 percent of the instrument span) were introduced to the measurement system to check response linearity. The mid and low range response error did not exceed five percent of the calibration gas value as required by EPA Reference Method 25A.

After each test run, calibration gas was introduced to the VOC measurement system in order to indicate the zero and calibration drift. EPA Method 25A requires that the zero and calibration drift errors not exceed three percent of the instrument span.

3.1.9 Methane Sampling - EPA Method 18: Methane measurements were done in accordance with EPA Reference Method 18. Single-point sampling was used to obtain a constant rate sample of flue gas concurrent with the VOC testing. Sampling was of the same duration as the VOC test runs.

A stainless steel probe was inserted in the stack to withdraw the sample gases. A peristaltic pump was used to fill a Tedlar bag. Moisture was removed from the sample gas by means of an air-cooled condenser located prior to the pump. Figure 10 shows a schematic of the Method 18 sampling train. The Tedlar bag was delivered to the laboratory for GC/FID analyses for methane.

3.1.10 Opacity Measurements: The visible opacity of the emissions from the RTO and Konus stacks were measured in accordance with EPA Method 9. The measurements were made by an EPA-certified observer. Opacity was read at 15-second intervals for a period of one hour, concurrent with the TSP/PM_{10} tests. Readings were made to the nearest five percent opacity with a minimum of 24 observations being recorded.

3.2 Analytical Procedures

3.2.1 Molecular Weight Determination - EPA Method 3A: Flue gas compositional analysis for molecular weight determination was conducted using instrumental analyzers operated in general accordance with EPA Method 3A. The instruments were calibrated before each analysis with EPA Protocol 1 calibration gas standards. Each bag was analyzed in triplicate and the average flue gas composition used for calculation of gas volumetric flow rate.

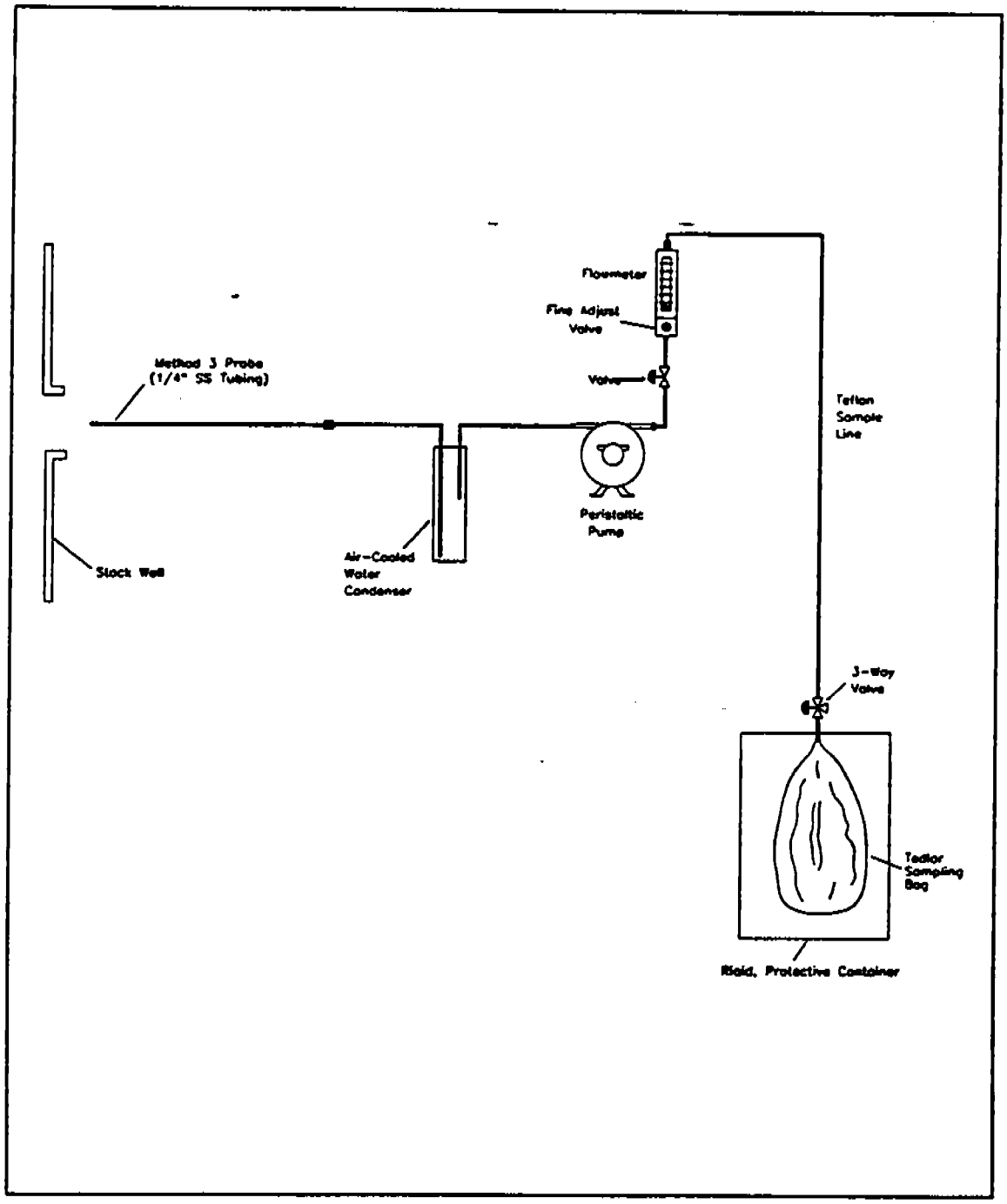


Figure 10 - EPA Method 18 Sampling Train for Methane

3.2.2 Moisture Content - EPA Method 4: Moisture contents were determined gravimetrically in accordance with Method 4 by measuring the volume or mass gains of each impinger in the pollutant sampling trains.

3.2.3 Particulate and PM_{10} Analyses - EPA Method 5 and 202: Particulate matter as well as particulate matter less than 10 microns was determined in accordance with EPA Method 5 and 202 procedures. The filter was desiccated and analyzed gravimetrically to a constant weight. The front-half acetone rinse was evaporated and analyzed gravimetrically to a constant weight. The front-half particulate catch equaled the sum of the front half acetone rinse and the filter, in accordance with Method 5 for determining TSP emissions.

The determination of the total condensible particulate matter in the back-half of the sampling train was determined in accordance with Method 202 procedures. The impinger contents and aqueous rinses were combined with the methylene chloride rinses and extracted twice with methylene chloride using a separatory funnel. The sample was divided into organic (methylene chloride) and inorganic (aqueous) fractions. The organic fraction was evaporated at room temperature and pressure, and the resulting residue gravimetrically analyzed to a constant weight. The inorganic fraction was evaporated to dryness at 105°C, and the resulting residue analyzed gravimetrically to a constant weight.

The back-half condensible particulate catch equaled the organic residue plus the inorganic residue. The PM_{10} emissions equaled the front-half probe rinse and filter plus the back-half condensibles (organic and inorganic fractions combined). Appendix L contains the gravimetric laboratory data for the analyses.

3.2.4 Formaldehyde Analyses: The impinger solutions and train rinses from the BIF Method 0011 sampling train were analyzed for formaldehyde using high performance liquid chromatography (HPLC) in accordance with BIF Method 0011A. Laboratory data for the analyses are contained in Appendix M.

3.2.5 Methylene Bisphenyl Isocyanate (MDI) Analyses: The impinger solutions and train rinses from the MDI sampling train were analyzed for MDI using high performance liquid chromatography (HPLC) in accordance with draft EPA MACT Method. Appendix N contains the laboratory data for the analyses.

3.2.6 Methane Analyses: The grab sample collected in a Tedlar bag from the EPA Method 18 sampling train was analyzed for methane using gas chromatography with a flame ionization detector (GC/FID) in accordance with EPA Method 18 procedures. Laboratory data for the analyses are included in Appendix O.

3.2.7 Fuel Heating Content Analyses: One bark sample from the bark fuel supply and one from the wood burner dry fuel supply were analyzed for BTU. The results of these analyses are included in Appendix R.

4.0 DATA ANALYSIS

Sample calculations related to the pollutant sampling, including gas flow rates, temperatures, percent isokinetics, and moisture content, are shown in Appendix F.

5.0 EQUIPMENT CALIBRATION

Field equipment was calibrated in accordance with the requirements of the applicable EPA Methods and those recommended within the "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III" (EPA-600/4-77-027b, August, 1977). Appendix Q contains the records for the equipment calibrations.

APPENDIX A

TEST LOG

TEST LOG
LOUISIANA PACIFIC
DUNGANNON, VA

UNIT	RUN I.D	POLLUTANT	DATE	START TIME	END TIME
RTO STACK	RTO-M5/202-R1	TSP/PM10	09/10/96	12:30	13:40
	RTO-M5/202-R2	TSP/PM10	09/10/96	14:30	15:40
	RTO-M5/202-R3	TSP/PM10	09/10/96	16:30	17:40
	RTO-M0011-R1	FORMALDEHYDE	09/10/96	12:30	13:40
	RTO-M0011-R2	FORMALDEHYDE	09/10/96	14:30	15:40
	RTO-M0011-R3	FORMALDEHYDE	09/10/96	16:30	17:40
	RTO-MDI-R1	MDI	09/11/96	09:40	11:00
	RTO-MDI-R2	MDI	09/11/96	12:35	13:45
	RTO-MDI-R3	MDI	09/11/96	14:38	15:48
	RTO-M9-R1	OPACITY	09/10/96	12:26	13:43
	RTO-M9-R2	OPACITY	09/10/96	14:30	15:45
	RTO-M9-R3	OPACITY	09/10/96	16:30	17:49
	RTO-CEMS-R1	O2,CO2,NOx,CO,VOC	09/10/96	12:30	13:30
	RTO-CEMS-R2	O2,CO2,NOx,CO,VOC	09/10/96	14:30	15:30
	RTO-CEMS-R3	O2,CO2,NOx,CO,VOC	09/10/96	16:30	17:30
KONUS STACK	KS-M5/202-R1	TSP/PM10	09/11/96	10:20	11:30
	KS-M5/202-R2	TSP/PM10	09/11/96	12:35	13:45
	KS-M5/202-R3	TSP/PM10	09/11/96	14:50	16:00
	KS-M0011-R1	FORMALDEHYDE	09/11/96	10:20	11:30
	KS-M0011-R2	FORMALDEHYDE	09/11/96	12:35	13:45
	KS-M0011-R3	FORMALDEHYDE	09/11/96	14:50	16:00
	KS-M9-R1	OPACITY	09/11/96	10:20	11:37
	KS-M9-R2	OPACITY	09/11/96	12:30	13:47
	KS-M9-R3	OPACITY	09/11/96	14:50	15:59
	KS-CEMS-R1	O2,CO2,SO2,NOx,CO,VOC	09/11/96	10:20	11:20
	KS-CEMS-R2	O2,CO2,SO2,NOx,CO,VOC	09/11/96	12:35	13:35
	KS-CEMS-R3	O2,CO2,SO2,NOx,CO,VOC	09/11/96	14:50	15:50
PRESS EXHAUST	PO-M2/4-R1	FLOW/MOISTURE	09/10/96	12:30	13:00
	PO-M2/4-R2	FLOW/MOISTURE	09/10/96	14:32	15:07
	PO-M2/4-R3	FLOW/MOISTURE	09/10/96	16:30	17:00
	PO-25A-R1	VOC	09/10/96	12:30	13:30
	PO-25A-R2	VOC	09/10/96	14:30	15:30
	PO-25A-R3	VOC	09/10/96	16:30	17:30
DRYER EXHAUST	DO-M2/4-R1	FLOW/MOISTURE	09/10/96	12:35	13:05
	DO-M2/4-R2	FLOW/MOISTURE	09/10/96	14:35	15:05
	DO-M2/4-R3	FLOW/MOISTURE	09/10/96	16:32	17:02
	DO-25A-R1	VOC	09/10/96	12:30	13:30
	DO-25A-R2	VOC	09/10/96	14:30	15:30
	DO-25A-R3	VOC	09/10/96	16:30	17:30

APPENDIX B

DATA AND RESULTS APPENDICES FOR RTO STACK

APPENDIX B.1

DATA AND RESULTS FOR EPA METHOD 5/202 TESTING

- RTO STACK -

RUN NUMBER	RTO-M5-R1	
Date	09/10/96	
Start Time	12:30	
End Time	13:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.839	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	40.945	dcf
Volume @ Std.Cond.	37.408	dscf
% Water	13.41	%
% Isokinetics	106.8	%
Velocity	45.38	ft/sec
Actual Flow	136863	acfm
Std. Flow	93429	scfm
Dry Std. Flow	80897	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	194.0	94.0
IMP.2	100.0	118.0	18.0
IMP.3	100.0	103.0	3.0
IMP.4	0.0	0.0	0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	415.0	115.0
S.G.	200.0	208.1	8.1

METHOD 3 DATA

%O2	18.7	Md	29.04
%CO2	1.8	Ms	27.56
%CO	0.0	Ps	28.68
%N2	79.5	Fo	1.200
O2+CO2	20.5	%EA	835

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	271	-0.29	0.34	0.95	330.200	87	84
2	275	-0.31	0.40	1.12	371.145	87	84
3	284	-0.31	0.41	1.15		87	84
4	280	-0.32	0.44	1.23		88	85
5	285		0.45	1.26		89	85
6	281		0.45	1.26		90	85
7	289		0.45	1.26		91	85
8	280		0.40	1.12		92	86
9	277		0.45	1.26		92	86
10	282		0.46	1.29		93	86
11	281		0.45	1.26		93	86
12	283		0.41	1.15		94	87
13	272		0.33	0.92		95	89
14	281		0.38	1.06		95	89
15	279		0.42	1.18		96	90
16	287		0.44	1.23		97	90
17	281		0.44	1.28		96	90
18	281		0.45	1.31		97	91
19	285		0.46	1.34		98	91
20	279		0.45	1.31		98	92
21	286		0.47	1.37		98	92
22	284		0.45	1.31		98	92
23	287		0.43	1.25		98	92
24	282		0.43	1.25		98	93
					371.145		
AVG.	281	-0.31	0.43	1.21	40.945		91

LOUISIANA PACIFIC
RTO STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	RTO-M5-R1	
Corr. Sample Volume:	37.408	dscf
Corr. Flowrate	80897	dscfm
O2 Content:	18.7	%
CO2 Content:	1.8	%

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM	-	
Probe Wash	0.00260	0.00232
Filter	0.00600	0.00600
CONDENSIBLE PM		
Organic CPM	0.00150	0.00021
Inorganic CPM*	0.04880	0.04312
TOTAL CPM	0.05030	0.04333
TOTAL PM	0.05890	0.05165

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	66.91990	66.92250	0.00260	102.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00028	
Max. Allowable Blank			0.00080	
Filter	0.39480	0.40080	0.00600	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				536.0	
Organic CPM (Uncorr.)	67.26670	67.26820	0.00150	243.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	66.70720	66.75600	0.04880	536.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.04880		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0034	0.0179	0.0213
Corrected to 7% O2 (gr/dscf)	0.0220	0.1147	0.1367
Corrected to 12% CO2 (gr/dscf)	0.0228	0.1188	0.1416
Mass Rate (lb/hr)	2.38	12.39	14.77

RUN NUMBER	RTO-M5-R2	
Date	09/10/96	
Start Time	14:30	
End Time	15:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.839	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	42.118	dcf
Volume @ Std.Cond.	38.208	dscf
% Water	12.81	%
% Isokinetics	107.4	%
Velocity	45.89	ft/sec
Actual Flow	138414	acfm
Std. Flow	94196	scfm
Dry Std. Flow	82125	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	192.0	92.0
IMP.2	100.0	118.0	18.0
IMP.3	100.0	102.0	2.0
IMP.4	0.0	0.0	0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	412.0	112.0
S.G.	200.0	207.3	7.3

METHOD 3 DATA

%O2	18.8	Md	29.03
%CO2	1.8	Ms	27.62
%CO	0.0	Ps	28.68
%N2	79.5	Fo	1.213
O2+CO2	20.5	%EA	850

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	275	-0.30	0.35	1.02	371.610	96	93
2	275	-0.32	0.39	1.14	413.728	96	94
3	278	-0.32	0.42	1.23		97	93
4	288	-0.31	0.44	1.28		98	94
5	285		0.46	1.34		98	94
6	281		0.47	1.37		99	94
7	287		0.45	1.31		100	94
8	286		0.46	1.34		100	94
9	288		0.45	1.31		101	95
10	285		0.47	1.37		100	95
11	286		0.47	1.37		101	96
12	288		0.43	1.26		101	96
13	270		0.36	1.05		96	95
14	278		0.43	1.26		96	93
15	288		0.43	1.26		96	93
16	284		0.46	1.34		95	93
17	287		0.45	1.31		95	93
18	286		0.46	1.34		94	93
19	285		0.45	1.31		94	92
20	290		0.41	1.20		93	91
21	285		0.45	1.31		94	91
22	282		0.46	1.34		93	90
23	285		0.45	1.31		92	90
24	285		0.41	1.20		92	90
					413.728		
AVG.	284	-0.31	0.44	1.27	42.118		95

LOUISIANA PACIFIC
RTO STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	RTO-M5-R2
Corr. Sample Volume:	38.208 dscf
Corr. Flowrate	82125 dscfm
O2 Content:	18.8 %
CO2 Content:	1.8 %

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM		
Probe Wash	0.00670	0.00637
Filter	0.00330	0.00330
CONDENSIBLE PM		
Organic CPM	0.00360	0.00230
Inorganic CPM*	0.04820	0.04150
TOTAL CPM	0.05180	0.04380
TOTAL PM	0.06180	0.05347

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	65.42300	65.42970	0.00670	120.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00033	
Max. Allowable Blank			0.00094	
Filter	0.39490	0.39820	0.00330	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				632.0	
Organic CPM (Uncorr.)	67.60460	67.60820	0.00360	245.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	64.45420	64.50240	0.04820	632.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.04820		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0039	0.0177	0.0216
Corrected to 7% O2 (gr/dscf)	0.0255	0.1155	0.1410
Corrected to 12% CO2 (gr/dscf)	0.0267	0.1210	0.1476
Mass Rate (lb/hr)	2.75	12.45	15.20

RUN NUMBER	RTO-M5-R3	
Date	09/10/96	
Start Time	16:30	
End Time	17:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.839	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	204.0	104.0
IMP.2	100.0	113.0	13.0
IMP.3	100.0	101.0	1.0
IMP.4	0.0	0.0	0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	418.0	118.0
S.G.	200.0	207.1	7.1

METHOD 1-4 RESULTS

Metered Volume	42.230	dcf
Volume @ Std.Cond.	39.083	dscf
% Water	13.09	%
% Isokinetics	108.2	%
Velocity	46.69	ft/sec
Actual Flow	140818	acfm
Std. Flow	96004	scfm
Dry Std. Flow	83433	dscfm

METHOD 3 DATA

%O2	18.8	Md	29.03
%CO2	1.8	Ms	27.59
%CO	0.0	Ps	28.67
%N2	79.4	Fo	1.183
O2+CO2	20.6	%EA	877

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	276	-0.36	0.32	0.93	415.325	84	83
2	278	-0.35	0.42	1.23	457.555	84	83
3	278	-0.33	0.46	1.34		85	83
4	284	-0.38	0.46	1.34		86	83
5	284		0.46	1.34		86	83
6	282		0.46	1.34		86	82
7	290		0.46	1.34		86	82
8	280		0.47	1.37		86	82
9	290		0.46	1.34		87	82
10	284		0.47	1.37		86	82
11	284		0.47	1.37		87	82
12	282		0.43	1.26		87	82
13	270		0.37	1.08		84	83
14	275		0.43	1.26		83	83
15	285		0.45	1.31		83	82
16	283		0.47	1.37		84	81
17	281		0.47	1.37		85	81
18	287		0.48	1.40		87	82
19	279		0.47	1.37		87	83
20	289		0.48	1.40		87	82
21	282		0.48	1.40		87	83
22	281		0.49	1.43		87	82
23	290		0.47	1.37		87	82
24	279		0.46	1.34		84	81
					457.555		
AVG.	282	-0.36	0.45	1.32	42.230		84

LOUISIANA PACIFIC
RTO STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	RTO-M5-R3	
Corr. Sample Volume:	39.083	dscf
Corr. Flowrate	83433	dscfm
O2 Content:	18.8	%
CO2 Content:	1.8	%

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM		
Probe Wash	0.00270	0.00234
Filter	0.00470	0.00470
CONDENSIBLE PM		
Organic CPM	0.00640	0.00514
Inorganic CPM	0.03520	0.02832
TOTAL CPM	0.04160	0.03346
TOTAL PM	0.04900	0.04050

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	65.13640	65.13910	0.00270	131.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00036	
Max. Allowable Blank			0.00103	
Filter	0.39180	0.39650	0.00470	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				649.0	
Organic CPM (Uncorr.)	64.72820	64.73460	0.00640	238.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	67.00080	67.03600	0.03520	649.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.03520		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0028	0.0132	0.0160
Corrected to 7% O2 (gr/dscf)	0.0186	0.0884	0.1069
Corrected to 12% CO2 (gr/dscf)	0.0190	0.0903	0.1093
Mass Rate (lb/hr)	1.99	9.45	11.43

APPENDIX B.2

DATA AND RESULTS FOR BIF METHOD 0011 TESTING

- RTO STACK -

RUN NUMBER	RTO-0011-R1	
Date	09/10/96	
Start Time	12:30	
End Time	13:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	198.0	98.0
IMP.2	100.0	104.0	4.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	303.0	103.0
S.G.	200.0	210.8	10.8

METHOD 1-4 RESULTS

Metered Volume	39.516	dcf
Volume @ Std.Cond.	35.930	dscf
% Water	12.98	%
% Isokinetics	104.9	%
Velocity	44.20	ft/sec
Actual Flow	133300	acfm
Std. Flow	90837	scfm
Dry Std. Flow	79050	dscfm

METHOD 3 DATA

%O2	18.7	Md	29.04
%CO2	1.8	Ms	27.61
%CO	0.0	Ps	28.68
%N2	79.5	Fo	1.200
O2+CO2	20.5	%EA	835

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	281	-0.30	0.46	1.30	61.677	80	78
2	282	-0.29	0.44	1.23	101.193	89	86
3	280		0.47	1.32		89	86
4	278		0.46	1.30		91	86
5	286		0.43	1.20		93	87
6	281		0.43	1.20		95	88
7	279		0.44	1.23		98	89
8	283		0.45	1.26		98	90
9	279		0.42	1.18		100	91
10	285		0.42	1.18		100	91
11	277		0.38	1.06		101	92
12	285		0.29	0.82		103	93
13	279		0.42	1.18		100	96
14	282		0.45	1.26		103	97
15	279		0.41	1.15		105	98
16	286		0.41	1.15		107	99
17	285		0.34	0.99		107	99
18	289		0.41	1.20		108	100
19	284		0.41	1.20		109	100
20	287		0.40	1.17		109	101
21	284		0.43	1.26		110	102
22	279		0.43	1.26		110	101
23	287		0.38	1.11		111	103
24	287		0.34	0.99		112	103
					101.193		
AVG.	283	-0.30	0.41	1.18	39.516		98

RUN NUMBER	RTO-0011-R2	
Date	09/10/96	
Start Time	14:30	
End Time	15:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	40.988	dcf
Volume @ Std.Cond.	36.888	dscf
% Water	13.57	%
% Isokinetics	107.1	%
Velocity	44.93	ft/sec
Actual Flow	135500	acfm
Std. Flow	91968	scfm
Dry Std. Flow	79490	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	196.0	96.0
IMP.2	100.0	116.0	16.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	313.0	113.0
S.G.	200.0	210.0	10.0

METHOD 3 DATA

%O2	18.8	Md	29.03
%CO2	1.8	Ms	27.53
%CO	0.0	Ps	28.68
%N2	79.5	Fo	1.213
O2+CO2	20.5	%EA	850

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	288	-0.32	0.45	1.31	102.153	109	106
2	284	-0.33	0.47	1.37	143.141	108	107
3	283		0.47	1.37		108	106
4	285		0.48	1.40		108	106
5	281		0.34	0.99		108	105
6	290		0.45	1.31		108	105
7	282		0.46	1.34		108	105
8	291		0.44	1.28		107	105
9	285		0.45	1.31		108	104
10	289		0.42	1.23		108	104
11	288		0.43	1.25		107	103
12	282		0.36	1.05		107	103
13	287		0.45	1.31		103	101
14	283		0.49	1.43		103	100
15	288		0.46	1.34		103	100
16	283		0.46	1.34		103	100
17	288		0.46	1.34		103	99
18	291		0.45	1.31		102	99
19	281		0.32	0.93		102	98
20	287		0.32	0.93		102	98
21	283		0.44	1.28		102	98
22	282		0.48	1.40		102	97
23	290		0.44	1.28		102	97
24	283		0.41	1.19		102	97
					143.141		
AVG.	286	-0.33	0.43	1.26	40.988		103

RUN NUMBER	RTO-0011-R3	
Date	09/10/96	
Start Time	16:30	
End Time	17:40	
Stack Diam.	96	inches
Nozzle I.D.	0.258	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	186.0	86.0
IMP.2	100.0	128.0	28.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	315.0	115.0
S.G.	200.0	209.2	9.2

METHOD 1-4 RESULTS

Metered Volume	41.052	dcf
Volume @ Std.Cond.	37.830	dscf
% Water	13.39	%
% Isokinetics	107.6	%
Velocity	45.71	ft/sec
Actual Flow	137860	acfm
Std. Flow	93689	scfm
Dry Std. Flow	81147	dscfm

METHOD 3 DATA

%O2	18.8	Md	29.03
%CO2	1.8	Ms	27.56
%CO	0.0	Ps	28.67
%N2	79.4	Fo	1.183
O2+CO2	20.6	%EA	877

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	OUTLET (DegF)
1	289	-0.36	0.46	1.34	144.075	93	92
2	287	-0.34	0.48	1.40	185.127	93	92
3	279		0.48	1.40		93	92
4	283		0.46	1.34		93	91
5	282		0.48	1.40		92	90
6	290		0.47	1.37		92	89
7	283		0.46	1.34		91	88
8	282		0.45	1.31		90	88
9	289		0.47	1.37		90	88
10	285		0.44	1.28		91	88
11	288		0.40	1.17		93	88
12	280		0.36	1.05		93	88
13	285		0.45	1.31		89	87
14	283		0.47	1.37		92	88
15	291		0.47	1.37		92	88
16	283		0.45	1.31		92	88
17	282		0.34	0.99		93	87
18	285		0.48	1.40		92	87
19	285		0.46	1.34		92	87
20	284		0.45	1.31		92	87
21	281		0.47	1.37		93	87
22	291		0.45	1.31		94	88
23	282		0.41	1.20		94	88
24	281		0.37	1.08		94	87
					185.127		
AVG.	285	-0.35	0.45	1.30	41.052		90

APPENDIX B.3

DATA AND RESULTS FOR MDI TESTING

- RTO STACK -

RUN NUMBER	RTO-MDI-R1	
Date	09/11/96	
Start Time	09:40	
End Time	11:00	
Stack Diam.	96	inches
Nozzle I.D.	0.275	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	47.453	dcf
Volume @ Std.Cond.	43.993	dscf
% Water	4.73	%
% Isokinetics	102.1	%
Velocity	44.73	ft/sec
Actual Flow	134889	acfm
Std. Flow	91918	scfm
Dry Std. Flow	87568	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	300.0	232.0	-68.0
IMP.2	200.0	246.0	46.0
IMP.3	200.0	194.0	-6.0
IMP.4	0.0	3.0	3.0
IMP.5			0.0
IMP.6			0.0
TOTAL	700.0	675.0	-25.0
A.C.	200.0	248.5	48.5
S.G.	200.0	222.8	22.8

METHOD 3 DATA

%O2	18.8	Md	29.02
%CO2	1.7	Ms	28.50
%CO	0.0	Ps	28.67
%N2	79.5	Fo	1.224
O2+CO2	20.5	%EA	870

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	286	-0.36	0.45	1.67	457.752	86	83
2	281	-0.36	0.46	1.70	481.548	86	83
3	288	-0.32	0.46	1.70	482.367	86	83
4	282	-0.35	0.48	1.78	506.024	86	83
5	285		0.46	1.70		86	83
6	282		0.46	1.70		85	82
7	282		0.46	1.70		85	82
8	290		0.45	1.67		84	81
9	282		0.47	1.74		84	81
10	285		0.45	1.67		84	81
11	282		0.41	1.52		84	81
12	276		0.36	1.33		83	81
13	279		0.46	1.70		80	78
14	278		0.47	1.74		80	79
15	284		0.47	1.74		81	78
16	283		0.47	1.74		81	78
17	287		0.45	1.67		81	78
18	282		0.46	1.70		82	78
19	281		0.46	1.70		82	78
20	288		0.46	1.70		83	78
21	282		0.45	1.67		83	79
22	279		0.43	1.59		83	78
23	282		0.40	1.48		84	79
24	276		0.37	1.36		84	79
					506.024		
AVG.	283	-0.35	0.45	1.65	47.453		83

RUN NUMBER	RTO-MDI-R2	
Date	09/11/96	
Start Time	12:35	
End Time	13:45	
Stack Diam.	96	inches
Nozzle I.D.	0.275	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	47.041	dcf
Volume @ Std.Cond.	43.641	dscf
% Water	9.85	%
% Isokinetics	107.8	%
Velocity	44.48	ft/sec
Actual Flow	134153	acfm
Std. Flow	91241	scfm
Dry Std. Flow	82253	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	300.0	234.0	-66.0
IMP.2	200.0	293.0	93.0
IMP.3	200.0	204.0	4.0
IMP.4	0.0	3.0	3.0
IMP.5			0.0
IMP.6			0.0
TOTAL	700.0	734.0	34.0
A.C.	200.0	247.4	47.4
S.G.	200.0	219.8	19.8

METHOD 3 DATA

%O2	18.8	Md	29.02
%CO2	1.7	Ms	27.93
%CO	0.0	Ps	28.67
%N2	79.5	Fo	1.257
O2+CO2	20.5	%EA	856

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	282	-0.38	0.46	1.70	507.379	82	80
2	281	-0.33	0.46	1.70	554.420	83	81
3	285	-0.35	0.46	1.70		84	81
4	283	-0.35	0.46	1.70		84	81
5	290		0.45	1.67		85	81
6	286		0.45	1.67		85	81
7	283		0.45	1.67		85	81
8	287		0.44	1.63		85	81
9	283		0.42	1.55		85	81
10	290		0.42	1.55		85	81
11	283		0.41	1.51		85	81
12	281		0.32	1.18		85	81
13	279		0.45	1.67		84	81
14	288		0.45	1.67		83	81
15	280		0.46	1.70		83	81
16	290		0.46	1.70		84	81
17	284		0.45	1.67		84	81
18	285		0.46	1.70		85	81
19	285		0.45	1.67		86	81
20	282		0.45	1.67		86	81
21	281		0.45	1.67		87	81
22	285		0.41	1.59		88	82
23	281		0.42	1.55		88	82
24	282		0.35	1.30		88	83
					554.420		
AVG.	284	-0.35	0.44	1.62	47.041		83

RUN NUMBER	RTO-MDI-R3	
Date	09/11/96	
Start Time	14:38	
End Time	15:48	
Stack Diam.	96	inches
Nozzle I.D.	0.275	inches
Meter Box Gamma	0.9910	
Meter Box dH@	1.7191	
Barometric	28.70	in.Hg
Cp	0.821	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	300.0	243.0	-57.0
IMP.2	200.0	287.0	87.0
IMP.3	200.0	203.0	3.0
IMP.4	0.0	3.0	3.0
IMP.5			0.0
IMP.6			0.0
TOTAL	700.0	736.0	36.0
A.C.	200.0	261.4	61.4
S.G.	200.0	220.6	20.6

METHOD 1-4 RESULTS

Metered Volume	47.273	dcf
Volume @ Std.Cond.	43.670	dscf
% Water	11.30	%
% Isokinetics	108.2	%
Velocity	45.17	ft/sec
Actual Flow	136244	acfm
Std. Flow	92476	scfm
Dry Std. Flow	82031	dscfm

METHOD 3 DATA

%O2	18.8	Md	29.02
%CO2	1.7	Ms	27.77
%CO	0.0	Ps	28.67
%N2	79.6	Fo	1.280
O2+CO2	20.4	%EA	831

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	287	-0.35	0.47	1.74	555.609	83	83
2	288	-0.38	0.45	1.67	602.882	83	83
3	284	-0.36	0.46	1.70		84	84
4	291	-0.32	0.46	1.70		85	84
5	285		0.45	1.67		86	84
6	290		0.46	1.70		86	84
7	288		0.46	1.70		87	85
8	282		0.45	1.67		87	85
9	290		0.45	1.67		88	86
10	290		0.44	1.63		88	86
11	283		0.44	1.63		88	86
12	281		0.33	1.22		88	86
13	279		0.46	1.70		88	88
14	281		0.46	1.70		88	88
15	290		0.46	1.70		89	88
16	285		0.47	1.74		90	89
17	282		0.46	1.70		90	89
18	289		0.46	1.70		90	89
19	282		0.45	1.67		90	89
20	282		0.44	1.63		90	89
21	285		0.43	1.59		90	89
22	285		0.43	1.59		90	89
23	290		0.40	1.48		90	89
24	283		0.35	1.30		90	90
					602.882		
AVG.	286	-0.35	0.44	1.63	47.273		85

APPENDIX B.4

DATA AND RESULTS FOR EPA METHODS 3A, 7E, 10, AND 25A TESTING

- RTO STACK -

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R1

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
12:31	18.990	1.601	35.51	16.01
12:32	18.860	1.717	40.62	15.37
12:33	18.830	1.768	42.78	15.20
12:34	18.820	1.772	44.14	14.67
12:35	18.820	1.793	48.29	15.68
12:36	18.730	1.854	43.63	15.65
12:37	18.810	1.779	41.50	15.03
12:38	18.860	1.759	44.60	14.63
12:39	18.840	1.788	52.29	15.28
12:40	18.730	1.862	45.22	15.72
12:41	18.780	1.810	45.99	15.21
12:42	18.840	1.786	51.87	14.80
12:43	18.830	1.811	56.03	14.93
12:44	18.750	1.853	48.07	15.69
12:45	18.760	1.835	54.04	15.32
12:46	18.790	1.824	61.33	14.65
12:47	18.800	1.837	60.35	14.71
12:48	18.730	1.871	50.78	15.88
12:49	18.700	1.872	62.17	15.51
12:50	18.730	1.858	66.84	14.89
12:51	18.750	1.854	65.29	14.61
12:52	18.700	1.897	58.52	15.93
12:53	18.630	1.927	65.19	15.31
12:54	18.710	1.877	71.70	14.66
12:55	18.740	1.847	62.69	14.56
12:56	18.710	1.877	59.87	15.78
12:57	18.610	1.930	64.64	15.48
12:58	18.710	1.863	69.67	14.76
12:59	18.760	1.813	60.44	14.55
13:00	18.770	1.817	60.85	15.31
13:01	18.680	1.859	63.25	15.24
13:02	18.720	1.809	66.19	14.51
13:03	18.790	1.730	55.85	14.37
13:04	18.820	1.724	58.74	14.87
13:05	18.740	1.792	58.77	15.28
13:06	18.730	1.792	62.43	14.85
13:07	18.780	1.771	61.39	14.25
13:08	18.760	1.810	73.40	14.33
13:09	18.640	1.880	74.10	15.31
13:10	18.620	1.876	72.40	15.20
13:11	18.660	1.858	72.10	14.72

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R1

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
13:12	18.670	1.859	78.70	14.27
13:13	18.610	1.918	77.30	15.48
13:14	18.590	1.905	72.10	15.00
13:15	18.690	1.844	78.10	14.64
13:16	18.720	1.822	77.50	14.13
13:17	18.680	1.862	74.20	15.40
13:18	18.620	1.884	70.20	15.11
13:19	18.720	1.833	82.10	14.52
13:20	18.730	1.830	85.40	14.05
13:21	18.690	1.856	82.20	14.89
13:22	18.630	1.887	79.00	15.12
13:23	18.680	1.844	90.60	14.45
13:24	18.720	1.820	85.70	13.97
13:25	18.730	1.808	82.60	14.63
13:26	18.640	1.870	84.80	15.08
13:27	18.640	1.858	102.30	14.34
13:28	18.690	1.816	102.90	13.68
13:29	18.710	1.822	106.50	14.08
13:30	18.630	1.886	103.70	15.32
60 MinAvg	18.730	1.831	66.16	14.95

Data Corrected for Calibrations

60 MinAvg	18.734	1.805	66.07	15.81

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R1

Calibrations:

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 1215
LOW Cal. Response = 0.06 HIGH Cal. Response = 10.14
FINAL CALIBRATION TIME ----> 1351
LOW Cal. Response = 0.07 HIGH Cal. Response = 10.11

LOW System Drift = 0.09 % HIGH System Drift = -0.12 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 1215
LOW Cal. Response = 0.08 HIGH Cal. Response = 12.20
FINAL CALIBRATION TIME ----> 1351
LOW Cal. Response = 0.09 HIGH Cal. Response = 12.21

LOW System Drift = 0.03 % HIGH System Drift = 0.04 %

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 1215
LOW Cal. Response = 0.10 HIGH Cal. Response = 47.08
FINAL CALIBRATION TIME ----> 1351
LOW Cal. Response = 0.06 HIGH Cal. Response = 47.34

LOW System Drift = -0.04 % HIGH System Drift = 0.25 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R1

Calibrations:

[CO] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.48

INITIAL CALIBRATION TIME --> 1215
LOW Cal. Response = -0.36 HIGH Cal. Response = 25.32
FINAL CALIBRATION TIME ----> 1351
LOW Cal. Response = -0.20 HIGH Cal. Response = 25.37

LOW System Drift = 0.16 % HIGH System Drift = 0.04 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 1

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
12:31	3.88
12:32	3.89
12:33	3.34
12:34	3.37
12:35	3.41
12:36	4.06
12:37	3.71
12:38	3.53
12:39	3.62
12:40	3.97
12:41	3.46
12:42	3.72
12:43	3.80
12:44	3.58
12:45	4.44
12:46	4.70
12:47	4.34
12:48	3.67
12:49	3.92
12:50	3.95
12:51	3.93
12:52	3.54
12:53	3.92
12:54	4.21
12:55	4.78
12:56	4.26
12:57	4.28
12:58	4.14
12:59	4.02
13:00	4.02
13:01	4.01
13:02	3.98
13:03	3.88
13:04	4.05
13:05	3.84
13:06	3.90
13:07	3.93
13:08	4.84
13:09	4.37
13:10	4.36
13:11	4.32

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 1

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
13:12	4.66
13:13	4.23
13:14	5.16
13:15	4.59
13:16	4.75
13:17	4.36
13:18	4.40
13:19	4.49
13:20	5.51
13:21	4.83
13:22	4.61
13:23	5.16
13:24	5.58
13:25	5.20
13:26	4.88
13:27	5.23
13:28	6.38
13:29	6.26
13:30	5.19
60 MinAvg	4.31

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R2

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
14:31	18.710	1.774	53.10	14.39
14:32	18.710	1.782	52.64	15.25
14:33	18.620	1.845	58.95	15.22
14:34	18.670	1.816	62.95	14.63
14:35	18.710	1.791	52.58	14.39
14:36	18.710	1.803	58.03	15.12
14:37	18.640	1.861	61.38	15.32
14:38	18.680	1.820	61.33	14.75
14:39	18.760	1.771	53.45	14.40
14:40	18.750	1.793	62.73	14.77
14:41	18.640	1.867	62.14	15.38
14:42	18.650	1.837	57.86	14.80
14:43	18.730	1.777	54.97	14.35
14:44	18.760	1.781	63.78	14.41
14:45	18.680	1.838	60.38	15.49
14:46	18.680	1.813	52.78	15.13
14:47	18.770	1.764	53.77	14.60
14:48	18.780	1.760	57.96	14.37
14:49	18.720	1.807	52.89	15.70
14:50	18.650	1.843	47.49	15.31
14:51	18.730	1.785	52.96	14.95
14:52	18.770	1.747	56.00	14.18
14:53	18.750	1.779	48.24	15.90
14:54	18.680	1.813	42.12	15.67
14:55	18.770	1.749	49.45	14.94
14:56	18.800	1.705	44.29	14.77
14:57	18.870	1.633	32.87	16.39
14:58	18.840	1.629	30.40	16.62
14:59	18.940	1.547	36.76	15.94
15:00	18.980	1.514	33.03	15.89
15:01	18.940	1.578	31.25	16.24
15:02	18.760	1.753	38.28	16.03
15:03	18.710	1.783	48.24	15.16
15:04	18.750	1.753	42.59	15.31
15:05	18.750	1.750	39.43	15.62
15:06	18.670	1.807	43.20	16.06
15:07	18.660	1.795	48.82	15.43
15:08	18.720	1.730	41.33	15.20
15:09	18.750	1.719	40.44	15.40
15:10	18.670	1.803	45.42	16.11
15:11	18.630	1.804	48.02	15.76

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R2

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
15:12	18.710	1.766	43.19	15.46
15:13	18.720	1.771	47.01	15.17
15:14	18.660	1.835	48.67	16.23
15:15	18.610	1.860	46.32	15.77
15:16	18.730	1.776	43.75	15.50
15:17	18.760	1.759	49.50	14.71
15:18	18.710	1.826	53.06	15.85
15:19	18.610	1.871	49.46	15.73
15:20	18.700	1.809	53.19	15.31
15:21	18.690	1.809	56.72	14.69
15:22	18.660	1.846	57.51	15.64
15:23	18.570	1.893	50.05	15.71
15:24	18.640	1.816	54.61	15.22
15:25	18.690	1.801	56.59	14.75
15:26	18.660	1.835	55.26	15.71
15:27	18.580	1.892	47.89	15.92
15:28	18.620	1.839	54.67	15.42
15:29	18.660	1.825	55.70	14.78
15:30	18.670	1.822	51.22	15.46
60 MinAvg	18.713	1.783	50.14	15.31

Data Corrected for Calibrations

60 MinAvg	18.772	1.755	50.20	16.16

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R2

Calibrations:

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 1351
LOW Cal. Response = 0.07 HIGH Cal. Response = 10.11
FINAL CALIBRATION TIME ----> 1558
LOW Cal. Response = 0.06 HIGH Cal. Response = 10.10

LOW System Drift = -0.05 % HIGH System Drift = -0.08 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 1351
LOW Cal. Response = 0.09 HIGH Cal. Response = 12.21
FINAL CALIBRATION TIME ----> 1558
LOW Cal. Response = 0.08 HIGH Cal. Response = 12.13

LOW System Drift = -0.04 % HIGH System Drift = -0.32 %

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 1351
LOW Cal. Response = 0.06 HIGH Cal. Response = 47.34
FINAL CALIBRATION TIME ----> 1558
LOW Cal. Response = 0.06 HIGH Cal. Response = 47.33

LOW System Drift = 0.00 % HIGH System Drift = -0.01 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R2

Calibrations:

[CO] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.48

INITIAL CALIBRATION TIME --> 1351
LOW Cal. Response = -0.20 HIGH Cal. Response = 25.37
FINAL CALIBRATION TIME ----> 1558
LOW Cal. Response = -0.23 HIGH Cal. Response = 25.33

LOW System Drift = -0.03 % HIGH System Drift = -0.04 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 2

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
14:31	2.33
14:32	2.32
14:33	2.55
14:34	2.52
14:35	2.31
14:36	2.52
14:37	2.47
14:38	2.40
14:39	2.31
14:40	2.77
14:41	2.35
14:42	2.33
14:43	2.28
14:44	2.68
14:45	2.23
14:46	2.17
14:47	2.22
14:48	2.46
14:49	2.11
14:50	2.07
14:51	2.20
14:52	2.37
14:53	1.99
14:54	1.89
14:55	2.01
14:56	1.99
14:57	1.66
14:58	1.57
14:59	1.70
15:00	1.65
15:01	1.54
15:02	1.60
15:03	1.77
15:04	1.70
15:05	1.67
15:06	1.61
15:07	1.81
15:08	1.63
15:09	1.72
15:10	1.74
15:11	2.04

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 2

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
15:12	2.10
15:13	2.51
15:14	2.73
15:15	3.42
15:16	3.98
15:17	4.66
15:18	5.02
15:19	5.89
15:20	6.61
15:21	7.45
15:22	7.96
15:23	8.01
15:24	7.96
15:25	8.32
15:26	8.29
15:27	8.16
15:28	8.64
15:29	8.20
15:30	8.42
60 MinAvg	3.39

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R3

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
16:31	18.750	1.793	60.75	14.83
16:32	18.760	1.798	63.48	14.59
16:33	18.710	1.840	57.31	15.64
16:34	18.720	1.810	59.46	15.38
16:35	18.770	1.790	64.42	14.69
16:36	18.790	1.773	64.42	14.41
16:37	18.770	1.786	56.53	15.71
16:38	18.730	1.817	60.94	15.30
16:39	18.800	1.788	66.44	14.53
16:40	18.820	1.760	61.58	14.35
16:41	18.790	1.778	56.29	15.76
16:42	18.710	1.837	58.79	15.59
16:43	18.780	1.802	66.57	14.76
16:44	18.820	1.762	58.43	14.59
16:45	18.830	1.766	57.49	15.68
16:46	18.740	1.838	58.53	15.57
16:47	18.810	1.777	64.37	14.70
16:48	18.850	1.726	56.20	14.68
16:49	18.850	1.740	57.59	15.44
16:50	18.730	1.836	60.16	15.60
16:51	18.720	1.824	64.71	15.19
16:52	18.780	1.777	56.44	14.97
16:53	18.790	1.778	59.82	15.15
16:54	18.680	1.856	60.53	15.82
16:55	18.700	1.802	59.26	15.45
16:56	18.780	1.740	56.50	14.94
16:57	18.780	1.763	64.09	14.79
16:58	18.670	1.845	61.90	15.94
16:59	18.650	1.819	57.94	15.63
17:00	18.740	1.744	53.28	15.17
17:01	18.850	1.649	44.59	14.59
17:02	18.890	1.621	36.33	16.61
17:03	18.910	1.575	29.88	16.86
17:04	19.030	1.491	31.02	16.35
17:05	19.070	1.481	36.15	14.98
17:06	18.870	1.725	46.69	16.41
17:07	18.710	1.813	46.62	15.10
17:08	18.860	1.713	63.77	15.23
17:09	18.790	1.775	56.54	15.13
17:10	18.740	1.805	51.73	16.28
17:11	18.680	1.852	48.29	16.11

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R3

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
17:12	18.800	1.753	60.30	14.78
17:13	18.850	1.759	55.18	15.38
17:14	18.780	1.786	49.54	16.18
17:15	18.730	1.808	45.55	16.45
17:16	18.820	1.711	43.96	15.66
17:17	18.930	1.624	35.90	15.69
17:18	19.000	1.584	32.16	16.17
17:19	18.900	1.688	40.79	16.57
17:20	18.760	1.797	54.07	15.69
17:21	18.790	1.771	50.00	15.46
17:22	18.820	1.767	48.46	15.26
17:23	18.740	1.830	47.89	16.56
17:24	18.700	1.848	53.39	15.75
17:25	18.800	1.786	52.46	15.16
17:26	18.840	1.744	48.57	15.01
17:27	18.780	1.798	49.90	16.38
17:28	18.670	1.850	54.60	15.79
17:29	18.730	1.800	52.47	15.54
17:30	18.750	1.775	47.83	15.18
60 MinAvg	18.790	1.762	53.65	15.45

Data Corrected for Calibrations

60 MinAvg	18.822	1.756	53.64	16.30

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R3

Calibrations:

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 1558
LOW Cal. Response = 0.06 HIGH Cal. Response = 10.10
FINAL CALIBRATION TIME ----> 1755
LOW Cal. Response = 0.03 HIGH Cal. Response = 10.06

LOW System Drift = -0.16 % HIGH System Drift = -0.21 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 1558
LOW Cal. Response = 0.08 HIGH Cal. Response = 12.13
FINAL CALIBRATION TIME ----> 1755
LOW Cal. Response = 0.06 HIGH Cal. Response = 12.24

LOW System Drift = -0.07 % HIGH System Drift = 0.42 %

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 1558
LOW Cal. Response = 0.06 HIGH Cal. Response = 47.33
FINAL CALIBRATION TIME ----> 1755
LOW Cal. Response = 0.06 HIGH Cal. Response = 47.38

LOW System Drift = 0.00 % HIGH System Drift = 0.06 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET R3

Calibrations:

[CO] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.48

INITIAL CALIBRATION TIME --> 1558
LOW Cal. Response = -0.23 HIGH Cal. Response = 25.33
FINAL CALIBRATION TIME ----> 1755
LOW Cal. Response = -0.21 HIGH Cal. Response = 25.41

LOW System Drift = 0.01 % HIGH System Drift = 0.08 %

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 3

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
16:31	2.65
16:32	2.79
16:33	3.34
16:34	3.06
16:35	2.78
16:36	2.76
16:37	2.24
16:38	2.44
16:39	2.46
16:40	2.30
16:41	2.18
16:42	2.16
16:43	2.21
16:44	2.28
16:45	2.18
16:46	2.17
16:47	2.26
16:48	2.43
16:49	2.51
16:50	2.31
16:51	2.21
16:52	2.15
16:53	2.24
16:54	2.08
16:55	2.05
16:56	2.08
16:57	2.20
16:58	1.90
16:59	2.04
17:00	1.85
17:01	1.94
17:02	1.49
17:03	1.46
17:04	1.34
17:05	1.35
17:06	1.43
17:07	1.47
17:08	2.16
17:09	1.65
17:10	1.63
17:11	1.71

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
RTO OUTLET - RUN 3

St[redacted]ing
[redacted]96
[redacted]

Time	RTO OUTLET VOCppmwv
17:12	2.27
17:13	1.77
17:14	1.70
17:15	1.51
17:16	1.57
17:17	1.41
17:18	1.34
17:19	1.26
17:20	1.43
17:21	1.47
17:22	1.49
17:23	1.35
17:24	1.61
17:25	1.63
17:26	1.67
17:27	1.53
17:28	1.71
17:29	1.59
17:30	1.57
60 MinAvg	1.96

APPENDIX B.5

DATA AND RESULTS FOR EPA METHOD 9 TESTING

- RTO STACK -

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: RTO-[illegible]-R1
DATE: 09/10/98
RUN START TIME: 12:26
RUN STOP TIME: 13:43

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
12:26	0	0	0	0	
12:27	0	0	0	0	
12:28	0	0	0	0	
12:29	0	0	0	0	
12:30	0	0	0	0	
12:31	0	0	0	0	0
12:32	0	0	0	0	
12:33	0	0	0	0	
12:34	0	0	0	0	
12:35	0	0	0	0	
12:36	0	0	0	0	
12:37	0	0	0	0	0
12:38	0	0	0	0	
12:39	0	0	0	0	
12:40	0	0	0	0	
12:41	0	0	0	0	
12:42	0	0	0	0	
12:43	0	0	0	0	0
12:44	0	0	0	0	
12:45	0	0	0	0	
12:46	0	0	0	0	
12:47	0	0	0	0	
12:48	0	0	0	0	
12:49	0	0	0	0	0
12:50	0	0	0	0	
12:51	0	0	0	0	
12:52	0	0	0	0	
12:53	0	0	0	0	
12:54	0	0	0	0	
12:55	0	0	0	0	0
12:56	0	0	0	0	
12:57	0	0	0	0	
12:58	0	0	0	0	
12:59	0	0	0	0	
13:00	0	0	0	0	
13:01	0	0	0	0	0
13:02	0	0	0	0	
13:03	0	0	0	0	
13:04	0	0	0	0	
13:05	0	0	0	0	
13:06	0	0	0	0	
13:07	0	0	0	0	0
13:08	0	0	0	0	
13:09	0	0	0	0	
13:10	0	0	0	0	
13:11	0	0	0	0	
13:12	0	0	0	0	
13:13	0	0	0	0	0
13:14	0	0	0	0	
13:15	0	0	0	0	
13:16	0	0	0	0	
13:17	0	0	0	0	
13:18	0	0	0	0	
13:19	0	0	0	0	0
13:20	0	0	0	0	
13:21	0	0	0	0	
13:22	0	0	0	0	
13:23	0	0	0	0	
13:24	0	0	0	0	
13:25	0	0	0	0	0
13:26	0	0	0	0	
13:27	0	0	0	0	
13:28	0	0	0	0	
13:29	0	0	0	0	
13:30	0	0	0	0	
13:31	0	0	0	0	0
13:32	0	0	0	0	
13:33	0	0	0	0	
13:34	0	0	0	0	
13:35	0	0	0	0	
13:36	0	0	0	0	
13:37	0	0	0	0	0
13:38	0	0	0	0	
13:39	0	0	0	0	
13:40	0	0	0	0	
13:41	0	0	0	0	
13:42	0	0	0	0	0

Maximum 6-Minute Value = 0.00
Average for 77-Minutes = 0.00

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: RTO-M9-R2
DATE: 09/10/96
RUN START TIME: 14:30
RUN STOP TIME: 15:45

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
14:30	0	0	0	0	
14:31	0	0	0	0	
14:32	0	0	0	0	
14:33	0	0	0	0	
14:34	0	0	0	0	
14:35	0	0	0	0	0
14:36	0	0	0	0	
14:37	0	0	0	0	
14:38	0	0	0	0	
14:39	0	0	0	0	
14:40	0	0	0	0	
14:41	0	0	0	0	0
14:42	0	0	0	0	
14:43	0	0	0	0	
14:44	0	0	0	0	
14:45	0	0	0	0	
14:46	0	0	0	0	
14:47	0	0	0	0	0
14:48	0	0	0	0	
14:49	0	0	0	0	
14:50	0	0	0	0	
14:51	0	0	0	0	
14:52	0	0	0	0	
14:53	0	0	0	0	0
14:54	0	0	0	0	
14:55	0	0	0	0	
14:56	0	0	0	0	
14:57	0	0	0	0	
14:58	0	0	0	0	
14:59	0	0	0	0	0
15:00	0	0	0	0	
15:01	0	0	0	0	
15:02	0	0	0	0	
15:03	0	0	0	0	
15:04	0	0	0	0	
15:05	0	0	0	0	0
15:06	0	0	0	0	
15:07	0	0	0	0	
15:08	0	0	0	0	
15:09	0	0	0	0	
15:10	0	0	0	0	
15:11	0	0	0	0	0
15:12	0	0	0	0	
15:13	0	0	0	0	
15:14	0	0	0	0	
15:15	0	0	0	0	
15:16	0	0	0	0	
15:17	0	0	0	0	0
15:18	0	0	0	0	
15:19	0	0	0	0	
15:20	0	0	0	0	
15:21	0	0	0	0	
15:22	0	0	0	0	
15:23	0	0	0	0	0
15:24	0	0	0	0	
15:25	0	0	0	0	
15:26	0	0	0	0	
15:27	0	0	0	0	
15:28	0	0	0	0	
15:29	0	0	0	0	0
15:30	0	0	0	0	
15:31	0	0	0	0	
15:32	0	0	0	0	
15:33	0	0	0	0	
15:34	0	0	0	0	
15:35	0	0	0	0	0
15:36	0	0	0	0	
15:37	0	0	0	0	
15:38	0	0	0	0	
15:39	0	0	0	0	
15:40	0	0	0	0	
15:41	0	0	0	0	0
15:42	0	0	0	0	
15:43	0	0	0	0	
15:44	0	0	0	0	

Maximum 6-Minute Value = 0.00
Average for 75-Minutes = 0.00

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: RTO-[illegible]-R3
DATE: 08/10/06
RUN START TIME: 16:30
RUN STOP TIME: 17:49

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
16:30	0	0	0	0	
16:31	0	0	0	0	
16:32	0	0	0	0	
16:33	0	0	0	0	
16:34	0	0	0	0	
16:35	0	0	0	0	0
16:36	0	0	0	0	
16:37	0	0	0	0	
16:38	0	0	0	0	
16:39	0	0	0	0	
16:40	0	0	0	0	
16:41	0	0	0	0	0
16:42	0	0	0	0	
16:43	0	0	0	0	
16:44	0	0	0	0	
16:45	0	0	0	0	
16:46	0	0	0	0	
16:47	0	0	0	0	0
16:48	0	0	0	0	
16:49	0	0	0	0	
16:50	0	0	0	0	
16:51	0	0	0	0	
16:52	0	0	0	0	
16:53	0	0	0	0	0
16:54	0	0	0	0	
16:55	0	0	0	0	
16:56	0	0	0	0	
16:57	0	0	0	0	
16:58	0	0	0	0	
16:59	0	0	0	0	0
17:00	0	0	0	0	
17:01	0	0	0	0	
17:02	0	0	0	0	
17:03	0	0	0	0	
17:04	0	0	0	0	
17:05	0	0	0	0	0
17:06	0	0	0	0	
17:07	0	0	0	0	
17:08	0	0	0	0	
17:09	0	0	0	0	
17:10	0	0	0	0	
17:11	0	0	0	0	0
17:12	0	0	0	0	
17:13	0	0	0	0	
17:14	0	0	0	0	
17:15	0	0	0	0	
17:16	0	0	0	0	
17:17	0	0	0	0	0
17:18	0	0	0	0	
17:19	0	0	0	0	
17:20	0	0	0	0	
17:21	0	0	0	0	
17:22	0	0	0	0	
17:23	0	0	0	0	0
17:24	0	0	0	0	
17:25	0	0	0	0	
17:26	0	0	0	0	
17:27	0	0	0	0	
17:28	0	0	0	0	
17:29	0	0	0	0	0
17:30	0	0	0	0	
17:31	0	0	0	0	
17:32	0	0	0	0	
17:33	0	0	0	0	
17:34	0	0	0	0	
17:35	0	0	0	0	0
17:36	0	0	0	0	
17:37	0	0	0	0	
17:38	0	0	0	0	
17:39	0	0	0	0	
17:40	0	0	0	0	
17:41	0	0	0	0	0
17:42	0	0	0	0	
17:43	0	0	0	0	
17:44	0	0	0	0	
17:45	0	0	0	0	
17:46	0	0	0	0	
17:47	0	0	0	0	0
17:48	0	0	0	0	

Maximum 6-Minute Value = 0.00
Average for 79-Minutes = 0.00

APPENDIX C

DATA AND RESULTS APPENDICES FOR KONUS STACK

APPENDIX C.1

DATA AND RESULTS FOR EPA METHOD 5/202 TESTING

- KONUS STACK -

RUN NUMBER	KS-M202-R1	
Date	09/11/96	
Start Time	10:20	
End Time	11:30	
Stack Diam.	41.5	inches
Nozzle I.D.	0.310	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.847	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	160.0	60.0
IMP.2	100.0	100.0	0.0
IMP.3	100.0	86.0	-14.0
IMP.4	0.0	0.0	0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	346.0	46.0
S.G.	200.0	210.0	10.0

METHOD 1-4 RESULTS

Metered Volume	38.357	dcf
Volume @ Std.Cond.	35.687	dscf
% Water	6.88	%
% Isokinetics	105.2	%
Velocity	28.02	ft/sec
Actual Flow	15790	acfm
Std. Flow	10889	scfm
Dry Std. Flow	10140	dscfm

METHOD 3 DATA

%O2	17.56	Md	29.20
%CO2	3.11	Ms	28.43
%CO	0.0	Ps	28.69
%N2	79.3	Fo	1.076
O2+CO2	20.7	%EA	518

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	269	-0.11	0.12	0.83	417.621	82	81
2	270	-0.12	0.13	0.90	455.978	85	84
3	270		0.16	1.10		84	82
4	270		0.17	1.20		85	82
5	269		0.19	1.30		88	83
6	270		0.19	1.30		87	82
7	279		0.21	1.40		88	78
8	280		0.21	1.40		89	83
9	281		0.19	1.30		92	85
10	280		0.18	1.20		93	85
11	269		0.14	0.97		86	85
12	270		0.15	1.00		88	85
13	272		0.18	1.20		89	85
14	274		0.19	1.30		88	84
15	277		0.19	1.30		89	84
16	278		0.18	1.20		90	85
17	276		0.17	1.20		90	85
18	277		0.12	0.83		88	85
19	277		0.15	1.00		91	85
20	276		0.13	0.90		91	85
					455.978		
AVG.	274	-0.12	0.17	1.14	38.357		86

LOUISIANA PACIFIC
KONUS STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	KS-M202-R1	
Corr. Sample Volume:	35.687	dscf
Corr. Flowrate	10140	dscfm
O2 Content:	17.6	%
CO2 Content:	3.1	%

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM		
Probe Wash	0.00420	0.00384
Filter	0.00300	0.00300
CONDENSIBLE PM		
Organic CPM	0.04350	0.04221
Inorganic CPM	0.05520	0.04921
TOTAL CPM	0.09870	0.09142
TOTAL PM	0.10590	0.09826

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	64.71100	64.71520	0.00420	130.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00036	
Max. Allowable Blank			0.00102	
Filter	0.39660	0.39960	0.00300	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				565.0	
Organic CPM (Uncorr.)	66.48640	66.52990	0.04350	243.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	64.76390	64.81910	0.05520	565.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.05520		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0030	0.0395	0.0425
Corrected to 7% O2 (gr/dscf)	0.0123	0.1643	0.1766
Corrected to 12% CO2 (gr/dscf)	0.0114	0.1527	0.1641
Mass Rate (lb/hr)	0.26	3.44	3.69

RUN NUMBER	KS-M202-R2	
Date	09/11/96	
Start Time	12:35	
End Time	13:45	
Stack Diam.	41.5	inches
Nozzle I.D.	0.310	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.847	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	133.0	33.0
IMP.2	100.0	104.0	4.0
IMP.3	100.0	100.0	0.0
IMP.4	0.0	1.0	1.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	338.0	38.0
S.G.	200.0	209.6	9.6

METHOD 1-4 RESULTS

Metered Volume	36.463	dcf
Volume @ Std.Cond.	33.216	dscf
% Water	6.32	%
% Isokinetics	104.0	%
Velocity	26.37	ft/sec
Actual Flow	14864	acfm
Std. Flow	10191	scfm
Dry Std. Flow	9546	dscfm

METHOD 3 DATA

%O2	17.69	Md	29.19
%CO2	3.05	Ms	28.49
%CO	0.0	Ps	28.69
%N2	79.3	Fo	1.055
O2+CO2	20.7	%EA	546

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	275	-0.08	0.11	0.76	460.586	92	90
2	279	-0.07	0.13	0.90	497.049	93	90
3	279		0.19	1.30		95	92
4	280		0.19	1.30		97	92
5	281		0.15	1.00		98	92
6	282		0.13	0.90		101	93
7	280		0.16	1.10		101	93
8	273		0.16	1.10		102	94
9	275		0.12	0.83		102	94
10	277		0.11	0.76		102	94
11	273		0.14	1.00		98	95
12	279		0.18	1.20		98	95
13	279		0.18	1.20		99	95
14	281		0.17	1.20		101	96
15	281		0.17	1.20		102	96
16	280		0.16	1.10		104	97
17	281		0.16	1.10		105	97
18	279		0.14	0.97		105	97
19	279		0.15	1.00		106	98
20	279		0.07	0.48		106	98
					497.049		
AVG.	279	-0.08	0.15	1.02	36.463		97

LOUISIANA PACIFIC
KONUS STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	KS-M202-R2	
Corr. Sample Volume:	33.216	dscf
Corr. Flowrate	9546	dscfm
O2 Content:	17.7	%
CO2 Content:	3.0	%

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM		
Probe Wash	0.00410	0.00374
Filter	0.00020	0.00020
CONDENSIBLE PM		
Organic CPM	0.05350	0.05221
Inorganic CPM	0.08150	0.07568
TOTAL CPM	0.13500	0.12789
TOTAL PM	0.13930	0.13183

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	65.60040	65.60450	0.00410	129.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00036	
Max. Allowable Blank			0.00101	
Filter	0.39190	0.39210	0.00020	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				549.0	
Organic CPM (Uncorr.)	68.39690	68.45040	0.05350	243.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	66.92500	67.00650	0.08150	549.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.08150		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0018	0.0594	0.0612
Corrected to 7% O2 (gr/dscf)	0.0079	0.2569	0.2649
Corrected to 12% CO2 (gr/dscf)	0.0072	0.2340	0.2412
Mass Rate (lb/hr)	0.15	4.86	5.01

RUN NUMBER	KS-M202-R3	
Date	09/11/96	
Start Time	14:50	
End Time	16:00	
Stack Diam.	41.5	inches
Nozzle I.D.	0.310	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.847	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	133.0	33.0
IMP.2	100.0	104.0	4.0
IMP.3	100.0	101.0	1.0
IMP.4	0.0	1.0	1.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	300.0	339.0	39.0
S.G.	200.0	209.7	9.7

METHOD 1-4 RESULTS

Metered Volume	37.243	dcf
Volume @ Std.Cond.	34.001	dscf
% Water	6.32	%
% Isokinetics	104.8	%
Velocity	26.78	ft/sec
Actual Flow	15095	acfm
Std. Flow	10350	scfm
Dry Std. Flow	9697	dscfm

METHOD 3 DATA

%O2	17.53	Md	29.22
%CO2	3.27	Ms	28.51
%CO	0.0	Ps	28.69
%N2	79.2	Fo	1.034
O2+CO2	20.8	%EA	518

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	270	-0.08	0.09	0.62	497.224	95	92
2	271	-0.09	0.12	0.83	534.467	95	92
3	277		0.11	0.76		95	93
4	276		0.15	1.00		96	92
5	279		0.16	1.10		97	93
6	279		0.11	0.76		98	93
7	280		0.20	1.40		98	93
8	281		0.20	1.40		98	93
9	280		0.19	1.30		99	93
10	280		0.19	1.30		100	94
11	277		0.15	1.00		97	94
12	278		0.16	1.10		97	94
13	280		0.17	1.20		98	94
14	281		0.19	1.30		99	94
15	279		0.19	1.30		100	95
16	280		0.16	1.10		101	95
17	280		0.15	1.00		102	95
18	280		0.14	0.97		102	95
19	280		0.14	0.97		103	95
20	281		0.10	0.70		103	96
					534.467		
AVG.	278	-0.09	0.15	1.06	37.243		96

LOUISIANA PACIFIC
KONUS STACK
EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

SAMPLING DATA:

Run Number:	KS-M202-R3	
Corr. Sample Volume:	34.001	dscf
Corr. Flowrate	9697	dscfm
O2 Content:	17.5	%
CO2 Content:	3.3	%

SUMMARY:

COMPONENT	NET (grams)	CORRECTED FOR BLANK (grams)
SUSPENDED PM		
Probe Wash	0.00220	0.00181
Filter	0.00000	0.00000
CONDENSIBLE PM		
Organic CPM	0.03030	0.02892
Inorganic CPM	0.04460	0.03856
TOTAL CPM	0.07490	0.06748
TOTAL PM	0.07710	0.06929

ANALYTICAL DATA:

METHOD 5 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	VOLUME (ml)
Acetone Probe Wash	67.02900	67.03120	0.00220	139.0
Acetone Blank Residue	68.78130	68.78170	0.00040	144.0
Applicable Acetone Blank			0.00039	
Max. Allowable Blank			0.00109	
Filter	0.39560	0.39530	0.00000	
			Filter lost mass	

METHOD 202 COMPONENTS	TARE (grams)	FINAL (grams)	NET (grams)	REAGENT VOLUME (ml)	CONC. (mg/l)
Volume of Cont.#4				570.0	
Organic CPM (Uncorr.)	64.69820	64.72850	0.03030	261.0	
MeCl2 Blank	66.98440	66.98580	0.00140	264.0	
Inorganic CPM (Uncorr.)	66.27430	66.31890	0.04460	570.0	
H2O Blank	64.52460	64.52850	0.00390	368.0	
Inorganic CPM (Corr.)			0.04460		

PARTICULATE EMISSIONS:

	FILTERABLE	CPM	TOTAL
Actual Grain Loading (gr/dscf)	0.0008	0.0306	0.0314
Corrected to 7% O2 (gr/dscf)	0.0034	0.1261	0.1295
Corrected to 12% CO2 (gr/dscf)	0.0030	0.1125	0.1156
Mass Rate (lb/hr)	0.07	2.54	2.61

APPENDIX C.2

DATA AND RESULTS FOR BIF METHOD 0011 TESTING

- KONUS STACK -

RUN NUMBER	KS-M0011-R1	
Date	09/11/96	
Start Time	10:20	
End Time	11:30	
Stack Diam.	41.5	inches
Nozzle I.D.	0.310	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.836	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	146.0	46.0
IMP.2	100.0	103.0	3.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	250.0	50.0
S.G.	200.0	208.5	8.5

METHOD 1-4 RESULTS

Metered Volume	37.776	dcf
Volume @ Std.Cond.	35.249	dscf
% Water	7.25	%
% Isokinetics	103.7	%
Velocity	28.18	ft/sec
Actual Flow	15880	acfm
Std. Flow	10954	scfm
Dry Std. Flow	10160	dscfm

METHOD 3 DATA

%O2	17.56	Md	29.20
%CO2	3.11	Ms	28.39
%CO	0.0	Ps	28.69
%N2	79.3	Fo	1.076
O2+CO2	20.7	%EA	518

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	268	-0.11	0.14	0.92	185.365	78	77
2	268	-0.09	0.16	1.10	223.141	84	82
3	268		0.18	1.20		81	79
4	268		0.19	1.30		82	78
5	269		0.19	1.30		83	79
6	269		0.20	1.30		84	79
7	280		0.19	1.30		85	79
8	279		0.17	1.10		86	80
9	280		0.14	0.92		87	80
10	279		0.13	0.86		88	81
11	269		0.19	1.30		84	80
12	272		0.20	1.30		85	81
13	273		0.21	1.40		85	81
14	275		0.20	1.30		86	82
15	277		0.19	1.30		86	81
16	278		0.20	1.30		88	82
17	276		0.17	1.10		89	82
18	277		0.15	1.00		91	84
19	278		0.10	0.70		92	84
20	278		0.10	0.70		92	84
					223.141		
AVG.	274	-0.10	0.17	1.14	37.776		83

RUN NUMBER	KS-M0011-R2	
Date	09/11/96	
Start Time	12:35	
End Time	13:45	
Stack Diam.	41.50	inches
Nozzle I.D.	0.310	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.836	
Test Duration	60	minutes

METHOD 1-4 RESULTS

Metered Volume	34.361	dcf
Volume @ Std.Cond.	31.277	dscf
% Water	4.79	%
% Isokinetics	102.7	%
Velocity	24.78	ft/sec
Actual Flow	13966	acfm
Std. Flow	9560	scfm
Dry Std. Flow	9102	dscfm

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	123.0	23.0
IMP.2	100.0	100.0	0.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	224.0	24.0
S.G.	200.0	209.4	9.4

METHOD 3 DATA

%O2	17.69	Md	29.19
%CO2	3.05	Ms	28.66
%CO	0.0	Ps	28.69
%N2	79.3	Fo	1.055
O2+CO2	20.7	%EA	546

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	275	-0.08	0.10	0.70	223.356	92	90
2	275	-0.08	0.11	0.73	257.717	92	91
3	280		0.11	0.73		94	91
4	281		0.12	0.80		95	91
5	281		0.13	0.60		97	92
6	281		0.17	1.10		98	93
7	281		0.17	1.10		98	93
8	280		0.17	1.10		99	94
9	280		0.17	1.10		102	94
10	280		0.13	0.86		100	95
11	280		0.10	0.66		98	95
12	280		0.14	0.92		98	95
13	280		0.16	1.10		98	96
14	281		0.16	1.10		99	96
15	281		0.18	1.20		101	96
16	281		0.16	1.10		102	96
17	280		0.16	1.10		102	97
18	280		0.16	1.10		104	98
19	279		0.15	1.00		104	98
20	279		0.13	0.86		104	98
					257.717		
AVG.	280	-0.08	0.14	0.95	34.361		97

RUN NUMBER	KS-M0011-R3	
Date	09/11/96	
Start Time	14:50	
End Time	16:00	
Stack Diam.	41.5	inches
Nozzle I.D.	0.31	inches
Meter Box Gamma	0.9984	
Meter Box dH@	1.7198	
Barometric	28.70	in.Hg
Cp	0.836	
Test Duration	60	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	138.0	38.0
IMP.2	100.0	100.0	0.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	239.0	39.0
S.G.	200.0	211.9	11.9

METHOD 1-4 RESULTS

Metered Volume	39.622	dcf
Volume @ Std.Cond.	36.065	dscf
% Water	6.23	%
% Isokinetics	102.9	%
Velocity	28.90	ft/sec
Actual Flow	16290	acfm
Std. Flow	11171	scfm
Dry Std. Flow	10475	dscfm

METHOD 3 DATA

%O2	17.53	Md	29.22
%CO2	3.27	Ms	28.52
%CO	0.0	Ps	28.69
%N2	79.2	Fo	1.034
O2+CO2	20.8	%EA	518

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	278	-0.10	0.17	1.00	258.795	94	91
2	276	-0.08	0.18	1.20	298.417	97	92
3	276		0.19	1.30		98	92
4	277		0.17	1.10		99	93
5	276		0.19	1.30		101	93
6	280		0.21	1.40		100	93
7	280		0.19	1.30		100	93
8	279		0.18	1.20		101	93
9	278		0.18	1.20		101	94
10	278		0.14	0.92		102	94
11	278		0.19	1.30		97	94
12	280		0.19	1.30		97	94
13	280		0.20	1.30		99	94
14	281		0.20	1.30		100	95
15	280		0.20	1.30		101	95
16	279		0.17	1.10		101	95
17	279		0.16	1.10		102	95
18	278		0.14	0.92		103	96
19	278		0.09	0.62		103	96
20	277		0.08	0.53		103	96
					298.417		
AVG.	278	-0.09	0.17	1.13	39.622		97

APPENDIX C.3

DATA AND RESULTS FOR EPA METHODS 3A, 6C, 7E, 10, AND 25A TESTING

- KONUS STACK -

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
10:21	16.880	3.998	40.22	5.93	56.40
10:22	16.400	4.361	22.07	4.70	58.56
10:23	16.330	4.499	17.41	13.69	56.29
10:24	16.090	4.675	13.45	19.20	54.79
10:25	16.450	4.199	27.02	7.89	47.96
10:26	16.920	3.813	44.57	8.26	44.60
10:27	16.980	3.764	43.99	7.88	50.24
10:28	16.930	3.885	28.42	4.47	53.35
10:29	16.660	4.113	21.92	4.06	50.44
10:30	16.870	3.817	41.37	3.20	49.90
10:31	17.020	3.804	25.33	2.60	53.58
10:32	16.940	3.771	21.65	2.21	49.87
10:33	17.090	3.741	19.81	2.32	55.82
10:34	16.630	4.205	10.12	3.08	58.50
10:35	16.420	4.304	10.22	4.66	51.84
10:36	16.810	3.896	19.56	3.95	52.33
10:37	16.910	3.864	21.30	3.31	51.28
10:38	16.900	3.838	30.13	3.35	44.96
10:39	17.240	3.425	64.58	3.10	38.15
10:40	17.750	2.987	80.60	2.45	44.42
10:41	17.570	3.229	48.05	2.27	46.04
10:42	17.430	3.328	44.77	2.37	43.99
10:43	17.590	3.069	74.40	2.45	37.37
10:44	17.960	2.746	116.00	2.29	34.86
10:45	18.020	2.754	130.70	2.53	38.68
10:46	17.750	3.043	77.70	2.67	42.20
10:47	17.600	3.133	66.29	2.64	39.03
10:48	17.910	2.748	122.70	2.60	33.71
10:49	18.180	2.539	159.60	2.45	33.66
10:50	18.190	2.560	148.60	2.37	35.10
10:51	18.050	2.698	136.00	2.45	35.15
10:52	17.950	2.801	113.20	2.43	39.11
10:53	17.840	2.867	81.60	2.53	38.31
10:54	17.860	2.856	102.70	2.49	37.94
10:55	17.860	2.868	110.40	2.40	37.19
10:56	17.870	2.833	106.00	2.43	36.74
10:57	17.890	2.808	125.50	2.48	35.92
10:58	17.940	2.785	132.00	2.41	37.71
10:59	17.820	2.931	113.20	2.19	38.92
11:00	17.690	3.029	118.40	2.07	36.48
11:01	17.650	3.007	125.30	1.96	32.77

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
11:02	17.660	2.973	126.60	1.93	31.44
11:03	17.670	2.935	128.50	1.97	33.40
11:04	17.700	2.921	131.30	1.91	36.17
11:05	17.730	2.905	135.10	1.77	32.03
11:06	17.750	2.893	136.30	1.66	29.62
11:07	17.760	2.876	134.50	1.63	28.29
11:08	17.770	2.863	131.20	1.63	27.79
11:09	17.780	2.836	125.30	1.61	28.29
11:10	17.800	2.798	118.70	1.53	28.48
11:11	17.820	2.686	110.20	1.50	28.80
11:12	17.850	2.511	100.50	1.40	29.12
11:13	17.910	2.315	92.20	1.33	27.95
11:14	18.000	2.137	85.30	1.46	25.57
11:15	18.100	1.984	79.40	1.46	24.81
11:16	18.210	1.860	74.50	1.54	24.73
11:17	18.320	1.764	70.50	1.50	24.23
11:18	18.450	1.706	68.26	1.42	23.47
11:19	18.530	1.661	68.52	1.46	23.65
11:20	18.600	1.639	70.20	1.33	23.71
60 MinAvg	17.537	3.098	80.73	3.18	39.10

Data Corrected for Calibrations

60 MinAvg	17.556	3.107	78.54	3.03	40.62

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Calibrations:

[SO2] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.50

INITIAL CALIBRATION TIME --> 833
LOW Cal. Response = 1.07 HIGH Cal. Response = 44.12
FINAL CALIBRATION TIME ----> 1142
LOW Cal. Response = 0.05 HIGH Cal. Response = 44.33

LOW System Drift = -1.03 % HIGH System Drift = 0.21 %

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 833
LOW Cal. Response = 0.04 HIGH Cal. Response = 10.15
FINAL CALIBRATION TIME ----> 1142
LOW Cal. Response = 0.04 HIGH Cal. Response = 10.17

LOW System Drift = 0.00 % HIGH System Drift = 0.10 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 833
LOW Cal. Response = 0.10 HIGH Cal. Response = 12.23
FINAL CALIBRATION TIME ----> 1142
LOW Cal. Response = 0.11 HIGH Cal. Response = 12.17

LOW System Drift = 0.06 % HIGH System Drift = -0.22 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Calibrations:

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 833
LOW Cal. Response = 0.59 HIGH Cal. Response = 48.67
FINAL CALIBRATION TIME ----> 1142
LOW Cal. Response = 0.19 HIGH Cal. Response = 47.58

LOW System Drift = -0.39 % HIGH System Drift = -1.08 %

[CO] Span Value = 500
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 149.30

INITIAL CALIBRATION TIME --> 833
LOW Cal. Response = 3.96 HIGH Cal. Response = 148.68
FINAL CALIBRATION TIME ----> 1142
LOW Cal. Response = 3.77 HIGH Cal. Response = 151.29

LOW System Drift = -0.04 % HIGH System Drift = 0.52 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Starting
09-11-96

Time	KONIS VOC (ppmwv)
10:21	10.78
10:22	11.18
10:23	9.66
10:24	8.96
10:25	8.73
10:26	8.62
10:27	8.53
10:28	8.06
10:29	7.78
10:30	7.55
10:31	7.52
10:32	8.44
10:33	10.93
10:34	9.28
10:35	8.77
10:36	7.82
10:37	7.36
10:38	7.41
10:39	8.11
10:40	8.06
10:41	8.10
10:42	8.15
10:43	8.15
10:44	7.72
10:45	10.39
10:46	9.73
10:47	9.34
10:48	9.50
10:49	9.21
10:50	8.76
10:51	8.57
10:52	8.03
10:53	8.23
10:54	8.22
10:55	8.08
10:56	8.29
10:57	8.35
10:58	8.00
10:59	9.91
11:00	9.61
11:01	9.36

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R1

Starting
09-11-96

Time	KONIS VOC (ppmwv)
11:02	9.11
11:03	8.33
11:04	8.05
11:05	7.64
11:06	7.47
11:07	7.46
11:08	7.69
11:09	7.46
11:10	7.17
11:11	7.13
11:12	8.38
11:13	8.91
11:14	8.38
11:15	8.14
11:16	8.02
11:17	7.83
11:18	7.56
11:19	7.49
11:20	7.43
60 MinAvg	8.45

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
12:36	18.370	2.298	125.90	2.40	29.38
12:37	18.470	2.160	154.70	2.22	25.89
12:38	18.690	1.950	159.00	2.07	24.17
12:39	18.840	1.808	154.90	1.89	22.97
12:40	18.930	1.744	162.90	1.85	23.57
12:41	18.930	1.715	177.30	1.72	21.39
12:42	19.100	1.539	176.70	1.53	19.51
12:43	19.280	1.371	185.90	1.34	18.36
12:44	19.350	1.306	211.10	1.31	20.26
12:45	19.170	1.524	260.60	1.60	24.58
12:46	18.750	1.962	174.20	2.01	27.95
12:47	18.470	2.195	136.20	2.17	28.86
12:48	18.350	2.282	140.30	2.23	27.89
12:49	18.450	2.162	187.80	2.31	26.04
12:50	18.560	2.074	240.80	2.22	26.27
12:51	18.550	2.112	211.00	2.31	27.53
12:52	18.400	2.270	201.30	2.38	29.89
12:53	18.260	2.398	131.40	2.37	30.32
12:54	18.230	2.410	168.70	2.60	30.60
12:55	18.200	2.500	114.80	2.89	34.90
12:56	17.970	2.686	102.90	2.82	34.04
12:57	17.960	2.681	140.20	3.02	32.21
12:58	18.010	2.656	139.50	3.01	33.16
12:59	17.960	2.709	144.50	3.17	35.49
13:00	17.830	2.867	130.10	3.13	35.46
13:01	17.810	2.841	150.30	3.10	32.32
13:02	18.040	2.615	159.50	3.00	33.66
13:03	17.960	2.768	121.80	3.35	41.32
13:04	17.480	3.260	92.90	3.53	45.00
13:05	17.180	3.535	79.60	3.71	52.73
13:06	16.430	4.392	30.67	10.61	57.61
13:07	15.600	5.085	13.52	28.42	63.98
13:08	15.240	5.339	8.67	24.94	64.06
13:09	15.010	5.621	6.93	38.13	67.38
13:10	14.950	5.578	8.10	44.51	61.09
13:11	15.670	4.691	11.41	14.18	56.93
13:12	16.360	4.213	12.38	6.78	59.21
13:13	16.440	4.085	13.83	5.59	54.03
13:14	16.630	3.919	20.55	4.84	50.27
13:15	16.840	3.739	22.77	4.32	48.75
13:16	16.980	3.627	26.52	4.18	50.71

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
13:17	16.970	3.623	18.74	4.06	51.05
13:18	17.040	3.576	20.77	4.15	54.60
13:19	16.710	3.932	11.82	4.15	55.89
13:20	16.720	3.795	14.39	4.11	49.96
13:21	17.090	3.451	19.42	3.85	48.81
13:22	17.200	3.341	21.28	3.55	47.38
13:23	17.320	3.245	30.25	3.58	46.70
13:24	17.300	3.263	42.28	3.57	43.41
13:25	17.410	3.153	51.24	3.55	43.33
13:26	17.390	3.208	41.11	3.50	44.38
13:27	17.310	3.250	47.39	3.51	40.89
13:28	17.530	3.018	51.48	3.38	38.94
13:29	17.610	2.988	52.21	3.42	39.76
13:30	17.490	3.096	44.08	3.42	40.38
13:31	17.510	3.051	40.99	3.43	41.11
13:32	17.490	3.052	43.34	3.37	39.31
13:33	17.470	3.075	49.17	3.53	39.20
13:34	17.460	3.095	49.76	3.51	40.45
13:35	17.400	3.145	45.71	3.42	39.20
60 MinAvg	17.602	3.017	93.46	5.48	39.57

Data Corrected for Calibrations

60 MinAvg	17.686	3.047	90.75	5.95	41.31

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Calibrations:

[SO2] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.50

INITIAL CALIBRATION TIME --> 1142
LOW Cal. Response = 0.05 HIGH Cal. Response = 44.33
FINAL CALIBRATION TIME ----> 1352
LOW Cal. Response = 0.51 HIGH Cal. Response = 44.49

LOW System Drift = 0.46 % HIGH System Drift = 0.16 %

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 1142
LOW Cal. Response = 0.04 HIGH Cal. Response = 10.17
FINAL CALIBRATION TIME ----> 1352
LOW Cal. Response = 0.03 HIGH Cal. Response = 10.02

LOW System Drift = -0.02 % HIGH System Drift = -0.76 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 1142
LOW Cal. Response = 0.11 HIGH Cal. Response = 12.17
FINAL CALIBRATION TIME ----> 1352
LOW Cal. Response = 0.07 HIGH Cal. Response = 12.13

LOW System Drift = -0.15 % HIGH System Drift = -0.16 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Calibrations:

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 1142
LOW Cal. Response = 0.19 HIGH Cal. Response = 47.58
FINAL CALIBRATION TIME ----> 1352
LOW Cal. Response = 0.48 HIGH Cal. Response = 48.26

LOW System Drift = 0.29 % HIGH System Drift = 0.68 %

[CO] Span Value = 500
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 149.30

INITIAL CALIBRATION TIME --> 1142
LOW Cal. Response = 3.77 HIGH Cal. Response = 151.29
FINAL CALIBRATION TIME ----> 1352
LOW Cal. Response = 3.55 HIGH Cal. Response = 151.51

LOW System Drift = -0.04 % HIGH System Drift = 0.04 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Starting
09-11-96

Time	KONIS VOC (ppmwv)
12:36	8.64
12:37	9.54
12:38	10.16
12:39	10.57
12:40	10.56
12:41	11.54
12:42	13.18
12:43	14.43
12:44	13.63
12:45	11.23
12:46	9.74
12:47	9.51
12:48	10.01
12:49	11.92
12:50	11.20
12:51	10.50
12:52	8.83
12:53	8.85
12:54	8.29
12:55	7.39
12:56	9.68
12:57	9.71
12:58	8.93
12:59	7.83
13:00	7.81
13:01	8.31
13:02	7.71
13:03	7.03
13:04	6.93
13:05	6.60
13:06	6.49
13:07	6.45
13:08	6.43
13:09	7.07
13:10	7.98
13:11	7.98
13:12	9.43
13:13	8.42
13:14	7.85
13:15	7.44
13:16	7.01

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R2

Starting
09-11-96

Time	KONIS VOC (ppmwv)
13:17	6.72
13:18	6.52
13:19	6.51
13:20	6.71
13:21	6.89
13:22	7.13
13:23	9.18
13:24	8.41
13:25	7.88
13:26	7.64
13:27	7.62
13:28	7.63
13:29	7.52
13:30	7.46
13:31	7.63
13:32	7.83
13:33	8.17
13:34	8.38
13:35	8.23
60 MinAvg	8.61

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
14:51	14.920	5.579	8.67	1.61	66.89
14:52	15.530	4.975	6.67	1.69	69.57
14:53	15.620	4.956	6.46	1.42	67.95
14:54	15.790	4.691	8.20	1.40	60.21
14:55	16.490	4.055	8.21	1.19	58.37
14:56	16.660	3.917	10.95	1.17	55.93
14:57	16.740	3.909	10.17	1.14	57.65
14:58	16.840	3.726	14.50	1.19	46.63
14:59	17.310	3.239	34.76	1.12	38.08
15:00	17.560	2.992	59.89	1.15	34.17
15:01	17.770	2.841	70.60	1.11	34.69
15:02	17.710	2.883	60.37	1.09	39.60
15:03	17.600	3.003	52.27	1.09	40.07
15:04	17.560	2.989	57.00	1.12	39.75
15:05	17.590	2.946	68.35	1.12	35.13
15:06	17.760	2.792	82.30	1.11	33.23
15:07	17.750	2.818	107.20	1.12	34.55
15:08	17.710	2.830	111.90	1.10	33.28
15:09	17.860	2.668	117.30	1.13	34.42
15:10	17.780	2.857	71.60	1.07	40.22
15:11	17.550	2.998	75.30	1.10	35.39
15:12	17.740	2.822	82.90	1.15	36.03
15:13	17.770	2.827	87.70	1.20	34.63
15:14	17.840	2.706	123.20	1.19	32.12
15:15	17.940	2.687	112.30	1.16	40.30
15:16	17.560	3.047	59.25	1.17	38.85
15:17	17.640	2.912	93.20	1.16	34.85
15:18	17.770	2.815	101.60	1.24	33.49
15:19	17.780	2.796	104.70	1.32	35.79
15:20	17.680	2.886	123.30	1.30	34.59
15:21	17.700	2.829	130.40	1.22	35.16
15:22	17.700	2.859	106.20	1.21	34.47
15:23	17.760	2.789	106.00	1.28	35.38
15:24	17.770	2.788	127.60	1.21	33.58
15:25	17.740	2.838	119.70	1.30	35.77
15:26	17.630	2.947	91.50	1.26	35.97
15:27	17.690	2.853	109.00	1.25	33.83
15:28	17.750	2.837	91.20	1.34	36.63
15:29	17.640	2.950	99.50	1.41	37.39
15:30	17.540	3.027	102.70	1.42	36.31
15:31	17.650	2.901	106.10	1.24	35.40

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOX (ppmdv)
15:32	17.730	2.861	91.40	1.33	35.19
15:33	17.690	2.906	82.20	1.39	35.11
15:34	17.660	2.929	82.20	1.36	35.13
15:35	17.700	2.881	96.00	1.33	35.83
15:36	17.600	3.036	91.00	1.46	41.46
15:37	17.230	3.381	70.60	1.47	46.95
15:38	17.090	3.513	40.29	1.48	46.17
15:39	17.110	3.409	77.70	1.51	38.37
15:40	17.450	3.115	98.20	1.59	37.84
15:41	17.560	2.997	125.00	1.51	37.14
15:42	17.540	3.074	123.60	1.59	37.90
15:43	17.370	3.205	121.10	1.51	37.80
15:44	17.380	3.207	106.70	1.46	39.05
15:45	17.310	3.276	85.20	1.55	41.74
15:46	17.210	3.386	66.78	1.46	50.25
15:47	16.910	3.723	25.13	1.34	58.39
15:48	16.650	3.965	17.28	1.43	57.46
15:49	16.670	3.799	40.37	1.59	46.54
15:50	16.970	3.653	43.14	1.55	50.85
60 MinAvg	17.354	3.218	76.74	1.30	41.26

Data Corrected for Calibrations

60 MinAvg	17.525	3.265	73.35	0.82	42.03

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Calibrations:

[SO2] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.50

INITIAL CALIBRATION TIME --> 1352
LOW Cal. Response = 0.51 HIGH Cal. Response = 44.49
FINAL CALIBRATION TIME ----> 1618
LOW Cal. Response = 0.68 HIGH Cal. Response = 44.42

LOW System Drift = 0.18 % HIGH System Drift = -0.08 %

[CO2] Span Value = 20
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.28

INITIAL CALIBRATION TIME --> 1352
LOW Cal. Response = 0.03 HIGH Cal. Response = 10.02
FINAL CALIBRATION TIME ----> 1618
LOW Cal. Response = 0.05 HIGH Cal. Response = 10.06

LOW System Drift = 0.10 % HIGH System Drift = 0.19 %

[O2] Span Value = 25
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 12.18

INITIAL CALIBRATION TIME --> 1352
LOW Cal. Response = 0.07 HIGH Cal. Response = 12.13
FINAL CALIBRATION TIME ----> 1618
LOW Cal. Response = 0.13 HIGH Cal. Response = 12.05

LOW System Drift = 0.23 % HIGH System Drift = -0.31 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Calibrations:

[NOx] Span Value = 100
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.10

INITIAL CALIBRATION TIME --> 1352
LOW Cal. Response = 0.48 HIGH Cal. Response = 48.26
FINAL CALIBRATION TIME ----> 1618
LOW Cal. Response = 1.78 HIGH Cal. Response = 49.68

LOW System Drift = 1.30 % HIGH System Drift = 1.41 %

[CO] Span Value = 500
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 149.30

INITIAL CALIBRATION TIME --> 1352
LOW Cal. Response = 3.55 HIGH Cal. Response = 151.51
FINAL CALIBRATION TIME ----> 1618
LOW Cal. Response = 3.60 HIGH Cal. Response = 153.48

LOW System Drift = 0.01 % HIGH System Drift = 0.39 %

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Starting
09-11-96

Time	KONIS VOC (ppmwv)
14:51	1.24
14:52	1.22
14:53	1.20
14:54	1.23
14:55	1.22
14:56	1.21
14:57	1.19
14:58	1.21
14:59	1.27
15:00	1.36
15:01	1.38
15:02	1.38
15:03	1.38
15:04	1.37
15:05	1.43
15:06	1.47
15:07	1.45
15:08	1.52
15:09	1.46
15:10	1.36
15:11	1.44
15:12	1.46
15:13	1.56
15:14	1.66
15:15	1.41
15:16	1.46
15:17	1.57
15:18	1.67
15:19	1.60
15:20	1.65
15:21	1.63
15:22	1.70
15:23	1.69
15:24	1.70
15:25	1.49
15:26	1.52
15:27	1.55
15:28	1.55
15:29	1.54
15:30	1.68
15:31	1.77

LOUISIANA PACIFIC - DUNGANNON
9/11/96
REFERENCE METHOD DATA
KONIS STACK R3

Starting
09-11-96

Time	KONIS VOC (ppmwv)
15:32	1.72
15:33	1.64
15:34	1.66
15:35	1.67
15:36	1.36
15:37	1.28
15:38	1.28
15:39	1.42
15:40	1.48
15:41	1.54
15:42	1.48
15:43	1.49
15:44	1.46
15:45	1.43
15:46	1.34
15:47	1.27
15:48	1.28
15:49	1.33
15:50	1.34
60 MinAvg	1.46

APPENDIX C.4

DATA AND RESULTS FOR EPA METHOD 9 TESTING

- KONUS STACK -

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: [illegible]
DATE: 09/11/96
RUN START TIME: 10:20
RUN STOP TIME: 11:37

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
10:20	0	0	0	0	
10:21	0	0	0	0	
10:22	0	0	0	0	
10:23	0	0	0	0	
10:24	0	0	0	0	
10:25	0	0	0	0	0
10:26	0	0	0	0	
10:27	0	0	0	0	
10:28	0	0	0	0	
10:29	0	0	0	0	
10:30	0	0	0	0	
10:31	0	0	0	0	0
10:32	0	0	0	0	
10:33	0	0	0	0	
10:34	0	0	0	0	
10:35	0	0	0	0	
10:36	0	0	0	0	
10:37	0	0	0	0	0
10:38	0	0	0	0	
10:39	0	0	0	0	
10:40	0	0	0	0	
10:41	0	0	0	0	
10:42	0	0	0	0	
10:43	0	0	0	0	0
10:44	0	0	0	0	
10:45	0	0	0	0	
10:46	0	0	0	0	
10:47	0	0	0	0	
10:48	0	0	0	0	
10:49	0	0	0	0	0
10:50	0	0	0	0	
10:51	0	0	0	0	
10:52	0	0	0	0	
10:53	0	0	0	0	
10:54	0	0	0	0	
10:55	0	0	0	0	0
10:56	0	0	0	0	
10:57	0	0	0	0	
10:58	0	0	0	0	
10:59	0	0	0	0	
11:00	0	0	0	0	
11:01	0	0	0	0	0
11:02	0	0	0	0	
11:03	0	0	0	0	
11:04	0	0	0	0	
11:05	0	0	0	0	
11:06	0	0	0	0	
11:07	0	0	0	0	0
11:08	0	0	0	0	
11:09	0	0	0	0	
11:10	0	0	0	0	
11:11	0	0	0	0	
11:12	0	0	0	0	
11:13	0	0	0	0	0
11:14	0	0	0	0	
11:15	0	0	0	0	
11:16	0	0	0	0	
11:17	0	0	0	0	
11:18	0	0	0	0	
11:19	0	0	0	0	0
11:20	0	0	0	0	
11:21	0	0	0	0	
11:22	0	0	0	0	
11:23	0	0	0	0	
11:24	0	0	0	0	
11:25	0	0	0	0	0
11:26	0	0	0	0	
11:27	0	0	0	0	
11:28	0	0	0	0	
11:29	0	0	0	0	
11:30	0	0	0	0	
11:31	0	0	0	5	0.2
11:32	0	0	0	0	
11:33	0	0	0	0	
11:34	0	0	0	0	
11:35	0	0	0	0	
11:36	0	0	0	0	

Maximum 6-Minute Value = 0.21
Average for 77-Minutes = 0.02

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: K3-M9-R2
DATE: 09/11/96
RUN START TIME: 12:30
RUN STOP TIME: 13:47

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
12:30	0	0	0	0	
12:31	0	0	0	0	
12:32	0	0	0	0	
12:33	0	0	0	0	
12:34	0	0	0	0	
12:35	0	0	0	0	0
12:36	0	0	0	0	
12:37	0	0	0	0	
12:38	0	0	0	0	
12:39	0	0	0	0	
12:40	0	0	0	0	
12:41	0	0	0	0	0
12:42	0	0	0	0	
12:43	0	0	0	0	
12:44	0	0	0	0	
12:45	0	0	0	0	
12:46	0	0	0	0	
12:47	0	0	0	0	0
12:48	0	0	0	0	
12:49	0	0	0	0	
12:50	0	0	0	0	
12:51	0	0	0	0	
12:52	0	0	0	0	
12:53	0	0	0	0	0
12:54	0	0	0	0	
12:55	0	0	0	0	
12:56	0	0	0	0	
12:57	0	0	0	0	
12:58	0	0	0	0	
12:59	0	0	0	0	0
13:00	0	0	0	0	
13:01	0	0	0	0	
13:02	0	0	0	0	
13:03	0	0	0	0	
13:04	0	0	0	0	
13:05	0	0	0	0	0
13:06	0	0	0	0	
13:07	0	0	0	0	
13:08	0	0	0	0	
13:09	0	0	0	0	
13:10	0	0	0	0	
13:11	0	0	0	0	0
13:12	0	0	0	0	
13:13	0	0	0	0	
13:14	0	0	0	0	
13:15	0	0	0	0	
13:16	0	0	0	0	
13:17	0	0	0	0	0
13:18	0	0	0	0	
13:19	0	0	0	0	
13:20	0	0	0	0	
13:21	0	0	0	0	
13:22	0	0	0	0	
13:23	0	0	0	0	0
13:24	0	0	0	0	
13:25	0	0	0	0	
13:26	0	0	0	0	
13:27	0	0	0	0	
13:28	0	0	0	0	
13:29	0	0	0	0	0
13:30	0	0	0	0	
13:31	0	0	0	0	
13:32	0	0	0	0	
13:33	0	0	0	0	
13:34	0	0	0	0	
13:35	0	0	0	0	0
13:36	0	0	0	0	

Maximum 6-Minute Value = 0.00
Average for 77-Minutes = 0.00

SUMMARY OF METHOD 9 DATA
LOUISIANA PACIFIC

RUN I.D.: KS-M9-R3
DATE: 09/11/96
RUN START TIME: 14:50
RUN STOP TIME: 15:59

TIME	SECONDS 0	15	30	45	6-MIN. AVG.
14:50	0	0	0	0	
14:51	0	0	0	0	
14:52	0	0	0	0	
14:53	0	0	0	0	
14:54	0	0	0	0	
14:55	0	0	0	0	0
14:56	0	0	0	0	
14:57	0	0	0	0	
14:58	0	0	0	0	
14:59	0	0	0	0	
15:00	0	0	0	0	
15:01	0	0	0	0	0
15:02	0	0	0	0	
15:03	0	0	0	0	
15:04	0	0	0	0	
15:05	0	0	0	0	
15:06	0	0	0	0	
15:07	0	0	0	0	0
15:08	0	0	0	0	
15:09	0	0	0	0	
15:10	0	0	0	0	
15:11	0	0	0	0	
15:12	0	0	0	0	
15:13	0	0	0	0	0
15:14	0	0	0	0	
15:15	0	0	0	0	
15:16	0	0	0	0	
15:17	0	0	0	0	
15:18	0	0	0	0	
15:19	0	0	0	0	0
15:20	0	0	0	0	
15:21	0	0	0	0	
15:22	0	0	0	0	
15:23	0	0	0	0	
15:24	0	0	0	0	
15:25	0	0	0	0	0
15:26	0	0	0	0	
15:27	0	0	0	0	
15:28	0	0	0	0	
15:29	0	0	0	0	
15:30	0	0	0	0	
15:31	0	0	0	0	0
15:32	0	0	0	0	
15:33	0	0	0	0	
15:34	0	0	0	0	
15:35	0	0	0	0	
15:36	0	0	0	0	
15:37	0	0	0	0	0
15:38	0	0	0	0	
15:39	0	0	0	0	
15:40	0	0	0	0	
15:41	0	0	0	0	
15:42	0	0	0	0	
15:43	0	0	0	0	0
15:44	0	0	0	0	
15:45	0	0	0	0	
15:46	0	0	0	0	
15:47	0	0	0	0	
15:48	0	0	0	0	
15:49	0	0	0	0	0
15:50	0	0	0	0	
15:51	0	0	0	0	
15:52	0	0	0	0	
15:53	0	0	0	0	
15:54	0	0	0	0	
15:55	0	0	0	0	0
15:56	0	0	0	0	
15:57	0	0	0	0	
15:58	0	0	0	0	

Maximum 6-Minute Value = 0.00
Average for 69-Minutes = 0.00

APPENDIX D

DATA AND RESULTS APPENDICES FOR PRESS EXHAUST

APPENDIX D.1

DATA AND RESULTS FOR EPA METHOD 25A TESTING

- PRESS EXHAUST -

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 1

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
12:31	34.20
12:32	21.72
12:33	29.10
12:34	43.09
12:35	32.44
12:36	23.43
12:37	38.67
12:38	44.98
12:39	29.64
12:40	26.27
12:41	47.05
12:42	43.03
12:43	26.96
12:44	32.11
12:45	49.79
12:46	38.43
12:47	26.32
12:48	39.26
12:49	47.03
12:50	32.87
12:51	26.12
12:52	42.27
12:53	41.95
12:54	27.79
12:55	28.33
12:56	42.58
12:57	34.83
12:58	24.42
12:59	30.11
13:00	39.07
13:01	29.78
13:02	23.10
13:03	31.90
13:04	34.63
13:05	25.25
13:06	22.21
13:07	32.14
13:08	31.34
13:09	21.50
13:10	23.27
13:11	32.90

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 1

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
13:12	27.52
13:13	19.82
13:14	26.10
13:15	32.54
13:16	23.51
13:17	19.54
13:18	29.91
13:19	30.74
13:20	21.09
13:21	21.23
13:22	30.86
13:23	27.49
13:24	18.99
13:25	23.95
13:26	30.34
13:27	22.97
13:28	18.38
13:29	26.81
13:30	30.03
60 MinAvg	30.56

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 2

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
14:31	37.94
14:32	60.22
14:33	49.26
14:34	31.63
14:35	48.42
14:36	61.78
14:37	42.85
14:38	33.16
14:39	59.24
14:40	56.37
14:41	34.47
14:42	35.99
14:43	59.44
14:44	49.45
14:45	30.98
14:46	42.07
14:47	54.27
14:48	40.98
14:49	28.51
14:50	44.50
14:51	48.90
14:52	31.97
14:53	28.08
14:54	45.12
14:55	41.41
14:56	27.00
14:57	30.28
14:58	42.63
14:59	33.95
15:00	23.46
15:01	32.20
15:02	37.87
15:03	27.48
15:04	22.13
15:05	33.45
15:06	34.73
15:07	22.96
15:08	23.13
15:09	34.17
15:10	29.79
15:11	20.49

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 2

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
15:12	25.64
15:13	33.78
15:14	24.77
15:15	19.48
15:16	28.36
15:17	30.91
15:18	20.83
15:19	19.88
15:20	28.33
15:21	27.19
15:22	18.55
15:23	22.35
15:24	28.61
15:25	22.99
15:26	17.19
15:27	24.07
15:28	28.54
15:29	19.58
15:30	17.66
60 MinAvg	33.86

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 3

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
16:31	21.23
16:32	14.52
16:33	15.69
16:34	21.58
16:35	18.74
16:36	13.34
16:37	17.07
16:38	20.95
16:39	15.80
16:40	12.93
16:41	18.37
16:42	19.72
16:43	13.64
16:44	13.33
16:45	18.99
16:46	17.73
16:47	12.44
16:48	14.52
16:49	19.18
16:50	15.58
16:51	12.15
16:52	16.96
16:53	18.58
16:54	13.43
16:55	12.60
16:56	18.44
16:57	17.49
16:58	12.33
16:59	14.57
17:00	18.85
17:01	15.41
17:02	11.92
17:03	16.65
17:04	18.92
17:05	13.72
17:06	12.60
17:07	18.97
17:08	17.57
17:09	12.22
17:10	14.03
17:11	19.71

LOUISIANA PACIFIC - DUNGANNON
9/10/96
REFERENCE METHOD DATA
PRESS OUTLET - RUN 3

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
17:12	16.25
17:13	12.18
17:14	16.96
17:15	19.99
17:16	14.26
17:17	12.63
17:18	19.27
17:19	19.31
17:20	12.96
17:21	10.73
17:22	14.91
17:23	20.45
17:24	16.49
17:25	12.67
17:26	18.53
17:27	22.01
17:28	15.24
17:29	14.38
17:30	21.70
60 MinAvg	16.22

APPENDIX D.2

DATA AND RESULTS FOR EPA METHODS 1-4 TESTING

- PRESS EXHAUST -

RUN NUMBER	PO-M1-4-R1	
Date	09/10/96	
Start Time	12:30	
End Time	13:00	
Stack Diam.	53.5	inches
Meter Box Gamma	0.9994	
Meter Box dH@	1.6309	
Barometric	28.70	in.Hg
Cp	0.825	
Test Duration	30	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	103.0	3.0
IMP.2	100.0	102.0	2.0
IMP.3	0.0	1.0	1.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	206.0	6.0
S.G.	700.9	707.7	6.8

METHOD 1-4 RESULTS

Metered Volume	23.203	dcf
Volume @ Std.Cond.	21.684	dscf
% Water	2.71	%
Velocity	46.97	ft/sec
Actual Flow	43997	acfm
Std. Flow	37845	scfm
Dry Std. Flow	36821	dscfm

METHOD 3 DATA

%O2	20.6	Md	28.84
%CO2	0.1	Ms	28.54
%CO	0.0	Ps	28.63
%N2	79.4	Fo	3.535
O2+CO2	20.6	%EA	5155

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	127	-0.95	0.45	1.68	619.681	79	79
2	128	-1.00	0.63	1.68	642.884	93	84
3	128		0.85				
4	129		0.69				
5	129		0.56				
6	126		0.53				
7	121		0.51				
8	128		0.72				
9	129		0.74				
10	128		0.70				
11	128		0.61				
12	127		0.48				
					642.884		
AVG.	127	-0.98	0.62	1.68	23.203		84

RUN NUMBER	PO-M1-4-R2	
Date	09/10/96	
Start Time	14:32	
End Time	15:07	
Stack Diam.	53.50	inches
Meter Box Gamma	0.9994	
Meter Box dH@	1.6309	
Barometric	28.70	in.Hg
Cp	0.825	
Test Duration	35	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	110.0	10.0
IMP.2	100.0	104.0	4.0
IMP.3	0.0	0.0	0.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	214.0	14.0
S.G.	707.7	715.0	7.3

METHOD 1-4 RESULTS

Metered Volume	26.908	dcf
Volume @ Std.Cond.	24.714	dscf
% Water	3.90	%
Velocity	49.02	ft/sec
Actual Flow	45914	acfm
Std. Flow	39311	scfm
Dry Std. Flow	37778	dscfm

METHOD 3 DATA

%O2	20.6	Md	28.84
%CO2	0.1	Ms	28.42
%CO	0.0	Ps	28.63
%N2	79.3	Fo	3.478
O2+CO2	20.7	%EA	5676

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	129	-0.95	0.50	1.68	643.063	90	91
2	129	-0.98	0.76	1.68	669.971	100	92
3	130		0.86				
4	130		0.65				
5	131		0.61				
6	130		0.50				
7	130		0.59				
8	131		0.67				
9	131		0.83				
10	130		0.85				
11	130		0.69				
12	130		0.55				
					669.971		
AVG.	130	-0.97	0.67	1.68	26.908		93

RUN NUMBER	PO-M1-4-R3	
Date	09/10/96	
Start Time	16:30	
End Time	17:00	
Stack Diam.	53.5	inches
Meter Box Gamma	0.9994	
Meter Box dH@	1.6309	
Barometric	28.70	in.Hg
Cp	0.825	
Test Duration	30	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	104.0	4.0
IMP.2	100.0	100.0	0.0
IMP.3	0.0	0.0	0.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	204.0	4.0
S.G.	715.0	721.4	6.4

METHOD 1-4 RESULTS

Metered Volume	23.590	dcf
Volume @ Std.Cond.	22.116	dscf
% Water	2.17	%
Velocity	50.09	ft/sec
Actual Flow	46913	acfm
Std. Flow	40231	scfm
Dry Std. Flow	39359	dscfm

METHOD 3 DATA

%O2	20.6	Md	28.84
%CO2	0.1	Ms	28.60
%CO	0.0	Ps	28.63
%N2	79.3	Fo	3.060
O2+CO2	20.7	%EA	6606

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	127	-1.00	0.53	1.68	670.100	79	80
2	128	-1.00	0.84	1.68	693.690	88	81
3	129		0.83				
4	130		0.85				
5	131		0.75				
6	130		0.58				
7	125		0.58				
8	129		0.79				
9	130		0.82				
10	130		0.76				
11	130		0.64				
12	130		0.51				
					693.690		
AVG.	129	-1.00	0.71	1.68	23.590		82

APPENDIX E

DATA AND RESULTS APPENDICES FOR DRYER EXHAUST

APPENDIX E.1

DATA AND RESULTS FOR EPA METHOD 25A TESTING

- DRYER EXHAUST -

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 1

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
12:31	13.8000	17.9800
12:32	16.7500	21.3300
12:33	17.8900	24.6400
12:34	18.0400	25.3800
12:35	18.0300	24.4800
12:36	18.1300	23.4700
12:37	17.6900	22.8300
12:38	18.2800	22.0800
12:39	18.5300	24.1100
12:40	20.1600	26.1400
12:41	22.4100	30.1000
12:42	25.5900	32.7300
12:43	28.5500	36.6000
12:44	30.5600	38.3400
12:45	33.3900	40.2900
12:46	34.7500	43.0800
12:47	35.3600	42.8000
12:48	38.2800	43.9300
12:49	38.9900	47.8300
12:50	41.1800	48.6400
12:51	40.9400	50.3800
12:52	41.0200	49.9100
12:53	41.9800	51.8300
12:54	40.6200	53.1200
12:55	40.7700	52.4900
12:56	41.3800	54.0500
12:57	41.5800	56.0600
12:58	42.0200	58.4800
12:59	41.2700	59.4900
13:00	41.6400	59.5900
13:01	41.5200	60.8600
13:02	40.6100	62.1600
13:03	40.2900	61.3300
13:04	40.4400	61.8000
13:05	42.7400	65.1500
13:06	44.4700	67.9800
13:07	49.2300	75.4000
13:08	51.1000	82.8000
13:09	56.2100	86.4000
13:10	61.9000	88.1000
13:11	62.1900	91.4000

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 1

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
13:12	66.8000	96.1000
13:13	66.3900	96.3000
13:14	71.2000	95.7000
13:15	73.2000	98.6000
13:16	77.2000	97.9000
13:17	77.8000	96.7000
13:18	81.9000	99.4000
13:19	85.0000	99.7000
13:20	86.8000	98.3000
13:21	85.7000	97.9000
13:22	84.0000	97.9000
13:23	83.3000	98.3000
13:24	84.5000	98.5000
13:25	87.8000	96.2000
13:26	95.4000	97.3000
13:27	98.7000	98.6000
13:28	98.8000	99.5000
13:29	99.3000	99.1000
13:30	112.6000	98.6000
60 MinAvg	51.1112	64.1027

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 2

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
14:31	28.0200	22.7300
14:32	28.2400	23.0500
14:33	28.8300	24.7000
14:34	28.8800	25.6800
14:35	29.2900	26.9000
14:36	29.4000	27.7200
14:37	31.2500	30.4900
14:38	31.9000	32.6500
14:39	33.4100	32.2700
14:40	33.4900	34.0400
14:41	32.8100	35.3900
14:42	31.4600	37.1200
14:43	31.7800	35.4800
14:44	31.0600	34.1300
14:45	30.1600	32.5500
14:46	28.8700	31.4400
14:47	28.0900	29.7100
14:48	27.2900	28.3900
14:49	27.5800	27.4100
14:50	27.7900	27.9300
14:51	27.5400	27.4400
14:52	26.5900	27.2500
14:53	25.3000	24.3800
14:54	24.0400	22.3400
14:55	22.1300	20.4000
14:56	19.8000	17.8900
14:57	18.7100	15.6700
14:58	17.7100	15.0300
14:59	17.3800	14.2200
15:00	18.2900	13.6200
15:01	21.5800	15.1100
15:02	23.3200	20.8000
15:03	24.0200	23.4600
15:04	24.5700	24.2500
15:05	25.4400	24.6200
15:06	25.7900	26.2500
15:07	25.7400	25.6500
15:08	26.4500	26.1400
15:09	28.0600	27.3600
15:10	28.1200	30.8700
15:11	29.3000	31.6000

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 2

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
15:12	31.0900	33.9400
15:13	30.4700	35.7900
15:14	30.6500	35.4500
15:15	31.3100	35.2500
15:16	33.4800	37.6100
15:17	34.9700	42.3200
15:18	37.8700	44.1700
15:19	41.1000	48.9400
15:20	41.3700	54.4400
15:21	41.4000	53.7700
15:22	40.6900	53.5500
15:23	39.3900	51.6700
15:24	38.7700	48.8900
15:25	39.5700	48.4100
15:26	38.4500	49.0800
15:27	35.9400	97.0000
15:28	34.5500	170.2000
15:29	33.7100	188.1000
15:30	33.6800	136.6000
60 MinAvg	29.7990	38.9885

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 3

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
16:31	33.2800	34.3800
16:32	34.1100	34.3300
16:33	35.0300	35.6000
16:34	34.6700	35.8500
16:35	33.3800	34.0200
16:36	34.4600	33.1400
16:37	34.1000	34.2510
16:38	34.4500	33.4000
16:39	33.6800	33.1900
16:40	33.6100	33.9500
16:41	33.9200	35.3900
16:42	34.7300	35.6500
16:43	35.1600	36.8300
16:44	36.1700	36.5900
16:45	34.4300	37.1500
16:46	33.6100	33.6800
16:47	33.0600	33.1500
16:48	32.8400	31.8200
16:49	33.4400	32.3200
16:50	33.2800	33.3400
16:51	30.8400	32.9300
16:52	31.0600	33.3400
16:53	31.5900	37.0400
16:54	30.0800	38.9400
16:55	29.7300	37.9000
16:56	30.8600	37.8400
16:57	30.2100	38.8300
16:58	29.5600	37.2900
16:59	28.0500	36.1800
17:00	23.0600	32.8800
17:01	19.5400	27.9200
17:02	17.1900	25.0500
17:03	16.1400	22.9200
17:04	15.8900	21.8900
17:05	21.4000	23.9000
17:06	22.4500	26.6600
17:07	23.6500	28.4500

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD DATA
M25A - RUN 3

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
17:08	23.8100	29.0700
17:09	24.0800	29.6000
17:10	23.5000	30.3400
17:11	23.1400	30.1400
17:12	23.8600	30.1400
17:13	22.9900	30.8300
17:14	22.0400	31.3000
17:15	19.6700	28.7000
17:16	18.1900	26.6700
17:17	17.2300	25.0300
17:18	19.3100	25.0600
17:19	22.4900	28.2800
17:20	23.7100	30.6100
17:21	23.9000	31.4600
17:22	24.7600	31.8600
17:23	24.0900	32.1800
17:24	24.0000	31.8400
17:25	24.0800	32.0400
17:26	24.4200	31.9400
17:27	25.4400	32.2400
17:28	25.6400	32.8100
17:29	26.0600	33.4200
17:30	23.8900	32.2100
60 MinAvg	27.3835	32.0960

APPENDIX E.2

DATA AND RESULTS FOR EPA METHODS 1-4 TESTING

- DRYER EXHAUST -

RUN NUMBER	DO-M1-4-R1	
Date	09/10/96	
Start Time	12:35	
End Time	13:05	
Stack Diam.	48	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.83	
Test Duration	30	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	168.0	68.0
IMP.2	100.0	130.0	30.0
IMP.3	0.0	2.0	2.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	300.0	100.0
S.G.	826.3	834.0	7.7

METHOD 1-4 RESULTS

Metered Volume	22.924	dcf
Volume @ Std.Cond.	20.309	dscf
% Water	19.98	%
Velocity	70.19	ft/sec
Actual Flow	52919	acfm
Std. Flow	40995	scfm
Dry Std. Flow	32805	dscfm

METHOD 3 DATA

%O2	17.3	Md	29.24
%CO2	3.4	Ms	27.00
%CO	0.0	Ps	28.00
%N2	79.2	Fo	1.041
O2+CO2	20.8	%EA	481

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	170	-9.50	1.70	1.79	341.460	115	113
2	173	-9.50	1.90	1.79	364.384	119	110
3	175		1.70				
4	181		1.30				
5	181		0.77				
6	179		1.20				
7	178		0.89				
8	178		0.40				
9	178		1.40				
10	179		1.40				
11	179		1.50				
12	179		1.30				
13	182		0.65				
14	178		1.30				
15	178		1.40				
16	178		0.48				
					364.384		
AVG.	178	-9.50	1.21	1.79	22.924		114

RUN NUMBER	DO-M1-4-R2	
Date	09/10/96	
Start Time	14:35	
End Time	15:05	
Stack Diam.	48	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.83	
Test Duration	30	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	159.0	59.0
IMP.2	100.0	122.0	22.0
IMP.3	0.0	10.0	10.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	291.0	91.0
S.G.	834.0	842.0	8.0

METHOD 1-4 RESULTS

Metered Volume	22.813	dcf
Volume @ Std.Cond.	20.333	dscf
% Water	18.65	%
Velocity	71.71	ft/sec
Actual Flow	54070	acfm
Std. Flow	42012	scfm
Dry Std. Flow	34178	dscfm

METHOD 3 DATA

%O2	17.9	Md	29.16
%CO2	2.8	Ms	27.08
%CO	0.0	Ps	27.99
%N2	79.3	Fo	1.072
O2+CO2	20.7	%EA	592

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	176	-9.60	1.30	1.79	364.832	108	107
2	176	-9.60	1.60	1.72	387.645	117	111
3	177		1.50				
4	177		1.40				
5	177		0.65				
6	175		1.20				
7	174		1.00				
8	173		0.89				
9	177		1.70				
10	177		1.80				
11	176		1.60				
12	177		1.40				
13	177		0.77				
14	177		1.20				
15	174		1.00				
16	173		0.87				
					387.645		
AVG.	176	-9.60	1.24	1.76	22.813		111

RUN NUMBER	DO-M1-4-R3	
Date	09/10/96	
Start Time	16:32	
End Time	17:02	
Stack Diam.	48	inches
Meter Box Gamma	1.0003	
Meter Box dH@	1.7949	
Barometric	28.70	in.Hg
Cp	0.83	
Test Duration	30	minutes

METHOD 4 DATA

	INIT. (ml)	FINAL (ml)	NET (ml)
IMP.1	100.0	150.0	50.0
IMP.2	100.0	132.0	32.0
IMP.3	0.0	0.0	0.0
IMP.4			0.0
IMP.5			0.0
IMP.6			0.0
IMP.7			0.0
TOTAL	200.0	282.0	82.0
S.G.	842.0	846.5	4.5

METHOD 1-4 RESULTS

Metered Volume	20.697	dcf
Volume @ Std.Cond.	18.522	dscf
% Water	18.02	%
Velocity	72.10	ft/sec
Actual Flow	54360	acfm
Std. Flow	42248	scfm
Dry Std. Flow	34634	dscfm

METHOD 3 DATA

%O2	17.5	Md	29.20
%CO2	3.2	Ms	27.18
%CO	0.0	Ps	28.00
%N2	79.4	Fo	1.079
O2+CO2	20.7	%EA	507

POINT	STACK TEMP (DegF)	STATIC (in.WC)	DP (in.WC)	DH (in.WC)	METER VOLUME (dcf)	METER TEMPERATURE INLET (DegF)	METER TEMPERATURE OUTLET (DegF)
1	175	-9.50	1.70	1.79	384.915	107	107
2	176	-9.50	1.70	1.80	405.612	111	109
3	177		1.60				
4	177		1.30				
5	177		0.74				
6	175		1.40				
7	174		1.00				
8	173		1.00				
9	175		1.40				
10	176		1.50				
11	177		1.50				
12	177		1.40				
13	176		0.67				
14	176		1.10				
15	177		1.10				
16	175		1.00				
					405.612		
AVG.	176	-9.50	1.26	1.80	20.697		109

APPENDIX F

CALCULATIONS

EPA METHODS 2-4 CALCULATIONS

1. Metered Gas Sample Volume at Standard Conditions

$$V_{m(std)} = V_m \times \gamma \times \frac{528}{29.92} \times \left[\frac{P_B + \frac{\Delta H}{13.6}}{T_m + 460}\right]$$

2. Gas Volume of Water Vapor Collected in Impinger Liquid

$$V_{WC(std)} = (v_f - v_i) \times 0.04707$$

3. Gas Volume of Water Vapor Collected in Silica Gel

$$V_{wsg(std)} = (w_f - w_i) \times 0.04715$$

4. Moisture Volume Fraction in Flue Gas

$$B_{ws} = \frac{V_{wc(std)} + V_{wsg(std)}}{V_{wc(std)} + V_{wsg(std)} + V_{m(std)}}$$

5. Moisture Volume Percentage in Flue Gas

$$\%H_2O = B_{ws} \times 100$$

6. Absolute Pressure of Flue Gas

$$P_s = P_B + \frac{P_{static}}{13.6}$$

7. Nitrogen Content of Flue Gas

$$\%N_2 = 100 - (\%CO_2 + \%O_2 + \%CO)$$

8. Dry Molecular Weight of Flue Gas

$$M_d = 0.44 \times \%CO_2 + 0.32 \times \%O_2 + 0.28 \times (\%N_2 + \%CO)$$

9. Wet Molecular Weight of Flue Gas

$$M_s = M_d \times (1 - B_{ws}) + 18 \times B_{ws}$$

10. Fuel Factor Based on Flue Gas Composition

$$F_o = \frac{20.9 - \%O_2}{\%CO_2}$$

11. Excess Air of Flue Gas

$$\%EA = \frac{\%O_2 - 0.5\%CO}{0.264\%N_2 - (\%O_2 - 0.5\%CO)} \times 100$$

12. Average Gas Velocity, ft/sec

$$v_s = 85.49 \times C_p \times (\Delta P^{1/2})_{avg} \times \frac{(T_s + 460)^{1/2}}{(P_s \times M_s)^{1/2}}$$

13. Area of Round Duct or Stack

$$A_s = \frac{\pi \times D^2}{4 \times 144} \quad \textit{(round ducts)}$$

14. Area of Rectangular Duct

$$A_s = \frac{L \times W}{144} \quad \textit{(rectangular ducts)}$$

15. Actual Volumetric Flow Rate of Flue Gas

$$Q_a = v_s \times A_s \times 60$$

16. Flow Rate of Flue Gas at Standard Temperature and Pressure

$$Q_s = Q_a \times \left[\frac{P_s \times 528}{(T_s + 460) \times 29.92}\right]$$

17. Dry Flow Rate of Flue Gas at Std. Temperature and Pressure

$$Q_{sd} = Q_s \times (1 - B_{ws})$$

NOMENCLATURE FOR EPA METHODS 2-4

A_s	=	Stack area, ft^2
B_{ws}	=	Moisture volume fraction
C_p	=	Pitot tube coefficient (≈0.84)
D_s	=	Stack diameter, inches
ΔH	=	Average meter orifice pressure, in.W.C.
ΔP	=	Pitot tube differential pressure, in.W.C.
F_o	=	Combustion factor
γ	=	Meter calibration factor, gamma
L	=	Length of rectangular stack or duct, inches
M_D	=	Dry molecular weight, lb/lb-mole
M_s	=	Wet molecular weight, lb/lb-mole
P_B	=	Barometric pressure, in.Hg
P_s	=	Absolute stack pressure, in.Hg
P_{static}	=	Average static pressure, in.W.C.
Q_a	=	Actual gas flow rate, acfm
Q_s	=	Standard gas flow rate, scfm
Q_{sd}	=	Dry standard gas flow rate, dscfm
T_m	=	Average meter temperature, °F
T_s	=	Average stack temperature, °F
v_f	=	Final impinger volume, ml
v_i	=	Initial impinger volume, ml
V_m	=	Uncorrected metered gas volume, dcf
$V_{m(std)}$	=	Corrected gas volume, dscf
v_s	=	Average gas velocity, ft/sec
$V_{wc(std)}$	=	Gas volume of water caught in impingers, scf
$V_{wsg(std)}$	=	Gas volume of water caught in silica gel, scf
W	=	Width of rectangular stack or duct, inches
w_f	=	Final silica gel mass, grams
w_i	=	Initial silica gel mass, grams
$\%O_2$	=	Dry volumetric concentration of O_2, %dv
$\%CO_2$	=	Dry volumetric concentration of CO_2, %dv
%CO	=	Dry volumetric concentration of CO, %dv
$\%N_2$	=	Dry volumetric concentration of N_2, %dv
%EA	=	Percent excess air

EPA METHOD 5 GRAVIMETRIC CALCULATIONS

1. PM Collected in Probe Wash - M_{pw}

$$M_{pw} = (W_{pw})_{final} - (W_{pw})_{tare}$$

2. Applicable Acetone Blank Correction - B_{apw}

$$B_{apw} = \left[(W_{ab})_{final} - (W_{ab})_{tare}\right] \times \frac{v_{pw}}{v_{ab}}$$

3. Maximum Allowable Acetone Blank - B_{amax}

$$B_{amax} = 0.7845 \times 0.00001 \times v_{pw}$$

4. Actual Probe Wash Blank Correction - B_{pw}

$$B_{pw} = MINIMUM\ [B_{apw},\ B_{amax}]$$

5. PM Collected on Filter - M_f

$$M_f = (W_f)_{final} - (W_f)_{tare}$$

6. Total PM Collected for Method 5 Calculations - M_5

$$M_5 = M_{pw} + M_f - B_{pw}$$

NOMENCLATURE

B_{amax}	=	Maximum allowable acetone blank correction, based on weight of acetone in probe wash, grams
B_{apw}	=	Acetone blank correction based on residue of blank, grams
B_{pw}	=	Acetone blank correction actually used, grams
M_5	=	Total mass of particulate in train corrected for acetone blank, grams
M_f	=	Mass gain of filter, grams
M_{pw}	=	Probe wash residue, grams
v_{ab}	=	Liquid volume of acetone blank, ml
v_{pw}	=	Liquid volume of probe wash, ml
$(W_{ab})_{final}$	=	Final weight of beaker containing acetone blank residue, grams
$(W_{ab})_{tare}$	=	Tare weight of beaker containing acetone blank residue, grams
$(W_f)_{final}$	=	Final weight of filter, grams
$(W_f)_{tare}$	=	Tare weight of filter, grams
$(W_{pw})_{final}$	=	Final weight of beaker containing probe wash residue, grams
$(W_{pw})_{tare}$	=	Tare weight of beaker containing probe wash residue, grams

METHOD 202 GRAVIMETRIC CALCULATIONS

1. Organic CPM - M_o

$$M_o = (W_o)_{final} - (W_o)_{tare}$$

2. Organic Blank Correction - B_o

$$B_o = \left[(W_{ob})_{final} - (W_{ob})_{tare}\right] \times \frac{V_o}{V_{ob}}$$

3. Inorganic CPM (Uncorrected for NH4 and Cl ions) - M_{iu}

$$M_{iu} = \left[(W_i)_{final} - (W_i)_{tare}\right] \times \frac{V_4}{V_4 - V_a}$$

4. Inorganic Blank Correction - B_i

$$B_i = \left[(W_{ib})_{final} - (W_{ib})_{tare}\right] \times \frac{V_i}{V_{ib}}$$

5. Inorganic Correction for Ammonia addition - m_a

$$m_a = \frac{0.020502 \times C_{SO_4} \times V_4}{10^6}$$

6. Inorganic Correction for NH_4Cl in Sample - m_{cl}

$$m_{cl} = \frac{1.509 \times C_{Cl} \times 100}{10^6}$$

7. Inorganic CPM (Corrected for NH4 and Cl ions) - M_{ic}

$$M_{ic} = M_{iu} - m_a - m_{Cl}$$

8. Total CPM - M_{CPM}

$$M_{CPM} = M_o + M_{ic} - B_o - B_i$$

METHOD 202 GRAVIMETRIC NOMENCLATURE

B_I	=	Inorganic blank correction, grams
B_o	=	Organic blank correction, grams
C_{Cl}	=	Concentration of chloride in reconstituted inorganic fraction, mg/liter
C_{SO4}	=	Concentration of sulfate in inorganic fraction, mg/liter
m_a	=	Inorganic correction for ammonia addition step, grams
m_{Cl}	=	Inorganic correction for ammonium chloride in reconstituted sample, grams
M_{CPM}	=	Total Mass of CPM in sample, grams
M_{ic}	=	Inorganic CPM corrected for NH4 and Cl ions, grams
M_{iu}	=	Inorganic CPM uncorrected for NH4 and Cl ions, grams
M_o	=	Mass of organic CPM in sample, grams
v_4	=	Liquid volume of container 4 (Impingers + water rinses), ml
v_a	=	Volume of aliquot used for IC analysis of sulfates, ml
v_i	=	Liquid volume of water used in sample collection and rinses, ml
v_{ib}	=	Liquid volume of water used in blank, ml
v_o	=	Liquid volume of Methylene Chloride used in sample recovery and extractions, ml
v_{ob}	=	Liquid volume of Methylene Chloride used in blank, ml
$(W_{ib})_{final}$	=	Final weight of beaker containing H2O blank residue, grams
$(W_{ib})_{tare}$	=	Tare weight of beaker containing H2O blank residue, grams
$(W_i)_{final}$	=	Final weight of beaker containing inorganic sample residue, grams
$(W_i)_{tare}$	=	Tare weight of beaker containing inorganic sample residue, grams
$(W_{ob})_{final}$	=	Final weight of beaker containing MeCl2 blank residue, grams
$(W_{ob})_{tare}$	=	Tare weight of beaker containing MeCl2 blank residue, grams
$(W_o)_{final}$	=	Final weight of beaker containing organic sample residue, grams
$(W_o)_{tare}$	=	Tare weight of beaker containing organic sample residue, grams

PARTICULATE EMISSIONS CALCULATIONS

1. Particulate Concentration - C_{sd}

$$C_{sd} = \frac{\Sigma(M_i)}{V_{m(std)}} \times \frac{7000}{453.593}$$

2. Particulate Concentration Corrected to 7% O_2 - C_{sd}@7%O_2

$$C_{sd@7\%} = C_{sd} \times \frac{20.9 - 7.0}{20.9 - \%O_2}$$

3. Particulate Concentration Corrected to 12% CO_2 - C_{sd}@12%CO_2

$$C_{sd@12\%} = C_{sd} \times \frac{12}{\%CO_2}$$

4. Particulate Concentration Corrected to 50% Excess Air - C_{sd}@50%EA

$$C_{sd@50\%EA} = C_{sd} \times \frac{100 + \%EA}{150}$$

5. Particulate Mass Rate - M_p

$$M_p = \frac{\Sigma(M_i)}{V_{m(std)}} \times Q_{sd} \times \frac{60}{453.593}$$

6. Isokinetic Variation - %ISO

$$\%Iso = \frac{0.09450 \times (T_s + 460) \times V_{m(std)}}{P_s \times v_s \times A_n \times time \times (1 - B_{ws})}$$

NOMENCLATURE

A_n	=	Nozzle area, ft^2
C_{sd}	=	Particulate concentration, grains/dscf
D_n	=	Nozzle diameter, inches
ΣM_i	=	Summation of PM collected in sample train, grams
M_p	=	Mass rate of particulate emissions, lb/hr
P_s	=	Absolute stack pressure, in.Hg
Q_{sd}	=	Dry standard gas flow rate, dscfm
time	=	Net sampling time, minutes
T_s	=	Average stack temperature, °F
$V_{m(std)}$	=	Corrected gas volume, dscf
v_s	=	Average gas velocity, ft/sec
$\%O_2$	=	Dry volumetric concentration of O_2, %dv
$\%CO_2$	=	Dry volumetric concentration of CO_2, %dv
%EA	=	Percent excess air
%Iso	=	Percent isokinetics

ORGANIC POLLUTANT EMISSIONS CALCULATIONS

1. Concentration

$$C_i = \frac{m_i}{V_{m_{std}}} \times \frac{0.84948}{MW_i}$$

2. Mass Emissions Rate

$$M_i = \frac{m_i}{V_{m(std)}} \times \frac{Q_{sd} \times 60}{10^6 \times 453.593}$$

NOMENCLATURE

C_i	=	concentration of analyte i, ppmdv
m_i	=	mass of analyte i collected, µg
M_i	=	mass emissions rate of analyte i, lb/hr
MW_i	=	molecular weight of analyte i, g/g-mole
Q_{sd}	=	dry standard gas flow rate, dscfm
$V_{m(std)}$	=	corrected gas volume, dscf
453.593	=	grams per pound
0.84948	=	std. cubic feet per gram mole of ideal gas
10^6	=	micrograms per gram
60	=	minutes per hour

INSTRUMENT ANALYZER CALCULATIONS

1. Analyzer Calibration Error is determined by:

$$E_c = \frac{A_c - C_g}{V_s} \times 100$$

2. System Bias is determined by:

$$B_s = \frac{C_s - A_c}{V_s} \times 100$$

3. Calibration Drift is determined by:

$$D_c = \frac{F_c - I_c}{V_s} \times 100$$

4. The Adjusted Data Value is determined by:

$$C_{gas} = (\overline{C} - C_0) \times \frac{C_{ma}}{C_m - C_0}$$

Nomenclature:

A_c	=	the analyzer response for calibration gas standard
B_s	=	Sampling system bias, % analyzer span
$\bar{C}$	=	the average gas concentration of the analyte indicated by the gas analyzer
C_g	=	the actual gas cylinder concentration value
C_{gas}	=	the adjusted gas concentration of the analyte
C_m	=	the average of initial and final system calibration responses for the upscale calibration gas
C_{ma}	=	the actual concentration of the upscale calibration gas used for system calibration
C_o	=	the average of initial and final system calibration responses for the zero gas
C_s	=	the system response for calibration gas introduced remotely at the sample probe (zero or upscale)
D_c	=	Calibration drift, % analyzer span
E_c	=	Analyzer calibration error, % analyzer span
F_c	=	Final system calibration response value
I_c	=	Initial system calibration response value
V_s	=	Span value of analyzer

GASEOUS EMISSIONS MONITORING CALCULATIONS

1. HOURLY EMISSIONS RATE - M_i

$$M_i = \frac{C_i \times Q_{sd} \times 60 \times MW_i}{10^6 \times 0.84948 \times 453.593}$$

NOMENCLATURE

i	= NO_x, SO_2, CO, or total hydrocarbons (as propane)
M_i	= Mass emissions rate of i, lb/hr
C_i	= Concentration of i in stack gas, ppmdv
MW_i	= Molecular weight of i
	= 46.01 for NO_2
	= 28.01 for CO
	= 64.06 for SO_2
	= 44.10 for propane
Q_{sd}	= Average flue gas flow rate, dscfm
0.84948	= Molar volume of ideal gas, ft^3/mole
453.593	= grams per pound
10^6	= parts per million
60	= minutes per hour

METHOD 25A EMISSIONS CALCULATIONS

1. Dry VOC Concentration

$$C_c = \frac{C_w}{(1 - B_{ws})}$$

2. Hourly emissions rate

$$M = \frac{C_c \times Q_{sd} \times 60 \times MW_i}{10^6 \times 0.84948 \times 453.593}$$

EPA METHOD 25A EMISSIONS NOMENCLATURE

C_w	=	Wet concentration of total gaseous VOC's in stack gas, ppmwv
B_{ws}	=	stack gas moisture fraction
M	=	Emissions rate of VOC's, lb/hr
C_c	=	Dry concentration of total gaseous VOC's in stack gas, ppmdv
Q_{sd}	=	Total gas flow rate, dscfm
MW_i	=	Molecular weight of reporting standard for VOC's, grams/mole
	=	44.097 for propane
	=	12.011 for carbon
60	=	Minutes per hour
0.84948	=	Molar volume of ideal gas, ft^3/mole
453.593	=	grams per pound
10^6	=	parts per million

APPENDIX G.1

RAW FIELD DATA FOR EPA METHOD 5/202 TESTING

- RTO STACK -

APPENDIX G

RAW FIELD DATA APPENDICES FOR RTO STACK

Revision 1 03/16/94

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF ___

FACILITY: LA Pacific TEST LOCATION: RTO stack DATE: 9-10-96

START TIME: 1230 END TIME: 1340 POLLUTANT: TSP RUN I.D.: RTO - M5/202 R 1

1 = 2.8

*K = 2.92

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 1	0	1230		271	.34	0.95	330.200	87	84	74	251	5
2	2.5			275	.40	1.12	331.7	87	84	69	251	5
3	5			284	.41	1.15	333.3	87	84	69	255	5
4	7.5		-.29	280	.44	1.23	335.0	88	85	69	252	5
5	10			285	.45	1.26	336.7	89	85	69	249	5
6	12.5			281	.45	1.26	338.4	90	85	69	253	5
7	15			284	.45	1.26	340.1	91	85	69	254	5
8	17.5			280	.40	1.12	341.8	92	86	69	254	5
9	20			277	.45	1.26	343.5	92	86	69	251	5
10	22.5		-.31	[illegible]	.46	1.29	345.2	93	86	69	242	6
11	25			281	.45	1.26	347.0	93	86	69	253	5
12	27.5			283	.41	1.15	348.7	94	87	69	257	5
	30.0	1300					350.452					
B 1	30.0	1310		272	.33	.92	350.952	95	89	75	251	4
2	32.5			281	.38	1.06	351.9	95	89	70	255	5
3	35			279	.42	1.18	353.5	96	90	69	255	5
4	37.5		-.31	287	.44	1.23	355.1	97	90	68	246	5
5	40			281	.44	1.28	356.8	96	90	68	247	5
6	42.5			281	.45	1.31	358.6	97	91	68	250	6
7	45			285	.46	1.34	360.4	98	91	69	251	6
8	47.5			279	.45	1.31	362.2	98	92	69	249	6
9	50			286	.47	1.37	364.0	98	92	69	259	6
10	52.5		-.32	284	.45	1.31	365.8	98	92	69	259	6
11	55			287	.43	1.25	367.6	98	92	69	252	5.5
12	57.5			282	.43	1.25	369.4	98	93	69	253	5.5

6 @ 1340 Final vol: 371.145

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	10[illegible]	Filter
F2	101	Probe Wash
F3	102	Imp. Contents
F4	[illegible]	Gorge
F5	10[illegible]	H_2O Rinse
F6	105	MeCl Rinse
F7	106	Silica Gel
F8	107	Toddler Bag

LEAK CHECK: Pre

VACUUM	15"	9"			
RATE	0.016	0.005			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	194
#2	100	118
#3	100	103
#4	0	0
#5	200	208.1
#6		

NOZZLE #	.258
PITOT #	106 A
BOX I.D.	11
GAMMA Y	0.9910
ΔH@	1.7191
P_{bar}	28.7
FILTER	96-148
TECH.	AS

Revision 1

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF ___

FACILITY: LA Pacific TEST LOCATION: RTO scrubber DATE: 9-10-96

START TIME: 1430 END TIME: 1540 POLLUTANT: TSP RUN I.D.: RTO - 4/202 R2

K=2.92

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B1	0	1430		275	.35	1.02	371.610	96	93	68	223	2
2	2.5			275	.39	1.14	373.2	96	94	83	225	3
3	5			278	.42	1.23	374.8	97	93	63	223	3
4	7.5		-.30	288	.44	1.28	376.5	98	94	69	231	3.5
5	10			285	.46	1.34	378.2	98	94	65	23[illegible]	4
6	12.5			281	.47	1.37	380.1	99	94	63	237	4
7	15			287	.45	1.31	381.9	100	9[illegible]	62	246	4
8	17.5		-	286	.46	1.34	38[illegible].5	100	94	62	240	4
9	20			288	.45	1.31	385.4	101	95	65	238	4
10	22.5		-.32	285	.47	1.3[illegible]	387.2	100	95	65	236	4
11	25			286	.47	1.37	389.0	101	[illegible]6	65	237	4
12	27.5			288	.43	1.26	390.8	101	9[illegible]	65	238	4
	30	1500	/	/	/	/	392.633	/	/	/	/	/
A [illegible]	3[illegible]	1510		270	.36	1.05	392.633	96	95	70	[illegible]3[illegible]	3
2	32.5			278	.[illegible]	1.26	394.2	96	93	65	231	3.5
3	35			288	.[illegible]	1.26	395.9	96	[illegible]3	65	231	3.5
4	32.5		-.32	284	.[illegible]6	1.34	397.6	95	93	69	240	4
5	40			287	.46	1.31	399.5	95	93	69	242	4
6	42.5			286	.46	1.34	401.3	[illegible]4	93	66	239	4
7	45			285	.45	1.37	403.0	94	92	65	[illegible]39	4
8	47.5			290	.41	1.20	40[illegible]9	93	91	85	2[illegible]0	4
9	50			285	.45	1.31	406.6	94	91	65	239	4
10	52.5		-.31	282	.46	1.34	408.4	93	90	65	238	4
11	55			285	.45	1.3[illegible]	410.3	92	90	65	234	4
12	57.5			285	.41	1.20	412.0	92	90	65	233	4
	60	1540										

Final Vol: 413.728

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	108	Filter
F2	109	Probe Wash
F3	110	Imp. Cont.
F4	111	Entrainment
F5	112	H_2O Rinse
F6	113	MeOH Rinse
F7	114	Silica Gel
F8	115	Tedlar Bag

LEAK CHECK:

VACUUM	15"	6"			
RATE	.005	.005			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	192
#2	100	118
#3	100	102
#4	0	0
#5	200	207.3
#6		

NOZZLE #	.2[illegible]
PITOT #	106 A
BOX I.D.	41
[illegible] Y	0.9940
[illegible]	1.7191
P_{bar}	28.7
FILTER	96-151
TECH.	AS

APPENDIX G.2

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- RTO STACK -

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: RTO ~~generator~~ DATE: 9-10-96

START TIME: 1630 END TIME: 1740 POLLUTANT: TSP RUN I.D.: RTO .5/70Z R 3

K = 2.92

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 1	0	1630		276	.32	.93	415.325	84	83	69	223	1
2	2.5			278	.42	1.23	416.5	84	83	69	223	1
3	5			278	.46	1.34	418.1	85	83	68	225	1
4	7.5		-.36	284	.46	1.34	419.9	86	83	62	225	1
5	10			284	.46	1.34	421.7	86	83	63	226	1
6	12.5			282	.46	1.34	423.5	86	82	61	228	1
7	15			290	.46	1.34	425.3	86	82	61	228	1
8	17.5			280	.47	1.37	427.1	86	82	61	227	1
9	20			290	.46	1.34	428.9	87	82	62	226	1.5
10	22.5		-.35	284	.47	1.37	430.7	86	82	64	229	2
11	25			284	.47	1.37	432.5	87	82	64	240	2
12	27.5			282	.43	1.26	434.3	87	82	64	238	1
	30	1700					436.079					
B 1	30	1710		270	.37	1.08	436.079	84	83	66	226	1
2	32.5			275	.43	1.26	437.6	83	83	65	226	1
3	35			285	.45	1.31	439.3	83	82	65	229	2
4	37.5		-.33	283	.47	1.37	441.1	84	81	64	234	2
5	40			281	.47	1.37	442.9	85	81	64	234	2
6	42.5			287	.48	1.40	444.7	87	82	63	234	2
7	45			279	.47	1.37	446.6	87	83	63	236	2
8	47.5			289	.48	1.40	448.4	87	82	63	239	2
9	50			282	.48	1.40	450.2	87	83	62	239	2
10	52.5		-.38	281	.49	1.43	452.1	87	82	62	235	2
11	55			290	.47	1.37	453.9	87	82	62	240	2
12	57.5			279	.46	1.34	455.7	84	81	62	247	2
	60						Final vol: 457.555					

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	116	Filter
F2	117	Probe Wash
F3	118	Imp Contents
F4	119	Extra Storage
F5	120	H_2O Rinse
F6	121	$MeCl_2$ Rinse
F7	122	Silicagel
F8	123	Tedlar Bag

LEAK CHECK: Pre

VACUUM	15"	5"			
RATE	.015	.009			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	204
#2	100	113
#3	100	161
#4	0	0
#5	200g	207.1
#6		

NOZZLE #	.258
PITOT #	106 A
BOX I.D.	11
C_{pitot}	0.9910
$\Delta H@$	1.7191
P_{bar}	28.7
FILTER	96 - 150
TEMP.	AS

K-2.0
2.92

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA PACIFIC TEST LOCATION: RTO STACK DATE: 9·10·96

START TIME: 1230 END TIME: 1340 POLLUTANT: BTX on 5011 RUN I.D.: RTO - KBF11 # 1

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B 12	0	1230	~~.46~~	281	.46	1.3	061.677	80	78	67	252	3
11	2.5			282	.44	1.23	064.0	89	86	64	257	3
10	5.0			280	.47	1.32	065.6	89	86	64	257	3
9	7.5			278	.46	1.3	067.0	91	86	62	257	3
8	10.0			286	.43	1.2	069.0	93	87	62	260	3
7	12.5		-.30	281	.43	1.2	070.6	95	88	62	269	3
6	15			279	.44	1.23	072.2	98	89	63	272	3
5	17.5			283	.45	1.26	073.9	98	90	62	264	3
4	20.0			279	.42	1.18	075.5	100	91	63	256	3
3	22.5			285	.42	1.18	077.2	100	91	65	253	3
2	25.0			277	.38	1.06	078.7	101	92	63	253	3
1	27.5			285	.29	0.82	080.3	103	93	62	247	3
	30.0	1300					081.724					
A 12	30.0	1310		279	.42	1.18	081.724	100	96	67	250	3
11	32.5			282	.45	1.26	083.2	103	97	63	247	3
10	35.0			279	.41	1.15	084.9	105	98	59	257	3
9	37.5			286	.41	1.15	086.5	107	99	60	259	3
8	40.0			285	.34	.99	088.1	107	99	60	262	3
7	42.5		-.29	289	.41	1.20	089.6	108	100	61	261	3
6	45.0			284	.41	1.20	091.2	109	100	61	264	3
5	47.5			287	.40	1.17	092.9	109	101	61	265	3
4	50.0			284	.43	1.26	094.6	110	102	61	267	3
3	52.5			279	.43	1.26	096.3	110	101	61	267	3
2	55.0			287	.38	1.11	098.0	111	103	62	267	3
1	57.5			287	.34	.99	099.6	112	103	63	269	3

CHAIN OF CUSTODY: 60.0 1340

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1A	200	Impl-3 Rinses
F2	201	Silica Gel

LEAK CHECK: 1.01.193

VACUUM	16"	6"			
RATE	.001	.001			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	198
#2	100	104
#3	0	7
#4	200g	210.8
#5	✓	
#6		

NOZZLE #	.258
PITOT #	115A
BOX I.D.	6
GAMMA Y	0.99.84
ΔH@	1.7198
P_{BAR}	28.7
FILTER	N/A
TECH.	S.W.

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

FACILITY: LA PACIFIC TEST LOCATION: RTO STACK DATE: 9.10.96

START TIME: 1430 END TIME: 1540 POLLUTANT: HCHO RUN I.D.: RTO - KBFII - # 2

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 12	0	1430		288	.45	1.31	102.153	109	106	66	237	2
11	2.5			284	.47	1.37	104.0	108	107	64	241	2
10	5			283	.47	1.37	105.8	108	106	64	242	2
9	7.5			285	.48	1.40	107.5	108	106	61	247	2
8	10			281	.34	0.99	109.3	108	105	62	247	2
7	12.5		-.32	290	.45	1.31	110.9	108	105	63	250	2
6	15			282	.46	1.34	112.6	108	105	63	253	2
5	17.5			291	.44	1.28	114.3	107	105	59	246	2
4	20			285	.45	1.31	116.0	108	104	59	245	2
3	22.5			289	.42	1.23	117.7	108	104	59	249	2
2	25			288	.43	1.25	119.4	107	103	55	255	2
1	27.5			282	.36	1.05	121.1	107	103	56	254	2
	30	1500					122.748					
B 12	30	1510		287	.45	1.31	122.748	103	101	60	248	2
11	32.5			283	.49	1.43	124.4	103	100	60	253	2
10	35			288	.46	1.34	126.2	103	100	59	258	2
9	37.5			283	.46	1.34	128.0	103	100	60	262	2
8	40			288	.46	1.34	129.7	103	99	60	260	2
7	42.5		-.33	291	.45	1.31	131.5	102	99	63	261	2
6	45			281	.32	0.93	133.2	102	98	57	256	2
5	47.5			287	.32	.93	134.8	102	98	57	257	2
4	50			283	.44	1.28	136.2	102	98	59	264	2
3	52.5			282	.48	1.40	137.9	102	97	59	264	2
2	55			290	.44	1.28	139.7	102	97	59	261	2
1	57.5			283	.41	1.19	141.4	102	97	62	261	2

CHAIN OF CUSTODY: 60 1540

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1A	202	Imp 1-3
F2	203	Silica Gel
F1B	207	Extra Storage

LEAK CHECK: 143.141

VACUUM	15"	6"			
RATE	.001	.001			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	196
#2	100	116
#3	0	1
#4	200g	210.0
#5		
#6		

NOZZLE #	.258
PITOT #	115 A
BOX I.D.	6
GAMMA γ	0.9984
ΔH@	1.7198
P_{BAR}	28.7
FILTER #	N/A
TECH.	S.W.

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA PACIFIC TEST LOCATION: RTO STACK DATE: 9.10.96

START TIME: 1630 END TIME: 1740 POLLUTANT: HCHO RUN I.D.: RTO-RBH-R3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B 12	0	1630		289	.46	1.34	144.075	93	92	66	241	4
11	2.5			287	.48	1.40	145.2	93	92	57	248	5
10	5			279	.48	1.40	147.5	93	92	55	248	5
9	7.5			283	.46	1.34	149.3	93	91	52	241	5
8	10			282	.48	1.40	151.0	92	90	50	238	5
7	12.5		-.36	290	.47	1.37	152.8	92	89	50	238	5
6	15			283	.46	1.34	154.6	91	88	49	239	5
5	17.5			282	.45	1.31	156.2	90	88	49	242	5
4	20			289	.47	1.37	158.0	90	88	50	245	5
3	22.5			285	.44	1.28	159.7	91	88	52	253	5
2	25			288	.40	1.17	161.4	93	88	53	257	5
1	27.5			280	.36	1.05	163.1	93	88	53	257	5
	30	1700					164.665					
A 12	30	1700		285	.45	1.31	164.665	89	87	61	255	5
11	32.5			283	.47	1.37	166.3	92	88	54	255	5
10	35			291	.47	1.37	168.1	92	88	53	258	5
9	37.5			283	.45	1.31	169.8	92	88	55	268	5
8	40			282	.34	.99	171.1	93	87	55	256	5
7	42.5		-.34	285	.48	1.40	173.1	92	87	57	256	5
6	45			285	.46	1.34	174.8	92	87	57	257	5
5	47.5			284	.45	1.31	176.6	92	87	57	259	5
4	50			281	.47	1.37	178.3	93	87	57	259	5
3	52.5			291	.45	1.31	180.1	94	88	56	254	5
2	55			282	.41	1.20	181.8	94	88	58	251	5
1	57.5			281	.37	1.08	183.5	94	87	59	247	5
	60	1740										

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1A	204	Imp 1-3 Rinse
F2	205	Silica Gel
F1B	204	Extra Strength

LEAK CHECK: 18 S.127

VACUUM	17"	8"			
RATE	.001	.001			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	186
#2	100	128
#3	0	1
#4	200g	209.2
#5	g	
#6		

NOZZLE #	.258
PITOT #	115A
BOX I.D.	6
GAMMA Y	0.9984
ΔH@	1.7198
P_{BAR}	28.7
FILTER	N/A
TECH.	S.W

APPENDIX G.3

RAW FIELD DATA FOR MDI TESTING

- RTO STACK -

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF ___

FACILITY: LA Pacific TEST LOCATION: RTO scrubber DATE: 9-11-96

K = 37* START TIME: 940 END TIME: 1100 POLLUTANT: MDI RUN I.D.: RTO-RMDI R 1

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 12	0	940		286	.45	1.67	457.752	86	83	57	223	10
11	2.5			281	.46	1.70	459.7	86	83	52	223	10
10	5			288	.46	1.70	461.7	86	83	53	223	10
9	7.5			282	.48	1.78	463.7	86	83	55	223	11
8	10		-.36	285	.46	1.70	465.7	86	83	58	225	11
7	12.5			282	.46	1.70	467.7	85	82	61	224	11
6	15			282	.46	1.70	469.7	85	82	63	225	11
5	17.5			290	.45	1.67	471.7	84	81	61	223	11
4	20.0		-.36	282	.47	1.74	473.7	84	81	59	223	11
3	22.5			285	.45	1.67	475.7	84	81	58	223	11
2	25.0			282	.41	1.52	477.7	84	81	57	223	10
1	27.5			276	.36	1.33	479.7	83	81	56	223	9
	30	1010					481.548					
B 12	30	1030		279	.46	1.70	482.367	80	78	56	201	10
11	32.5			278	.47	1.74	484.3	80	79	54	204	10
10	35			284	.47	1.74	486.3	81	78	56	207	11
9	37.5			283	.47	1.74	488.4	81	78	60	209	11
8	40		-.32	287	.45	1.67	490.4	81	78	65	212	10.5
7	42.5			282	.46	1.70	492.4	82	78	66	214	10.5
6	45			281	.46	1.70	494.3	82	78	68	215	10.5
5	47.5			288	.46	1.70	496.3	83	78	71	220	10.5
4	50			282	.45	1.67	498.4	83	79	70	221	10
3	52.5		-.35	279	.43	1.59	500.3	83	78	66	321	10
2	55			282	.40	1.48	502.3	84	79	66	222	9
1	57.5			276	.37	1.36	504.2	84	79	65	223	8.5
	60	1100										

Final vol: 506.024

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	400	FH, Impl+Rinse
F2	401	Imp2-4+Rinse
F3	402	Charcoal
F4	403	Silica Gel

LEAK CHECK: Pre

VACUUM	15"	15"	12.5"		
RATE	.005	.005	.005		

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	200	232
#2	200	246
#3	200	194
#4	0	3
#5	200g	248.5
#6	200g	222.8

NOZZLE #	.275
PITOT #	115A
BOX I.D.	11
GAMMA T	0.9910
ΔH@	1.7191
P_{BAR}	28.7
FILTER	—
TECH.	AS

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF ___

FACILITY: LA Pacific TEST LOCATION: RTO DATE: 9-11-96

START TIME: 1235 END TIME: 1345 POLLUTANT: MDI RUN I.D.: RTO - MDI RZ

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B 12	0	12:35		282	.46	1.70	507.379	82	80	60	252	5
11	2.5			281	.46	1.70	509.4	83	81	52	254	5
10	5			285	.46	1.70	511.4	84	81	55	255	5
9	7.5			283	.46	1.70	513.4	84	81	58	254	5
8	10		-.38	290	.45	1.67	515.4	85	81	61	250	5
7	12.5			286	.45	1.67	517.4	85	81	64	255	5
6	15			283	.45	1.67	519.4	85	81	66	252	5
5	17.5			287	.44	1.63	521.3	85	81	68	248	5
4	20		-.33	283	.42	1.55	523.3	85	81	68	251	5
3	22.5			290	.42	1.55	525.3	85	81	68	253	5
2	25			283	.41	1.51	527.2	85	81	68	257	5
1	27.5			281	.32	1.18	529.1	85	81	69	251	4
	30	1305					530.805					
A 12	30	1315		279	.45	1.67	530.805	84	81	63	258	5
11	32.5			288	.45	1.67	532.7	83	81	57	245	5
10	35			280	.46	1.70	534.7	83	81	58	251	5
9	37.5			290	.46	1.70	536.7	84	81	61	260	5
8	40		-.35	284	.45	1.67	538.7	84	81	63	248	5
7	42.5			285	.46	1.70	540.7	85	81	63	254	5
6	45			285	.45	1.67	542.7	86	81	65	257	5
5	47.5			282	.45	1.67	544.7	86	81	66	250	5
4	50		-.35	281	.45	1.67	546.7	87	81	66	250	5
3	52.5			285	.43	1.58	548.7	88	82	66	252	5
2	55			281	.42	1.55	550.7	88	82	67	254	5
1	57.5			282	.35	1.30	552.6	89	83	69	248	4
	60	1345										

Final vol: 554.420

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	407	FH Imp1 + Rinses
F2	408	Imp 2-4 + Rinses
F3	409	Charcoal
F4	410	SilicaGel

LEAK CHECK: pre

VACUUM	15"	8"			
RATE	.012	.005			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	300	234
#2	200	293
#3	200	204
#4	0	3
#5	200g	247.4
#6	200g	219.8

NOZZLE #	.275
PITOT #	115
BOX I.D.	11
GAMMA γ	0.9910
ΔH@	1.7191
P_{BAR}	28.7
FILTER	N/A
TECH.	AS

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF ___

FACILITY: LA Pacific TEST LOCATION: RTO Scrubber DATE: 9-11-96

START TIME: 1438 END TIME: 1548 POLLUTANT: MOI RUN I.D.: RTO - MOI - R3

K=3.7

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 12	0	1438		287	.47	1.74	555.609	83	83	68	254	10
11	2.5			288	.45	1.67	557.6	83	83	60	253	10
10	5			284	.46	1.70	559.6	84	84	56	251	10
9	7.5			291	.46	1.70	561.6	85	84	57	255	10
8	10		-.35	285	.45	1.67	563.5	86	84	58	254	10
7	12.5			290	.46	1.70	565.5	86	84	58	254	10
6	15			288	.46	1.70	567.6	87	85	62	258	10
5	17.5			282	.45	1.67	569.5	87	85	63	249	10
4	20		-.38	290	.45	1.67	571.5	88	86	65	245	10
3	22.5			290	.44	1.63	573.5	88	86	66	261	10
2	25			283	.44	1.63	575.5	88	86	66	252	10
1	27.5			281	.33	1.22	577.5	88	86	68	254	8
	30	1508					579.287					
B 12	30	1518		279	.46	1.70	579.287	88	88	66	255	10
11	32.5			281	.46	1.70	581.2	88	88	54	255	10
10	35			290	.46	1.70	583.2	89	88	53	253	10
9	37.5			285	.47	1.74	585.2	90	89	57	251	10.5
8	40		-.36	282	.46	1.70	587.2	90	89	60	258	10
7	42.5			289	.46	1.70	589.2	90	89	61	250	10
6	45			282	.45	1.67	591.2	90	89	63	258	10
5	47.5			282	.44	1.63	593.3	90	89	65	251	10
4	50		-.32	285	.43	1.59	595.2	90	89	65	251	10
3	52.5			285	.43	1.59	597.2	90	89	66	251	10
2	55			290	.40	1.48	599.2	90	89	67	254	10
1	57.5			283	.35	1.30	601.1	90	90	68	250	9
	60	1548										

Final vol: 602.882

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	414	FH, Impl + Rinse
F2	415	Impl 2-4 + Rinse
F3	416	Charcoal
F4	417	Silica Gel

LEAK CHECK: Pre

VACUUM	15"	12"			
RATE	.002	.002			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	300	240
#2	200	287
#3	200	203
#4	0	3
#5	200g	261.4
#6	200g	220.6

NOZZLE #	.275
PITOT #	115
BOX I.D.	11
GAMMA γ	0.9910
ΔH@	1.7191
P_{BAR}	28.7
FILTER	N/A
TECH.	AS

INSTRUMENT ANALYZER METHOD-

O2/CO2 CALIBRATION	DATE: 9/11/96
O2 SPAN = 25% CO2 SPAN = 20%	TIME: 7:26
O2 MONITOR ID: ETS #5	CO2 MONITOR ID: ETS #5
CALIBRATION GAS VALUES	CALIBRATION GAS ID
ZERO 0	N_2
MID = 12.18 / 10.28	4036
HIGH = 22.01 / 17.31	4032
ANALYZER RESPONSE	ANALYZER CALIBRATION ERROR
ZERO .025 / .013	.1% / .065%
MID = 12.15 / 10.13	-.12% / .1%
HIGH = 21.62 / 17.42	-1.56% / .8%

SOURCE: L.A. Pacific	DATE OF TEST: 9/11/96
LOCATION: RTO outlet	RUN ID: RTO - M3A - R1 / MDI
%O2 18.82	%CO2 1.7
%O2 18.82	%CO2 1.7
%O2 18.82	%CO2 1.7
AVERAGE 18.82	AVERAGE 1.7
	Fo FACTOR: 1.224

LOCATION: RTO outlet	RUN ID: RTO - M3A - R1 / MDI
%O2 18.8	%CO2 1.67
%O2 18.8	%CO2 1.67
%O2 18.8	%CO2 1.67
AVERAGE 18.8	AVERAGE 1.67
	Fo FACTOR: 1.257

LOCATION: RTO outlet	RUN ID: RTO - M3A - R1 / MDI
%O2 18.75	%CO2 1.68
%O2 18.75	%CO2 1.68
%O2 18.75	%CO2 1.68
AVERAGE 18.75	AVERAGE 1.68
	Fo FACTOR: 1.288

Fo = (20.9 - %O2)/%CO2

COMMON Fo FACTORS:

Gas, Natural	(1.600-1.836)	Coal, Bituminous	(1.083-1.230)
Gas, Propane	(1.434-1.586)	Coal, Anthracite	(1.016-1.130)
Wood	(1.000-1.120)	Oil, Distillate	(1.260-1.413)
		Oil, Residual	(1.210-1.370)

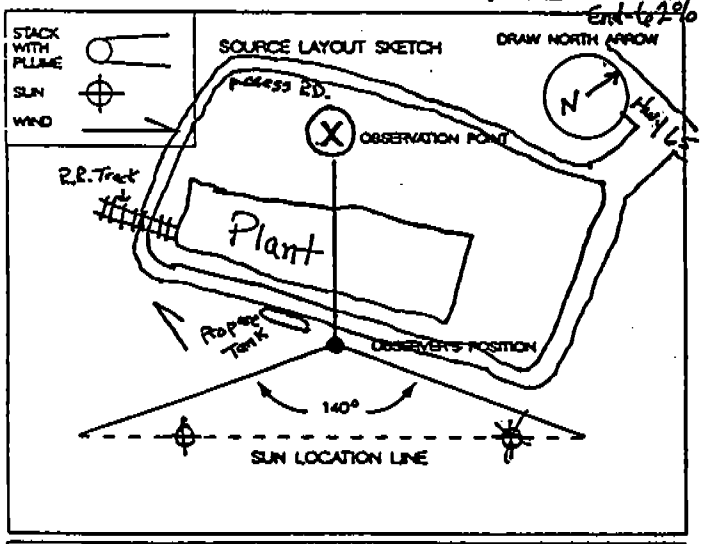
APPENDIX G.4

RAW FIELD DATA FOR EPA METHOD 9 TESTING

- RTO STACK -

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END Same
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds. END
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START ~~Fair~~ Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START ~~75°~~ 80 END 90°
WET BULB TEMP	START ~~67°~~ 74° END 77
RH PERCENT	START ~~45%~~ 76% END 62%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-10-96
START TIME	12:24 P.M.
END TIME	1:43 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

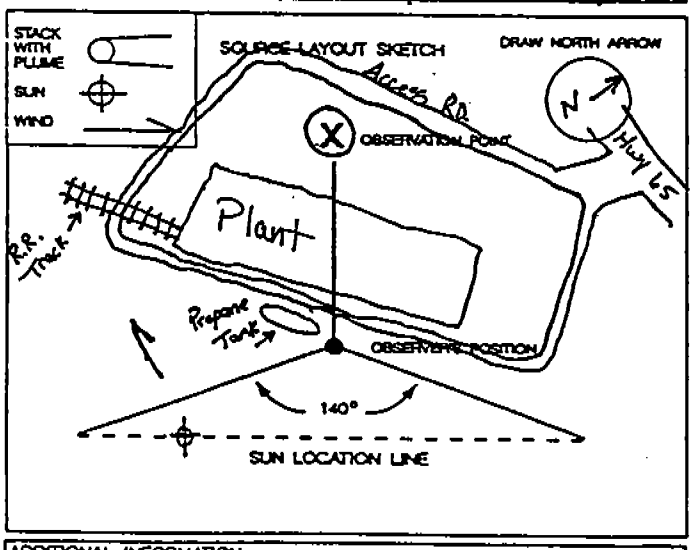
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. - (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END Same
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds. END 113 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START 80° END 90°
WET BULB TEMP	74° / 79°
RH PERCENT	76% / 62%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
OBSERVATION DATE 9-10-96	START TIME 12:26 P.M. / END TIME 1:43 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
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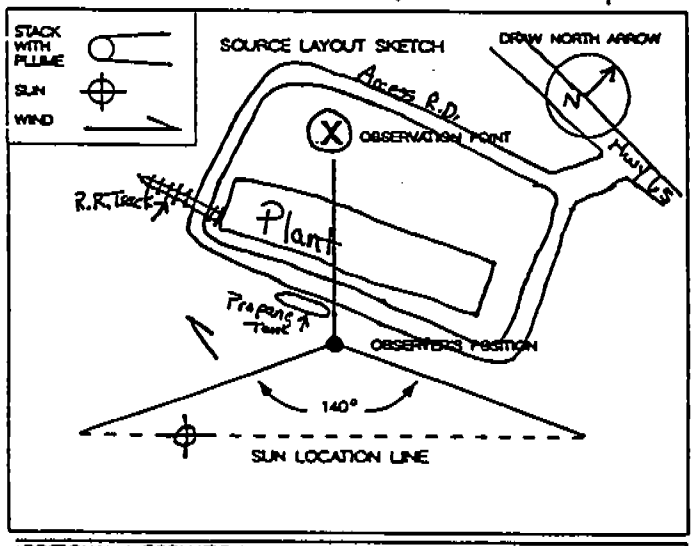
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Assosiates)
DATE	3-27-96
CONTINUED ON VEO FORM NUMBER	

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver, R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds. END 113 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START 80° END 90°
WET BULB TEMP	74° / 79°
RH PERCENT	76% / 62%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-10-96
START TIME	12:26 P.M.
END TIME	1:43

MIN \ SEC	0	15	30	45	COMMENTS
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14	0	0	0	0	
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16	0	0	0	0	
17	0	0	0	0	
18					
19					
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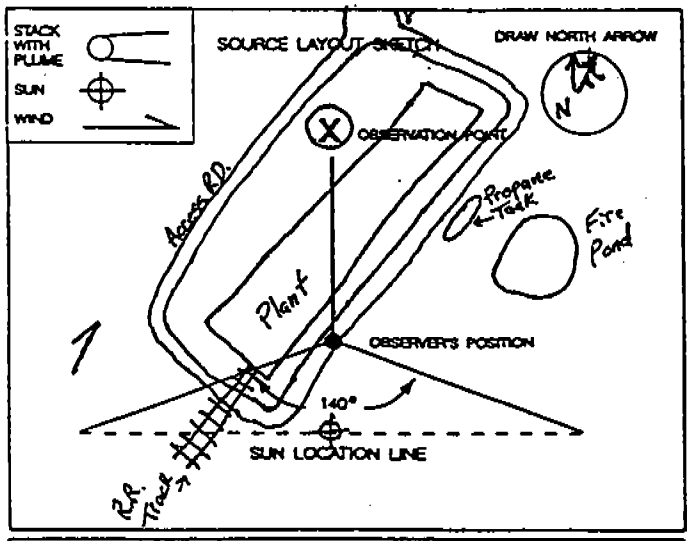
25					
26					
27					
28					
29					
30					

OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corp.
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96
CONTINUED ON VEO FORM NUMBER	

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' tall, 8' Diameter, Silver R.T.O. stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10° NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-10-96
START TIME	2:30 P.M.
END TIME	3:45 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
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2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

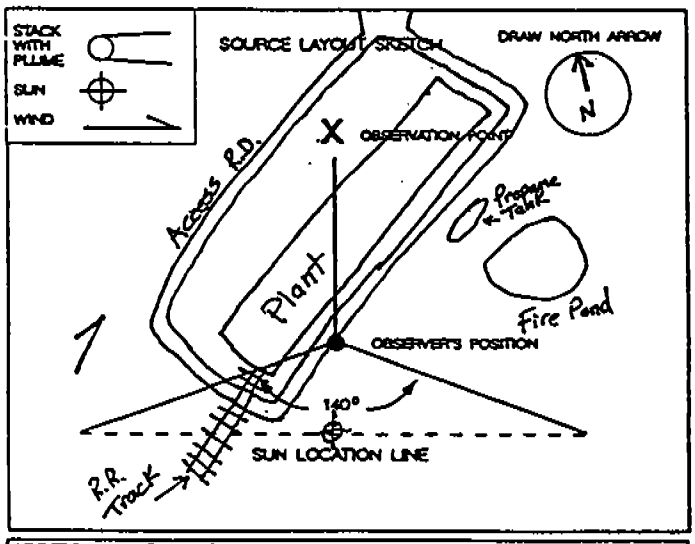
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10 NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	2 OF 3
OBSERVATION DATE	9-10-96
START TIME	2:30 P.M
END TIME	3:45 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

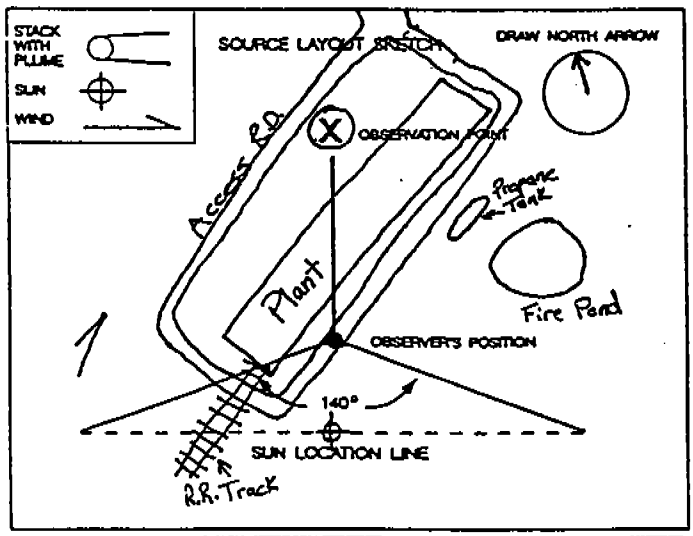
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corp
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-17-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10° NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 3 OF 3
OBSERVATION DATE 9-10-96	START TIME 2:30 / END TIME 3:45

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	"
3	0	0	0	0	"
4	0	0	0	0	"
5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	"
8	0	0	0	0	"
9	0	0	0	0	"
10	0	0	0	0	"
11	0	0	0	0	"
12	0	0	0	0	"
13	0	0	0	0	"
14	0	0	0	0	"
15	0	0	0	0	"
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

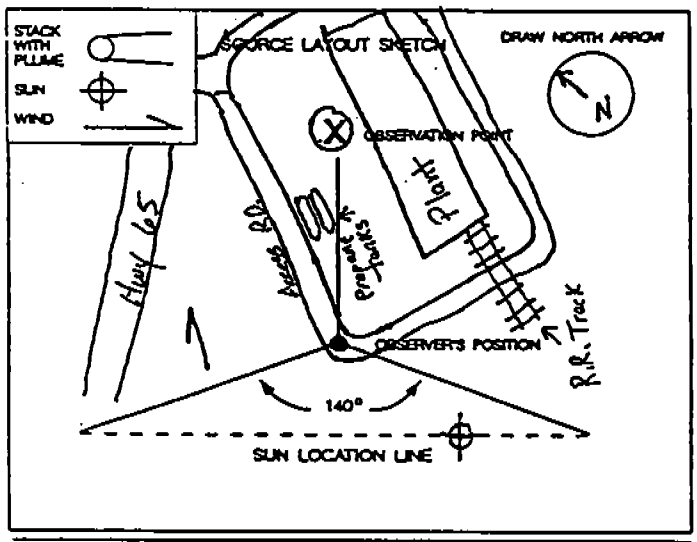
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds. END 165 yds.
DIRECTION FROM OBSERVER	START 50° NE END 50° NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50° NE END 50° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☒
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:49 P.M.

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	"
3	0	0	0	0	"
4	0	0	0	0	"
5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	"
8	0	0	0	0	"
9	0	0	0	0	"
10	0	0	0	0	"
11	0	0	0	0	"
12	0	0	0	0	"
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24	0	0	0	0	"
25	0	0	0	0	"
26	0	0	0	0	"
27	0	0	0	0	"
28	0	0	0	0	"
29	0	0	0	0	"
30	0	0	0	0	"

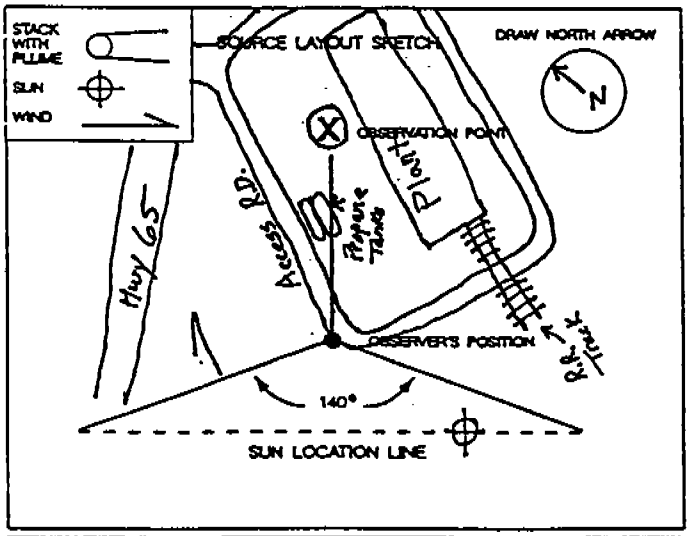
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds. END 165 yds
DIRECTION FROM OBSERVER	START 50°NE END 50°NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50°NE END 50°NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:40 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	Quit Sprinkling Rain
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
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22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	Sprinkling Rain
30	0	0	0	0	"

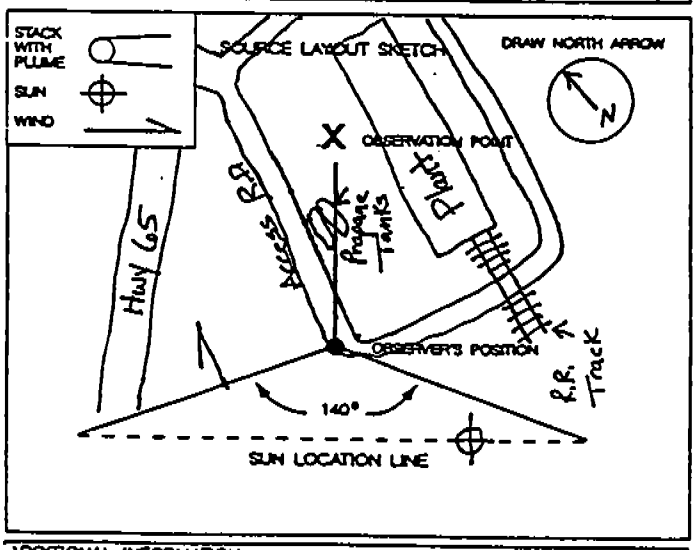
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds END 165 yds
DIRECTION FROM OBSERVER	START 50° NE END 50° NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50° NE END 50° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:49 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	"
3	0	0	0	0	"
4	0	0	0	0	Raining
5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	Sprinkling rain
8	0	0	0	0	"
9	0	0	0	0	"
10	0	0	0	0	Raining
11	0	0	0	0	"
12	0	0	0	0	"
13	0	0	0	0	"
14	0	0	0	0	"
15	0	0	0	0	"
16	0	0	0	0	"
17	0	0	0	0	"
18	0	0	0	0	"
19	0	0	0	0	"
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96
CONTINUED ON VEO FORM NUMBER	

ETA Revised 05-01-92

APPENDIX H

RAW FIELD DATA APPENDICES FOR KONUS STACK

APPENDIX H.1

RAW FIELD DATA FOR EPA METHOD 5/202 TESTING

- KONUS STACK -

Revision 1 03/16/94

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: Kanus Stack DATE: 9-11-96

START TIME: 10:20 END TIME: 11:30 POLLUTANT: TSP/Pm16 RUN I.D.: LS - M5/0001

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 1	0	10:20		218	.12	.83	417.621	82	81	62	235	3
2	3			270	.13	.90	419.3	85	84	62	236	3
3	6		-.11	270	.16	1.1	420.9	84	82	62	238	3
4	9			270	.17	1.2	422.2	85	82	62	242	3
5	12			269	.19	1.3	424.2	88	83	63	241	3
6	15			270	.19	1.3	426.8	87	82	63	240	3
7	18			279	.21	1.4	428.8	88	78	64	241	3
8	21			280	.21	1.4	430.9	89	83	62	241	3
9	24			281	.19	1.3	432.9	92	85	61	240	3
10	27			280	.18	1.0	434.9	93	85	60	241	3
	30	10:50					437.127					
B 1	30	11:00		269	.14	.97	437.127	86	85	60	250	3
2	33			270	.15	1.0	439.0	88	85	61	243	3
3	36			272	.18	1.2	440.9	89	85	60	246	3
4	39			274	.19	1.3	443.0	88	84	62	238	3
5	42	-.12 →		277	.19	1.3	445.0	89	84	61	238	3
6	45			278	.18	1.2	447.0	90	85	60	245	3
7	48			276	.17	1.2	449.0	90	85	61	244	3
8	51			272	.13	.93	451.0	88	85	61	242	3
9	54			277	.15	1.0	452.7	91	85	61	243	3
10	57			276	.13	.90	454.3	91	86	62	244	3
	60	11:30					455.978					

K=6

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	124	Filter
F2	125	Probe Wash
F3	126	Imp. Contents
F4	127	Extra Sorbent
F5	128	H_2O Rinse
F6	129	$meCl_2$ Rinse
F7	130	Silica Gel
F8	131	Tedlar Bag

LEAK CHECK:

VACUUM	15"	15"			
RATE	.005	.001			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	160
#2	100	100
#3	100	86
#4	0	0
#5	200g	210.0
#6		

NOZZLE #	.31
PITOT #	133
BOX I.D.	8
GAMMA Y	1.0003
ΔH@	1.7949
P_{BAR}	28.70
FILTER	96-252
TECH.	JR

Revision 1

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ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

FACILITY: LA Pacific TEST LOCATION: Konus Stack DATE: 9-11-96

START TIME: 12:35 END TIME: 13:45 POLLUTANT: TSP RUN I.D.: KS - M5 202 R3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft^3	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
A 10	0	12:35		275	.11	.76	460.586	92	90	60	242	2
9	3			279	.13	.90	462.1	93	90	60	243	2
8	6			279	.19	1.3	464.0	95	92	61	236	3
7	9			280	.19	1.3	465.6	97	98	60	242	3
6	12			281	.15	1.0	467.5	98	92	60	243	3
5	15			282	.13	.90	469.4	101	93	60	243	3
4	18		-.08	280	.16	1.1	471.1	101	93	60	238	3
3	21			273	.16	1.1	473.0	102	94	60	240	3
2	24			275	.12	.83	474.9	102	94	61	239	3
1	27			277	.11	.76	476.6	102	94	60	239	3
	30	13:05			~~.14~~	~~1.0~~	478.222					
B 10	30	13:15		273	.14	1.0	478.222	98	95	60	239	3
9	33			279	.18	1.2	479.8	98	95	62	231	3
8	36			279	.18	1.2	481.6	99	95	62	233	3
7	39			281	.17	1.2	483.6	101	96	62	244	4
6	42			281	.17	1.2	485.6	102	96	62	259	4
5	45			280	.16	1.1	487.6	104	97	62	259	4
4	48			281	.16	1.1	489.6	105	97	63	242	4
3	51		-.02	279	.14	.97	491.6	105	97	64	235	3
2	54			279	.15	1.0	493.4	106	98	64	234	3
1	57			279	.07	.48	495.2	106	98	64	232	3
	60	13:45					497.049					

K = 6.9

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	13~~140~~	Filter
F2	13~~141~~	Probe Wash
F3	134 ~~142~~	Imp. Contents
F4	135	Extra Storage
F5	136	H_2O Rinse
F6	137	$MeCl_2$ Rinse
F7	138	Silica Gel
F8	139	Tedlar Bag

LEAK CHECK:

VACUUM	15"	6"			
RATE	.001	.007			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	133
#2	100	104
#3	100	100
#4	0	1
#5	200g	209.6
#6		

NOZZLE #	.31
PITOT #	133
BOX I.D.	8
GAMMA γ	1.0003
ΔH@	1.7949
P_{BAR}	28.7
FILTER	96-191
TECH.	JR

Revision 1

03/16/94

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

FACILITY: LA Pacific TEST LOCATION: Konus Stack DATE: 9-11-96

START TIME: 14:50 END TIME: 1600 POLLUTANT: TSP RUN I.D.: KS - M5/202 3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft^3	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
DAA	0	14:50		270	.09	.02	497.224	95	92	60	237	3
2	3			271	.12	.83	498.7	95	92	57	232	3
3	6			277	.11	.76	500.3	95	93	57	239	3
4	9			276	.15	1.0	501.9	96	92	57	239	3
5	12		-.02	279	.16	1.1	503.4	97	93	58	250	3
6	15			279	.11	.76	505.3	98	93	58	252	4
7	18			280	.20	1.4	506.9	98	93	58	245	5
8	21			281	.20	1.4	509.0	98	93	59	242	5
9	24			280	.19	1.3	511.1	99	93	59	241	5
10	27			280	.19	1.3	513.1	100	94	59	240	5
	30						515.283					
3 1	30			277	.15	1.0	515.283	97	94	57	249	5
2	33			278	.16	1.1	517.2	97	94	56	253	4
3	36			280	.17	1.2	519.3	98	94	57	252	5
4	39		-.09	281	.19	1.3	521.1	99	94	58	249	5
5	42			279	.19	1.3	523.2	100	95	59	249	5
6	45			280	.16	1.1	525.2	101	95	59	247	5
7	48			280	.15	1.0	527.2	102	95	58	248	5
8	51			280	.14	.97	529.2	102	95	59	250	4
9	54			280	.14	.97	531.1	103	95	61	242	4
10	57			281	.10	.7	532.9	103	96	62	240	3
	60	1600					534.462					

K=6

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1	140	Filter
F2	141	Probe wash
F3	142	Imp. contents
F4	143	Xtra Storage
F5	144	H2O Rinse
F6	145	MeCl2 Rinse
7	146	Silgel
F8	147	Bag

LEAK CHECK:

VACUUM	15"	6"			
RATE	.005	.003			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	133
#2	100	164
#3	100	101
#4	0	1
#5	200	209.7
#6		

NOZZLE #	0.31
PITOT #	133
BOX I.D.	B
GAMMA γ	1.0003
ΔH@	1.7949
P_{BAR}	28.7
FILTER	96-280
TECH.	JR

APPENDIX H.2

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- KONUS STACK -

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: Kanus Stack DATE: 9-11-96

START TIME: 10:20 END TIME: 11:30 POLLUTANT: HCHO RUN I.D.: KS - R0011 - R 1

OINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B 10	0	10:20		268	.14	1.2	175.365	78	77	61	240	8
9	3			268	.16	1.1	186.9	84	82	61	240	9
8	6			268	.18	1.2	188.4	81	79	62	241	10
7	9			268	.19	1.3	190.7	82	78	60	241	10
6	12		-.11	269	.19	1.3	192.7	83	79	63	242	10
5	15			269	.20	1.3	194.7	84	79	64	240	10
4	18			280	.19	1.3	196.8	85	79	64	240	10
3	21			279	.17	1.1	198.8	86	80	64	241	10
2	24			280	.14	.92	200.8	87	80	63	240	8
1	27			279	.13	.86	202.5	88	81	62	241	7
	30	10:50					204.426					
A 10	30	11:00		269	.19	1.3	204.426	84	80	60	250	9
9	33			272	.20	1.3	206.2	85	81	61	250	9
8	36			273	.21	1.4	208.2	85	81	60	249	9
7	39			275	.20	1.3	210.2	86	80	61	242	9
6	42		-.09	277	.19	1.3	212.1	86	81	62	244	9
5	45			278	.20	1.3	214.1	88	82	61	245	9
4	48			276	.17	1.1	216.1	89	82	61	244	9
3	50			277	.15	1.0	218.1	91	84	60	245	9
2	54			278	.10	0.70	220.0	92	84	60	246	9
1	57			278	.10	0.70	221.141	92	84	60	245	9
	60	11:30					223.14					

K = 6.6

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1A	206	Impl-3 Rinses
F2	207	Silica Gel
F1B	206	Extra Sample

LEAK CHECK:

VACUUM	15"	12"			
RATE	.004	.002			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	146
#2	100	107
#3	0	1
#4	200g	209.5
#5		
#6		

NOZZLE #	0.310
PITOT #	110
BOX I.D.	6
GAMMA γ	.9984
ΔH@	1.7198
P_{BAR}	28.70
FILTER	N/A
TECH.	JR

Revision 1

03/16/94

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

FACILITY: LA Pacific TEST LOCATION: Kanus Stack DATE: 9-11-96

START TIME: 12:35 END TIME: 13:45 POLLUTANT: ~~[illegible]~~ HCHO RUN I.D.: KS - MOOIL - R 2

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft^3	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
B 1	0	12:35		275	.10	.70	223.356	98	90	60	248	5
2	3			275	.11	.73	225.2	92	91	61	242	5
3	6			280	.11	.73	226.5	94	91	60	243	5
4	9			281	.12	.80	228.1	95	91	60	243	5
5	12			281	.13	.86	229.6	97	93	60	243	4
6	15			281	.17	1.1	231.0	98	93	61	239	5
7	18			281	.17	1.1	232.7	98	93	60	238	5
8	21			280	.17	1.1	234.3	99	94	61	241	5
9	24		-.08	280	.17	1.1	236.0	102	94	61	239	5
10	27			280	.13	.86	237.4	100	95	61	239	6
	30	13:05			~~.10~~	~~.66~~	239.156	~~95~~	~~95~~	~~61~~	~~239~~	~~6~~
A 1	30	13:15		280	.10	.66	239.156	98	95	61	239	5
2	33			280	.14	.92	240.8	99	95	62	239	5
3	36			280	.16	1.1	242.4	99	96	62	240	6
4	39			281	.16	1.1	244.3	99	96	62	239	6
5	42			281	.18	1.2	246.1	101	96	62	242	6
6	45			281	.16	1.1	248.0	102	96	64	243	7
7	48		-.08	280	.16	1.1	250.0	102	97	62	244	7
8	51			280	.16	1.1	251.9	104	98	63	240	7
9	54			279	.15	1.0	253.8	104	98	64	239	7
10	57			279	.13	.86	255.7	104	98	64	239	7
	60	13:45					257.757					

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
F1A	208	Impl-3 + Rinse
F2	209	Silica Gel
F1B	208	Extra Storage

LEAK CHECK:

VACUUM	15"	9"			
RATE	.001	.002			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	123
#2	100	100
#3	0	1
#4	200g	209.4
#5		
#6		

NOZZLE #	~~.8~~ .31
PITOT #	110
BOX I.D.	6
GAMMA γ	.9984
ΔH@	1.7198
P_{BAR}	28.7
FILTER	—
TECH.	TR

ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: Kanus Stack DATE: 9-11-96

START TIME: 14:50 END TIME: 1600 POLLUTANT: HCHO RUN I.D.: KS-5DIR3

POINT	SAMPLE TIME	TIME	STATIC	STACK TEMP.	STACK ΔP	METER ΔH	DGM VOLUME ft³	DGM TEMP. INLET	DGM TEMP. OUTLET	IMPINGER TEMP.	FILTER TEMP.	METER VAC.
D 10	0	14:50		278	.17	1.1	258.795	94	91	57	235	6
9	3			276	.18	1.2	261.1	97	92	58	233	5
8	6			276	.19	1.3	263.8	98	93	58	238	5
7	9		-.10	277	.17	1.1	265.3	99	93	58	239	5
6	12			276	.19	1.3	267.4	101	93	58	242	5
5	15			280	.21	1.4	269.5	100	93	59	240	5
4	18			280	.19	1.3	271.5	100	93	59	240	5
3	21			279	.18	1.2	273.7	101	93	60	241	5
2	24			278	.18	1.2	275.8	101	94	60	240	5
1	27			278	.14	.92	277.8	102	94	61	241	4
	30						279.638					
A 10	30			278	.19	1.3	279.638	97	94	60	240	5
9	33			280	.19	1.3	281.5	97	94	61	241	5
8	36			280	.20	1.3	283.5	99	94	60	247	5
7	39			281	.20	1.3	285.4	100	95	60	249	5
6	42			280	.20	1.3	287.4	101	95	60	248	5
5	45			279	.17	1.1	289.5	101	95	60	247	5
4	48		-.08	279	.16	1.1	291.5	102	95	59	248	5
3	51			278	.14	.92	293.5	103	96	60	250	4
2	54			278	.09	.62	295.8	103	96	61	247	4
1	57			277	.08	.53	297.0	103	96	62	249	3
	60	1600					298.470					

K = 6.8

CHAIN OF CUSTODY:

CONTAINER	SAMPLE I.D.	DESCRIPTION
FIA	210	Impl-3+Rinse
FZ	211	Silgel
FB	210	Extra Storage

LEAK CHECK:

VACUUM	15"	8"			
RATE	.005	.003			

IMPINGER CONTENTS:

IMPINGER	INITIAL	FINAL
#1	100	138
#2	100	100
#3	0	1
#4	200	211.9
#5		
#6		

NOZZLE #	0.31
PITOT #	110
BOX I.D.	6
GAMMA γ	.9984
ΔH@	1.7198
P_{BAR}	28.7
FILTER	MIA
TECH.	JR

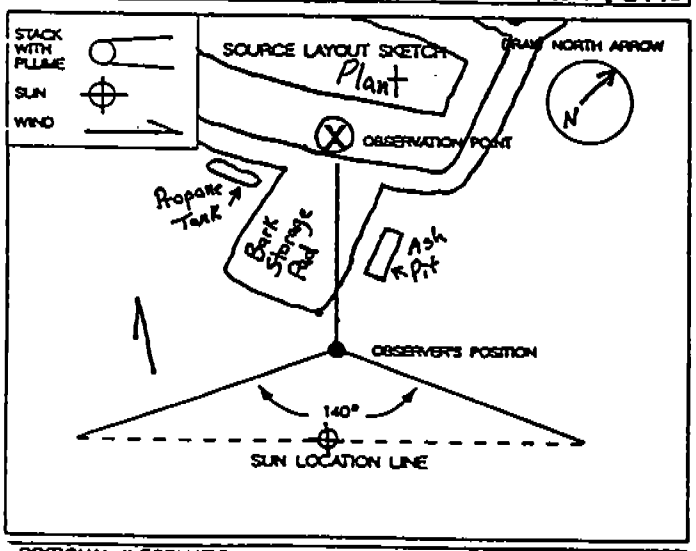
APPENDIX H.3

RAW FIELD DATA FOR EPA METHOD 9 TESTING

- KONUS STACK -

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81
DISTANCE FROM OBSERVER	START 88 yds END 88 yds
DIRECTION FROM OBSERVER	START 168° NW END 168° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 168° NW END 168° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 78° END 82°
WET BULB TEMP	71° \ 74°
RH PERCENT	72% \ 69%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-11-96
START TIME	10:20 A.M.
END TIME	11:35 A.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

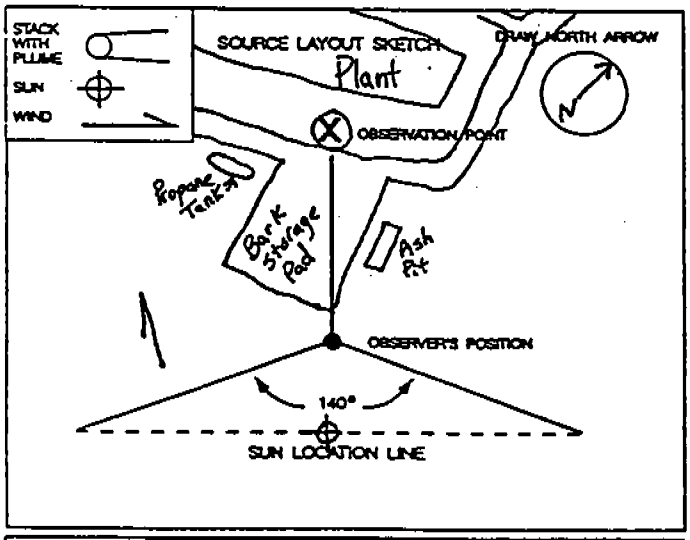
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 88 yds. END 88 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 0-1 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 69° END 82°
WET BULB TEMP	67° / 74°
RH PERCENT	69% / 69%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
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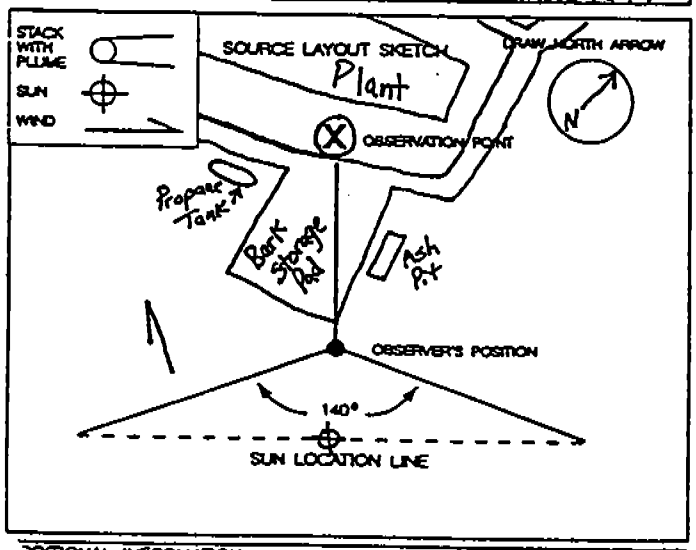
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 88 yds. END 88 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START [redacted] 1-3 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBIENT TEMP	START 69° END 82°
WET BULB TEMP	67° / 74°
RH PERCENT	78% / 69%



ADDITIONAL INFORMATION

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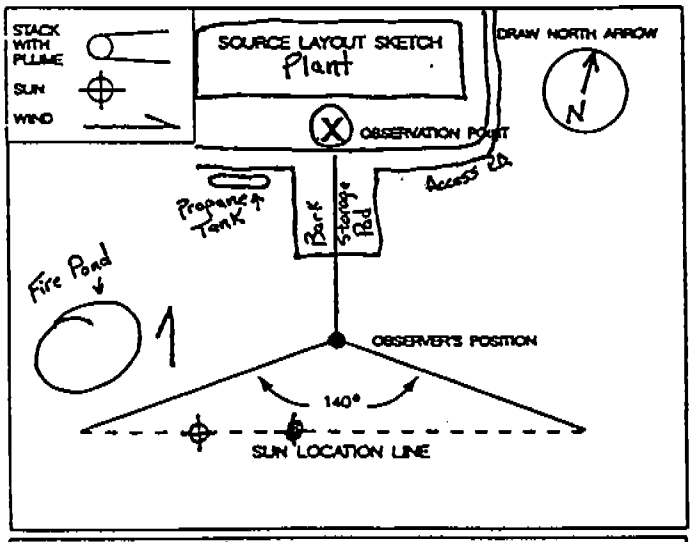
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds. END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START SE END NE
AMBEINT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63° / 65%



ADDITIONAL INFORMATION

FORM NUMBER	
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END TIME	1:47 P.M.

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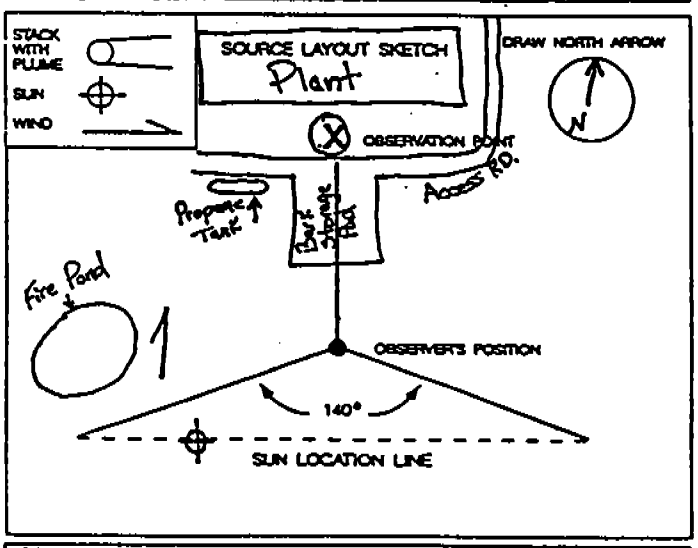
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds. END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START SE END NE
AMBEINT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63% / 65%



ADDITIONAL INFORMATION

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PAGE	2 OF 3
OBSERVATION DATE	9-11-96
START TIME	12:30 P.M.
END TIME	1:47 P.M.

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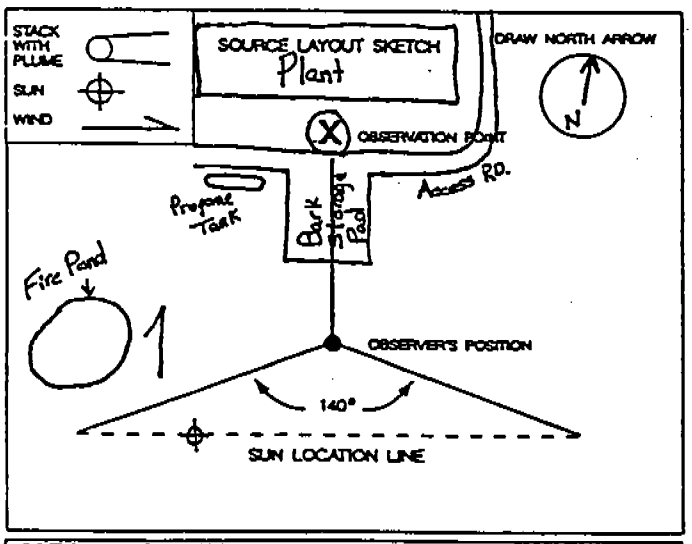
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds. END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START SE END NE
AMBIENT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63% / 65%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-11-96
START TIME	12:30 P.M.
END TIME	1:47 P.M.

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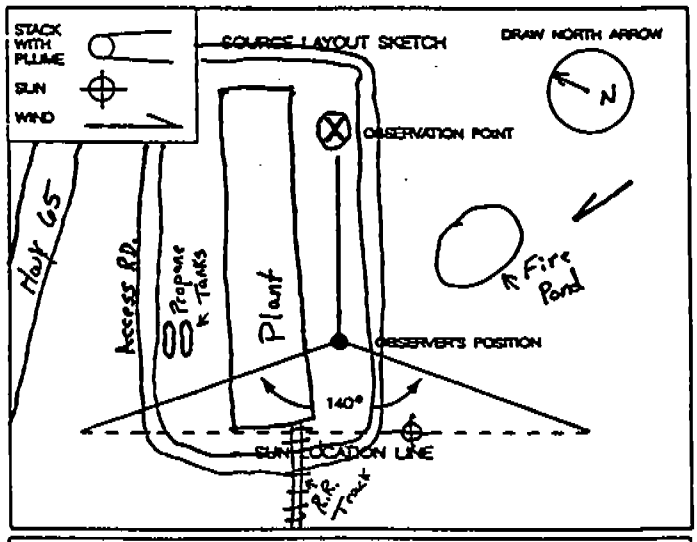
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65
LOCATION	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds END 110 yds
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65° NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° / 69°
RH PERCENT	55% / 49%



ADDITIONAL INFORMATION

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END TIME	3:59 P.M.

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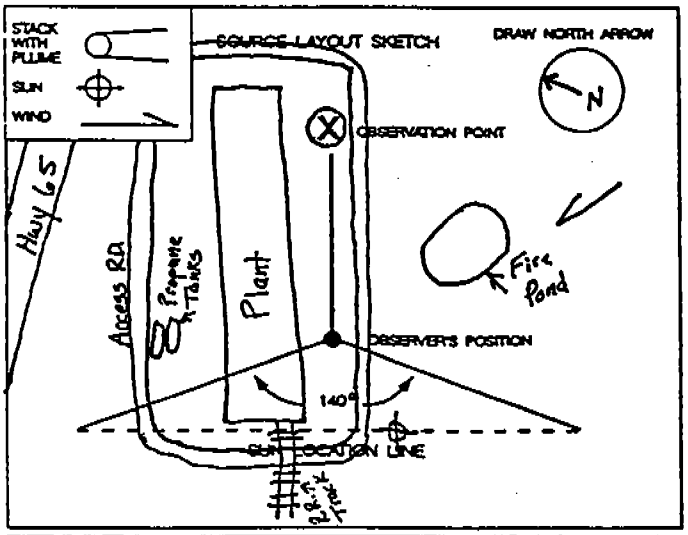
OBSERVER'S NAME (PRINT)	LOUIS CASTLE
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	LOUISIANA PACIFIC CORP.
CERTIFIED BY	E.T.A
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds. END 110 yds.
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65 NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° \ 69°
RH PERCENT	55% \ 49%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	2 OF 3
OBSERVATION DATE	9-11-96
START TIME	2:50 P.M.
END TIME	3:59 P.M.

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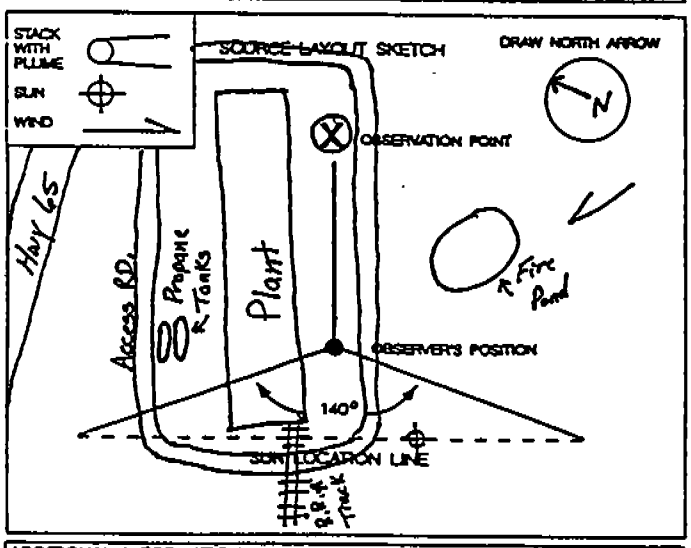
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 41" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds. END 110 yds.
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65° NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° / 69°
RH PERCENT	55% / 49%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-11-96
START TIME	2:50 P.M.
END TIME	3:59 P.M.

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OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

APPENDIX I

RAW FIELD DATA FOR EPA METHODS 1-4

- PRESS EXHAUST -

ETS Inc.
METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	LA Pacific
LOCATION NAME	press outlet
RUN NUMBER	PO-M2/4-R1
TECHNICIAN	KBB
DATE	9-10-96
START TIME	1230
END TIME	1300
BAROMETRIC	28.70
Cp	
METER BOX #	7
Gamma (Y)	0.9994
delta H@	~~1.6004~~ 1.6309
PITOT #	124
Cp	0.825
TEST TIME	30

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100	103	
IMP.2	100	102	
IMP.3	0	1	
IMP.4			
IMP.5			
IMP.6			
IMP.7			
S.G.	700.9	707.7	
		TOTAL	

VOLUME METERED	delta H (in. WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.68	619.68	79	79
FINAL	1.68	642.584	93	84
AVG.				

METHOD 2

PORT/POINT	TIME	STACK TEMP. (Deg F)	delta P (in. WC)	STATIC (in. WC)
A- 8 6	1231	128	0.45	
8 5		128	0.63	
6 4		128	0.85	-0.95
5 3		129	0.69	
4 2		129	0.56	
3 1		126	0.53	
3B-6		121	0.51	
8 9		128	0.72	
-8 4		129	0.74	-1.0
7 3		128	0.70	
6 2		128	0.61	
5 1		127	0.48	
4	1241			
3				
2				
1				

PITOT LEAK CHECK

pre-test	✓
post-test	✓

M4 LEAK CHECK

pre-test	✓
post-test	✓

ETS Inc.
METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	LA Pacific
LOCATION NAME	Press Outlet
RUN NUMBER	PO-M2/4-R2
TECHNICIAN	KBB
DATE	9/10/96
START TIME	1432
END TIME	15:07
BAROMETRIC	28.76
Cp	—
METER BOX #	7
Gamma (Y)	0.9994
delta H@	~~1.6809~~ 1.6309
PITOT #	124
Cp	0.825
TEST TIME	~~30~~ 345

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100	110	
IMP.2	100	104	
IMP.3	0	0	
IMP.4			
IMP.5			
IMP.6			
IMP.7			
S.G.	707.7	715.0	
		TOTAL	

VOLUME METERED	delta H (in. WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.68	643.063	98	91
FINAL	1.68	669.971	100	92
AVG.				

METHOD 2

PORT/POINT	TIME	STACK TEMP. (Deg F)	delta P (in. WC)	STATIC (in. WC)
A 6	1433	~~0.50~~	0.50	129
5			0.76	129
4			0.86	130
3			0.65	130
2			0.61	131
1			0.50	130
B 6	~~30~~	0.38	0.59	
5		131	0.67	
4		131	0.83	
3		130	0.85	
2		130	0.69	
1	1442	130	0.55	

-.95

PITOT LEAK CHECK

pre-test	✓
post-test	✓

M4 LEAK CHECK

pre-test	✓
post-test	✓

Revision 1

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	LA Pacific
LOCATION	Pressc[illegible]
RUN NUMBER	PO-M2-R3
TECHNICIAN	KAB/CS
DATE	9-10-96
START TIME	1630
END TIME	1700
BAROMETRIC	28.7
METER BOX #	7
Gamma	0.9994
Delta H@	~~1.804~~ 1.6309
PITOT #	124
Cp	0.825
TEST TIME	30

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100	104	
IMP.2	100	100	
IMP.3	0	0	
IMP.4			
IMP.5			
IMP.6			
IMP.7			
S.G.	715.0	721.4	
		TOTAL	

VOLUME METER	delta H (in.WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.68	670.100	79	80
FINAL	1.68	693.690	89	81
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A-6	1631	127	0.53	
5		128	0.84	
4		129	0.83	-1.0
3		130	0.86	
2		131	0.75	
1		130	0.58	
B-6	0.58	125	~~0.77~~	
5	0.79	129	~~1.05~~	
4	0.82	130	~~1.05~~	-1.0
3	0.76	130		
2	0.64	130		
1	0.51	130		
	1642			
	AVERAGE			

PITOT LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

M4 LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

APPENDIX J

RAW FIELD DATA FOR EPA METHODS 1-4

- DRYER EXHAUST -

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	LA Pacific
LOCATION	~~Scrubber Exhaust~~ Dryer out
RUN NUMBER	1
TECHNICIAN	JR
DATE	9-10-96
START TIME	12:35
END TIME	1:05
BAROMETRIC	28.70
METER BOX #	8
Gamma	1.0003
Delta H@	1.7049
PITOT #	105
Cp	0.83
TEST TIME	30 min

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100 ml	168	68 g
IMP.2	100 ml	130	30 g
IMP.3	—	2	2 g
IMP.4	~~834.3g~~		
IMP.5			
IMP.6			
IMP.7			
S.G.	826.3g	834.0	
		TOTAL	

VOLUME METER	delta H (in.WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.79	341.460	115	113
FINAL	1.79	364.384	119	110
AVG.	1.79			

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A 8	12:35	170	1.7	
7		173	1.9	
6		175	1.7	
5		181	1.3	
4		181	.77	-9.5
3		179	1.2	
2		178	.89	
1		178	.40	
	12:41/12:42			
B 8		178	1.4	
7		179	1.4	
6		179	1.5	
5		179	1.3	
4		182	.65	
3		178	1.3	-9.5
2		178	1.4	
1	12:46	178	.48	
	AVERAGE			

PITOT LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

M4 LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	L.A. Pacific
LOCATION	~~Secondary Toilet~~ Dryer Exhaust
RUN NUMBER	2
TECHNICIAN	JR
DATE	9-10-96
START TIME	~~2:25~~
END TIME	3:05
BAROMETRIC	28.7
METER BOX #	8
Gamma	1.0003
Delta H@	1.7949
PITOT #	105
Cp	0.83
TEST TIME	~~60 min~~ 30 min

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100 ml	159 ml	59
IMP.2	100 ml	122 ml	22
IMP.3	0	10	10
IMP.4			
IMP.5			
IMP.6			
IMP.7			
S.G.	834.0g	842.0	8g
		TOTAL	9

VOLUME METER	delta H (in.WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.79	364.832	108	107
FINAL	1.70	387.645	117	111
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
B 8	2:35	176	1.3	
7		176	1.6	
6		177	1.5	-9.6
5		177	1.4	
4		177	~~1.5~~	
3		175	1.2	
2		174	1.0	
1		173	.89	
	240/244			
A 8		177	1.7	
7		177	1.8	9.6
6		176	1.6	
5		177	1.4	
4		177	.77	
3		177	1.2	
2		174	1.0	
1	2:45	173	.87	
	AVERAGE			

PITOT LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

M4 LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

ETS Inc.

METHOD 2/4 DATA SHEET

GENERAL INFORMATION

PLANT NAME	LA Pacific
LOCATION	~~[illegible]~~ Dryer outlet
RUN NUMBER	3
TECHNICIAN	JR
DATE	9-10-96
START TIME	16:32
END TIME	17:02
BAROMETRIC	28.70
METER BOX #	8
Gamma	1.0063
Delta H@	1.7949
PITOT #	105
Cp	0.83
TEST TIME	30 min

METHOD 4 DATA

	INITIAL (g)	FINAL (g)	NET (g)
IMP.1	100 ml	150	50
IMP.2	100 ml	132	32
IMP.3	—	0	0
IMP.4			
IMP.5		—	
IMP.6			
IMP.7		-	
S.G.	842.0 g	846.5 g	4.5 g
		TOTAL	g

VOLUME METER	delta H (in.WC)	METER VOLUME (dcf)	DGM INLET (DegF)	DGM OUTLET (DegF)
INITIAL	1.79	384.915	107	107
FINAL	1.8	405.612	111	109
AVG.				

METHOD 2 DATA

PORT/POINT	TIME	STACK TEMP. (Deg. F)	DELTA P (inW.C.)	STATIC (inW.C.)
A 8	16:32	175	1.7	
7		176	1.7	
6		177	1.6	-9.5
5		177	1.3	
4		177	1.4	
3		175	1.4	
2		174	1.0	
1		173	1.0	
	16:36/16:37			
B 8		175	1.4	
7		176	1.5	-9.5
6		177	1.5	
5		177	1.4	
4		176	1.0	
3		176	1.1	
2		177	1.1	
1	16:41	178	1.0	
	AVERAGE			

PITOT LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

M4 LEAK CHECK

PRE-TEST	✓
POST-TEST	✓

APPENDIX K

RAW FIELD DATA FOR EPA METHOD 3A

- PRESS EXHAUST AND DRYER EXHAUST -

INTEGRATED BAG ANALYSIS FOR %O2 AND %CO2
INSTRUMENT ANALYZER METHOD-

O2/CO2 CALIBRATION	DATE: 9/10/96
O2 SPAN = 25% CO2 SPAN = 20%	TIME: 7:49
O2 MONITOR ID: ETS #5	CO2 MONITOR ID: ETS #5
CALIBRATION GAS VALUES	CALIBRATION GAS ID
ZERO	N_2
MID = 10.28/12.18 CO_2/O_2	4036
HIGH = 17.3/22.01 CO_2/O_2	4032
ANALYZER RESPONSE	ANALYZER CALIBRATION ERROR
ZERO .032/.014 CO_2/O_2	.16%/.056%
MID = 10.19/12.17 CO_2/O_2	-.45%/-.04%
HIGH = 17.4/21.66 CO_2/O_2	.5%/-1.4%

SOURCE: ~~Dryer Outlet~~ L.A. Pacific	DATE OF TEST: 9/10/96
LOCATION: Dryer outlet	RUN ID: D.O-M3A-R1
%O2 17.32	%CO2 3.44
%O2 17.32	%CO2 3.44
%O2 17.32	%CO2 3.44
AVERAGE 17.32	AVERAGE 3.44
	Fo FACTOR: 1.041

LOCATION:	RUN ID:
%O2	%CO2
%O2	%CO2
%O2	%CO2
AVERAGE	AVERAGE
	Fo FACTOR:

LOCATION: Press outlet	RUN ID: P.O.-M3A-R1
%O2 20.55	%CO2 .0990
%O2 20.55	%CO2 .0990
%O2 20.55	%CO2 .0990
AVERAGE 20.55	AVERAGE .0990
	Fo FACTOR: 3.535

Fo = (20.9 - %O2)/%CO2

COMMON Fo FACTORS:

Gas, Natural	(1.600-1.836)	Coal, Bituminous	(1.083-1.230)
Gas, Propane	(1.434-1.586)	Coal, Anthracite	(1.016-1.130)
Wood	(1.000-1.120)	Oil, Distillate	(1.260-1.413)
		Oil, Residual	(1.210-1.370)

INTEGRATED BAG ANALYSIS FOR %O2 AND %CO2
INSTRUMENT ANALYZER METHOD-

O2/CO2 CALIBRATION	DATE: 9/10/96
O2 SPAN = 25% CO2 SPAN = 20%	TIME: 7:49
O2 MONITOR ID: ETS #5	CO2 MONITOR ID: ETS #5
CALIBRATION GAS VALUES	CALIBRATION GAS ID
ZERO	N_2
MID = 10.28/12.18 CO_2/O_2	4036
HIGH = 17.3/22.01 CO_2/O_2	4032
ANALYZER RESPONSE	ANALYZER CALIBRATION ERROR
ZERO .037/.014 CO_2/O_2	.16%/.058%
MID = 10.19/12.17 CO_2/O_2	-.45%/-.04%
HIGH = 17.4/21.66 CO_2/O_2	.5%/-1.4%

SOURCE: L.A. PACIFIC	DATE OF TEST: 9/10/96
LOCATION: Dryer outlet	RUN ID: D.O.-M3A-R2
%O2 17.91	%CO2 2.790
%O2 17.91	%CO2 2.790
%O2 17.91	%CO2 2.790
AVERAGE 17.91	AVERAGE 2.790
	Fo FACTOR: 1.072

LOCATION:	RUN ID:
%O2	%CO2
%O2	%CO2
%O2	%CO2
AVERAGE	AVERAGE
	Fo FACTOR:

LOCATION: Press outlet	RUN ID: P.O.-M3A-R2
%O2 20.58	%CO2 .0920
%O2 20.58	%CO2 .0920
%O2 20.58	%CO2 .0920
AVERAGE 20.58	AVERAGE .0920
	Fo FACTOR: 3.478

Fo = (20.9 - %O2)/%CO2

COMMON Fo FACTORS:

Gas, Natural	(1.600-1.836)	Coal, Bituminous	(1.083-1.230)
Gas, Propane	(1.434-1.586)	Coal, Anthracite	(1.016-1.130)
Wood	(1.000-1.120)	Oil, Distillate	(1.260-1.413)
		Oil, Residual	(1.210-1.370)

INTEGRATED BAG ANALYSIS FOR %O2 AND %CO2
INSTRUMENT ANALYZER METHOD-

O2/CO2 CALIBRATION	DATE: 9/10/96
O2 SPAN = 25% CO2 SPAN = 20%	TIME: 7:49
O2 MONITOR ID: ETS #5	CO2 MONITOR ID: ETS #5
CALIBRATION GAS VALUES	CALIBRATION GAS ID
ZERO	N_2
MID = 10.28 / 12.18 CO_2/O_2	4036
HIGH = 17.3 / 22.01 CO_2/O_2	4032
ANALYZER RESPONSE	ANALYZER CALIBRATION ERROR
ZERO .032 / .014 CO_2/O_2	.16% / .056%
MID = 10.17 / 12.17 CO_2/O_2	-.45% / -.04%
HIGH = 17.4 / 21.66 CO_2/O_2	.5% / -1.4%

SOURCE: L.A. PACIFIC	DATE OF TEST: 9/10/96
LOCATION: Dryer outlet	RUN ID: D.O.-M3A-R3
%O2 17.5	%CO2 3.15
%O2 17.5	%CO2 3.15
%O2 17.5	%CO2 3.15
AVERAGE 17.5	AVERAGE 3.15
	Fo FACTOR: 1.079

LOCATION:	RUN ID:
%O2	%CO2
%O2	%CO2
%O2	%CO2
AVERAGE	AVERAGE
	Fo FACTOR:

LOCATION: Press outlet	RUN ID: P.O.-M3A-R3
%O2 20.62	%CO2 .0915
%O2 20.62	%CO2 .0915
%O2 20.62	%CO2 .0915
AVERAGE 20.62	AVERAGE .0915
	Fo FACTOR: 3.060

Fo = (20.9 - %O2)/%CO2

COMMON Fo FACTORS:

Gas, Natural (1.600-1.836)
Gas, Propane (1.434-1.586)
Wood (1.000-1.120)

Coal, Bituminous (1.083-1.230)
Coal, Anthracite (1.016-1.130)
Oil, Distillate (1.260-1.413)
Oil, Residual (1.210-1.370)

APPENDIX L

GRAVIMETRIC LABORATORY DATA

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) / Beaker / Filter	Final Weight Data Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-034	63.92160	09/19/96	10:21	64.32260	TGW	64.32240
96-0148	0.39480	09/19/96	16:30	64.32240	TGW	
96-815-00100						
RTO -202-R1						
08/06/96-033	66.91990	09/19/96	10:21	66.92260	TGW	66.92250
	0.00000	09/19/96	16:30	66.92250	TGW	
96-815-00101						
RTO -202-R1						
102.00000						
102.00000						
08/06/96-020	66.70720	09/20/96	08:01	66.75580	TGW	66.75600
	0.00000	09/20/96	14:50	66.75600	TGW	
96-815-00102						
RTO -202-R1						
536.00000						
536.00000						
08/06/96-019	67.26670	09/19/96	10:21	67.26800	TGW	67.26820
	0.00000	09/19/96	16:31	67.26820	TGW	
96-815-00105						
RTO -202-R1						
243.00000						
243.00000						
08/06/96-036	66.66580	09/19/96	10:21	67.06420	TGW	67.06400
96-0151	0.39490	09/19/96	16:31	67.06400	TGW	
96-815-00108						
RTO -202-R2						

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) / Beaker / Filter	Final Weight Data Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-035	65.42300	09/19/96	10:22	65.42970	TGW	65.42970
	0.00000	09/19/96	16:31	65.42970	TGW	
96-815-00109						
RTO -202-R2						
120.00000						
120.00000						
08/06/96-022	64.45420	09/20/96	08:01	64.50230	TGW	64.50240
	0.00000	09/20/96	14:50	64.50240	TGW	
96-815-00110						
RTO -202-R2						
632.00000						
632.00000						
08/06/96-021	67.60460	09/19/96	10:22	67.60830	TGW	67.60820
	0.00000	09/19/96	16:31	67.60820	TGW	
96-815-00113						
RTO -202-R2						
245.00000						
245.00000						
08/06/96-038	64.43410	09/19/96	10:22	64.83080	TGW	64.83060
96-0150	0.39180	09/19/96	16:31	64.83060	TGW	
96-815-00116						
RTO -202-R3						
08/06/96-037	65.13640	09/19/96	10:22	65.13950	TGW	65.13910
	0.00000	09/19/96	16:32	65.13910	TGW	
96-815-00117						
RTO -202-R3						
131.00000						
131.00000						

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) Beaker / Filter	Final Weight Data Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-024	67.00080	09/20/96	08:01	67.03550	TGW	67.03600
	0.00000	09/20/96	14:50	67.03600	TGW	
96-815-00118						
RTO -202-R3						
649.00000						
649.00000						
08/06/96-023	64.72820	09/19/96	10:22	64.73440	TGW	64.73440
	0.00000	09/19/96	16:32	64.73460	TGW	
96-815-00121						
RTO -202-R3						
238.00000						
238.00000						
08/06/96-040	67.16850	09/19/96	10:23	67.56760	TGW	67.56810
96-0252	0.39660	09/19/96	16:32	67.56810	TGW	
96-815-00124						
KO -202-R1						
08/06/96-039	64.71100	09/19/96	10:23	64.71570	TGW	64.71520
	0.00000	09/19/96	16:32	64.71520	TGW	
96-815-00125						
KO -202-R1						
130.00000						
130.00000						
08/06/96-026	64.76390	09/20/96	08:02	64.81870	TGW	64.81910
	0.00000	09/20/96	14:50	64.81910	TGW	
96-815-00126						
KO -202-R1						
565.00000						
565.00000						

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) / Beaker / Filter	Final Weight Data: Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-025	66.48640	09/19/96	10:23	66.52940	TGW	66.52990
	0.00000	09/19/96	16:33	66.52990	TGW	
96-815-00129						
KO -202-R1						
243.00000						
243.00000						
08/06/96-042	69.35220	09/19/96	10:24	69.74430	TGW	69.74430
96-0191	0.39190	09/19/96	16:33	69.74430	TGW	
96-815-00132						
KO -202-R2						
08/06/96-041	65.60040	09/19/96	10:24	65.60440	TGW	65.60450
	0.00000	09/19/96	16:33	65.60450	TGW	
96-815-00133						
KO -202-R2						
129.00000						
129.00000						
08/06/96-028	66.92500	09/20/96	08:02	67.00600	TGW	67.00650
	0.00000	09/20/96	14:51	67.00650	TGW	
96-815-00134						
KO -202-R2						
549.00000						
549.00000						
08/06/96-027	68.39690	09/19/96	10:24	68.45010	TGW	68.45040
	0.00000	09/19/96	16:33	68.45040	TGW	
96-815-00137						
KO -202-R2						
243.00000						
243.00000						

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) / Beaker / Filter	Final Weight Data Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-044	65.56940	09/19/96	10:24	65.96510	TGW	65.96470
96-0280	0.39560	09/19/96	16:33	65.96470	TGW	
96-815-00140						
KO -202-R3						
08/06/96-043	67.02900	09/19/96	10:24	67.03080	TGW	67.03120
	0.00000	09/19/96	16:34	67.03120	TGW	
96-815-00141						
KO -202-R3						
139.00000						
139.00000						
08/06/96-030	66.27430	09/20/96	08:02	66.31850	TGW	66.31890
	0.00000	09/20/96	14:51	66.31890	TGW	
96-815-00142						
KO -202-R3						
570.00000						
570.00000						
08/06/96-029	64.69820	09/19/96	10:25	64.72800	TGW	64.72850
	0.00000	09/19/96	16:34	64.72850	TGW	
96-815-00145						
KO -202-R3						
261.00000						
261.00000						
08/06/96-045	68.78130	09/19/96	10:25	68.78200	TGW	68.78170
	0.00000	09/19/96	16:34	68.78170	TGW	
96-815-00149						
BLK -202-R0						
144.00000						
144.00000						

ETS, Inc.
GRAVIMETRIC LABORATORY DATA
Final Beaker Weights

Job Number: 96-815
Report Prepared on: 09/26/96

Beaker # / Filter # / Sample # / Run I.D. / Total Vol.,ml / Aliquot Vol.	Constant Tare Weight (g) / Beaker / Filter	Final Weight Data: Date	Time	Weight (g)	Analyst	Constant Final Weight (g)
08/06/96-032	64.52460	09/19/96	10:25	64.52830	TGW	64.52850
	0.00000	09/19/96	16:34	64.52850	TGW	
96-815-00150						
BLK -202-R0						
368.00000						
368.00000						
08/06/96-031	66.98440	09/19/96	10:25	66.98630	TGW	66.98580
	0.00000	09/19/96	16:34	66.98580	TGW	
96-815-00153						
BLK -202-R0						
264.00000						
264.00000						

APPENDIX M

FORMALDEHYDE LABORATORY DATA

ETS, Incorporated
1401 Municipal Rd.
Roanoke, VA 24012
ATTN: Mr. Andy Hetz

Re: Laboratory Analysis
ETSAS Client No. 6593
ETS Contract No. 96-815

REPORT DATE/NUMBER: October 5, 1996 / 95

ANALYSIS FOR: Formaldehyde

METHOD OF ANALYSIS: BIF 0011, HPLC

SAMPLE ANALYSIS DATA

CLIENT ID: KONAS-0011-R1 — **LAB ID: 202406**
MATRIX: LIQUID — COLLECTED BY: ETS, INC.
COLLECTION DATE: / / — DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 — TIME COLLECTED:

ORGANIC ANALYTES:
Formaldehyde — **44 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
↳Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

CLIENT ID: KONAS-0011-R2 — **LAB ID: 202407**
MATRIX: LIQUID — COLLECTED BY: ETS, INC.
COLLECTION DATE: / / — DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 — TIME COLLECTED:
Formaldehyde — **77 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
↳Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

CLIENT ID: KONAS-0011-R3 — **LAB ID: 202408**
MATRIX: LIQUID — COLLECTED BY: ETS, INC.
COLLECTION DATE: / / — DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 — TIME COLLECTED:
Formaldehyde — **60 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
↳Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

REPORT CONTINUED ON NEXT PAGE

SAMPLE ANALYSIS DATA

CLIENT ID: RTO-0011-R1 | **LAB ID: 202409**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:
Formaldehyde — **590 ug Total**
└>Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
└>Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

CLIENT ID: RTO-0011-R2 | **LAB ID: 202410**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:
Formaldehyde — **580 ug Total**
└>Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
└>Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

CLIENT ID: RTO-0011-R3 | **LAB ID: 202411**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:
Formaldehyde — **510 ug Total**
└>Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
└>Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

CLIENT ID: BLANK | **LAB ID: 202412**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:
Formaldehyde — **28 ug Total**
└>Analysis Date: 10/03/96 by: SCF Run ID: FOR100296L1
└>Method: HPLC/UV Detector, BIF 0011; Det Limit= 0.50 ug Total

Quality Assurance performed on the above data is presented on the following page(s).

If we may be of further assistance, please contact us at any time.

Sincerely,
ETS ANALYTICAL SERVICES, INC.

Cheryl M. Daniel, Quality Assurance Manager

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QUALITY ASSURANCE SUMMARY

CALIBRATION VERIFICATION

ANALYTE	UNITS	TYPE	TRUE	FOUND	% REC	QAO	RUN ID
Formaldehyde	mg/l	CCV1	1.44	1.55	107.6	90-110%	FOR100296L1
Formaldehyde	mg/l	ICV1	1.44	1.49	103.5	90-110%	FOR100296L1

BLANKS

ANALYTE	UNITS	TYPE	FOUND	QAO	RUN ID
Formaldehyde	mg/l	CCB1	<0.050	<0.05 mg/l	FOR100296L1
Formaldehyde	mg/l	ICB1	<0.050	<0.05 mg/l	FOR100296L1

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
202406	Formaldehyde	43.5	43.9	ug Total	0.9	≤25 RPD	FOR100296L1

QAO: Quality Assurance Objective; REC: Recovery; RPD: Relative Percent Difference; NC: Not calculatable.
DUP: Duplicate Analysis Result; SPK: Spiked Analysis Result; MS: Matrix SPK; MSD: Matrix SPK Duplicate.
For Duplicates <5X the Detection Limit (DL), ± DL shall apply for the QAO unless otherwise specified.

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APPENDIX N

MDI LABORATORY DATA

ETS Analytical Services, Inc.

Proudly serving industry and government since 1973.

A USEPA Contract Laboratory

A subsidiary of ETS International, Inc.

ETS, Incorporated
1401 Municipal Rd.
Roanoke, VA 24012
ATTN: Mr. Andy Hetz

Re: Laboratory Analysis
ETSAS Client No. 6593
ETS Contract No. 96-815

REPORT DATE/NUMBER: October 5, 1996 / 96

ANALYSIS FOR: Methylenediphenyl Diisocyanate (MDI)

METHOD OF ANALYSIS: EPA Draft MDI Method, HPLC

SAMPLE ANALYSIS DATA

CLIENT ID: RTO-MDI-R1 | **LAB ID: 202413**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:

ORGANIC ANALYTES:

MDI ——— **< 25 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: MDI100296L
↳Method: HPLC/UV Detector, EPA TEST MACT; Det Limit= 25 ug Total

CLIENT ID: RTO-MDI-R2 | **LAB ID: 202414**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:

MDI ——— **< 25 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: MDI100296L
↳Method: HPLC/UV Detector, EPA TEST MACT; Det Limit= 25 ug Total

CLIENT ID: RTO-MDI-R3 | **LAB ID: 202415**
MATRIX: LIQUID | COLLECTED BY: ETS, INC.
COLLECTION DATE: / / | DATE RECEIVED: 09/13/96
OTHER ID: 96-815/6188 | TIME COLLECTED:

MDI ——— **< 25 ug Total**
↳Analysis Date: 10/03/96 by: SCF Run ID: MDI100296L
↳Method: HPLC/UV Detector, EPA TEST MACT; Det Limit= 25 ug Total

REPORT CONTINUED ON NEXT PAGE

1401 Municipal Road, NW • Roanoke, Virginia 24012-1309 • 800-767-4016
540-265-0004 (Voice) • 540-563-4866 (Fax) • etsas@roanoke.infi.net(e-mail)
ETSI World Wide Web Page: http://www.infi.net/~etsas/

SAMPLE ANALYSIS DATA

CLIENT ID: BLANK
MATRIX: LIQUID
COLLECTION DATE: / /
OTHER ID: 96-815/6188

LAB ID: 202416
COLLECTED BY: ETS, INC.
DATE RECEIVED: 09/13/96
TIME COLLECTED:

MDI — **< 5.0 ug Total**
└>Analysis Date: 10/03/96 by: SCF Run ID: MDI100296L
└>Method: HPLC/UV Detector, EPA TEST MACT; Det_Limit= 5.0 ug Total

Quality Assurance performed on the above data is presented on the following page(s).

If we may be of further assistance, please contact us at any time.

Sincerely,
ETS ANALYTICAL SERVICES, INC.

Cheryl M. Daniel, Quality Assurance Manager

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QUALITY ASSURANCE SUMMARY

CALIBRATION VERIFICATION

ANALYTE	UNITS	TYPE	TRUE	FOUND	% REC	QAO	RUN ID
MDI	mg/l	CCV	13.9	13.0	93.5	90-110%	MDI100296L
MDI	mg/l	CCV1	1.20	1.13	94.2	90-110%	MDI100296L
MDI	mg/l	ICV1	2.80	2.71	96.8	90-110%	MDI100296L

BLANKS

ANALYTE	UNITS	TYPE	FOUND	QAO	RUN ID
MDI	mg/l	CCB	<0.500	<0.5 mg/l	MDI100296L
MDI	mg/l	ICB1	<0.500	<0.5 mg/l	MDI100296L

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
202413	MDI	<25.0	<25.0	ug Total	NC	≤25 RPD	MDI100296L
202413	MDI	121	123	% Rec	1.6	≤25 RPD	MDI100296L

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QUALITY ASSURANCE SUMMARY
Continued

SPIKES

LAB ID	ANALYTE	TYPE	SAMPLE	SPK	ADDED	%REC	QAO	RUN ID
202413	MDI	MS	<25.0	169.5	140.0	121.0	75-125%	MDI100296L
202413	MDI	MS	<25.0	172.5	140.0	123.0	75-125%	MDI100296L

QAO: Quality Assurance Objective; REC: Recovery; RPD: Relative Percent Difference; NC: Not calculatable.
DUP: Duplicate Analysis Result; SPK: Spiked Analysis Result; MS: Matrix SPK; MSD: Matrix SPK Duplicate.
For Duplicates <5X the Detection Limit (DL), ± DL shall apply for the QAO unless otherwise specified.

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APPENDIX O

METHANE LABORATORY DATA

ETS, Incorporated
1401 Municipal Rd.
Roanoke, VA 24012
ATTN: Mr. Andy Hetz

Re: Laboratory Analysis
ETSAS Client No. 6593
96-815/L.A. Pacific

REPORT DATE/NUMBER: October 4, 1996 / 93

ANALYSIS FOR: Butane, Ethane, Methane

METHOD OF ANALYSIS: SW-846 Method 8000 (GC/FID)

SAMPLE ANALYSIS DATA

CLIENT ID: RTO-M18-R1
MATRIX: Air
COLLECTION DATE: / /
OTHER ID: 96-815/6188
DESCRIPTION: L.A. PACIFIC/0001

LAB ID: 202187
COLLECTED BY: ETS, INC.
DATE RECEIVED: 09/11/96
TIME COLLECTED:

ORGANIC ANALYTES:

Butane — < 5.0 mg/m3
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Ethane — < 5.0 mg/m3
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Methane — < 5.0 mg/m3
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

CLIENT ID: RTO-M18-R2
MATRIX: Air
COLLECTION DATE: / /
OTHER ID: 96-815/6188
DESCRIPTION: L.A. PACIFIC/0002

LAB ID: 202188
COLLECTED BY: ETS, INC.
DATE RECEIVED: 09/11/96
TIME COLLECTED:

Butane — < 5.0 mg/m3
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

REPORT CONTINUED ON NEXT PAGE

SAMPLE ANALYSIS DATA

CLIENT ID: RTO-M18-R2 ▪ LAB ID: 202188 (continued)

Ethane ——— **< 5.0 mg/m3**
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Methane ——— **< 5.0 mg/m3**
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

CLIENT ID: RTO-M18-R3 **LAB ID: 202189**
MATRIX: Air COLLECTED BY: ETS, INC.
COLLECTION DATE: / / DATE RECEIVED: 09/11/96
OTHER ID: 96-815/6188 TIME COLLECTED:
DESCRIPTION: L.A. PACIFIC/0003

Butane ——— **< 5.0 mg/m3**
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Ethane ——— **< 5.0 mg/m3**
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Methane ——— **< 5.0 mg/m3**
↳Analysis Date: 10/02/96 by: SCF Run ID: MET100296
↳Method: GC/FID ; Det Limit= 5.0 mg/m3

Quality Assurance performed on the above data is presented on the following page(s).

If we may be of further assistance, please contact us at any time.

Sincerely,
ETS ANALYTICAL SERVICES, INC.

Cheryl M. Daniel, Quality Assurance Manager

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QUALITY ASSURANCE SUMMARY

CALIBRATION VERIFICATION

ANALYTE	UNITS	TYPE	TRUE	FOUND	% REC	QAO	RUN ID
Butane	mg/m3	CCV1	71.0	72.5	102.1	85-115%	MET100296
Ethane	mg/m3	CCV1	38.0	38.3	100.8	85-115%	MET100296
Methane	mg/m3	CCV1	20.0	17.8	89.0	85-115%	MET100296
Butane	mg/m3	ICV1	48.0	52.9	110.2	85-115%	MET100296
Ethane	mg/m3	ICV1	25.0	27.7	110.8	85-115%	MET100296
Methane	mg/m3	ICV1	13.0	11.3	86.9	85-115%	MET100296

BLANKS

ANALYTE	UNITS	TYPE	FOUND	QAO	RUN ID
Butane	mg/m3	CCB1	<5.00	<5 mg/m3	MET100296
Ethane	mg/m3	CCB1	<5.00	<5 mg/m3	MET100296
Methane	mg/m3	CCB1	<5.00	<5 mg/m3	MET100296
Butane	mg/m3	ICB1	<5.00	<5 mg/m3	MET100296
Ethane	mg/m3	ICB1	<5.00	<5 mg/m3	MET100296
Methane	mg/m3	ICB1	<5.00	<5 mg/m3	MET100296

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID

QA Report Continued on Next Page

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QUALITY ASSURANCE SUMMARY
Continued

DUPLICATES

LAB ID	ANALYTE	SAMPLE	DUP	UNITS	RPD	QAO	RUN ID
202187	Butane	75.9	80.1	%Rec	5.4	<25% RPD	MET100296
202187	Ethane	107.6	111.6	%Rec	3.6	<25% RPD	MET100296
202187	Methane	75.4	77.7	%Rec	3.0	<25% RPD	MET100296
202188	Butane	<5.0	<5.0	mg/m3	NC	<25% RPD	MET100296
202188	Ethane	<5.0	<5.0	mg/m3	NC	<25% RPD	MET100296
202188	Methane	<5.0	<5.0	mg/m3	NC	<25% RPD	MET100296

SPIKES

LAB ID	ANALYTE	TYPE	SAMPLE	SPK	ADDED	%REC	QAO	RUN ID
202187	Butane	MS	<5.00	53.9	71.0	75.9	75-125%	MET100296
202187	Ethane	MS	<5.00	26.9	25.0	107.6	75-125%	MET100296
202187	Methane	MS	<5.00	9.80	13.0	75.4	75-125%	MET100296
202187	Butane	MSD	<5.00	56.9	71.0	80.1	75-125%	MET100296
202187	Ethane	MSD	<5.00	27.9	25.0	111.6	75-125%	MET100296
202187	Methane	MSD	<5.00	10.1	13.0	77.7	75-125%	MET100296

QAO: Quality Assurance Objective; REC: Recovery; RPD: Relative Percent Difference; NC: Not calculatable.
DUP: Duplicate Analysis Result; SPK: Spiked Analysis Result; MS: Matrix SPK; MSD: Matrix SPK Duplicate.
For Duplicates <5X the Detection Limit (DL), ± DL shall apply for the QAO unless otherwise specified.

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ETS, INC.

Proudly serving industry and government since 1973. Providing: Toxic Emission Measurement & Control

A subsidiary of ETS International, Inc.

September 11, 1996

ETS Analytical Services, Inc.
1401 Municipal Road, NW
Roanoke, Virginia 24012

RE: Analysis for Methane, Butane and Ethane
ETS Purchase Order :6188

Dear Cheryl:

This letter accompanies 3 air samples collected in tedlar bags. Each bag is to be analyzed for methane, butane and ethane. A normal 21 day turnaround is requested. ETS Purchase Order number 6188, which covers a cost per bag of $130.00 should be used to reference all billing. Please feel free to contact me or Andy Hetz if any questions. Thank you.

Sincerely,

ETS, Inc.

Terry Williamson
Manager/Sample Prep.

Rec'd. 9-11-96 1300 SB Sheppard
202187-189

ETS INC. - 1401 Municipal Road, NW - Roanoke, Virginia 24012-1309 - Telephone: 540-265-0004 - FAX: 540-265-0131
Internet: etsas@roanoke.infi.net WWW:http://www.infi.net//~etsas/

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APPENDIX P

FACILITY OPERATING DATA

12.00 12.95

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR James SHIFT 7am 7pm CREW B DATE 9-10-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8" FOOTAGE	MINS. DOWNTIME M	E	O
7:00	7:00	37	7/16"	195	232,967			
			TOTAL			Total		NMDT

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	93
NO. OF "U" BUNDLES	⊖
NO. OF "E" BUNDLES	⊖

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
6714	0	1332	197	720	0	38.8	6.9

BARK MOISTURE % (AVG.) 33.7

FUEL MOISTURE 2.4

SCRUBBER WATER METER READING
BEGINNING OF SHIFT 1689.100
END OF SHIFT 1690.100

OIL USED
BEGINNING OF SHIFT 133230
END OF SHIFT 133230

TOTAL GALLONS USED THIS SHIFT 1000

TOTAL GALLONS USED THIS SHIFT 0

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR Jackie Fraley SHIFT 7 AM-7 PM CREW B DATE 9-10-96

THICKNESS: 7/16 PRESS LOADS 195-232967 CORE 2

BLENDER SHUTDOWNS

DECOMPRESSION TIME

PRESS TEMP:

SURFACE 9

	CORE RESIN	SURFACE RESIN
BEGIN	305009	1623679
END	307498	1536020

LINESPEED FT PER MIN.	FROM	TO
870	7:00	7:00

CLEANED BLENDER SHROUDS & TRACKS

FORMER HYDRAULIC AND RADIATER BLOWN OUT

FCOS HYDRAULIC UNIT & RADIATER BLOWN OUT

BLENDER OUTFEED CONV. TAIL PULLEYS CLEANED

DOWNTIME FROM	DOWNTIME TO	DOWNTIME (MIN.) M	E	O	KEY	REASONS FOR DOWNTIME
						NMDT

LOUISIANA-PACIFIC CORPORATION

Duncannon, Virginia

OPERATOR: Mike SHIFT: 7am-3pm CREW: B DATE: 5-10-96

KONUS CHECK LIST

Thermal Oil Level Inches above bottom	
Clarke Bin (quarters)	Full
Diesel Fuel Level (Emergency Pump)	Full
Diesel Oil Level (Emergency Pump)	Full
Space Heating: Inlet Temp	
Space Heating: Outlet Temp	
Space Heating: Discharge Pressure	
Press Pump 1 (Running)	yes
Press Pump 2 (Running)	

H.O. Pump Pressure	Suction	Discharge
Primary Pump I		
Primary Pump II		

Konus Baghouse Pressure

Was Baghouse Pulsed? YES/NO

List any other problems:

Indicate Konus Problems	
Flow Control	OK
Level Control	OK
Fan Disturb	OK
Internal Press	OK
High Flue Gas	OK
Other:	
LEFT (Counts) 1236 x ( ) =	
RIGHT (Counts) 1246 x ( ) =	

Indicate Temp Set Points	
Space Heat	
Hot Pond	
Emergency Cooling Tank - Full	YES/NO
Konus Water Pressure	PSI
Emergency Diesel (run each shift)	YES/NO
Konus	
Fuel Oil Level (gallons)	
[illegible] Level	
Fire Dump Cleaned:	Yes
Bark Fuel Used	

DATE 9-10-96 CREW B SHIFT 7AM-7PM

ALL RESIN CHART RECORDERS & PRESS CHART RECORDERS CHECKED AND OPERATING PROPERLY. (HOURLY)

TIME	NAME
7:00	JF
8:00	JF
9:00	JF
10:00	JF
11:00	JF
12:00	JF
1:00	JF
2:00	JF
3:00	JF
4:00	JF
5:00	JF
6:00	JF

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES:

PRESS LOADS & TIME TO POSITION

Today
9-10-96
7AM-7PM
7½ "B"

P/L	T/P	P/L	T/P	P/L	T/P	P/L	T/P
1	65	51	66	101	48	151	51
2	67	52	63	102	47	152	49
3	70	53	61	103	49	153	44
4	73	54	59	104	60	154	45
5	77	55	63	105	56	155	47
6	78	56	61	106	59	156	50
7	77	57	57	107	58	157	50
8	81	58	60	108	58	158	52
9	71	59	63	109	55	159	55
10	68	60	65	110	53	160	51
11	69	61	60	111	55	161	49
12	71	62	57	112	56	162	48
13	74	63	56	113	52	163	48
14	73	64	61	114	52	164	48
15	76	65	52	115	56	165	48
16	75	66	57	116	56	166	46
17	78	67	54	117	59	167	44
18	81	68	53	118	54	168	46
19	81	69	49	119	65	169	48
20	82	70	49	120	58	170	46
21	77	71	50	121	56	171	47
22	64	72	54	122	54	172	47
23	73	73	57	123	53	173	44
24	67	74	52	124	57	174	44
25	70	75	55	125	49	175	48
26	66	76	55	126	50	176	48
27	60	77	58	127	49	177	46
28	68	78	59	128	47	178	50
29	71	79	60	129	49	179	50
30	68	80	61	130	44	180	50
31	70	81	57	131	47	181	57
32	69	82	52	132	49	182	54
33	71	83	51	133	46	183	55
34	69	84	49	134	45	184	55
35	75	85	49	135	43	185	54
36	76	86	53	136	44	186	53
37	70	87	52	137	50	187	55
38	69	88	51	138	49	188	60
39	72	89	54	139	47	189	58
40	72	90	53	140	44	190	54
41	67	91	58	141	43	191	56
42	74	92	56	142	44	192	56
43	72	93	53	143	46	193	55
44	78	94	50	144	48	194	51
45	76	95	52	145	47	195	55
46	75	96	49	146	49	196	
47	77	97	49	147	50	197	
48	68	98	51	148	48	198	
49	66	99	48	149	45	199	
50	62	100	51	150	47	200	

TURN IN WITH PRESS REPORT!

DRYER DATA SHEET

DATE: 9-10-96

SHIFT: 7Am 7Pm

CREW: B

NAME: mike

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					6.1		OK	OK MD	1547	15	15
8:00	85	1311	219		5.8	1/2 1/2	OK	OK MD	1571	15	17
8:30					4.5		OK	OK MD	1578	15	17
9:00	85	1605	203		3.7	1/2 1/2	OK	OK MD	1566	15	17
9:30					5.6		OK	OK MD	1561	15	17
10:00	86	1685	199		7.4	1/2 1/2	OK	OK MD	1577	15	17
10:30					6.9		OK	OK MD	1569	15	17
11:00	84	1397	194	39.2	5.0	1/2 1/2	OK	OK MD	1578	15	17
11:30					6.8		OK	OK MD	1578	15	17
12:00	81	1025	195		7.5	1/2 1/2	OK	OK MD	1591	15	17
12:30					6.4		OK	OK MD	1574	15	17
1:00	84	1333	195		5.7	1/4 1/4	OK	OK MD	1581	15	17
1:30					6.6		OK	OK MD	1566	15	17
2:00	84	1364	191		8.8	1/4 1/4	OK	OK MD	1572	15	17
2:30					9.2		OK	OK MD	1567	15	17
3:00	82	1206	190	38.4	7.4	1/4 1/2	OK	OK MD	1561	15	17
3:30					9.7		OK	OK MD	1589	15	17
4:00	82	1344	195		8.3	1/2 1/4	OK	OK MD	1559	15	17
4:30					7.7		OK	OK MD	1562	15	17
5:00	82	1140	197		10.0	1/4 1/4	OK	OK MD	1576	15	17
5:30					6.8		OK	OK MD	1599	15	17
6:00	82	1348	192		6.3	1/4 1/4	OK	OK MD	1579	15	17
6:30					6.4		OK	OK MD	1572	15	17
7:00	82	1220	195		6.6	1/4 1/4	OK	OK MD	1579	15	17

DRYER OPERATION REPORT

OPERATOR Mike SHIFT 7Am 7Pm CREW B DATE 9-10-96

#1 BAGHOUSE
TIMES CHECKED

HAMMER MILL MAGNET	TIME	TIME	TIME	TIME	TIME	TIME
CLEANED (3TIMES)	11:00	3:00	7:00			
LEVEL IN MCCONNELL BINS (3 TIMES)	TIME ½	TIME Full	TIME ½ -			

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	2.0
#2 BAGHOUSE MAGNEHELIC READING	1.6
KONUS BAGHOUSE MAGNEHELIC READING	11.0
MCCONNELL BAGHOUSE MAGNEHELIC READING	5.0
SCRUBBER MAGNEHELIC READING	33

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY

NAME: Mike SHIFT: 7am 7pm DATE: 9-10-96

TOTAL DRYER RUN TIME 720
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURAN
Dryer	Ran	Below	10%	All	Shift	
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

1 BAKE OUT
2 CLEANING RTO VALVES
3 RE–CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

MILITARY TIME

7AM=0700	7PM=19
8AM=0800	8PM=20
9AM=0900	9PM=21
10AM=1000	10PM=22
11AM=1100	
12AM=1200	11PM=23
1PM=1300	12PM=24
2PM=1400	1AM=01
	2AM=02
3PM=1500	3AM=03
4PM=1600	4AM=04
5PM=1700	5AM=

DAILY P.M. & CHECK LIST

FOREMAN: JAnes DATE: 9-10-96 SHIFT: 7Am 7pm CREW: B

FLAKER OPERATOR

ITEM	INSPECT/DO	YES/NO	COMMENTS
HYDRAULIC UNITS	FLAKER & BOOM UNITS KEEP FULL	Yes	
	GREASE ENTIRE BOOM -ALL PINS	Yes	
	GREASE ALL BUSHINGS	Yes	
	GREASE TURN TABLE	Yes	
	TIGHTEN ALL PIN NUTS ON BOOM --EACH SHIFT--	Yes	
	GREASE LOG HOLD DOWN PINS	Yes	
	CHECK ALL MULTI CHANS	Yes	
	GREASE LOG INCLINE CONVEYOR CHAIN BEARINGS	Yes	
	INSPECT KNIFE CLAMPS & PLATES	Yes	
	INSPECT SCORING KNIVES (EACH KNIFE CHANGE)	Yes	
	INSPECT ALL BEARINGS	Yes	
	INSPECT DRIVE BELTS	Yes	
ENTIRE SYSTEM	CHECK FOR LOOSE NUTS & BOLTS	Yes	

ADDITIONAL COMMENTS:

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: DOCS SHIFT: 7am-7pm CREW: B DATE: 10-96

Time c nife changes: 11:50 2:10 4:15

All cl ps removed from disc and cleaned? YES

All kn e carriers cleaned (use wirebrush) YES

Numbe clamps replaced: 1st 48 2nd 48

3rd 48 4th 5th

All b torqued at 70PSI. YES

Never ze all clamp bolts, replace bad ones. YES

Bottc side anvile checked. YES

Spray r cleaned YES

Arbor aring blown down YES

Multi ain track cleaned (once per shift) YES

Torqu rench set on 0 PSI after knife changed completed.

Knife ange area cleaned after knife change YES

Air w ches lubricated or oiled YES

Check ife protection. YES

15. Hood loader greased - turntable & boom pin YES
(once per shift)

16. Any m ntenance done during knife change:

NIFE GRINDER NAME Alice S. DATE 9/10/96

SETS ON SHELF 4 Sets

SETS - NEED TO GRIND 4 Sets

SETS THAT I HAVE GROUND 9 Sets down 3 new Sets put together,

OF KNIVES DISCARDED 0 Sets

GRINDING ROOM CLEANED YES OR NO

FLAT GRINDER GREASED YES OR NO

SPRAY BARS CLEANED (EACH KNIFE CHANGE) YES OR NO

SETTER OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: Swept Shop, Cleaned flat Grinder,

TOTAL KNIVES IN THE GRINDING ROOM

SETS OF KNIVES RECEIVED

TOTAL KNIVES DISCARDED (MTD)

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: Gave Dave his breaks, pushed water at Dryer.

KNIFE CHANGES DONE:

1) TIME DOWN 11:50 START UP 12:20 TIME DOWN ____ START UP ____

2) TIME DOWN 2:10 START UP 2:40 TIME DOWN ____ START UP ____

3) TIME DOWN 4:15 START UP 4:45 TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

* Left three new sets to be put together.

LOUISIANA-PACIFIC CORPORATION
DONGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Flaker Utility [illegible] Date 9-10-93 Shift [illegible] Crew B

		Yes	No	Problem found or Maint. Done
1.	Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.)	✓		
2.	Clean flaker clamps and replace tips.	✓		4# Clamps 548 [illegible] 4# Clamps
3.	Keep air and torque wrenches oiled and in place for knife changes	✓		
4.	Blow off both flaker disc bearings every knife change.	✓		
5.	Check all hydraulic units (oil level, and blow out radiators).	✓		
6.	Clean all tail pulleys.	✓		
7.	Clean flaker pit (pump water out also .	✓		
8.	Blow down entire area.	✓		
9.	Keep flaker area floor clean.	✓		
10.	Clean catwalk and platform for the haul up conveyour.	✓		
11.	Empty haul up conveyour clean up bin.	✓		

Comments or Suggestions: _____

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR Scott Maness DATE 9-10-96

HOUR METER READING

1. Radiator level ✓ Amount added
2. Engine oil level ✓ Amount added
3. Restriction indicator of engine air cleaner ✓
4. Fuel level - fill at end of shift ✓
5. Drain moisture from air reservoir - at end of shift ✓
6. Torque converter level Amount added ✓
7. Drop box transmission level Amount added ✓
8. Hydraulic reservoir ✓
9. Lubricate boom grease fittings
10. Check tires for proper inflation and condition - 65 PSI ✓
11. Clean operator's cab ✓
12. Check for hydraulic leaks ✓
13. Does steering work properly? ✓
14. Is the fire extinguisher present and charged? ✓
15. Does horn work properly? ✓
16. Do service brakes work properly? ✓
17. Does parking brakes work properly? ✓
18. COMMENTS: Need Radio Fixed

PM CHECKLIST BOBCAT

CREW B

FOREMAN Jones DATE 9/10/96 SHIFT 7-7 Day NAME Dennis

BOBCAT OPERATOR

DAILY		Done yes/no	How much added
	A. Bobcat - fluid levels		
	1. Check hydraulic fluid	yes	
	2. Check motor oil	yes	
	3. Check air pressure in tires	yes	
	B. Blow entire machine off, including motor.	yes	
	C. Check for any leaks around fittings, filters, motor oil,	yes	
	transmission	yes	
	D. Breakage	✓	
	1. Control levers right side	✓	
	2. Control levers left side	✓	
	3. Cracks in bucket or boom	✓	
	4. Safety cage broke away	✓	

Motor oil 15W-40

Hydraulic Oil HD-46
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

a:ter Utility Dennis Date 9/6/96 Shift 7-7 Day Crew B

	Yes	No	Problem found or Maint. Done
Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.)	✓		
Keep log wash pond full and bark cleaned off.	✓		
Clean all tail rollers.	✓		
Check all hydraulic units (oil level, blow out radiator).	✓		
Check bark hog and belts (problems, plugs etc.).	✓		
Empty all hoppers.	✓		
Clean bark under log decks.	✓		
Blow down entire area.	✓		
Keep hog, mobile equipment, and old greenend area floor clean.	✓		
Wash down floor in debarker area (11-7 shift).	✓		
PM and service loader when used	✓		

nents or
ge tions:

DAILY P.M. CHECKLIST

FOREMAN: STARNES DATE: 9-10-86 SHIFT: 7-7 CREW: B

DEBARKER OPERATOR

INSPECT/DO	YES/NO	COMMENTS
GREASE ENTIRE MACHINE--ONCE EACH SHIFT	✓	
RELEASE WATER FROM DEBARKER & KICKER AIRLINES	✓	
GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS	✓	
CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT		
CHECK OIL LEVEL IN RING LUBE PUMP BARREL	✓	
INSPECT ARM TIPS FOR LOSS OR BREAKAGE	✓	
INSPECT ARMS FOR CRACKS	✓	
GREASE FRONT & REAR HOLD DOWN SLIDES	✓	
GREAES LOG OUTFEED CHAIN BEARINGS	✓	
CLEAN HYDRAULIC UNIT (ON DAY SHIFT)		

COMMENTS: No #2 Feed Rolls Need to be Fixed. Plates Behind Rolls Need To be Fixed. Singulator Trough Needs To be Fixed

SS

LOUISIANA-PACIFIC CORPORATION

DAILY FORKLIFT CHECK LIST

NAME Bigley T

SHIFT 7AM-3PM

FORKLIFT# Sawline 4

	OK TO RUN	DO NOT RUN
1. Oil Level	✓	
2. Water Level	✓	
3. Brakes	✓	
4. Transmission	✓	
5. Horn	✓	
6. Lights	✓	
7. Tires	✓	
8. Steering	✓	
9. Rack & Cage	✓	
10. Used air hose to blow down radiator and other things	YES ✓	NO

COMMENTS:

NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tan
3. Use water for radiator.

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

DRYER UTILITY Ronald Deel DATE 9-10-96 SHIFT 7am-7pm CREW B

	YES	NO	PROBLEM FOUND/MAINT. DONE
1. Check & maintain fire fighting equipment (hoses in place, fire extinguishers full, etc)	✓		
2. Keep correct water level in scrubber & add defoamer accordingly	✓		Gallons added this shift
3. Deash both cells on konus		✓	1 side
4. Maintain correct PSI on scrubber pump nozzles (15–17 PSI)	✓		
5. Keep K–S Vacuum Drum Filter running & maintained	✓		
6. Weighed scrubber filter cake & empty hopper at end of shift	✓		
7. Check clarkbin level (beginning & ending of each shift & record)	✓		1/4, 1/2, 3/4, Full beginning 3/4 end Full
8. Clean screener pit	✓		
9. Clean all tail rollers	✓		
10. Empty all barrels when full	✓		
11. Blow down entire area			
12. Blow off inlet & outlet tube			
13. Are trunion oilers full & working	✓		
14. Have fire dump & ash pit emptied when necessary	✓		
15. Check for & seal all leaks on conveyors, augers, etc.	✓		
16. Clean konus room & baghouse pad area outside.	✓		
17. Keep dryer area floor clean	✓		
18. Empty konus & cyclone airloc barells & clean containment buildings	✓		
19. Are all baghouses pulsing, konus #1 & #2	✓		

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRENTICE LOADER
DAILY OPERATOR'S LIST

OPERATOR Burton DATE 8-10-96

1. Check engine oil ok Amount Added
2. Check Hyd. oil ok Amount Added
3. Check radiator level ok Amount Added
4. Check brake fluid Amount Added
5. Check tires for proper inflation and condition ok
6. Inspect all hoses & fittings for leaks
7. Check welds for cracks ok
8. Blow out radiator daily
9. Tighten all nuts & bolts on gear boxes & swivels ok
10. Visually inspect complete machine every shift!!
11. Grease items 1-5 daily every (8) hours
12. Check hour meter reading each shift and record below:
13. Check grapple pins and motor Need welded
14. Check swing motors

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses
2. Cab Clean
3. Machine Clean
4. Visual Damage
5. Condition of machine at end of shift

FOREMANS REPORT CHECK LIST, TO BE TURNED IN EVERY SHIFT

DATE: 9/10/96 SHIFT: 7a 7p SUPERVISOR: [illegible]

- ✓ SHIFT OPERATING REPORT
- ✓ PRESS REPORT
- ✓ PRESS LOAD & TIME TO POSITION
- ✓ RESIN CHART RECORDER CHECKLIST
- ✓ DRYER OPERATION REPORT
- ✓ DRYER DATA SHEET
- ✓ KONUS CHECK LIST
- ✓ DRYER OPACITY REPORT
- ✓ KNIFE GRINDER REPORT
- ✓ FLAKER OPERATOR PM SHEET
- ✓ DEBARKER OPERATOR PM SHEET
- ✓ PRENTICE OPERATOR PM SHEET
- ✓ BOBCAT OPERATOR PM SHEET
- ✓ FLAKER UTILITY
- ✓ DEBARKER UTILITY
- ✓ DRYER UTILITY
- LINEMAN
- SHIFT MILLWRIGHT REPORT
- ✓ FLAKER KNIFE CHANGE PM SHEET
- 930 LOADER
- ✓ 966 LOADER PM SHEET
- TROJAN LOADER PM SHEET
- ✓ PRESS CIRCLE CHART
- DRYER CIRCLE CHART
- DRYER BY–PASS CHART
- ✓ FORKLIFT PM SHEET
- UPSET CONDITION REPORT (When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

Fire Dump Curtain OK

LOUISIANA--PACIFIC CORPORATION
DUNGANNON, VIRGINIA

10.10

12.71

SHIFT OPERATING REPORT

SUPERVISOR Jeff Mann SHIFT 7pm-7am CREW D DATE 9-10-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8" FOOTAGE	MINS. DOWNTIME M	E	O
7pm	7AM	30 To 37 Fpm	7/16"	161	192,347			
			TOTAL	161	192,347	TOTAL		119 ~~103~~

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	79
NO. OF "U" BUNDLES	5
NO. OF "E" BUNDLES	

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
4395	160min	1218	194	700	20	43.6	7.1

ARK MOISTURE % (AVG.) 34.7

FUEL MOISTURE 3.1

CRUBBER WATER METER READING

BEGINNING OF SHIFT 1690.100

ND OF SHIFT 1693.500

OTAL GALLONS USED THIS SHIFT 3400

OIL USED

BEGINNING OF SHIFT 133230

END OF SHIFT 133820

TOTAL GALLONS USED THIS SHIFT 590

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR E. Sluss SHIFT 7pm 7am CREW "D" DATE 9pm 7am

BLENDER SHUTDOWNS

THICKNESS: 7/16 PRESS LOADS 16/=192,347 CORE 13

DECOMPRESSION TIME

PRESS TEMP: 410°

SURFACE 23

	CORE RESIN	SURFACE RESIN
BEGIN	307498	1536020
END	309566	1546191

CLEANED BLENDER SHROUDS & TRACKS

FORMER HYDRAULIC AND RADIATER BLOWN OUT

FCOS HYDRAULIC UNIT & RADIATER BLOWN OUT

BLENDER OUTFEED CONV. TAIL PULLEYS CLEANED

LINESPEED FT.PER MIN.	FROM	TO
37.0	7:00	7:00
30.0	6:05	6:10
32	6:10	6:31
33.0	6:31	6:36
34.0	6:36	7:00

DOWNTIME FROM	TO	DOWNTIME (MIN.) MIN	DO	KEY	REASONS FOR DOWNTIME
8:44	8:45		1	1	replaced Bungy cord on front irrigator
9:36	9:48		12	13	Low Dry Bin (Due to sparks in Dryer)
10:00	10:12		12	25	Low Dry Bin (Due to sparks in Dryer)
2:20	2:21		1	26	Low Dry Bin (Low Density in wet Bin)
2:39	2:53		14	40	Low Dry Bin (Low Density in wet Bin)
4:55	4:58		3	43	S. resin Quit (Charged pump)
4:39	5:54		55	98	adj. surface resin (Charging Pump)
5:59	6:04		5	103	adj. surface resin
6:49	7:00		11	114	Bleed fluting surface flow meter

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR: Ronald SHIFT: 7pm-7am CREW: 2 DATE: 12-10-96

KONUS CHECK LIST

Thermal Oil Level Inches above bottom	0
Clarke Bin (quarters)	1/2
Diesel Fuel Level (Emergency Pump)	FULL
Diesel Oil Level (Emergency Pump)	FULL
Space Heating: Inlet Temp	0
Space Heating: Outlet Temp	0
Space Heating: Discharge Pressure	0
ess Pump 1 (Running)	YES
Press Pump 2 (Running)	YES

T.O. Pump Pressure	Suction	Discharge
Primary Pump I		
Primary Pump II	0	13

Konus Baghouse Pressure 2.0

Was Baghouse Pulsed? YES/NO

List any other problems:

Indicate Konus Problems

Flow Control	OK
Level Control	OK
Fan Disturb	OK
Internal Press	OK
High Flue Gas	OK

Other:

LEFT (Counts) 1077 x ( ) =

RIGHT (Counts) 952 x ( ) =

Indicate Temp. Set Points

Space Heat

Hot Pond

Emergency Cooling Tank - Full YES/NO

Konus Water Pressure _____ PSI

Emergency Diesel (run each shift) YES/NO

Konus

Fuel Oil Level (gallons)

L.P. Level

Fire Dump Cleaned:

Bark Fuel Used

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 9-10-96 SHIFT: 7pm 7am SUPERVISOR: Vaughn

- ✓ SHIFT OPERATING REPORT
- ✓ PRESS REPORT
- ✓ PRESS LOAD & TIME TO POSITION
- ✓ RESIN CHART RECORDER CHECKLIST
- ✓ DRYER OPERATION REPORT
- ✓ DRYER DATA SHEET
- ✓ KONUS CHECK LIST
- ✓ DRYER OPACITY REPORT
- ✓ KNIFE GRINDER REPORT
- ✓ FLAKER OPERATOR PM SHEET
- ✓ DEBARKER OPERATOR PM SHEET
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- ✓ PRESS CIRCLE CHART
- ✓ DRYER CIRCLE CHART
- ✓ DRYER BY-PASS CHART
- ✓ FORKLIFT PM SHEET
- UPSET CONDITION REPORT (When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

DATE 9-10-96 CREW "D" SHIFT 7pm 7am

ALL RESIN CHART RECORDERS & PRESS CHART RECORDERS CHECKED AND OPERATING PROPERLY. (HOURLY)

TIME	NAME
7:00	ES
8:00	ES
9:00	ES
10:00	ES
11:00	ES
12:00	ES
1:00	ES
2:00	ES
3:00	ES
4:00	ES
5:00	ES
6:00	ES

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: S. resin quit at 4:55 changed pump (JM)

E. Sluss
9-10-96
3/16 "D"
7pm 7am

PRESS LOADS & TIME TO POSITION

	P/L	T/P		P/L	T/P		P/L	T/P		P/L	T/P
1	58V		51	58V		101	51V		151	53V	
2	53V		52	61V		102	52V		152	51V	
3	55V		53	62V		103	52V		153	64V	
4	59V		54	60V		104	58V		154	63V	
5	57V		55	57V		105	56V		155	64V	
6	53V		56	54V		106	54V		156	68V	
7	53V		57	54V		107	56V		157	64V	
8	55V		58	55V		108	76V		158	63V	
9	50V		59	57V		109	65V		159	61V	
10	48V		60	56V		110	85V		160	69V	
11	49V		61	60V		111	82V		161	61V	
12	51V		62	59V		112	81V		162		
13	48V		63	61V		113	72V		163		
14	48V		64	56V		114	67V		164		
15	57V		65	57V		115	67V		165		
16	56V		66	51V		116	62V		166		
17	52V		67	51V		117	65V		167		
18	52V		68	51V		118	70V		168		
19	52V		69	52V		119	54V		169		
20	54V		70	49V		120	66V		170		
21	56V		71	52V		121	64V		171		
22	53V		72	51V		122	54V		172		
23	56V		73	54V		123	51V		173		
24	54V		74	59V		124	49V		174		
25	54V		75	59V		125	45V		175		
26	53V		76	59V		126	43V		176		
27	49V		77	61V		127	43V		177		
28	53V		78	56V		128	47V		178		
29	47V		79	54V		129	50V		179		
30	49V		80	68V		130	48V		180		
31	47V		81	67V		131	52V		181		
32	50V		82	64V		132	52V		182		
33	48V		83	51V		133	54V		183		
34	48V		84	59V		134	49V		184		
35	54V		85	60V		135	48V		185		
36	56V		86	61V		136	46V		186		
37	56V		87	58V		137	51V		187		
38	55V		88	68V		138	48V		188		
39	58V		89	65V		139	46V		189		
40	59V		90	56V		140	51V		190		
41	61V		91	58V		141	49V		191		
42	58V		92	59V		142	48V		192		
43	55V		93	57V		143	48V		193		
44	54V		94	54V		144	58V		194		
45	56V		95	49V		145	55V		195		
46	50V		96	50V		146	56V		196		
47	55V		97	53V		147	57V		197		
48	51V		98	54V		148	55V		198		
49	51V		99	59V		149	53V		199		
50	54V		100	52V		150	54V		200		

TURN IN WITH PRESS REPORT!

DRYER DATA SHEET

DATE: 9-10-96

SHIFT: 7Pm - 7Am

CREW: [illegible]

NAME: [illegible]

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					6.5		OK RE	OK	1576	15	15
8:00	82	1353	0 Pd		6.3	1/4 1/4	OK RE	OK	1566	15	16
8:30					7.2		OK RE	OK	1588	16	16
9:00	82	1314	192		7.5	1/4 1/4	OK RE	OK	1565	16	15
9:30					7.0		OK RE	OK	1573	16	17
10:00	75	1180	187	43.6	6.5	1/4 1/4	OK RE	OK	1569	16	17
10:30					7.3		OK RE	OK	1579	16	16
11:00	88	1115	187		6.5	1/4 1/4	OK RE	OK	1576	16	17
11:30					7.3		OK RE	OK	1562	16	16
12:00	88	1115	202		6.9	1/4 1/4	OK RE	OK	1570	16	16
12:30					8.5		OK RE	OK	1561	16	17
1:00	88	1577	214		6.7	1/4 1/4	OK RE	OK	1570	15	16
1:30					6.7		OK RE	OK	1572	16	17
2:00	88	1085	195		6.1	1/4 1/4	OK RE	OK	1569	16	16
2:30					6.9		OK RE	OK	1574	16	17
3:00	88	1113	196		7.0	1/4 1/4	OK RE	OK	1582	16	16
3:30					7.5		OK RE	OK	1577	16	16
4:00	88	1270	190		6.7	1/4 1/4	OK RE	OK	1564	16	17
4:30					7.0		OK RE	OK	1559	15	17
5:00	82	1143	194		7.6	1/4 1/4	OK RE	OK	1569	15	16
5:30					7.0		OK RE	OK	1558	15	16
6:00	Start up						OK RE	OK	1537	15	16
6:30					6.5		OK RE	OK	1567	15	16
7:00	77	1137	191		7.2	1/2 1/2	OK RE	OK	1589	15	16
		1218	194								

DRYER OPERATION REPORT

OPERATOR Ronald SHIFT 7pm-7am CREW D DATE 9-10-

#1 BAGHOUSE

TIMES CHECKED HAMMER MILL MAGNET	7.30 TIME	9.30 TIME	11:30 TIME	1.30 TIME	3.30 TIME	5.30 TIME

CLEANED (3TIMES) LEVEL IN MCCONNELL BINS (3 TIMES)	8:00 TIME 3/4	12:00 TIME 3/4	6:00 TIME 3/4

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT) ✓

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT) ✓

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT) ✓

ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	1.4
#2 BAGHOUSE MAGNEHELIC READING	1.6
KONUS BAGHOUSE MAGNEHELIC READING	2.0
MCCONNELL BAGHOUSE MAGNEHELIC READING	1.4
SCRUBBER MAGNEHELIC READING	30

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY
5:40	6:00	20	[illegible]

NAME: Ronald SHIFT: 7pm-7am DATE: 9-10-96

TOTAL DRYER RUN TIME 1700
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURAN
	Dryer	on	below	10%	all	Shift
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

1 BAKE OUT
2 CLEANING RTO VALVES
3 RE-CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

MILITARY TIME

7AM=0700	7PM=19
8AM=0800	8PM=20
9AM=0900	9PM=21
10AM=1000	10PM=22
11AM=1100	
12AM=1200	11PM=23
1PM=1300	12PM=24
2PM=1400	1AM=01
	2AM=02
3PM=1500	3AM=03
4PM=1600	4AM=04
5PM=1700	5AM=05

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRENTICE LOADER
DAILY OPERATOR'S LIST

OPERATOR ALBERT DATE 9/10/96

1. Check engine oil YES Amount Added ____
2. Check Hyd. oil YES Amount Added ____
3. Check radiator level YES Amount Added ____
4. Check brake fluid NO Amount Added ____
5. Check tires for proper inflation and condition YES
6. Inspect all hoses & fittings for leaks YES
7. Check welds for cracks YES
8. Blow out radiator daily NO
9. Tighten all nuts & bolts on gear boxes & swivels YES
10. Visually inspect complete machine every shift YES
11. Grease items 1-5 daily every (8) hours YES
12. Check hour meter reading each shift and record below:
13. Check grapple pins and motor YES
14. Check swing motors YES

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses YES
2. Cab Clean NO
3. Machine Clean NO
4. Visual Damage NONE
5. Condition of machine at end of shift OK

NEED RADIATOR LEAK FIXED)
NEED LIGHT FIXED ON CAB AND BOOM)

DAILY P.M. CHECKLIST

FOREMAN: JeFF M DATE: 9-10-96 SHIFT: 7-7 CREW: D

DEBARKER OPERATOR Bruce Farmer

INSPECT/DO	YES/NO	COMMENTS
GREASE ENTIRE MACHINE--ONCE EACH SHIFT	Yes	
RELEASE WATER FROM DEBARKER & KICKER AIRLINES	Yes	
GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS	Yes	
CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT	Yes	
CHECK OIL LEVEL IN RING LUBE PUMP BARREL	Yes	
INSPECT ARM TIPS FOR LOSS OR BREAKAGE	Yes	
INSPECT ARMS FOR CRACKS	Yes	
GREASE FRONT & REAR HOLD DOWN SLIDES	NO	
GREAES LOG OUTFEED CHAIN BEARINGS	Yes	
CLEAN HYDRAULIC UNIT (ON DAY SHIFT)	Yes	
COMMENTS:		

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman [illegible] Date 9-10-96 Shift M-Th Crew D

	Yes	No	Problem found or maintenance done
Check & maintain fire fighting quipment (hoses in place, xtinguishers full, etc.)	✓		
Check release agent spray can ill when necessary)	✓		
. Check all screens & head bar pins	✓		
Check formers & spreading rolls At lease 3 times a shift)	✓		
Blow down entire area	✓		
. Check all hydraulic units Oil level & blow out radiators)	✓		
. Check magnet for metal & position	✓		
. Check incline & decline chain dogs (in time, cracked, etc.)	✓		
. Check press hydraulic oil level	✓		
0. Clean press pit, bucket elevator pit	✓		
11. Check FCOS airlock	✓		
12. Check for leaks on press hydraulic & T-oil system	✓		
13. Blow off both sides of press Including Symo Arms(2 times shift)	✓		
14. Blow out sides of formers (behind clear curtain)	✓		
15. Check return line belts	✓		
16. Keep area floor clean	✓		
17. Grease slides on press	✓		
18. Clean lunchroom when necessary	✓		

COMMENTS OR SUGGESTIONS:

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

DRYER UTILITY Jay Rhodes DATE 9-10-96 SHIFT 7AM-7AM CREW D

	YES	NO	PROBLEM FOUND/MAINT. DONE
1. Check & maintain fire fighting equipment (hoses in place, fire extinguishers full, etc)	yes		
2. Keep correct water level in scrubber & add defoamer accordingly	yes		Gallons added this shift ____
3. Deash both cells on konus	yes		
4. Maintain correct PSI on scrubber pump nozzles (15–17 PSI)	yes		
5. Keep K–S Vacuum Drum Filter running & maintained	yes		
6. Weighed scrubber filter cake & empty hopper at end of shift	yes		
7. Check clarkbin level (beginning & ending of each shift & record)	yes		1/4, 1/2, 3/4, Full beginning ____ end ____
8. Clean screener pit	yes		
9. Clean all tail rollers	yes		
10. Empty all barrels when full	yes		
11. Blow down entire area	yes		
12. Blow off inlet & outlet tube	yes		
13. Are trunion oilers full & working	yes		
14. Have fire dump & ash pit emptied when necessary	Yes		
15. Check for & seal all leaks on conveyors, augers, etc.	yes		
16. Clean konus room & baghouse pad area outside.	yes		
17. Keep dryer area floor clean	yes		
18. Empty konus & cyclone airloc barells & clean containment buildings	yes		
19. Are all baghouses pulsing, konus #1 & #2	yes		

LOUISIANA-PACIFIC CORPORATION

DAILY FORKLIFT CHECK LIST

NAME Guy Ritter

SHIFT 7pm-7am

FORKLIFT# 3

	OK TO RUN	DO NOT RUN
1. Oil Level	ok	
2. Water Level	ok	
3. Brakes	ok	
4. Transmission	ok	
5. Horn		no
6. Lights		no
7. Tires	ok	
8. Steering	ok	
9. Rack & Cage	ok	
10. Used air hose to blow down radiator and other things	YES ok	NO

COMMENTS:

NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tan
3. Use water for radiator.

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR Allen Rodney DATE 9-10-96

HOUR METER READING

1. Radiator level Full Amount added 0
2. Engine oil level Full Amount added 0
3. Restriction indicator of engine air cleaner —
4. Fuel level - fill at end of shift yes
5. Drain moisture from air reservoir - at end of shift yes
6. Torque converter level — Amount added —
7. Drop box transmission level — Amount added —
8. Hydraulic reservoir Full
9. Lubricate boom grease fittings no
10. Check tires for proper inflation and condition - 65 PSI yes
11. Clean operator's cab yes
12. Check for hydraulic leaks yes
13. Does steering work properly? yes
14. Is the fire extinguisher present and charged? yes
15. Does horn work properly? yes
16. Do service brakes work properly? yes
17. Does parking brakes work properly? yes
18. COMMENTS: down carrying Prentice with Blue Fork.

LOUISIANA-PACIFIC CORPORATION
DONGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Flaker Utility Sherry Date 9-10-96 Shift 7am-7pm Crew D

		Yes	No	Problem found or Maint. Done
1.	Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.)	✓		
2.	Clean flaker clamps and replace tips.	✓		
3.	Keep air and torque wrenches oiled and in place for knife changes	✓		
4.	Blow off both flaker disc bearings every knife change.	✓		
5.	Check all hydraulic units (oil level, and blow out radiators).	✓		
6.	Clean all tail pulleys.	✓		
7.	Clean flaker pit (pump water out also).	✓		
8.	Blow down entire area.	✓		
9.	Keep flaker area floor clean.	✓		
10.	Clean catwalk and platform for the haul up conveyour.			
11.	Empty haul up conveyour clean up bin.			

Comments or Suggestions

KNIFE GRINDER NAME Darby DATE 9-10-96

SETS ON SHELF

SETS - NEED TO GRIND

SETS THAT I HAVE GROUND 4

OF KNIVES DISCARDED None

GRINDING ROOM CLEANED YES, OR NO

FLAT GRINDER GREASED - YES OR NO

SPRAY BARS CLEANED (EACH KNIFE CHANGE) YES OR NO

SETTER OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: None

TOTAL KNIVES IN THE GRINDING ROOM 12

SETS OF KNIVES RECEIVED 10 New set

TOTAL KNIVES DISCARDED (MTD) 7

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: None

KNIFE CHANGES DONE:

TIME DOWN 8:15 START UP 9:15 TIME DOWN ____ START UP ____

TIME DOWN 10:15 START UP 11:15 TIME DOWN ____ START UP ____

TIME DOWN 12:50 START UP 1:50 TIME DOWN ____ START UP ____

TIME DOWN 6:35 START UP 7:35 TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Kenneth W. SHIFT: 7PM-7AM CREW: D DATE: 10-96

Time c nife changes: 8:45 4:30 [illegible]:45

12:50 6:40

All clamps removed from disc and cleaned? YES

All knife carriers cleaned (use wirebrush) YES

Number clamps replaced: 1st 21 2nd 15

3rd 12 4th 8 5th 48

All b s torqued at 70PSI. YES

Never ze all clamp bolts, replace bad ones. YES

Bottc side anvile checked. YES

Spray r cleaned YES

Arbor aring blown down YES

Multi ain track cleaned (once per shift) YES

Torqu rench set on 0 PSI after knife changed completed.

Knife ange area cleaned after knife change YES

Air w ches lubricated or oiled YES

Check ife protection. YES

Hood loader greased - turntable & boom pin YES
(once per shift)

Any m ntenance done during knife change:

DAILY P.M. & CHECK LIST

FOREMAN: Jeff Mann DATE: 9-10-96 SHIFT: 7pm-7am CREW: D

FLAKER OPERATOR

ITEM	INSPECT/DO	YES/NO	COMMENTS
HYDRAULIC UNITS	FLAKER & BOOM UNITS KEEP FULL	Yes	
	GREASE ENTIRE BOOM -ALL PINS	Yes	
	GREASE ALL BUSHINGS	Yes	
	GREASE TURN TABLE	Yes	
	TIGHTEN ALL PIN NUTS ON BOOM --EACH SHIFT--	Yes	
	GREASE LOG HOLD DOWN PINS	Yes	
	CHECK ALL MULTI CHAINS	Yes	
	GREASE LOG INCLINE CONVEYOR CHAIN BEARINGS		
	INSPECT KNIFE CLAMPS & PLATES	Yes	
	INSPECT SCORING KNIVES (EACH KNIFE CHANGE)	Yes	
	INSPECT ALL BEARINGS	Yes	
	INSPECT DRIVE BELTS	Yes	
ENTIRE SYSTEM	CHECK FOR LOOSE NUTS & BOLTS	Yes	

ADDITIONAL COMMENTS:

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

arker Utility George Fitz Date 6-10-96 Shift 1st Crew D

	Yes	No	Problem found or Maint. Done
Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.).	✓		
Keep log wash pond full and bark cleaned off.	✓		
Clean all tail rollers.	✓		
Check all hydraulic units (oil level, blow out radiator).		✓	
Check bark hog and belts (problems, plugs etc.).	✓		
Empty all hoppers.	✓		
Clean bark under log decks.	✓		
Blow down entire area.	✓		
Keep hog, mobile equipment, and old greenend area floor clean.	✓		
Wash down floor in debarker area (11-7 shift).	✓		
PM and service loader when used.	✓		

nents or
gestions: _____

PM CHECKLIST BOBCAT

CREW D

FOREMAN Jeff M. DATE 9-10-96 SHIFT 2nd NAME George F.

BOBCAT OPERATOR

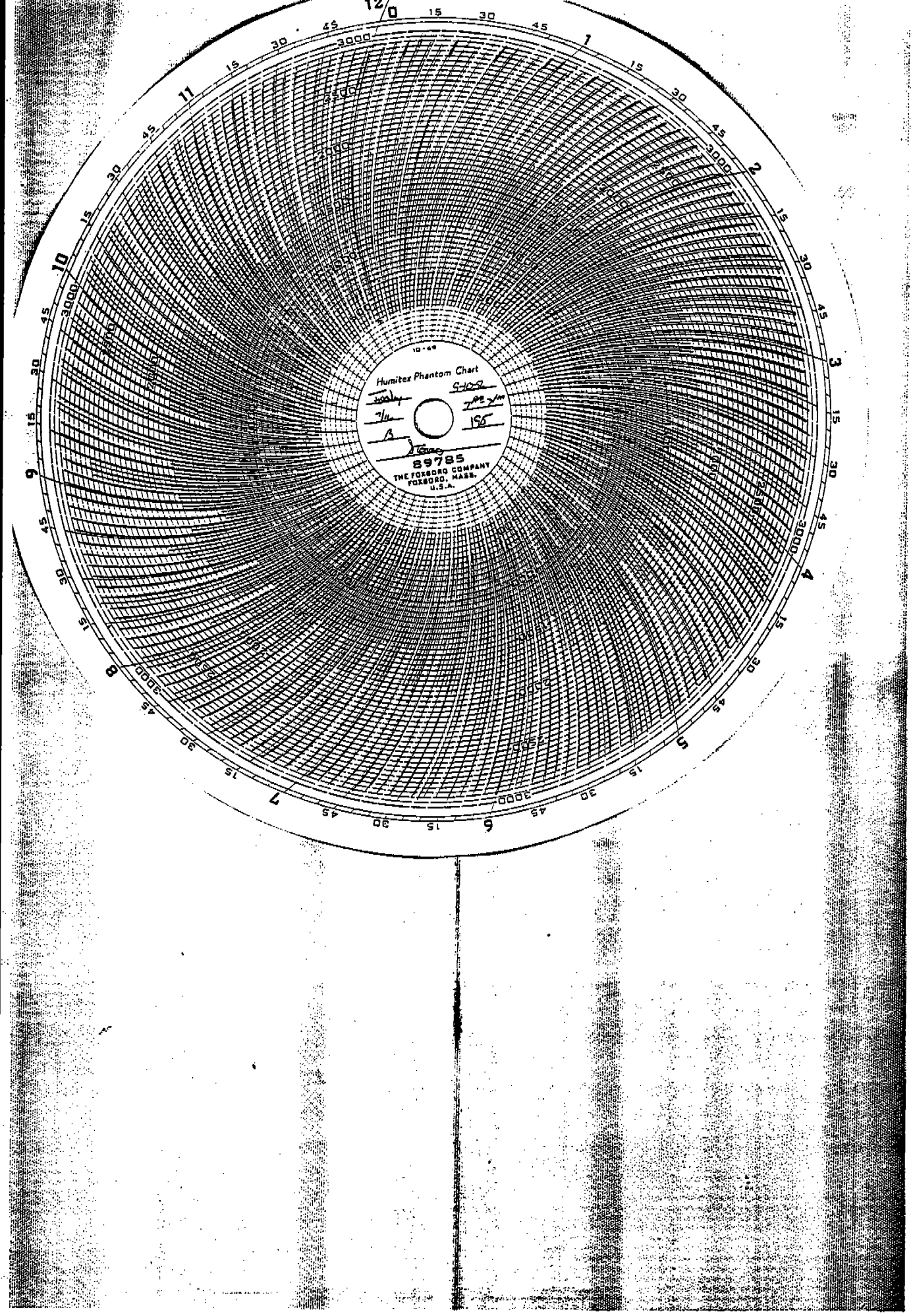
DAILY		Done yes/no	How much added
	A. Bobcat - fluid levels		
	1. Check hydraulic fluid	yes	
	2. Check motor oil	yes	
	3. Check air pressure in tires	yes	
	B. Blow entire machine off, including motor.	no	
	C. Check for any leaks around fittings, filters, motor oil, transmission	yes	
	D. Breakage	no	
	1. Control levers right side	yes	
	2. Control levers left side	yes	
	3. Cracks in bucket or boom	no ~~yes~~	
	4. Safety cage broke away	no	

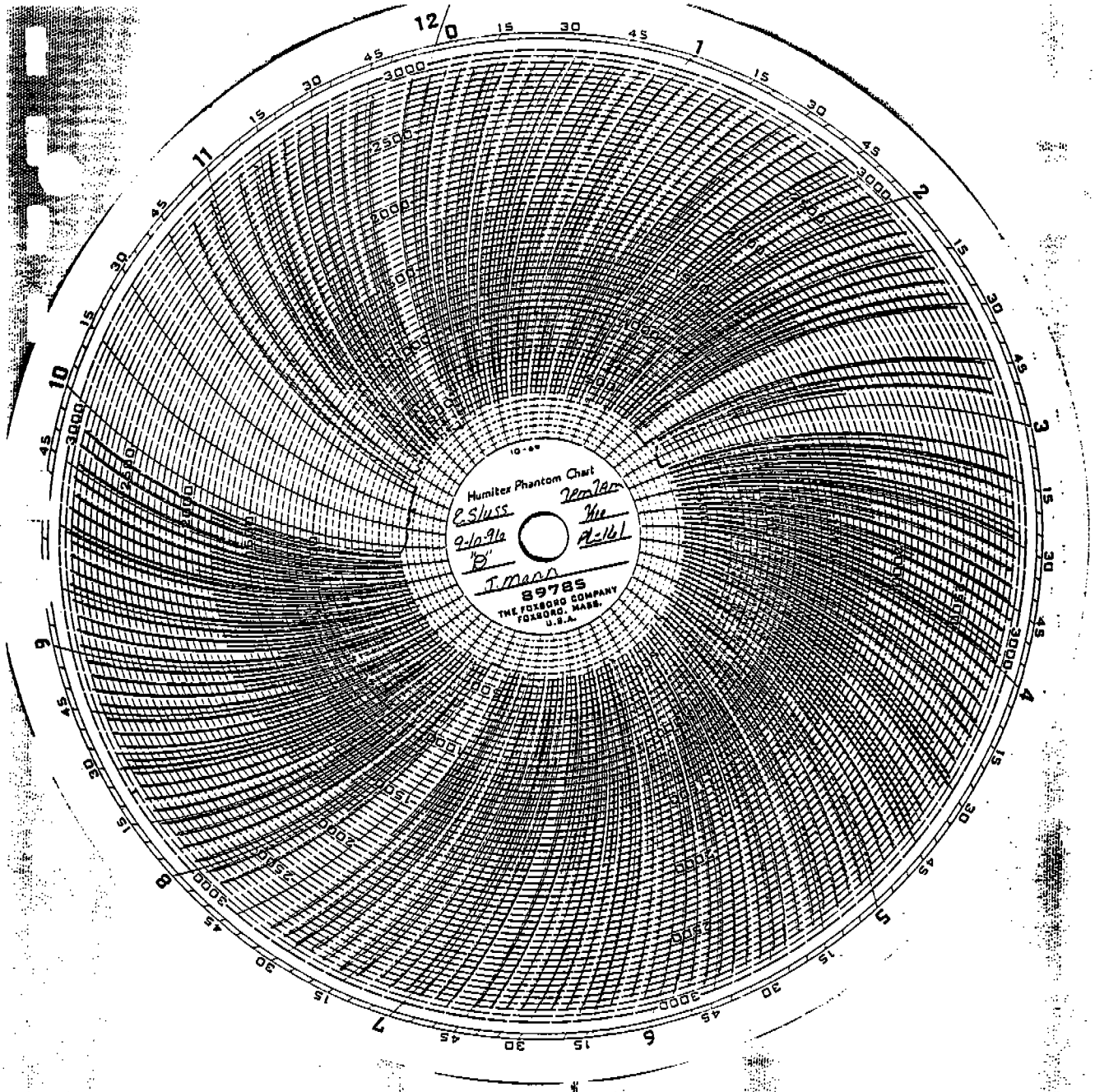
Motor oil 15W-40

Hydraulic Oil HD-46
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.


Humitex Phantom Chart
89785
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.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THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

DRYER TEMP
OUTLET
INLET
09/10/94
09/11/94
09/12/94
09/13/94
1:00 PM
3:00 PM
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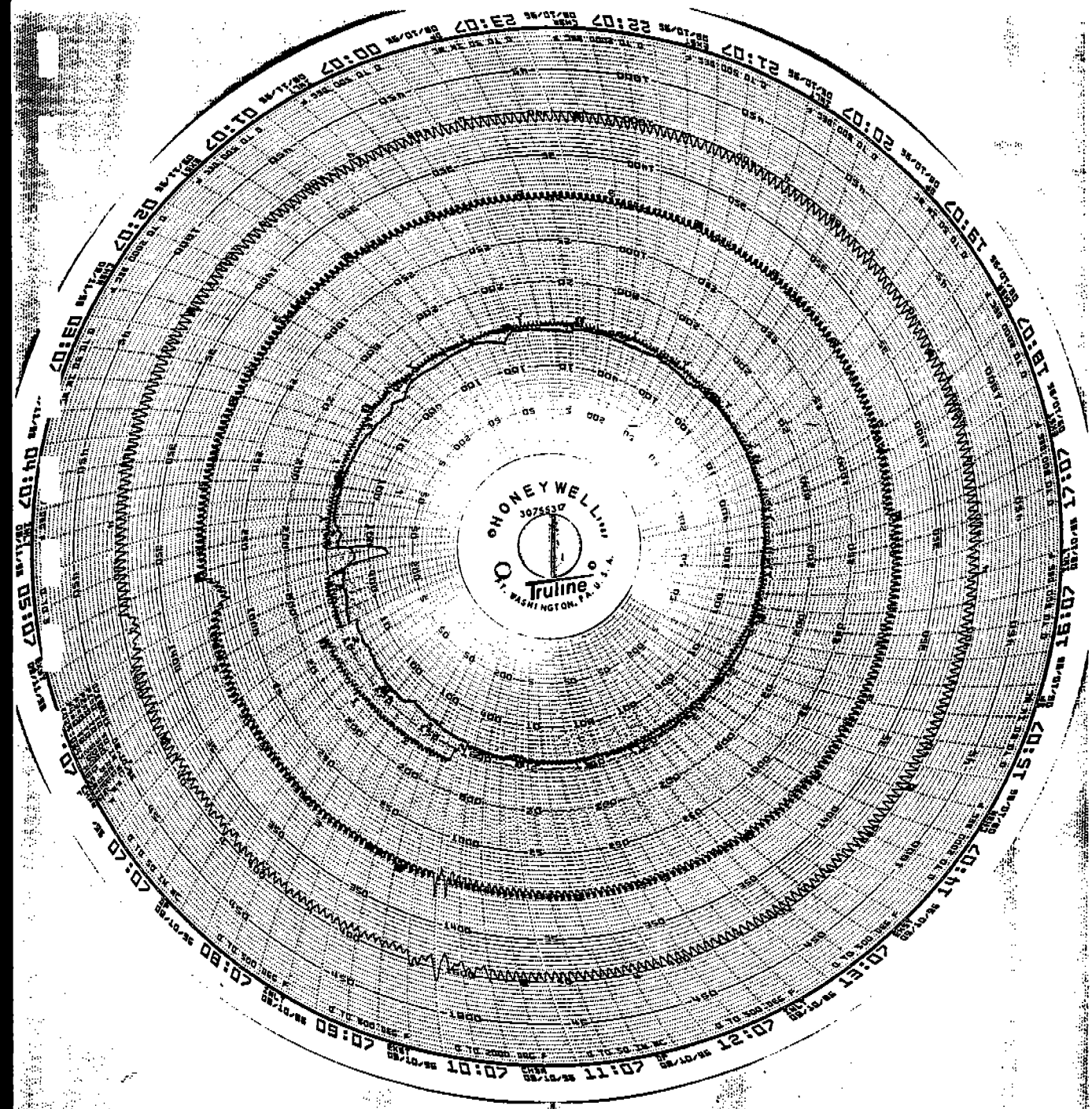
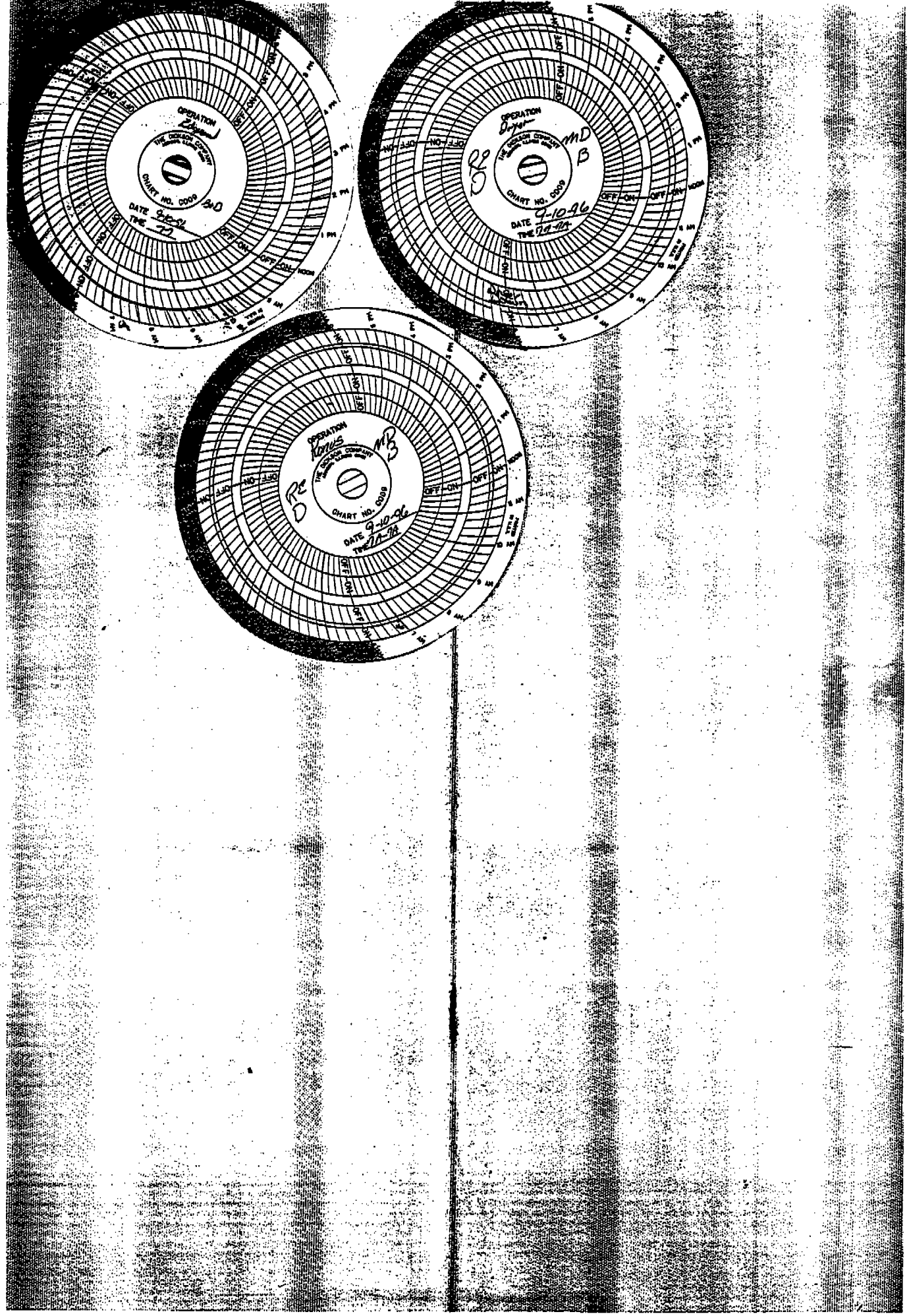

HONEYWELL
Truline
WASHINGTON, PA. U.S.A.


OPERATION
CHART NO. 0009
DATE
TIME
OFF ON
NOON

DRYER DATA SHEET

DATE 9-10-96
BY RANDY DEEK

PLANT: DUNGANNON VA.
REVOLUTIONS per MINUTE:
FUEL CALIBRATION:

(NOTE ANY CHANGES IN SETPOINTS)

	TIME	OUTLET SET POINT	FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL		EVERY HOUR FLAKE MOISTURE	
								SUR.	CORE	IN	OUT
AM	8:00	215	85	1436	217	604	3/4	1/2	1/2		5.8
	8:15	215	85	1564	213 -	757	full	1/2	1/2	42.9	
	8:30	215	85	1579	210	921	3/4	1/2	1/2		4.5
	8:45	210	85 -	1613	204	1091	3/4	1/2	1/2	41.0	
	9:00	210	85	1623	201	1250	3/4	1/2	1/2		3.7
	9:15	201	86	1696	196	1425	3/4	1/2	1/2	33.9	
	9:30	200	86	1585	190	1557	3/4	1/2	1/2		5.6
	9:45	200	86	1507	201	1733	3/4	1/2	1/2	34.1	
	10:00	200	86	1674	201	1868	3/4	1/2	1/2		7.4
	10:15	200	86	1674	205	2021	3/4	1/2	1/2	42.1	
	10:30	200	85	1447	189	2165	3/4	1/2	1/2		6.9
	10:45	200	82	1487	198	2314	3/4	1/2	1/2	39.2	
	11:00	200	84	1347	195	2446	3/4	1/2	1/2		5.0
	11:15	200	84	1249	199	2596	3/4	1/2	1/2	37.2	
	11:30	195	82	1297	191	2719	3/4	1/2	1/2		6.8
	11:45	195	81	1402	189	2863	1/2	1/2	1/2	37.7	
	12:00	195	81	1037	196	2975	1/4	1/2	1/2		7.5
	12:15	195	83	1081	193	3105	1/2	1/2	1/2	40.4	
	12:30	195	83	1224	190	3227	1/2	1/2	1/2		6.4
	12:45	195	83	1334	193	3370	3/4	1/4	1/4	38.3	
	1:00	195	84	1346	195	3496	3/4	1/4	1/4		5.7
	1:15	195	84	1351	195	3647	3/4	1/4	1/4	40.1	
	1:30	195	84	1345	194	3777	3/4	1/4	1/4		6.6
	1:45	195	84	1379	191	3923	3/4	1/4	1/4	39.4	
	2:00	195	84	1365	191	4049	3/4	1/4	1/2		8.8
	2:15	195	84	1337	190	4225	1/2	1/2	1/4	42.0	
	2:30	195	84	1304	188	4329	1/4	1/4	1/2		9.2
	2:45	195	82	1270	194	4469	1/4	1/2	1/4	38.4	
	3:00	195	82	1202	190	4583	1/2	1/2	1/4		7.4
	3:15	195	82	1303	188	4714	1/2	1/4	1/4	35.4	

DRYER DATA SHEET

DATE 9-10-96
BY RANDY BEEK

PLANT: DUNBANNON VA
REVOLUTIONS per MINUTE:
FUEL CALIBRATION:

(NOTE ANY CHANGES IN SETPOINTS)

TIME	OUTLET SET POINT	FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL		EVERY HOUR FLAKE MOISTURE	
							SUR.	CORE	IN	OUT
3:30	195	82	1359	189	4862	3/4	1/4	1/4		9.7
3:45	195	82	1366	189	4978	Full	1/4	1/4	40.4	
4:00	195	82	1349	195	5131	Full	1/4	1/2		8.5
4:15	195	82	1357	189	5242	3/4	1/2	1/4	39.6	
4:30	195	82	1337	189	5404	1/4	1/4	1/4		7.7
4:45	195	82	1304	188	5550	1/4	1/2	1/4	38.1	
5:00	195	82	1167	197	5675	1/2	1/2	1/4		10.0
5:15	195	82	1185	195	5808	1/2	1/4	1/4	42.1	
5:30	195	82	1191	197	5940	3/4	1/4	1/4		6.8
5:45										
6:00										
6:15										
6:30										
6:45										
7:00										
7:15										
7:30										
7:45										
8:00										
8:15										
8:30										
8:45										
9:00										
9:15										
9:30										
9:45										
10:00										
10:15										
10:30										
10:45										

SCRUBBER DATA SHEET - A

DATE 9-10-96

PAGE-1

TIME	DRYER ID FAN "OF WATER	SCRUBBER PUMP PRESSURE UPPER NOZZLE	SCRUBBER PUMP PRESSURE LOWER NOZZLE	SCRUBBER pH	VDF FEEDING OUT MATERIAL YES/NO	K-S FILTER ~~WEIGHTS~~ SCRUBBER READ.	
8:00	N/A	15	17	5	yes	32	
8:15	↓	15	17		yes	32	
8:30		15	17		yes	32	
8:45		15	17		yes	32	
9:00		15	17	6	yes	32	
9:15		15	17		yes	32	
9:30		15	17		yes	32	
9:45		15	17		yes	32	
10:00		15	17	6	yes	32	
10:15		15	17		yes	32	
10:30		15	17		yes	32	
10:45		15	17		yes	32	
11:00		15	17	7	yes	32	
11:15		15	17		yes	33	
11:30		15	17		YES	32	
11:45		15	17		YES	32	
12:00		15	17	6	YES	33	
12:15		15	17		YES	33	
12:30		15	17		YES	33	
12:45		15	17		YES	33	
1:00		15	17	6	YES	33	
1:15		15	17		YES	33	
1:30		15	17		YES	33	
1:45		15	17		YES	33	
2:00		15	17	6	YES	33	380 LBS
2:15		15	17		YES	33	
2:30		15	17		YES	33	

SIGNATURE _____

SCRUBBER DATA SHEET - A

DATE 9-10-96

PAGE-2

TIME	DRYER ID FAN "OF WATER	SCRUBBER PUMP PRESSURE UPPER NOZZLE	SCRUBBER PUMP PRESSURE LOWER NOZZLE	SCRUBBER pH	VDF FEEDING OUT MATERIAL YES/NO	K-S FILTER WEIGHTS	
2:45		15	17		YES	33	
3:00		15	17	5	YES	33	
3:15		15	17		YES	33	
3:30		15	17		YES	33	
3:45		15	17		YES	33	
4:00		15	17	6	YES	33	380 LBS
4:15		15	17		YES	33	
4:30		15	17		YES	33	
4:45		15	17		YES	33	
5:00		15	17	6	YES	33	
5:15		15	17		YES	33	
5:30		15	17		YES	33	500 LBS

SIGNATURE _____

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	7:00a	8:00a	8:15a	8:30a	8:45a				
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A				
TEMP–CHAM #1 LOWER BED	286	283	285	284	287				
TEMP–CHAM #2 LOWER BED	312	313	314	318	315				
TEMP–CHAM #3 LOWER BED	346	346	344	343	348				
TEMP–CHAM #4 LOWER BED	335	332	340	343	335				
TEMP–CHAM #5 LOWER BED	343	346	344	346	347				
TEMP–CHAM #6 LOWER BED	383	379	383	379	383				
TEMP–CHAM #7 LOWER BED	380	381	383	386	383				
TEMP–CHAM #8 LOWER BED	330	334	332	331	335				
TEMP–BURNER #1	1516	1522	1522	1523	1521				
TEMP–BURNER #2	1527	1521	1543	1536	1519				
TEMP–BURNER #3	1503	1499	1503	1493	1503				
TEMP–EXHAUST	263	269	270	280	267				
RTO DEFERENTIAL PRESSURE	18	20	18	18	18				
TEMP–COMB. CHAMBER	1544	1572	1561	1566	1556				
TEMP–INLET	125	129	131	132	132				
PRESSURE–INLET DUCT	2.56	2.41	2.68	2.47	2.50				
OUTPUT–BURNER #1 CONT. %	53	48	55	56	50				
OUTPUT–BURNER #2 CONT. %	33	45	35	83	43				
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100				
SETPOINT–BURNER #1 CONT. F	1525	1525	1525	1525	1525				
SETPOINT–BURNER #2 CONT. F	1525	1525	1525	1525	1525				
SETPOINT–BURNER #3 CONT. F	1525	1525	1525	1525	1525				
MOTOR AMPS–FAN #1	400	440	440	460	440				
MOTOR AMPS–FAN #2	400	400	400	380	400				
MOTOR SPEED–FAN #1	87	87	86	86	87				
MOTOR SPEED–FAN #2	83	83	83	82	84				
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A				
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A				

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	9:00a	9:15a	9:30a	9:45a	10:00a	10:15a	10:30a	10:45a	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	286	285	288	284	288	283	296	297	
TEMP–CHAM #2 LOWER BED	318	317	318	318	318	332	312	314	
TEMP–CHAM #3 LOWER BED	344	343	345	347	347	333	343	343	
TEMP–CHAM #4 LOWER BED	344	343	344	335	343	352	344	351	
TEMP–CHAM #5 LOWER BED	347	346	347	350	347	354	340	341	
TEMP–CHAM #6 LOWER BED	380	380	382	377	384	363	386	389	
TEMP–CHAM #7 LOWER BED	388	387	387	388	387	407	391	393	
TEMP–CHAM #8 LOWER BED	332	331	333	334	334	329	327	389	
TEMP–BURNER #1	1526	1526	1519	1528	1531	1546	1535	1533	
TEMP–BURNER #2	1535	1537	1538	1512	1549	1505	1527	1547	
TEMP–BURNER #3	1495	1500	1498	1493	1514	1485	1500	1518	
TEMP–EXHAUST	281	280	282	280	270	275	282	266	
RTO DEFERENTIAL PRESSURE	18	17	18	18	16	14	15	14	
TEMP–COMB. CHAMBER	1559	1556	1565	1565	1564	1584	1551	1564	
TEMP–INLET	125	129	129	132	134	137	135	138	
PRESSURE–INLET DUCT	2.65	2.5	2.5	2.3	3.3	2.0	1.99	1.99	
OUTPUT–BURNER #1 CONT. %	53	53	53	55	56	49	55	46	
OUTPUT–BURNER #2 CONT. %	33	32	30	38	33	55	36	50	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	380	380	420	420	360	380	360	360	
MOTOR AMPS–FAN #2	400	400	380	400	360	360	360	380	
MOTOR SPEED–FAN #1	86	87	85	86	82	81	80	82	
MOTOR SPEED–FAN #2	83	82	81	82	78	76	76	77	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96

UNIT: Dungannon

INDICATE TIME OF READINGS	11:00a	11:15a	11:30a	11:45a	12:00p	12:15p	12:30p	12:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	296	293	294	296	292	294	293	292	
TEMP–CHAM #2 LOWER BED	315	319	318	318	320	318	320	320	
TEMP–CHAM #3 LOWER BED	346	344	349	349	349	351	348	351	
TEMP–CHAM #4 LOWER BED	346	350	342	348	342	345	349	340	
TEMP–CHAM #5 LOWER BED	342	344	346	345	347	346	345	348	
TEMP–CHAM #6 LOWER BED	389	384	386	389	385	389	389	385	
TEMP–CHAM #7 LOWER BED	391	395	393	393	394	393	395	393	
TEMP–CHAM #8 LOWER BED	332	333	337	336	338	338	337	340	
TEMP–BURNER #1	1531	1531	1535	1528	1535	1531	1534	1533	
TEMP–BURNER #2	1542	1546	1525	1544	1522	1533	1547	1525	
TEMP–BURNER #3	1517	1515	1517	1521	1511	1520	1514	1517	
TEMP–EXHAUST	266	273	272	270	273	267	275	273	
RTO DEFERENTIAL PRESSURE	14	15	15	15	15	15	15	15	
TEMP–COMB. CHAMBER	1563	1561	1570	1563	1577	1568	1571	1561	
TEMP–INLET	139	140	139	139	139	139	135	137	
PRESSURE–INLET DUCT	2.04	1.90	1.80	1.90	1.80	1.91	1.90	1.95	
OUTPUT–BURNER #1 CONT. %	52	53	44	51	49	50	54	48	
OUTPUT–BURNER #2 CONT. %	42	37	47	41	36	46	30	49	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	340	380	380	380	380	360	340	38	
MOTOR AMPS–FAN #2	360	320	340	340	340	340	320	340	
MOTOR SPEED–FAN #1	80	78	80	80	80	80	78	80	
MOTOR SPEED–FAN #2	74	76	76	76	75	76	75	74	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96

UNIT: Dungannon

INDICATE TIME OF READINGS	1:00p	1:15p	1:30p	1:45p	2:00p	2:15p	2:30p	2:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	292	292	295	295	296	295	296	298	
TEMP–CHAM #2 LOWER BED	322	323	322	324	323	326	326	326	
TEMP–CHAM #3 LOWER BED	348	350	350	349	351	351	354	352	
TEMP–CHAM #4 LOWER BED	351	344	352	354	353	355	347	355	
TEMP–CHAM #5 LOWER BED	347	350	348	350	349	351	353	351	
TEMP–CHAM #6 LOWER BED	386	384	391	389	392	389	388	393	
TEMP–CHAM #7 LOWER BED	398	397	398	401	400	403	401	402	
TEMP–CHAM #8 LOWER BED	338	341	339	340	341	342	345	342	
TEMP–BURNER #1	1536	1539	1533	1535	1533	1532	1534	1533	
TEMP–BURNER #2	1544	1522	1549	1546	1551	1539	1524	1549	
TEMP–BURNER #3	1509	1511	1518	1514	1518	1507	1514	1516	
TEMP–EXHAUST	281	279	275	282	276	287	279	278	
RTO DEFERENTIAL PRESSURE	15	14	14	15	15	15	15	15	
TEMP–COMB. CHAMBER	1520	1589	1561	1569	1563	1581	1583	1563	
TEMP–INLET	139	141	140	142	141	142	142	142	
PRESSURE–INLET DUCT	1.87	1.96	1.92	1.94	1.86	1.82	1.90	1.88	
OUTPUT–BURNER #1 CONT. %	53	45	52	50	53	49	47	52	
OUTPUT–BURNER #2 CONT. %	30	50	29	27	27	27	36	32	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	340	340	380	360	360	380	400	
MOTOR AMPS–FAN #2	320	340	340	340	340	320	340	340	
MOTOR SPEED–FAN #1	79	80	79	80	80	80	81	79	
MOTOR SPEED–FAN #2	76	76	76	74	76	74	76	75	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	3:00p	3:15p	3:30p	3:45p	4:00p	4:15p	4:30p	4:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	296	298	295	298	298	297	300	300	
TEMP–CHAM #2 LOWER BED	328	324	328	325	327	328	325	326	
TEMP–CHAM #3 LOWER BED	351	355	353	356	353	353	356	353	
TEMP–CHAM #4 LOWER BED	354	347	351	347	355	351	349	355	
TEMP–CHAM #5 LOWER BED	353	352	354	352	351	354	352	351	
TEMP–CHAM #6 LOWER BED	388	392	387	393	394	388	394	394	
TEMP–CHAM #7 LOWER BED	404	400	405	401	404	405	401	403	
TEMP–CHAM #8 LOWER BED	343	345	344	346	344	346	346	344	
TEMP–BURNER #1	1538	1531	1540	1529	1533	1538	1530	1533	
TEMP–BURNER #2	1538	1533	1522	1532	1548	1523	1538	1549	
TEMP–BURNER #3	1508	1523	1508	1521	1517	1510	1524	1516	
TEMP–EXHAUST	267	272	261	273	275	279	272	278	
RTO DEFERENTIAL PRESSURE	14	14	15	15	15	14	15	16	
TEMP–COMB. CHAMBER	1583	1564	1591	1561	1562	1590	1562	1565	
TEMP–INLET	141	142	142	143	143	142	143	142	
PRESSURE–INLET DUCT	1.89	1.93	1.96	1.89	1.97	1.87	1.93	1.90	
OUTPUT–BURNER #1 CONT. %	50	52	48	50	52	47	51	51	
OUTPUT–BURNER #2 CONT. %	30	43	32	48	35	34	43	24	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	360	340	380	360	400	340	340	
MOTOR AMPS–FAN #2	300	320	320	320	320	320	360	340	
MOTOR SPEED–FAN #1	79	79	80	80	78	80	81	79	
MOTOR SPEED–FAN #2	76	74	76	74	76	76	76	76	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96

UNIT: Dungannon

INDICATE TIME OF READINGS	5:00p	5:15p	5:30p	5:45p					
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A					
TEMP–CHAM #1 LOWER BED	298	300	296	299					
TEMP–CHAM #2 LOWER BED	326	325	326	323					
TEMP–CHAM #3 LOWER BED	356	354	351	354					
TEMP–CHAM #4 LOWER BED	346	352	351	348					
TEMP–CHAM #5 LOWER BED	354	351	353	350					
TEMP–CHAM #6 LOWER BED	390	395	387	393					
TEMP–CHAM #7 LOWER BED	401	401	403	399					
TEMP–CHAM #8 LOWER BED	347	344	344	344					
TEMP–BURNER #1	1535	1532	1537	1531					
TEMP–BURNER #2	1524	1541	1530	1544					
TEMP–BURNER #3	1519	1521	1505	1518					
TEMP–EXHAUST	275	275	280	266					
RTO DEFERENTIAL PRESSURE	15	16	15	15					
TEMP–COMB. CHAMBER	1569	1566	1578	1555					
TEMP–INLET	142	139	137	138					
PRESSURE–INLET DUCT	1.91	1.89	1.86	1.96					
OUTPUT–BURNER #1 CONT. %	46	52	48	55					
OUTPUT–BURNER #2 CONT. %	49	35	26	38					
OUTPUT–BURNER #3 CONT. %	100	100	100	100					
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535					
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535					
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535					
MOTOR AMPS–FAN #1	340	340	360	360					
MOTOR AMPS–FAN #2	320	320	340	320					
MOTOR SPEED–FAN #1	80	80	80	80					
MOTOR SPEED–FAN #2	77	76	75	76					
CO OUT FROM CEM	N/A	N/A	N/A	N/A					
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A					

DATE: 9-10-96 CREW: B QC TECHNICIAN: James Moore

1 ST SHIFT 1/4" _____ 7/16" 7/16

	WEIGHT	THICKNESS	DENSITY
7:00	51.21	448	43
8:00	50.4	452	41.8
9:00	51.7	469	41.3
10:00	49.4	441	42
11:00	50.1	452	41.5
12:00	49	422	43.5
1:00	49.1	436	42.2
2:00	51.1	444	43.1
3:00	50.2	451	41.7
4:00	49	448	41
5:00	48.9	425	43.1
6:00	49.5	450	41.2
AVG	49.9	445	42

FOOTAGE _____

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96

TIME: 8:00 A.M

NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	42.8 %	180.4
3/4"	=	27.9 %	117.5
1/2"	=	11.5 %	48.5
1/4"	=	10.1 %	42.7
3/16"	=	3.8 %	16.1
PAN	=	3.8 %	16.0
TOTAL	=	99.9 %	

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/9[illegible]
8:00 A.M.

WAFER THICKNESS

31	34	
36	24	
33	34	
31	22	
40	27	
40	23	
36	38	
34	28	
28	27	
37	29	
45	50	
29	18	
32	43	
28	25	
24	32	
27	80	
44	39	
29	19	
31	38	
27	14	
24	16	
34	34	
28	32	
24	24	
25	22	

AVG 31
DEV 10

1 1/2 42.8 % 3/4 27.9 % 1/2 11.5 % 1/4 10.1 % 3/16 3.8 % Pan 3.8 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96
TIME: 9:00 A.M.
NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	21.6 %	80.0
3/4"	=	45.6 %	169.0
1/2"	=	13.3 %	49.5
1/4"	=	13.7 %	50.9
3/16"	=	3.5 %	13.0
PAN	=	2.3 %	8.7
TOTAL	=	100 %	371

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/96

9:00 AM.

AVG. 31

DEV. 14

WAFER THICKNESS

40	21	
37	20	
45	18	
42	33	
26	11	
24	44	
23	15	
42	62	
34	29	
25	10	
50	46	
29	36	
29	29	
25	17	
37	23	
20	38	
15	14	
25	37	
18	35	
59	28	
34	20	
25	44	
42	80	
42	25	
9	27	

1 1/2 21.6 % 3/4 45.6 % 1/2 13.3 % 1/4 13.7 % 3/16 3.5 % Pan 2.3 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96

TIME: 10:00 A.M.

NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	28.9 %	126.8
3/4"	=	35.9 %	157.6
1/2"	=	12.9 %	56.1
1/4"	=	12.0 %	52.7
3/16"	=	5.3 %	23.3
PAN	=	5.2 %	22.9
TOTAL	=	100.1 %	439.4

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	_____ %	_____
3/4"	=	_____ %	_____
1/2"	=	_____ %	_____
1/4"	=	_____ %	_____
3/16"	=	_____ %	_____
PAN	=	_____ %	_____
TOTAL	=	_____ %	_____

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	_____ %	_____
3/4"	=	_____ %	_____
1/2"	=	_____ %	_____
1/4"	=	_____ %	_____
3/16"	=	_____ %	_____
PAN	=	_____ %	_____
TOTAL	=	_____ %	_____

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	_____ %	_____
3/4"	=	_____ %	_____
1/2"	=	_____ %	_____
1/4"	=	_____ %	_____
3/16"	=	_____ %	_____
PAN	=	_____ %	_____
TOTAL	=	_____ %	_____

WAFER THICKNESS

9/10/96
10:00 A.M

AVG. 33
DEV. 10

35	32	
32	36	
31	35	
25	30	
35	25	
25	28	
34	44	
18	47	
35	40	
28	27	
40	33	
26	44	
20	57	
30	30	
38	24	
64	50	
38	37	
34	45	
34	30	
23	5	
40	21	
23	34	
26	35	
N	50	
41	30	

1 1/2 28.9 % 3/4 35.9 % 1/2 12.8 % 1/4 12 % 3/16 5.3 % Pan 5.2 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96
TIME: 11:00 A.M.
NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	7.1 %	40
3/4"	=	19 %	104.4
1/2"	=	10.7 %	60.1
1/4"	=	18.5 %	103.6
3/16"	=	18.1 %	101.2
PAN	=	26.5 %	148.4
TOTAL	=	99.9 %	559.7

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/95
11:00 A.m
Avg. 31
DEV. 9

WAFER THICKNESS

27	41	
31	35	
36	52	
23	32	
41	34	
32	38	
17	29	
22	45	
30	35	
29	32	
35	38	
43	34	
27	18	
42	20	
38	25	
14	32	
38	28	
34	27	
17	30	
34	32	
23	31	
15	42	
17	31	
36	38	
19	17	

1 1/2 7.1 % 3/4 19 % 1/2 10.7 % 1/4 18.5 % 3/16 18.1 % Pan 26.5 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96

TIME: 12:00 p.m.

NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	25.4 %	97.8
3/4"	=	45.9 %	176.8
1/2"	=	12.3 %	47.6
1/4"	=	10.1 %	39.0
3/16"	=	3.1 %	11.9
PAN	=	3.2 %	12.4
TOTAL	=	100 %	385.1

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/96
12:00 p.m

AVG. 31
DEV. 11

WAFER THICKNESS

45	17	
35	35	
17	37	
31	25	
37	28	
39	3	
39	34	
41	29	
48	49	
29	28	
32	32	
15	31	
23	17	
40	20	
30	39	
52	28	
42	30	
34	17	
48	45	
30	35	
35	25	
41	57	
18	5	
30	21	
19	17	

1 1/2 25.4 % 3/4 45.9 % 1/2 12.3 % 1/4 10.1 % 3/16 3.1 % Pan 3.2 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96

TIME: 1:00 P.M.

NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	27 %	112.7
3/4"	=	31 %	129.6
1/2"	=	14 %	59.5
1/4"	=	13.1 %	54.8
3/16"	=	6.8 %	28.5
PAN	=	8 %	33.5
TOTAL	=	99.9 %	417.6

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WAFER THICKNESS

9/10/96
1:00 p.m.
AVG. 33
DEV. 11

10	38	
40	23	
40	18	
27	36	
47	39	
22	54	
41	31	
18	22	
38	32	
38	35	
39	29	
29	47	
38	20	
34	35	
38	35	
15	31	
50	29	
19	20	
58	54	
54	37	
33	46	
25	23	
28	36	
28	27	
18	34	

1 1/2 27 % 3/4 31 % 1/2 14 % 1/4 13.1 % 3/16 6.8 % Pan 8 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96
TIME: 2:00 P.M
NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	15.7 %	72.2
3/4"	=	26.6 %	122.4
1/2"	=	14.6 %	67.2
1/4"	=	20.6 %	95.0
3/16"	=	12.3 %	56.6
PAN	=	10.2 %	47.0
TOTAL	=	100 %	460.6

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/96

2:00 p.m

WAFER THICKNESS

11	47	
40	51	
40	23	
28	34	
12	40	
23	10	
45	27	
24	25	
21	18	
35	17	
17	31	
49	15	
27	45	
28	42	
26	28	
37	35	
50	26	
14	42	
33	37	
33	30	
25	10	
30	20	
58	39	
31	15	
21	28	

AVG. 30

DEV. 12

1 1/2 15.7 % 3/4 26.6 % 1/2 14.6 % 1/4 20.6 % 3/16 12.3 % Pan 10.2 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96
TIME: 3:00 P.M
NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	13.8 %	65.2
3/4"	=	32.5 %	153.9
1/2"	=	11.4 %	54.0
1/4"	=	17.9 %	84.9
3/16"	=	11.8 %	55.9
PAN	=	12.6 %	59.9
TOTAL	=	100 %	473.8

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WAFER THICKNESS

9/10/96

3:00 p.m

AVG. 34

DEV. 14

35	43	
22	17	
25	31	
27	35	
26	23	
29	10	
30	38	
35	55	
15	52	
12	27	
32	17	
68	63	
27	35	
35	35	
39	49	
65	24	
42	37	
30	43	
44	20	
6	23	
44	20	
25	40	
52	34	
35	18	
37	60	

1 1/2 13.8 % 3/4 32.5 % 1/2 11.4 % 1/4 17.9 % 3/16 11.8 % Pan 12.6 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9-10-96

TIME: 4:00 pm

NAME: Scott Castle

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	12.9 %	61.7
3/4"	=	25.0 %	119.4
1/2"	=	14.3 %	68.1
1/4"	=	16.6 %	79.0
3/16"	=	11.1 %	52.9
PAN	=	20.1 %	96.0
TOTAL	=	100 %	477.1

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/96
4:00 p.m.

WAFER THICKNESS

Avg. 33
Dev. 10

38	35	
40	24	
22	24	
25	34	
26	40	
20	24	
45	30	
24	25	
37	46	
9	55	
54	26	
38	43	
26	43	
39	32	
41	44	
44	15	
28	25	
23	25	
33	30	
29	33	
33	46	
33	35	
23	29	
39	33	
40	33	

1 1/2 12.9 % 3/4 25 % 1/2 14.3 % 1/4 16.6 % 3/16 11.1 % Pan 20.1 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: 9/10/96
TIME: 5:00 p.m.
NAME: SCOTT CASTLE

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	9.4 %	42.9
3/4"	=	30.7 %	139.3
1/2"	=	14.6 %	66.5
1/4"	=	22.7 %	103.1
3/16"	=	14.9 %	67.5
PAN	=	7.7 %	34.9
TOTAL	=	100 %	454.2

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

9/10/96
5:00 P.m

AVG. 32
DEV. 11

WAFER THICKNESS

28	52	
25	31	
42	35	
18	45	
25	16	
41	36	
35	35	
25	8	
40	34	
20	10	
15	34	
32	33	
42	22	
51	20	
32	47	
28	31	
18	39	
38	20	
24	40	
33	12	
52	23	
43	51	
36	32	
21	35	
42	28	

1 1/2 9.4 % 3/4 30.7 % 1/2 14.6 % 1/4 22.7 % 3/16 14.9 % Pan 7.7 %

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

11.38

12.47

SHIFT OPERATING REPORT

SUPERVISOR James SHIFT 7am 7pm CREW B DATE 9-11-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8" FOOTAGE	MINS. DOWNTIME M	E	O
7:00	7:00	31-37	7/16"	178	212,657			
			TOTAL			Total	37	

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	93
NO. OF "U" BUNDLES	2
NO. OF "E" BUNDLES	

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
5963	35min	1264	192	720	0	42.4	7.3

BARK MOISTURE % (AVG.) 33.4

FUEL MOISTURE 2.5

SCRUBBER WATER METER READING
BEGINNING OF SHIFT 1693.500
END OF SHIFT 1696600

TOTAL GALLONS USED THIS SHIFT 3100

OIL USED
BEGINNING OF SHIFT 133820
END OF SHIFT 133950

TOTAL GALLONS USED THIS SHIFT 130

LOUISIANA–PACIFIC CORPORATION
DILLINGANNON, VIRGINIA

PRESS REPORT

OPERATOR Jackie SHIFT 7am-7pm CREW B DATE 9-11-96

BLENDER SHUTDOWNS

THICKNESS: 7/16 PRESS LOADS 178-212657 CORE B

DECOMPRESSION TIME

PRESS TEMP:

SURFACE 37

	CORE RESIN	SURFACE RESIN
BEGIN	309564	154191
END	311837	156743

CLEANED BLENDER SHROUDS & TRACKS

FORMER HYDRAULIC AND RADIATER BLOWN OUT

FCOS HYDRAULIC UNIT & RADIATER BLOWN OUT

BLENDER OUTFEED CONV. TAIL PULLEYS CLEANED

UNESPED F PER MIN	FROM	TO
34.0	7:00	7:12
37.0	7:12	5:16
31.0	5:16	6:63
37.0	6:63	7:00

DOWNTIME FROM	TO	DOWNTIME (MINS.) MIN			KEY	REASONS FOR DOWNTIME
7:00	7:03		3		3	Core doffing walls kicked out
7:23	7:25		2		6	Core doffing walls kicked out
7:26	7:28		2		7	Core doffing walls kicked out
7:29	7:30			1	8	working on doffing walls
7:15	12:27	12			20	Changing vacuum pump
3:50	3:63		3		23	#8 limited switch arm fell off on unloader
4:36	4:36			10	33	Low dry bins dryer conveyor hung up
6:07	6:09			2	35	#6 Kicked out
6:09	6:11		2		37	T.S.F separating walls kicked out

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR Mike SHIFT 7am 7pm CREW B DATE 9-11-96

KONUS CHECK LIST

Thermal Oil Level Inches above bottom	
Clarke Bin (quarters)	1/2
Diesel Fuel Level (Emergency Pump)	Full
Diesel Oil Level (Emergency Pump)	Full
Space Heating: Inlet Temp	
Space Heating: Outlet Temp	
Space Heating: Discharge Pressure	
Press Pump 1 (Running)	yes
Press Pump 2 (Running)	

T.O. Pump Pressure	Suction	Discharge
Primary Pump I		
Primary Pump II		

Konus Baghouse Pressure

Was Baghouse Pulsed? YES NO

List any other problems:

Indicate Konus Problems	
Flow Control	OK
Level Control	OK
Fan Disturb	OK
Internal Press	OK
High Flue Gas	OK
Other:	
LEFT (Counts) 992 x ( ) =	
RIGHT (Counts) 808 x ( ) =	

Indicate Temp. Set Points	
Space Heat	0
Hot Pond	0
Emergency Cooling Tank - Full	YES
Konus Water Pressure	PSI
Emergency Diesel (run each shift)	YES
Konus	
Fuel Oil Level (gallons)	
L.P. Level	
Fire Dump Cleaned:	yes
Bark Fuel Used	

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 9/11/96 SHIFT: 7a-7p SUPERVISOR: [illegible]

✓ SHIFT OPERATING REPORT
✓ PRESS REPORT
✓ PRESS LOAD & TIME TO POSITION
✓ RESIN CHART RECORDER CHECKLIST
✓ DRYER OPERATION REPORT
✓ DRYER DATA SHEET
✓ KONUS CHECK LIST
✓ DRYER OPACITY REPORT
✓ KNIFE GRINDER REPORT
✓ FLAKER OPERATOR PM SHEET
✓ DEBARKER OPERATOR PM SHEET
✓ PRENTICE OPERATOR PM SHEET
✓ BOBCAT OPERATOR PM SHEET
✓ FLAKER UTILITY
✓ DEBARKER UTILITY
✓ DRYER UTILITY
LINEMAN
SHIFT MILLWRIGHT REPORT
✓ FLAKER KNIFE CHANGE PM SHEET
930 LOADER
✓ 966 LOADER PM SHEET
TROJAN LOADER PM SHEET
✓ PRESS CIRCLE CHART
DRYER CIRCLE CHART
DRYER BY-PASS CHART
✓ FORKLIFT PM SHEET
UPSET CONDITION REPORT (When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

PRESS LOADS & TIME TO POSITION

Tooley
9-11-96
7 Am - 7 Pm
"B"

P/L	T/P	P/L	T/P	P/L	T/P	P/L	T/P
1	58	51	69	101	48	151	44
2	60	52	68	102	46	152	42
3	67	53	62	103	61	153	40
4	56	54	62	104	60	154	40
5	61	55	60	105	47	155	40
6	62	56	47	106	60	156	41
7	60	57	61	107	62	157	43
8	60	58	63	108	64	158	60
9	60	59	56	109	60	159	48
10	64	60	63	110	63	160	46
11	56	61	66	111	66	161	46
12	56	62	66	112	64	162	44
13	62	63	68	113	64	163	44
14	67	64	68	114	64	164	42
15	56	65	63	115	67	165	43
16	64	66	62	116	65	166	46
17	65	67	65	117	61	167	47
18	63	68	56	118	64	168	46
19	63	69	60	119	62	169	48
20	64	70	64	120	66	170	49
21	66	71	66	121	48	171	48
22	63	72	64	122	44	172	48
23	63	73	65	123	48	173	46
24	65	74	64	124	46	174	60
25	63	75	60	125	43	175	64
26	67	76	58	126	44	176	67
27	49	77	60	127	44	177	61
28	47	78	63	128	48	178	46
29	48	79	63	129	43	179	
30	61	80	69	130	44	180	
31	62	81	65	131	62	181	
32	64	82	65	132	60	182	
33	47	83	63	133	48	183	
34	63	84	64	134	64	184	
35	60	85	63	135	66	185	
36	67	86	61	136	63	186	
37	62	87	66	137	63	187	
38	62	88	55	138	67	188	
39	64	89	61	139	64	189	
40	61	90	61	140	66	190	
41	49	91	63	141	63	191	
42	63	92	48	142	67	192	
43	68	93	44	143	65	193	
44	66	94	45	144	66	194	
45	60	95	60	145	63	195	
46	46	96	62	146	60	196	
47	62	97	48	147	61	197	
48	67	98	46	148	62	198	
49	66	99	48	149	44	199	
50	67	100	44	150	44	200	

TURN IN WITH PRESS REPORT!

DATE 9-11-91 CREW B SHIFT 7 AM - 7 PM

ALL RESIN CHART RECORDERS & PRESS CHART RECORDERS CHECKED AND OPERATING PROPERLY. (HOURLY)

TIME	NAME
7:00	JF
8:00	JF
9:00	JF
10:00	JF
11:00	JF
12:00	JF
1:00	JF
2:00	JF
3:00	JF
4:00	JF
5:00	JF
6:00	JF

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: working on surface resin pump 7:00 AM -
Change surface resin pump
Change press 2-fold out 3:03 PM

DRYER DATA SHEET

DATE: 9-11-96

SHIFT: 7am 7pm

CREW: B

NAME: Mike

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					7.3		OK	OK MD	1598	15	17
8:00	77	1084	195		6.9	Full	OK	OK MD	1572	15	17
8:30					7.4		OK	OK MD	1578	15	17
9:00	79	1255	193		6.2	1/2 1/2	OK	OK MD	1581	15	17
9:30					7.7		OK	OK MD	1578	15	17
10:00	79	1205	194		6.3	1/2 1/2	OK	OK MD	1555	15	17
10:30					6.6		OK	OK MD	1581	15	17
11:00	79	1365	193	40.3	6.4	1/2 1/2	OK	OK MD	1561	15	17
11:30					8.5		OK	OK MD	1556	15	17
12:00	82	1335	193		6.2	1/4 1/4	OK	OK MD	1592	15	17
12:30					8.4		OK	OK MD	1568	15	17
1:00	82	1287	192		8.1	1/2 1/2	OK	OK MD	1583	15	17
1:30					6.6		OK	OK MD	1555	15	17
2:00	82	1394	190		6.3	1/4 1/4	OK	OK MD	1583	15	17
2:30					7.7		OK	OK MD	1565	15	17
3:00	82	1018	200	44.4	5.5	1/4 1/4	OK	OK MD	1575	15	17
3:30					6.9		OK	OK MD	1562	15	17
4:00	90	1394	180		8.2	1/4 1/4	OK	OK MD	1566	15	17
4:30					9.8		OK	OK MD	1588	15	17
5:00	77	1274	186		10.6	1/4 1/4	OK	OK MD	1584	15	17
5:30					7.4		OK	OK MD	1586	15	17
6:00	84	1323	197		6.4	1/4 1/4	OK	OK MD	1557	15	17
6:30					7.3		OK	OK MD	1562	15	17
7:00	78	1308	193		7.1	1/4 1/4	OK	OK MD		15	17

DRYER OPERATION REPORT

OPERATOR Mike SHIFT 7am 7pm CREW B DATE 9-11-9(

#1 BAGHOUSE
TIMES CHECKED

HAMMER MILL MAGNET	TIME	TIME	TIME	TIME	TIME	TIME
CLEANED (3TIMES)	11:00	3:00	7:00			
LEVEL IN MCCONNELL BINS (3 TIMES)	TIME	TIME	TIME			
	Full	Full	1/2 -			

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	1.4
#2 BAGHOUSE MAGNEHELIC READING	1.2
KONUS BAGHOUSE MAGNEHELIC READING	4.2
MCCONNELL BAGHOUSE MAGNEHELIC READING	4.2
SCRUBBER MAGNEHELIC READING	33

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY

NAME: Mike SHIFT: 7AM 7PM DATE: 9-11-96

TOTAL DRYER RUN TIME 720
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURAN
Dryer	Ran	Below	10%	An	Shift	
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

1 BAKE OUT
2 CLEANING RTO VALVES
3 RE–CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

MILITARY TIME

7AM=0700	7PM=19
8AM=0800	8PM=20
9AM=0900	9PM=21
10AM=1000	10PM=22
11AM=1100	
12AM=1200	11PM=23
1PM=1300	12PM=24
2PM=1400	1AM=01
	2AM=02
3PM=1500	3AM=03
4PM=1600	4AM=04
5PM=1700	5AM=

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

a ker Utility Dennis Date 9/11/95 Shift 7-7 Crew B

	Yes	No	Problem found or Maint. Done
Check and maintain fire fighting equipment (hoses i place, fire extinguishers, e.c.)	✓		
Keep log wash pond full and t rk cleaned off.	✓		
Clean all tail rollers.	✓		
(ieck all hydraulic units (oil level, blow out radiator).	✓		
(ieck bark hog and belts (problems, plugs etc.).	✓		
l ty all hoppers.	✓		
Clean bark under log decks.	✓		
low down entire area.	✓		
Keep hog, mobile equipment, nd old greenend area floor lean.	✓		
Wash down floor in debarker rea (11-7 shift).	✓		
PM and service loader when used.	✓		

nents or
ge tions:

PM CHECKLIST BOBCAT

CREW B

FOREMAN Ramos DATE 9/11/96 SHIFT 7-7 NAME Dennis

BOBCAT OPERATOR

DAILY	A. Bobcat - fluid levels	Done yes/no	How much added
	1. Check hydraulic fluid	yes	
	2. Check motor oil	yes	
	3. Check air pressure in tires	no	
	B. Blow entire machine off, including motor.	yes	
	C. Check for any leaks around fittings, filters, motor oil,	yes	
	transmission	yes	
	D. Breakage	✓	
	1. Control levers right side	✓	
	2. Control levers left side	✓	
	3. Cracks in bucket or boom	✓	
	4. Safety cage broke away	✓	

Motor oil 15W-40

Hydraulic Oil HD-46
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRENTICE LOADER
DAILY OPERATOR'S LIST

OPERATOR Burton DATE 9-11-96

1. Check engine oil ok Amount Added
2. Check Hyd. oil ok Amount Added
3. Check radiator level ok Amount Added
4. Check brake fluid Amount Added
5. Check tires for proper inflation and condition ok
6. Inspect all hoses & fittings for leaks ok
7. Check welds for cracks 0
8. Blow out radiator daily ok
9. Tighten all nuts & bolts on gear boxes & swivels ok
10. Visually inspect complete machine every shift!!
11. Grease items 1-5 daily every (8) hours
12. Check hour meter reading each shift and record below:
13. Check grapple pins and motor need weld
14. Check swing motors ok

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses
2. Cab Clean
3. Machine Clean
4. Visual Damage
5. Condition of machine at end of shift

LOUISIANA-PACIFIC CORPORATION

DAILY FORKLIFT CHECK LIST

NAME: BEGLETT

SHIFT: 7Am - 7Pm

FORKLIFT#: 89 Wind

	OK TO RUN	DO NOT RUN
1. Oil Level	✓	
2. Water Level	✓	
3. Brakes	✓	
4. Transmission	✓	
5. Horn	✓	
6. Lights	✓	
7. Tires	✓	
8. Steering	✓	
9. Rack & Cage	✓	
10. Used air hose to blow down radiator and other things	YES ✓	NO

COMMENTS:

NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tan
3. Use water for radiator.

DAILY P.M. & CHECK LIST

FOREMAN: Jaus DATE: 9-11-96 SHIFT: 7Am-7pm CREW: B

FLAKER OPERATOR

ITEM	INSPECT/DO	YES/NO	COMMENTS
HYDRAULIC UNITS	FLAKER & BOOM UNITS KEEP FULL	Yes	
	GREASE ENTIRE BOOM -ALL PINS	Yes	
	GREASE ALL BUSHINGS	Yes	
	GREASE TURN TABLE	Yes	
	TIGHTEN ALL PIN NUTS ON BOOM --EACH SHIFT--	Yes	
	GREASE LOG HOLD DOWN PINS	Yes	
	CHECK ALL MULTI CHANS	Yes	
	GREASE LOG INCLINE CONVEYOR CHAIN BEARINGS	Yes	
	INSPECT KNIFE CLAMPS & PLATES	Yes	
	INSPECT SCORING KNIVES (EACH KNIFE CHANGE)	Yes	
	INSPECT ALL BEARINGS	Yes	
	INSPECT DRIVE BELTS	Yes	
ENTIRE SYSTEM	CHECK FOR LOOSE NUTS & BOLTS	Yes	

ADDITIONAL COMMENTS:

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Pous SHIFT: 7AM 7pm CREW: B DATE: 8-1-96

Time c nife changes: 10:30 12:00 :00

All clamps removed from disc and cleaned? yes

All knife carriers cleaned (use wirebrush) yes

Number clamps replaced: 1st 48 2nd 48

3rd 48 4th 5th

All bolts torqued at 70PSI. yes

Never reuse all clamp bolts, replace bad ones. yes

Bottom side anvile checked. yes

Spray bar cleaned yes

Arbor bearing blown down yes

Multi main track cleaned (once per shift) yes

Torque wrench set on 0 PSI after knife changed completed.

Knife change area cleaned after knife change yes

Air switches lubricated or oiled yes

Check knife protection. yes

15. Hood loader greased - turntable & boom pin yes
(once per shift)

16. Any maintenance done during knife change: yes

KNIFE GRINDER NAME Alice DATE 9/10/96

SETS ON SHELF 8 Sets

SETS - NEED TO GRIND 4 Sets

SETS THAT I HAVE GROUND 3 & 1 New Set → #9 = 1/2 finished grinding, De 1/2 took apart grown, s

OF KNIVES DISCARDED 0 Sets

GRINDING ROOM CLEANED YES OR NO

FLAT GRINDER GREASED - YES OR NO

SPRAY BARS CLEANED (EACH KNIFE CHANGE) ~~YES~~ OR NO

SETTER ~~OKAY~~ OR NOT OKAY

#13 = new Put together set

#15 = took apart grown, set

#12 = took apart grown, set

#14 = took apart

COMMENTS OR CORRECTIVE ACTION TAKEN: Added H2O to tank, Swept Shop, Cleaned floor

~~TOTAL KNIVES IN THE GRINDING ROOM~~ Grinder, Gave

~~SETS OF KNIVES RECEIVED~~ Dave Breaks, Changed

~~TOTAL KNIVES DISCARDED~~ (MTD) Stone, Blown down

~~MAINTENANCE~~ DONE TO EQUIPMENT IN THE GRINDING ROOM: Shelves, Cleaned behind Grinder, Greased tracks on flat Grinder, Straightened up Counter, Cleaned phone & Setter table

KNIFE CHANGES DONE: Blanket door, Clamp table and Spray Packers

TIME DOWN 10:30 START UP 11:00 TIME DOWN ____ START UP ____ & Swept

TIME DOWN 12:10 START UP 1:00 TIME DOWN ____ START UP ____ Or

TIME DOWN 2:00 START UP ____ TIME DOWN ____ START UP ____ Dryer

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

TIME DOWN ____ START UP ____ TIME DOWN ____ START UP ____

1030
1210
200

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 964

DAILY OPERATOR'S CHECK

OPERATOR Scott Manss DATE 9-12-96

HOUR METER READING

1. Radiator level ✓ Amount added
2. Engine oil level ✓ Amount added
3. Restriction indicator of engine air cleaner ✓
4. Fuel level - fill at end of shift ✓
5. Drain moisture from air reservoir - at end of shift ✓
6. Torque converter level Amount added ✓
7. Drop box transmission level Amount added ✓
8. Hydraulic reservoir ✓
9. Lubricate boom grease fittings ✓
10. Check tires for proper inflation and condition - 65 PSI ✓
11. Clean operator's cab ✓
12. Check for hydraulic leaks ✓
13. Does steering work properly? ✓
14. Is the fire extinguisher present and charged? ✓
15. Does horn work properly? ✓
16. Do service brakes work properly? ✓
17. Does parking brakes work properly? ✓
18. COMMENTS: Need CB Fixed.

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Flaker Utility Roy Cameron Date 9-11-96 Shift N-D Crew B

		Yes	No	Problem found or Maint. Done
1.	Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.)	✓		
2.	Clean flaker clamps and replace tips.	✓		48 Clamps 2-N Clamps 15 Clamps
3.	Keep air and torque wrenches oiled and in place for knife changes	✓		
4.	Blow off both flaker disc bearings every knife change.	✓		
5.	Check all hydraulic units (oil level, and blow out radiators).	✓		
6.	Clean all tail pulleys.	✓		
7.	Clean flaker pit (pump water out also .	✓		
8.	Blow down entire area.	✓		
9.	Keep flaker area floor clean.	✓		
10.	Clean catwalk and platform for the haul up conveyour.	✓		
11.	Empty haul up conveyour clean up bin.	✓		

Comments or Suggestions _____

DAILY P.M. CHECKLIST

FOREMAN: Stearns DATE: 9-11-86 SHIFT: 7-7 CREW: B

DEBARKER OPERATOR

INSPECT/DO	YES/NO	COMMENTS
GREASE ENTIRE MACHINE--ONCE EACH SHIFT	✓	
RELEASE WATER FROM DEBARKER & KICKER AIRLINES	✓	
GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS	✓	
CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT	✓	
CHECK OIL LEVEL IN RING LUBE PUMP BARREL	✓	
INSPECT ARM TIPS FOR LOSS OR BREAKAGE	✓	
INSPECT ARMS FOR CRACKS	✓	
GREASE FRONT & REAR HOLD DOWN SLIDES	✓	
GREAES LOG OUTFEED CHAIN BEARINGS	✓	
CLEAN HYDRAULIC UNIT (ON DAY SHIFT)		
COMMENTS: No# 2 Feed Rolls Need To be Fixed, Singulator Trough Needs To be Fixed. PLATE behind No# 2 Rolls Need To be Replaced		

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

DRYER UTILITY Ronald Deal DATE 9-11-96 SHIFT 7am 7pm CREW B

	YES	NO	PROBLEM FOUND/MAINT. DONE
1. Check & maintain fire fighting equipment (hoses in place, fire extinguishers full, etc)	✓		
2. Keep correct water level in scrubber & add defoamer accordingly	✓		Gallons added this shift
3. Deash both cells on konus			
4. Maintain correct PSI on scrubber pump nozzles (15–17 PSI)	✓		
5. Keep K–S Vacuum Drum Filter running & maintained	✓		
6. Weighed scrubber filter cake & empty hopper at end of shift	✓		
7. Check clarkbin level (beginning & ending of each shift & record)	✓		1/4, 1/2, 3/4, Full beginning 1/4 end 1/2
8. Clean screener pit	✓		
9. Clean all tail rollers	✓		
10. Empty all barrels when full	✓		
11. Blow down entire area			
12. Blow off inlet & outlet tube			
13. Are trunion oilers full & working	✓		
14. Have fire dump & ash pit emptied when necessary	✓		
15. Check for & seal all leaks on conveyors, augers, etc.	✓		
16. Clean konus room & baghouse pad area outside.	✓		
17. Keep dryer area floor clean	✓		
18. Empty konus & cyclone airloc barells & clean containment buildings	✓		
19. Are all baghouses pulsing, konus, #1 & #2	✓		

9.85 12.67

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR Jeff Mann SHIFT 7pm-7Am CREW D DATE 9-11-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8" FOOTAGE	MINS. DOWNTIME M	E	O
7pm	7AM	33Fpm-37Fpm	7/16"	156	186,373			
			TOTAL	156	186,373	Total (129)		

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	74
NO. OF "U" BUNDLES	4
NO. OF "E" BUNDLES	

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
5876	135min	1315	195	669	55	39.6	7.4

BARK MOISTURE % (AVG.) 34.7

FUEL MOISTURE 2.7

SCRUBBER WATER METER READING
BEGINNING OF SHIFT 1696600
END OF SHIFT 1698300

TOTAL GALLONS USED THIS SHIFT 1700

OIL USED
BEGINNING OF SHIFT 133950
END OF SHIFT 134020

TOTAL GALLONS USED THIS SHIFT 70

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR E. Sluss SHIFT 7pm7am CREW "D" DATE 9-11-96

BLENDER SHUTDOWNS

THICKNESS: 7/16 PRESS LOADS 156-186,373 CORE 4

DECOMPRESSION TIME

PRESS TEMP: 415°

SURFACE 29

	CORE RESIN	SURFACE RESIN
BEGIN	311837	1557431
END	313854	1567384

CLEANED BLENDER SHROUDS & TRACKS

FORMER HYDRAULIC AND RADIATER BLOWN OUT

FCOS HYDRAULIC UNIT & RADIATER BLOWN OUT

BLENDER OUTFEED CONV. TAIL PULLEYS CLEANED

INESPRED PER MIN	FROM	TO
37.0	7:00	4:35
33.0	4:35	5:13
37.0	5:13	7:00

DOWNTIME		DOWNTIME (MINS)		KEY	REASONS FOR DOWNTIME
M	TO	MIN	D	Y	
9:24	11:06	102		108	tail roller broke on conveyor Belt
11:11	11:17		6	108	#5 pulled Back out of Press dropped over at bottom #6
11:44	1:54	10		118	T.S. spreading roller kicked out 33 ft. per. min Due to high moisture
6:16	6:27		11	129	Low Dry Bin (Due to sparks in Dryer)

PRODUCTION SUPERVISOR M. MECHANICAL E. ELECTRICAL O. OPERATOR

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 9-11-96 SHIFT: 7pm-7am SUPERVISOR: Jeff Mann

- ✓ SHIFT OPERATING REPORT
- ✓ PRESS REPORT
- ✓ PRESS LOAD & TIME TO POSITION
- ✓ RESIN CHART RECORDER CHECKLIST
- ✓ DRYER OPERATION REPORT
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- ✓ FLAKER UTILITY
- ✓ DEBARKER UTILITY
- ✓ DRYER UTILITY
- ✓ LINEMAN
- ✓ SHIFT MILLWRIGHT REPORT
- ✓ FLAKER KNIFE CHANGE PM SHEET
- ✓ 930 LOADER
- ✓ 966 LOADER PM SHEET
- TROJAN LOADER PM SHEET
- ✓ PRESS CIRCLE CHART
- ✓ DRYER CIRCLE CHART
- ✓ DRYER BY-PASS CHART
- ✓ FORKLIFT PM SHEET
- UPSET CONDITION REPORT (When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

Fire dump curtain OK

DATE 9-11-96 CREW "D" SHIFT 7pm 7am

ALL RESIN CHART RECORDERS & PRESS CHART RECORDERS CHECKED AND OPERATING PROPERLY. (HOURLY)

TIME	NAME
7:00	ES
8:00	ES
9:00	ES
10:00	ES
11:00	ES
12:00	ES
1:00	ES
2:00	ES
3:00	ES
4:00	ES
5:00	ES
6:00	ES

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: surface resin spiked over at app 7:34 p.m.

PRESS LOADS & TIME TO POSITION

7pm 7am
9-11-96
3/6 "D"

P/L	T/P	P/L	T/P	P/L	T/P	P/L	T/P
1	45V	51	43V	101	53V	151	59V
2	46V	52	42V	102	54V	152	53V
3	49V	53	46V	103	51V	153	51V
4	55V	54	54V	104	48V	154	51V
5	62V	55	56V	105	48V	155	50V
6	60V	56	55V	106	46V	156	49V
7	58V	57	54V	107	44V	157	
8	51V	58	57V	108	47V	158	
9	56V	59	54V	109	47V	159	
10	54V	60	55V	110	51V	160	
11	54V	61	58V	111	48V	161	
12	59V	62	56V	112	50V	162	
13	53V	63	56V	113	47V	163	
14	62V	64	54V	114	53V	164	
15	52V	65	59V	115	47V	165	
16	60V	66	61V	116	46V	166	
17	55V	67	60V	117	49V	167	
18	62V	68	67V	118	46V	168	
19	53V	69	67V	119	46V	169	
20	50V	70	74V	120	45V	170	
21	54V	71	65V	121	47V	171	
22	54V	72	69V	122	44V	172	
23	51V	73	63V	123	44V	173	
24	50V	74	64V	124	44V	174	
25	54V	75	57V	125	50V	175	
26	57V	76	62V	126	49V	176	
27	53V	77	56V	127	49V	177	
28	53V	78	57V	128	51V	178	
29	51V	79	57V	129	51V	179	
30	54V	80	53V	130	52V	180	
31	50V	81	53V	131	54V	181	
32	50V	82	53V	132	57V	182	
33	51V	83	54V	133	58V	183	
34	47V	84	56V	134	51V	184	
35	46V	85	58V	135	57V	185	
36	49V	86	56V	136	53V	186	
37	51V	87	52V	137	55V	187	
38	52V	88	52V	138	49V	188	
39	52V	89	51V	139	49V	189	
40	54V	90	57V	140	43V	190	
41	54V	91	52V	141	47V	191	
42	57V	92	54V	142	46V	192	
43	54V	93	52V	143	45V	193	
44	53V	94	54V	144	44V	194	
45	49V	95	53V	145	46V	195	
46	50V	96	54V	146	44V	196	
47	49V	97	52V	147	46V	197	
48	51V	98	53V	148	49V	198	
49	51V	99	49V	149	49V	199	
12-50	V	100	50V	150	58	200	

TURN IN WITH PRESS REPORT!

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

OPERATOR: Ronald SHIFT: 7pm - 7Am CREW: 4 DATE: 9-11-96

KONUS CHECK LIST

THERMAL OIL LEVEL		
INCHES IN BOTTOM	0	
CLARK BIN (QUARTERS)	3/4	
DIESEL FUEL LEVEL		
(EMERGENCY PUMP)	Full	
SPACE	INLET TEMP 0	
	OUTLET TEMP 0	
HEATING	DISCHARGE PRESSURE 0	
PRESS PUMP 1 (RUNNING)	yes	
PRESS PUMP 2 (RUNNING)		

T.O. PUMP PRESSURE	SUCTION	DISCHARGE
PRIMARY PUMP I		
PRIMARY PUMP II	0	13

KONUS BAGHOUSE PRESSURE 2.0

WAS BAGHOUSE PULSED? YES/NO

LIST ANY OTHER PROBLEMS:

INDICATE KONUS PROBLEMS

FLOW CONTROL	OK
LEVEL CONTROL	OK
FAN DISTURB	OK
INTERNAL PRESS	OK
HIGH FLUE GAS	OK
OTHER:	
LEFT (COUNTS)	845 X ( )=
RIGHT (COUNTS)	726 X ( )=

INDICATE TEMP. SET POINTS

SPACE HEAT	0
HOT POND	0
EMERGENCY COOLING TANK – FULL	YES/NO
KONUS WATER PRESSURE	PSI
EMERG. DIESEL (RUN EACH SHIFT) *KONUS*	YES/NO
FUEL OIL LEVEL (GALLONS)	
L.P. LEVEL	
FIRE DUMP CLEANED:	yes
BARK FUEL USED	

DRYER DATA SHEET

DATE: 9-11-96

SHIFT: 7pm-7Am

CREW: [illegible]

NAME: Ronald

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					7.3		OKRE	OK	1574	15	16
8:00	78	1330	194		7.0	1/4 1/4	OKRE	OK	1586	16	16
8:30					7.6		OKRE	OK	1561	16	16
9:00	79	1297	201	396	6.7	1/4 1/4	OKRE	OK	1557	15	16
9:30				-	6.5		OKRE	OK	1555	15	15
10:00	90	1250	196		7.3	1/4 1/4	OKRE	OK	1563	15	16
10:30	Down						OKRE	OK	1568	15	16
11:00	Down						OKRE	OK	1541	15	16
11:30	Startup						OKRE	OK	1550	15	17
12:00	75	1265	188		7.8	1/2 1/2	OKRE	OK	1558	15	16
12:30					7.9		OKRE	OK	1552	15	16
1:00	78	1295	196		6.9	1/2 1/2	OKRE	OK	1564	15	17
1:30					8.7		OKRE	OK	1555	15	16
2:00	80	1351	193		7.9	1/2 1/2	OKRE	OK	1566	15	16
2:30					7.4		OKRE	OK	1563	15	16
3:00	73	1314	187		8.5	1/4 1/4	OKRE	OK	1571	15	16
3:30					8.1		OKRE	OK	1563	15	17
4:00	79	1429	194		8.5	1/4 1/4	OKRE	OK	1557	15	16
4:30					7.1		OKRE	OK	1564	15	16
5:00	83	1413	195		6.5	1/4 1/4	OKRE	OK	1570	15	16
5:30					6.9		OKRE	OK	1569	15	16
6:00	83	1088	200		7.4	1/4 1/4	OKRE	OK	1569	15	16
6:30					7.6		OKRE	OK	1551	15	16
7:00	83	1263	199		6.9	1/4 1/4	OKRE	OK	1565	15	16
		1315	195								

DRYER OPERATION REPORT

OPERATOR Ronald SHIFT 7pm-7am CREW D DATE 9-11-96

#1 BAGHOUSE
TIMES CHECKED HAMMER MILL MAGNET

7:30	9:30	11:30	1:30	3:30	5:30
TIME	TIME	TIME	TIME	TIME	TIME

CLEANED (3TIMES) LEVEL IN MCCONNELL BINS (3 TIMES)

8:00	2:00	6:00
TIME	TIME	TIME
3/4	3/4	3/4

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT) ✓

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT) ✓

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT) ✓

ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	1.4
#2 BAGHOUSE MAGNEHELIC READING	1.4
KONUS BAGHOUSE MAGNEHELIC READING	2.0
MCCONNELL BAGHOUSE MAGNEHELIC READING	8.0
SCRUBBER MAGNEHELIC READING	33

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY
10:25	11:20	55	Press drum Bio fuel.

NAME: Ronald SHIFT: 7pm - 7am DATE: 9-11-96

TOTAL DRYER RUN TIME 665
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURAN
	Dryer was fulleu issued					
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

1 BAKE OUT
2 CLEANING RTO VALVES
3 RE–CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

MILITARY TIME

7AM=0700	7PM=19
8AM=0800	8PM=20
9AM=0900	9PM=21
10AM=1000	10PM=22
11AM=1100	
12AM=1200	11PM=23
1PM=1300	12PM=24
2PM=1400	1AM=01
	2AM=02
3PM=1500	3AM=03
4PM=1600	4AM=04
5PM=1700	5AM=(

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRENTICE LOADER
DAILY OPERATOR'S LIST

OPERATOR ALBERT DATE 9/11/96

1. Check engine oil YES Amount Added ____
2. Check Hyd. oil YES Amount Added ____
3. Check radiator level YES Amount Added 2 GAL
4. Check brake fluid NO Amount Added ____
5. Check tires for proper inflation and condition YES
6. Inspect all hoses & fittings for leaks YES
7. Check welds for cracks YES
8. Blow out radiator daily YES
9. Tighten all nuts & bolts on gear boxes & swivels YES
10. Visually inspect complete machine every shift!!
11. Grease items 1-5 daily every (8) hours YES
12. Check hour meter reading each shift and record below:
13. Check grapple pins and motor YES
14. Check swing motors YES

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses YES
2. Cab Clean NO
3. Machine Clean NO
4. Visual Damage NO
5. Condition of machine at end of shift OK

NEED MOR LIGHT ON CAB AND BOOM
NEED STEERING FIXED

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Kenneth W. SHIFT: 7pm-7am CREW: D DATE: 2-11-96

Time c nife changes: 4:30 10:30 1:5

All cl ps removed from disc and cleaned? Y

All kn s carriers cleaned (use wirebrush) YES

Numbe clamps replaced: 1st 2nd

3rd 4th 5th

All b s torqued at 70PSI. YES

Never ze all clamp bolts, replace bad ones. YES

Botto side anvile checked. YES

Spray r cleaned YES

Arbor aring blown down YES

Multi ain track cleaned (once per shift) YES

Torqu rench set on 0 PSI after knife changed completed.

Knife ange area cleaned after knife change YES

Air w ches lubricated or oiled YES

Check ife protection. YES

Hood loader greased - turntable & boom pin YES (once per shift)

Any m ntenance done during knife change:

LOUISIANA-PACIFIC CORPORATION
DONGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Flaker Utility Sherrey Date 9-11-96 Shift 7am-7pm Crew D

		Yes	No	Problem found or Maint. Done
1.	Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.)	✓		
2.	Clean flaker clamps and replace tips.	✓		
3.	Keep air and torque wrenches oiled and in place for knife changes	✓		
4.	Blow off both flaker disc bearings every knife change.	✓		
5.	Check all hydraulic units (oil level, and blow out radiators).	✓		
6.	Clean all tail pulleys.	✓		
7.	Clean flaker pit (pump water out also .	✓		
8.	Blow down entire area.	✓		
9.	Keep flaker area floor clean.	✓		
10.	Clean catwalk and platform for the haul up conveyour.			
11.	Empty haul up conveyour clean up bin.			

Comments or Suggestions: _____

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

SHIFT MILLWRIGHTS DAILY PM AND PROJECTS REPORT

DATE: 9-10-96 SHIFT: Nights

	DONE BY:	MAINTENANCE DONE & COMMENTS
SCREENS Inspect, remove bad ones & log in screens book	[illegible]	ok
Inspect fire pump house		ok
Inspect air compressors		ok
Inspect Hydraulic Room (fix leaks)		ok
PM Debarker		ok
Inspect R.T.O. fans, rotating valves, chamber walls, key–ways in place etc.		ok
PM Flaker		ok
PM Baghouse 1 & 2 including fans (w/checklist) (1–Each Week) (Visual Daily)		ok
Inspect all conv. belts on sawline to stacker		ok
Inspect all conv. belts on return line in pit.		ok
PM McConnel Bin Baghouse (visually inspect fans, ductwork, airlocks, cyclone, etc.)		ok
Inspect scrubber pump & belts check all pipes & guages for cracks & leakage, etc.		ok
PM Konus Baghouse (visually inspect fans, ductwork, airlocks, cyclone, etc)		ok
Inspect Komline–Sanderson vacuum drum filter, pumps, sprays, filters, filter belt & splice etc		ok
Review and work on Supervisors list		

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman [illegible] Date 9-11-96 Shift 7pm - [illegible] Crew D

	Yes	No	Problem found or maintenance done
Check & maintain fire fighting quipment (hoses in place, xtinguishers full, etc.)	✓		
Check release agent spray can ill when necessary)	✓		
. Check all screens & head bar pins	✓		
. Check formers & spreading rolls At lease 3 times a shift)	✓		
. Blow down entire area	✓		
. Check all hydraulic units Oil level & blow out radiators)	✓		
. Check magnet for metal & position	✓		
. Check incline & decline chain dogs (in time, cracked, etc.)	✓		
. Check press hydraulic oil level	✓		
0. Clean press pit, bucket elevator pit	✓		
11. Check FCOS airlock	✓		
12. Check for leaks on press hydraulic & T-oil system	✓		
13. Blow off both sides of press Including Symo Arms(2 times shift)	✓		
14. Blow out sides of formers (behind clear curtain)	✓		
15. Check return line belts	✓		
16. Keep area floor clean	✓		
17. Grease slides on press	✓		
18. Clean lunchroom when necessary	✓		

COMMENTS OR SUGGESTIONS:

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

arker Utility George F. Date 9-11-96 Shift 2nd Crew D

	Yes	No	Problem found or Maint. Done
Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.).	✓		
Keep log wash pond full and bark cleaned off.	✓		
Clean all tail rollers.	✓		
Check all hydraulic units (oil level, blow out radiator).	✓	✓	
Check bark hog and belts (problems, plugs etc.).	✓		
Empty all hoppers.	✓		
Clean bark under log decks.	✓		
Blow down entire area.	✓		
Keep hog, mobile equipment, and old greenend area floor clean.	✓		
Wash down floor in debarker area (11-7 shift).	✓		
PM and service loader when used.	✓		

nents or
gestions: _____

PM CHECKLIST BOBCAT

CREW P

FOREMAN Jeff M. DATE 9-11-96 SHIFT 2nd NAME George F

BOBCAT OPERATOR

DAILY		Done yes/no	How much added
A.	Bobcat - fluid levels		
1.	Check hydraulic fluid	yes	
2.	Check motor oil	yes	
3.	Check air pressure in tires	yes	
B.	Blow entire machine off, including motor.	no	
C.	Check for any leaks around fittings, filters, motor oil, transmission	yes	
D.	Breakage	no	
1.	Control levers right side	yes	
2.	Control levers left side	yes	
3.	Cracks in bucket or boom	no	
4.	Safety cage broke away	no	

Motor oil 15W-40

Hydraulic Oil HD-46
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

DRYER UTILITY Guy Ashton DATE 9-12-94 SHIFT 7pm-7am CREW D

	YES	NO	PROBLEM FOUND/MAINT. DONE
1. Check & maintain fire fighting equipment (hoses in place, fire extinguishers full, etc)	yes		
2. Keep correct water level in scrubber & add defoamer accordingly	yes		Gallons added this shift
3. Deash both cells on konus	yes		
4. Maintain correct PSI on scrubber pump nozzles (15–17 PSI)	yes		
5. Keep K–S Vacuum Drum Filter running & maintained	yes		
6. Weighed scrubber filter cake & empty hopper at end of shift	yes		
7. Check clarkbin level (beginning & ending of each shift & record)	yes		1/4, 1/2, 3/4, Full beginning end
8. Clean screener pit	yes		
9. Clean all tail rollers	yes		
10. Empty all barrels when full	yes		
11. Blow down entire area	yes		
12. Blow off inlet & outlet tube	yes		
13. Are trunion oilers full & working	yes		
14. Have fire dump & ash pit emptied when necessary	yes		
15. Check for & seal all leaks on conveyors, augers, etc.	yes		
16. Clean konus room & baghouse pad area outside.	yes		
17. Keep dryer area floor clean	yes		
18. Empty konus & cyclone airloc barells & clean containment buildings	yes		
19. Are all baghouses pulsing, konus, #1 & #2	yes		

LOUISIANA PACIFIC CORPORATION

DAILY FORKLIFT CHECK LIST

NAME Guy Rhuton

SHIFT 7pm - 7Am

FORKLIFT# 3

	OK TO RUN	DO NOT RUN
1. Oil Level	ok	
2. Water Level	ok	
3. Brakes	ok	
4. Transmission	ok	
5. Horn		no
6. Lights		no
7. Tires	ok	
8. Steering	ok	
9. Rack & Cage	ok	
10. Used air hose to blow down radiator and other things	YES ok	NO

COMMENTS:

NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tan
3. Use water for radiator.

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR Allen Godsey DATE 9-1-96

HOUR METER READING

1. Radiator level Full Amount added 0
2. Engine oil level Full Amount added 0
3. Restriction indicator of engine air cleaner —
4. Fuel level - fill at end of shift yes
5. Drain moisture from air reservoir - at end of shift yes
6. Torque converter level Full Amount added 0
7. Drop box transmission level — Amount added —
8. Hydraulic reservoir Full
9. Lubricate boom grease fittings NO
10. Check tires for proper inflation and condition - 65 PSI yes
11. Clean operator's cab yes
12. Check for hydraulic leaks yes
13. Does steering work properly? yes
14. Is the fire extinguisher present and charged? yes
15. Does horn work properly? yes
16. Do service brakes work properly? yes
17. Does parking brakes work properly? yes
18. COMMENTS:

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 930

DAILY OPERATOR'S CHECK

OPERATOR Albert Coder DATE 9-11-96

HOUR METER READING

1. Radiator level Fu 11 Amount added 0
2. Engine oil level Fu 11 Amount added 0
3. Restriction indicator of engine air cleaner Dirty
4. Fuel level - fill at end of shift Fu 11
5. Drain moisture from air reservoir - at end of shift yes
6. Torque converter level Fu 11 Amount added 0
7. Drop box transmission level Fu 11 Amount added 0
8. Hydraulic reservoir NO
9. Lubricate boom grease fittings NO
10. Check tires for proper inflation and condition - 65 PSI yes
11. Clean operator's cab yes
12. Check for hydraulic leaks yes
13. Does steering work properly? yes
14. Is the fire extinguisher present and charged? yes
15. Does horn work properly? NO
16. Do service brakes work properly? yes
17. Does parking brakes work properly? NO
18. COMMENTS: Needs doors bad
more Lights up front

DAILY P.M. CHECKLIST

FOREMAN: JEFF M DATE: 9-11-96 SHIFT: 7-7 CREW: D

DEBARKER OPERATOR Brad Farmer

INSPECT/DO	YES/NO	COMMENTS
GREASE ENTIRE MACHINE--ONCE EACH SHIFT	Yes	
RELEASE WATER FROM DEBARKER & KICKER AIRLINES	Yes	
GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS	Yes	
CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT	Yes	
CHECK OIL LEVEL IN RING LUBE PUMP BARREL	Yes	
INSPECT ARM TIPS FOR LOSS OR BREAKAGE	Yes	
INSPECT ARMS FOR CRACKS	Yes	
GREASE FRONT & REAR HOLD DOWN SLIDES	NO	
GREAES LOG OUTFEED CHAIN BEARINGS	Yes	
CLEAN HYDRAULIC UNIT (ON DAY SHIFT)	Yes	
COMMENTS:		

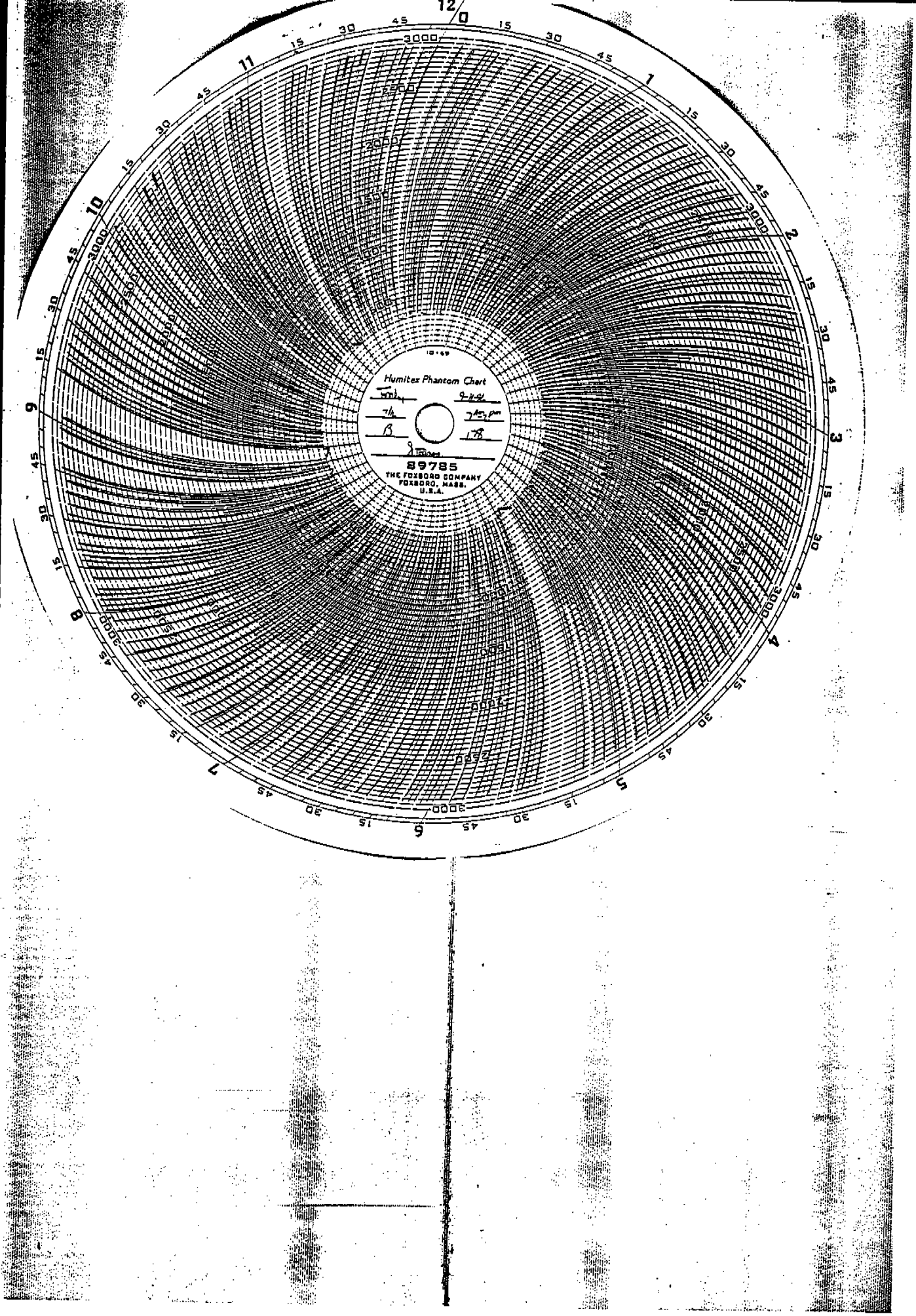
DAILY P.M. & CHECK LIST

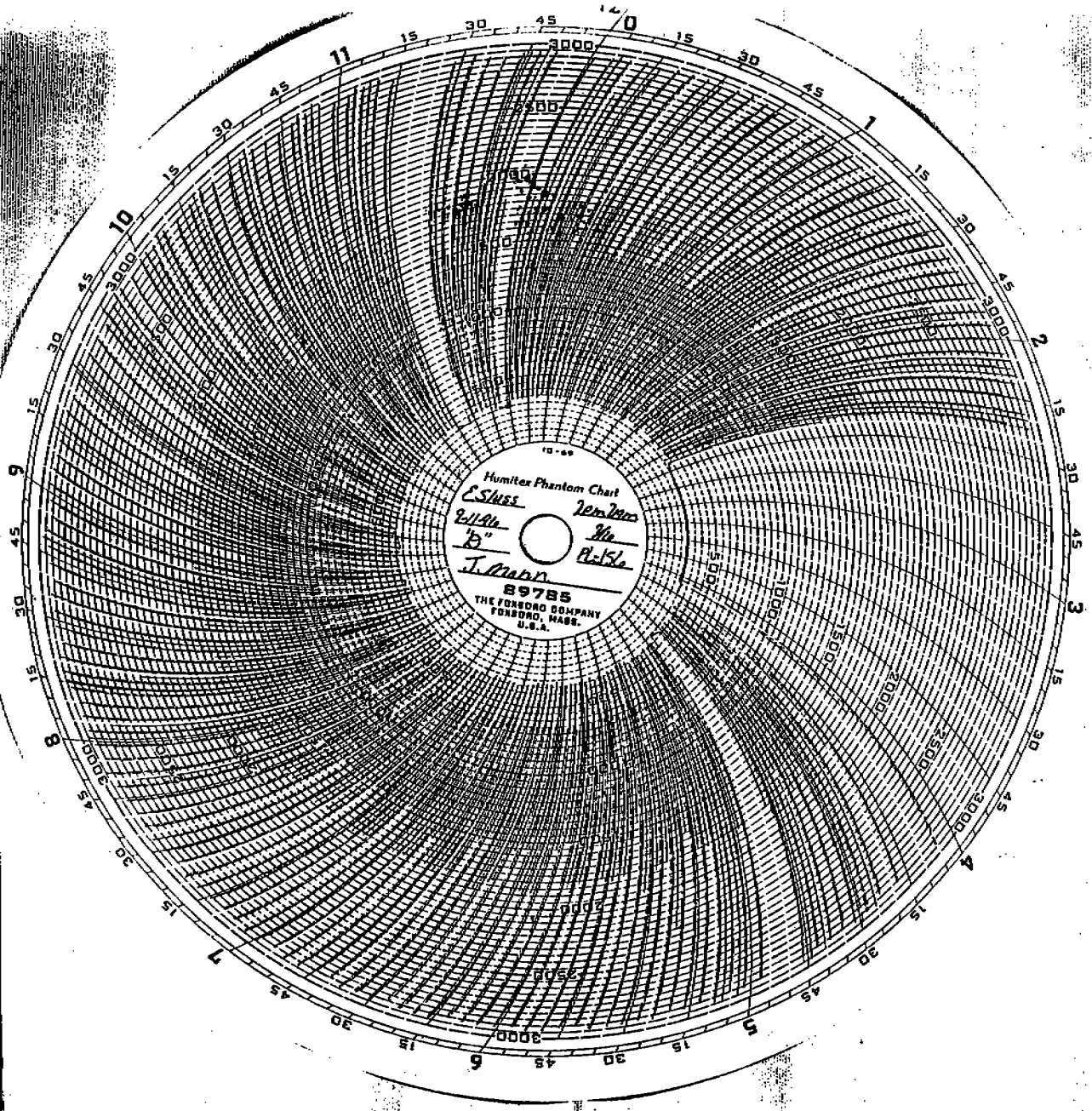
FOREMAN: Jeff Mann DATE: 9-11-96 SHIFT: 7Pm-7Am CREW: D

FLAKER OPERATOR

ITEM	INSPECT/DO	YES/NO	COMMENTS
HYDRAULIC UNITS	FLAKER & BOOM UNITS KEEP FULL	Yes	
	GREASE ENTIRE BOOM -ALL PINS	Yes	
	GREASE ALL BUSHINGS	Yes	
	GREASE TURN TABLE	Yes	
	TIGHTEN ALL PIN NUTS ON BOOM --EACH SHIFT--	Yes	
	GREASE LOG HOLD DOWN PINS	Yes	
	CHECK ALL MULTI CHANS	Yes	
	~~GREASE LOG INCLINE CONVEYOR~~ CHAIN BEARINGS		
	INSPECT KNIFE CLAMPS & PLATES	Yes	
	INSPECT SCORING KNIVES (EACH KNIFE CHANGE)	Yes	
	INSPECT ALL BEARINGS	Yes	
	INSPECT DRIVE BELTS	Yes	
ENTIRE SYSTEM	CHECK FOR LOOSE NUTS & BOLTS	Yes	

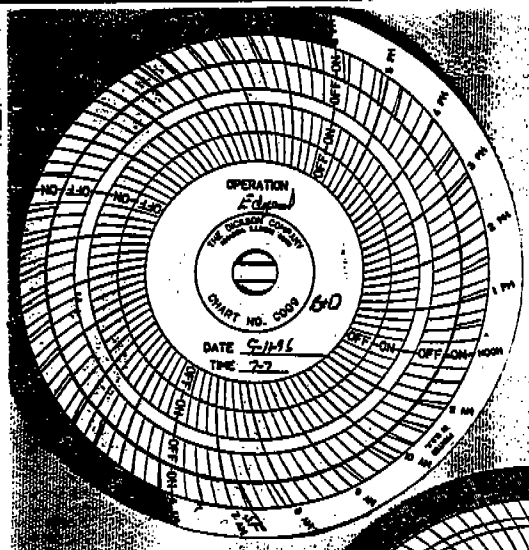
ADDITIONAL COMMENTS:

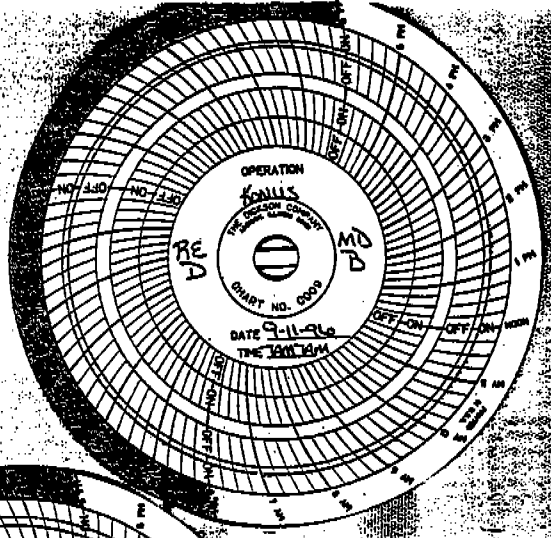

Humitex Phantom Chart
89785
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

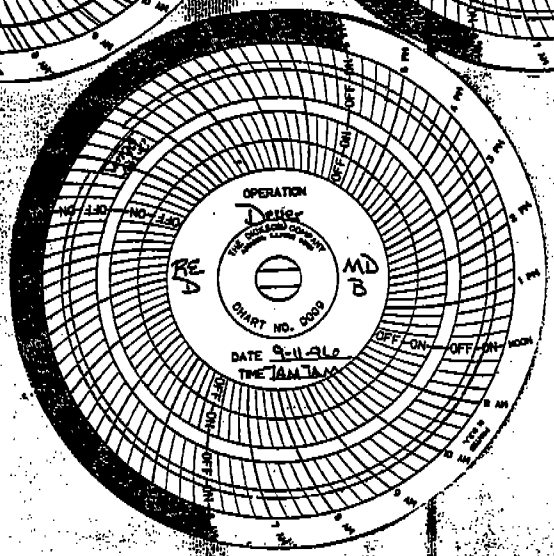

Humitex Phantom Chart
E Sluss
"B"
T. Mann
89785
THE FONSDRO COMPANY
FONSDRO, MASS.
U.S.A.

DRYER TEMP
500 °F
OUTLET
450
INLET
2000
1800
1600
1400
1200
1000
800
600
400
200
1100 PM
1100 AM
09/12/94
09/11/94
3100 PM
5100 PM
7100 AM
9100 AM
11100 AM

HONEYWELL
Truline
WASHINGTON, PA. U.S.A.


OPERATION
THE DICKSON COMPANY
CHART NO. 0009
DATE 9-11-96
TIME 7-7
OFF-ON
NOON


OPERATION
Konius
THE DICKSON COMPANY
RED
MD
CHART NO. 0009
DATE 9-11-96
TIME 7AM 7AM
OFF-ON
NOON


OPERATION
Deier
THE DICKSON COMPANY
RED
MD
CHART NO. 0009
DATE 9-11-96
TIME 7AM 7AM
OFF-ON
NOON

DRYER DATA SHEET

DATE 9-11-96
BY Dennis Hollenwater

PLANT: DUNBARTON VA.
REVOLUTIONS per MINUTE:
FUEL CALIBRATION: 6.73 lbs PER REVOLUTION

(NOTE ANY CHANGES IN SETPOINTS)

TIME	OUTLET SET POINT	% FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	REVOLUTIONS FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL SUR.	DRY BIN LEVEL CORE	EVERY HOUR FLAKE MOISTURE IN	EVERY HOUR FLAKE MOISTURE OUT
9:00	195	79.0	1255	193	1034	Y2	Y2	Y2	37.2	6.2
9:15	195	79.0	1315	191	1040	Y2	Y2	Y2		6.8
9:30	195	79.0	1327	192	1048	Y2	Y2	Y2		
9.45	195	79.0	1319	193	1055	Y2	Y2	Y2		
10:00	195	79.0	1246	195	1568	Y2	Y2	Y2	45.2	6.3
10:15	195	79.0	1271	195	1734	Y2	Y2	Y2		
10:30	194	79.0	1259	194	1810	Y2	Y2	Y2		
10:45	195	79.0	1302	195	1943	1/2	1/2	1/2		
11:00	192	79.0	1365	193	2076	Y4	Y2	Y2	40.3	6.4
11:15	189	82.0	1011	197	2187	Y4	Y2	Y2		
11:30	194	82.0	1370	193	2342	Y4	Y2	Y2		
11:45	193	82.0	1336	193	2447	Y2	Y2	Y2		
12:00	195	82.0	1311	193	2560	Y2	Y2	Y2	45.4	6.2
12:15	190	82.0	1393	189	2740	Y2	Y2	Y2		
12:30	192	82.0	1392	191	2858	Y4	Y2	Y2		
12:45	196	82.0	1306	195	2986	Y4	Y2	Y2		
1:00	192	82.0	1291	191	3112	Y4	Y2	Y2	44.4	8.4
1:15	196	82.0	1257	195	3289	Y2	Y2	Y2		
1:30	195	82.0	1247	195	3379	Y2	Y2	Y2		
1:45	195	82.0	1207	196	3480	Y2	Y4	Y4		
2:00	190	82.0	1324	190	3610	Y2	Y2	Y2	45.3	6.3
2:15	192	82.0	1314	191	3817	Y4	Y4	Y4		
2:30	197	79.0	1126	197	3894	1/4	1/4	1/4		
2:45	194	80	995	192	4008	1/4	1/4	1/4		
3:00	191	80.	1176	191	4117	1/4	1/4	1/4	36.1	5.5
3:15	240	87.	1059	241	4234	1/4	1/4	1/4	37.0	
3:30	225	87.	1308	215	4355	1/4	1/4	1/4		
3:45	198	87.	1365	191	4497	1/4	1/4	1/4		
4:00	195	87.	1400	179	4634	1/4	1/4	1/4		
4:15	195	74.	1348	185	4763	1/2	1/4	1/4		

DATE 9-11-96

BY Ernie Jenkins

KONUS DATA

PLANT: DUNGANNON VA.

OIL SETPOINT 500°

(NOTE ANY CHANGES IN SETPOINTS)

TIME	PRIMARY AIR LEFT	I.D. FAN	PRIMARY AIR RIGHT	OIL IN deg. C	OIL OUT deg. F	PER REVOLUTION 14.78 lbs FUEL COUNT LT	8.86 lbs RT	FEED RATE SETTING LT	RT	EVERY HOUR BAG H. PRESS.	BARK % MOISTURE
8:30	120		100	482	501	124	106	15.7	9.4		
8:45	120		100	479	497	143	119	16.3	10.4		
9:00	110		100	480	498	163	133	16.7	11.1	2.5	35
9:15	110		100	474	504	186	151	18.8	14.1		
9:30	110		100	474	508	209	169	16.3	10.		
9:45	110		100	480	497	229	183	16.4	10.3		
10:00	110		100	478	493	251	198	18.5	13.5	2.5	35
10:15	180		100	472	491	276	220	22.6	20		
10:30	110		100	476	503	302	245	20	15.9		
10:45	110		100	481	510	319	257	OFF	OFF		
11:00	105		100	471	499	338	271	17	11.2	2.5	33
11:15	110		100	477	497	364	290	23	20		
11:30	110		100	487	507	386	313	15.9	9.3		
11:45	105		100	484	501	401	323	16	9.9		
12:00	100		100	471	497	428	344	20.3	19.8	2.5	35
12:15	160		100	481	498	454	367	22.6	19.1		
12:30	105		100	497	514	473	386	OFF	OFF		
12:45	105		100	488	503	478	389	15.7	9.5		
1:00	105		100	473	490	498	404	21.3	17.5	2.5	35
1:15	180		180	479	499	524	435	22.6	19.8		
1:30	105		100	483	500	553	455	17	11.6		
1:45	105		100	478	495	572	468	17.5	12		
2:00	320		260	471	497	598	491	25.5	24	2.5	36.7
2:15	110		100	485	501	630	579	15.8	9.4		
2:30	110		100	478	494	640	529	17.9	12.7		
2:45	360		260	474	496	666	551	26.2	25.3		
3:00	120		100	487	511	691	573	OFF	OFF	3	32
3:15	120		100	485	502	705	583	15.7	9.4		
3:30	110		100	479	497	724	595	17.5	11.9		
3:45	110		100	481	500	747	613	19.1	14.2		

KONUS DATA

DATE 9/1/96

BY Alan Perry

PLANT: DUNGANNON VA.

OIL SETPOINT 500°

(NOTE ANY CHANGES IN SETPOINTS)

TIME	PRIMARY AIR LEFT	I.D. FAN	PRIMARY AIR RIGHT	OIL IN deg. C	OIL OUT deg. F	FUEL COUNT LT	FUEL COUNT RT	FEED RATE SETTING LT	FEED RATE SETTING RT	EVERY HOUR BAG H. PRESS.	EVERY HOUR BARK MOISTURE
4:00	110		100	484	504	765	627	15.7	9.3	3	33
4:15	110		100	501	517	775	634	-004	-003		
4:30	110		100	495	515	775	634	-004	-003		
4:45	240		140	471	487	796	651	24.6	22.4		
5:00	120		100	477	506	822	676	18.9	18.9	3	33
5:15	120		100	479	509	842	691	15.7	9.3		
5:30	120		100	483	507	862	704	15.7	9.5		
5:45	110		100	480	497	880	716	16.9	11.0		
6:00	110		100	472	496	903	734	19.8	15.4	3	35
6:15	245		140	478	497	930	760	24.2	22.6		
6:30	110		100	490	507	947	774	15.8	9.4		
6:45	110		100	477	498	966	787	16.3	10.5		
7:00	110		100	473	495	977	795	17.7	12.5	3	33
7:15	140		120	489	510	30	30	-003	-003		
7:30	120		100	475	503	43	40	16.3	10.3		
7:45	120		100	474	492	62	56	22.2	19.0		
8:00	120		100	478	507	100	91	17.7	12.3	3	34
8:15	120		100	487	506	111	99	15.8	9.3		
8:30	120		100	482	498	125	108	16.1	9.9		
8:45											
9:00											

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: DUNGANNON

INDICATE TIME OF READINGS	6:30AM	8:00A	8:15A	8:30A	8:45A	9:00A	9:15A	9:30A	9:45A
BTUE (ON OR OFF)	OFF	off	off	off	off	off	off	off	off
TEMP–CHAM #1 LOWER BED	290	295	291	293	295	291	293	291	294
TEMP–CHAM #2 LOWER BED	314	317	319	317	319	317	315	319	318
TEMP–CHAM #3 LOWER BED	345	349	345	350	346	346	347	344	346
TEMP–CHAM #4 LOWER BED	336	340	347	339	349	337	342	345	347
TEMP–CHAM #5 LOWER BED	343	345	346	347	345	347	343	346	344
TEMP–CHAM #6 LOWER BED	382	388	384	386	387	383	382	381	387
TEMP–CHAM #7 LOWER BED	393	393	397	393	396	394	393	397	396
TEMP–CHAM #8 LOWER BED	337	343	339	343	340	342	339	339	339
TEMP–BURNER #1	1532	1526	1538	1529	1534	1530	1533	1540	1535
TEMP–BURNER #2	1522	1537	1539	1527	1549	1525	1544	1529	1547
TEMP–BURNER #3	1511	1518	1507	1520	1514	1519	1522	1508	151[illegible]
TEMP–EXHAUST	268	265	282	268	276	268	265	281	274
RTO DEFERENTIAL PRESSURE	16	15	16	16	16	15	15	16	14
TEMP–COMB. CHAMBER	1581	1557	1576	1562	1573	1569	1556	1585	1571
TEMP–INLET	127	134	135	137	134	130	129	132	134
PRESSURE–INLET DUCT	1.9	1.9	1.89	1.94	1.92	1.96	1.97	1.96	1.89
OUTPUT–BURNER #1 CONT. %	48	53	54	53	52	45	53	50	53
OUTPUT–BURNER #2 CONT. %	44	44	31	45	28	50	42	30	31
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	100
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
MOTOR AMPS–FAN #1	380	400	360	380	360	360	380	360	360
MOTOR AMPS–FAN #2	360	360	380	340	340	320	360	340	300
MOTOR SPEED–FAN #1	82	82	81	82	81	80	80	80	81
MOTOR SPEED–FAN #2	78	78	76	76	77	76	77	76	76
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	10:00a	10:15a	10:30a	10:45a	11:00a	11:15a	11:30a	11:45a	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	292	294	294	295	295	296	296	292	
TEMP–CHAM #2 LOWER BED	319	319	322	319	322	323	320	324	
TEMP–CHAM #3 LOWER BED	348	350	346	351	342	349	351	349	
TEMP–CHAM #4 LOWER BED	339	339	348	341	349	351	342	351	
TEMP–CHAM #5 LOWER BED	342	342	348	348	348	348	342	349	
TEMP–CHAM #6 LOWER BED	383	384	383	382	385	382	391	386	
TEMP–CHAM #7 LOWER BED	395	395	400	395	400	400	392	401	
TEMP–CHAM #8 LOWER BED	343	343	341	344	342	343	343	343	
TEMP–BURNER #1	1533	1531	1538	1531	1526	1538	1532	1541	
TEMP–BURNER #2	1522	1524	1536	1534	1535	1544	1542	1536	
TEMP–BURNER #3	1517	1520	1508	1525	1511	1511	1521	1509	
TEMP–EXHAUST	271	271	282	262	284	285	270	285	
RTO DEFERENTIAL PRESSURE	16	15	15	14	16	15	14	14	
TEMP–COMB. CHAMBER	1571	1566	1585	1552	1583	1581	1552	1581	
TEMP–INLET	135	136	132	132	139	139	140	141	
PRESSURE–INLET DUCT	1.88	1.88	1.83	2.02	1.83	1.22	2.03	1.26	
OUTPUT–BURNER #1 CONT. %	49	48	50	52	50	48	52	42	
OUTPUT–BURNER #2 CONT. %	49	49	33	41	27	26	25	27	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	340	400	360	340	360	380	360	360	
MOTOR AMPS–FAN #2	340	340	340	340	360	340	320	340	
MOTOR SPEED–FAN #1	80	80	80	80	81	81	80	80	
MOTOR SPEED–FAN #2	22	25	26	26	25	25	25	26	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96

UNIT: Dungannon

INDICATE TIME OF READINGS	12:00p	12:15p	12:30p	12:45p	1:00p	1:15p	1:30p	1:45p	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	299	299	298	302	301	299	300	298	
TEMP–CHAM #2 LOWER BED	322	324	324	323	323	324	322	321	
TEMP–CHAM #3 LOWER BED	351	350	353	352	353	351	351	354	
TEMP–CHAM #4 LOWER BED	351	353	346	353	349	353	352	344	
TEMP–CHAM #5 LOWER BED	348	350	353	350	392	351	349	352	
TEMP–CHAM #6 LOWER BED	391	389	383	393	400	389	391	388	
TEMP–CHAM #7 LOWER BED	400	401	400	401	398	402	400	398	
TEMP–CHAM #8 LOWER BED	344	344	343	345	345	344	344	342	
TEMP–BURNER #1	1533	1532	1538	1534	1534	1536	1533	1533	
TEMP–BURNER #2	1546	1545	1522	1550	1549	1542	1542	1524	
TEMP–BURNER #3	1518	1514	1516	1520	1518	1516	1519	1518	
TEMP–EXHAUST	272	285	272	279	272	280	272	275	
RTO DEFERENTIAL PRESSURE	14	15	14	14	14	15	14	16	
TEMP–COMB. CHAMBER	1562	1529	1522	1562	1564	1522	1562	1566	
TEMP–INLET	141	142	142	142	141	137	138	139	
PRESSURE–INLET DUCT	1.99	1.85	1.82	1.89	1.9	1.89	1.89	1.88	
OUTPUT–BURNER #1 CONT. %	51	48	44	50	51	49	51	47	
OUTPUT–BURNER #2 CONT. %	29	27	50	25	32	27	29	51	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	360	360	380	400	360	360	340	
MOTOR AMPS–FAN #2	320	340	340	340	320	320	340	340	
MOTOR SPEED–FAN #1	81	80	80	79	79	79	80	81	
MOTOR SPEED–FAN #2	75	76	76	74	75	76	75	76	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	2:00p	2:15p	2:30p	2:45p	3:00p	3:15p	3:30p	3:45p	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	299	301	306	302	301	298	301	299	
TEMP–CHAM #2 LOWER BED	321	323	322	322	321	323	321	324	
TEMP–CHAM #3 LOWER BED	355	351	355	354	355	352	353	353	
TEMP–CHAM #4 LOWER BED	344	354	345	351	346	349	352	350	
TEMP–CHAM #5 LOWER BED	352	350	353	350	351	352	349	353	
TEMP–CHAM #6 LOWER BED	389	391	389	394	392	386	393	387	
TEMP–CHAM #7 LOWER BED	398	401	399	400	399	402	399	403	
TEMP–CHAM #8 LOWER BED	347	344	348	346	347	345	344	346	
TEMP–BURNER #1	1532	1534	1535	1532	1530	1540	1533	1539	
TEMP–BURNER #2	1527	1548	1523	1548	1533	1529	1530	1523	
TEMP–BURNER #3	1522	1520	1518	1521	1524	1508	1519	1504	
TEMP–EXHAUST	272	283	277	276	270	276	277	285	
RTO DEFERENTIAL PRESSURE	14	15	13	14	16	16	14	14	
TEMP–COMB. CHAMBER	1558	1570	1562	1558	1557	1576	1562	1584	
TEMP–INLET	141	142	142	140	139	139	142	144	
PRESSURE–INLET DUCT	1.89	1.94	1.94	1.92	2.04	1.8	1.86	1.86	
OUTPUT–BURNER #1 CONT. %	49	49	49	53	52	47	51	47	
OUTPUT–BURNER #2 CONT. %	45	27	47	30	44	40	29	34	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	340	380	380	360	360	360	380	
MOTOR AMPS–FAN #2	320	320	360	340	320	340	300	340	
MOTOR SPEED–FAN #1	79	79	81	79	80	82	79	80	
MOTOR SPEED–FAN #2	76	75	76	75	76	78	75	75	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	4:00p	4:15p							
BTUE (ON OR OFF)	off	off							
TEMP–CHAM #1 LOWER BED	300	302							
TEMP–CHAM #2 LOWER BED	324	326							
TEMP–CHAM #3 LOWER BED	355	354							
TEMP–CHAM #4 LOWER BED	347	355							
TEMP–CHAM #5 LOWER BED	354	353							
TEMP–CHAM #6 LOWER BED	389	391							
TEMP–CHAM #7 LOWER BED	402	404							
TEMP–CHAM #8 LOWER BED	348	346							
TEMP–BURNER #1	1538	1536							
TEMP–BURNER #2	1522	1539							
TEMP–BURNER #3	1513	1510							
TEMP–EXHAUST	276	289							
RTO DEFERENTIAL PRESSURE	15	15							
TEMP–COMB. CHAMBER	1578	1576							
TEMP–INLET	142	145							
PRESSURE–INLET DUCT	1.73	1.76							
OUTPUT–BURNER #1 CONT. %	45	50							
OUTPUT–BURNER #2 CONT. %	46	29							
OUTPUT–BURNER #3 CONT. %	100	100							
SETPOINT–BURNER #1 CONT. F	1535	1535							
SETPOINT–BURNER #2 CONT. F	1535	1535							
SETPOINT–BURNER #3 CONT. F	1535	1535							
MOTOR AMPS–FAN #1	360	360							
MOTOR AMPS–FAN #2	340	340							
MOTOR SPEED–FAN #1	80	80							
MOTOR SPEED–FAN #2	77	76							
CO OUT FROM CEM	N/A	N/A							
AIR FLOW FROM CEM	N/A	N/A							

DATE: 9-11-96 CREW: B QC TECHNICIAN: James Moore

1 ST SHIFT 1/4" _____ 7/16" 7/16

	WEIGHT	THICKNESS	DENSITY
7:00	51	459	41.6
8:00	49.1	430	42.8
9:00	50.3	467	40.3
10:00	50.4	434	43.2
11:00	51	444	43
12:00	49.5	434	42.7
1:00	51.1	459	41.7
2:00	51.8	456	42.5
3:00	49.8	442	42.2
4:00	49.8	436	42.8
5:00	49.9	430	43.5
6:00	48.1	441	40.9
AVG	50.1	AVG 444	AVG 42.3

FOOTAGE _____

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 8:15 A.M.

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	5.6 %	37.9
3/4"	=	38.1 %	260.1
1/2"	=	21.8 %	148.6
1/4"	=	23.7 %	161.6
3/16"	=	8 %	54.4
PAN	=	2.9 %	19.9
TOTAL	=	100 %	682.5

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 9:15 A.M

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	5.1 %	30.3
3/4"	=	26.8 %	160.7
1/2"	=	24 %	144
1/4"	=	28.4 %	170.3
3/16"	=	11.5 %	69
PAN	=	4.2 %	25
TOTAL	=	100 %	599.3

WAFER THICKNESS

9/11/96

8:15 AM

AVG 31

DEV. 11

10	36	
44	34	
20	41	
36	9	
22	30	
47	15	
55	20	
13	31	
25	55	
30	22	
20	24	
39	30	
37	24	
25	43	
37	35	
39	43	
16	32	
31	34	
46	24	
32	27	
36	32	
26	30	
28	23	
45	39	
33	16	

1 1/2 5.6 % 3/4 38.1 % 1/2 21.8 % 1/4 23.7 % 3/16 8 % Pan 2.9 %

WAFER THICKNESS

9/11/96
9:15 A.M
AVG. 30
DEV. 8

38	25	
36	32	
12	43	
26	35	
42	35	
28	30	
29	36	
40	34	
33	32	
39	43	
23	23	
34	37	
38	36	
20	21	
28	32	
26	44	
29	42	
33	19	
22	40	
38	41	
20	37	
50	22	
25	26	
22	17	
41	26	

1 1/2_____% 3/4_____% 1/2_____% 1/4_____% 3/16_____% Pan_____%

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96
TIME: 10:15 A.M
NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	4.7 %	31.3
3/4"	=	45.4 %	300.5
1/2"	=	16.2 %	107.1
1/4"	=	22.6 %	149.4
3/16"	=	8.1 %	53.6
PAN	=	2.9 %	19.3
TOTAL	=	99.9 %	661.2

WET

DATE: _____
TIME: _____
NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/12/96
TIME: 11:15 A.m.
NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	1.9 %	9.6
3/4"	=	22.2 %	109.3
1/2"	=	23.1 %	114.1
1/4"	=	31.7 %	156.1
3/16"	=	15.1 %	74.4
PAN	=	6 %	29.7
TOTAL	=	100 %	493.2

9/11/96
10:15 A.M

WAFER THICKNESS

42	21	
39	35	
38	43	
26	28	
26	41	
29	32	
47	23	
17	19	
47	24	
35	26	
41	31	
36	31	
45	25	
15	40	
37	29	
21	55	
17	49	
19	20	
37	12	
34	36	
23	35	
25	30	
36	32	
24	47	
31	38	

AVG. 32

DEV. 10

1 1/2 4.7 % 3/4 45.4 % 1/2 16.2 % 1/4 22.6 % 3/16 8.1 % Pan 2.9 %

9/11/96

WAFER THICKNESS

11:15 A.M.

AVG. 31

DEV. 9

42	38	
30	35	
25	26	
48	29	
34	32	
34	27	
25	50	
19	30	
33	30	
47	22	
20	32	
33	32	
17	53	
29	28	
43	41	
34	28	
29	28	
30	41	
47	10	
25	29	
16	35	
31	24	
38	32	
28	24	
18	20	

1 1/2 1.9 % 3/4 22.2 % 1/2 23.1 % 1/4 31.7 % 3/16 15.1 % Pan 6 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 12:15 P.M.

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	3.8 %	15.2
3/4"	=	35 %	138.4
1/2"	=	21.9 %	86.5
1/4"	=	26.4 %	104.2
3/16"	=	9.6 %	38.1
PAN	=	3.2 %	12.5
TOTAL	=	99.9 %	394.9

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 1:15 P.M

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	3 %	15.1
3/4"	=	31 %	154
1/2"	=	22.1 %	109.5
1/4"	=	28.2 %	140.1
3/16"	=	11.2 %	55.8
PAN	=	4.4 %	21.7
TOTAL	=	99.9 %	496.2

WAFER THICKNESS

9/11/96

12:15 p.m

AVG. 28

DEV. 7

25	26	
35	27	
29	27	
25	45	
32	35	
30	23	
30	39	
33	29	
24	28	
16	11	
15	26	
35	22	
30	40	
13	25	
31	22	
22	28	
27	26	
40	22	
28	20	
30	27	
45	24	
29	30	
43	27	
29	35	
28	32	

1 1/2 3.8 % 3/4 35 % 1/2 21.9 % 1/4 26.4 % 3/16 9.6 % Pan 3.2 %

WAFER THICKNESS

9/11/96

1:15 p.m.

34	29	
40	39	
33	45	
25	28	
32	27	
24	37	
29	30	
17	22	
32	25	
26	40	
35	25	
34	40	
30	38	
23	19	
31	34	
32	50	
35	18	
51	22	
30	32	
42	32	
25	41	
28	19	
54	38	
29	31	
34	16	

AVG. 32

DEV. 9

1 1/2 3 % 3/4 31 % 1/2 22.1 % 1/4 28.2 % 3/16 11.2 % Pan 4.4 %

LOUISIANA-PACIFIC CORPORATION
DUNGANNON, VIRGINIA

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 2:15 P.M.

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	7.2 %	32.4
3/4"	=	30.8 %	139.5
1/2"	=	20.8 %	94.5
1/4"	=	25.3 %	114.9
3/16"	=	10.8 %	48.8
PAN	=	5.1 %	23
TOTAL	=	100 %	453.1

WET

DATE: _____

TIME: _____

NAME: _____

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	%	
3/4"	=	%	
1/2"	=	%	
1/4"	=	%	
3/16"	=	%	
PAN	=	%	
TOTAL	=	%	

DRY

DATE: 9/11/96

TIME: 3:15 P.M.

NAME: MIKE ELLIS

SIEVE ANALYSIS:			WEIGHT
1 1/2"	=	1.9 %	6.6
3/4"	=	31.1 %	105.7
1/2"	=	21 %	71.6
1/4"	=	31 %	105.3
3/16"	=	11.5 %	39
PAN	=	3.5 %	11.8
TOTAL	=	100 %	340

9/11/96

2:15 p.m

WAFER THICKNESS

29	47	
47	30	
33	22	
24	40	
19	20	
21	42	
30	33	
25	12	
35	35	
41	34	
40	30	
39	30	
21	20	
17	30	
40	41	
28	35	
27	33	
22	47	
30	21	
48	29	
38	28	
17	10	
21	25	
12	30	
25	27	

AVG. 30

DEV. 10

1 1/2 7.2 % 3/4 30.8 % 1/2 20.8 % 1/4 25.3 % 3/16 10.8 % Pan 5.1 %

WAFER THICKNESS

9/11/96

3:15 p.m

AVG. 31

DEV. 12

48	14	
27	28	
36	40	
23	20	
26	34	
35	36	
15	37	
62	27	
13	40	
29	31	
19	37	
39	46	
52	39	
23	27	
29	17	
18	47	
42	18	
22	36	
11	25	
46	47	
28	13	
37	26	
32	42	
39	20	
19	23	

1 1/2 1.9 % 3/4 31.1 % 1/2 21 % 1/4 31 % 3/16 11.5 % Pan 3.5 %

APPENDIX Q

FIELD EQUIPMENT CALIBRATIONS

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-825
Job I.D.

Print Date 08/28/96

Meter Box No.: 6
Delta H: 1.7198
Gamma: 0.9984

Analyst: [signature]
Calibration Date: 08/28/96
Test Meter No. 9548
Barometric Pressure 28.95

QA/QC Check: Lynne Sexton 8/29/96
Previous Calibration Date: 06/11/96
Previous Gamma: 0.9968

Temp Check
Ice H2O 81.0 degrees F
Boiling H2O 211.6 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	986.165	996.352	10.187	76.0	76.0	76.00	987.509	997.762	10.253	77.0	76.0	77.0	81.0	77.75	24.0	1.62353	0.99554
2	1.0	996.496	1007.39	10.897	76.0	78.0	77.00	997.901	1008.87	10.966	77.0	80.0	80.0	86.0	80.75	18.5	1.66620	0.99814
3	1.5	1007.55	1018.47	10.913	78.0	79.0	78.50	1009.01	1020.01	11.001	85.0	80.0	82.0	89.0	84.00	15.5	1.76624	0.99833
4	2.0	1018.99	1032.83	13.844	79.0	79.0	79.00	1020.54	1034.50	13.965	89.0	82.0	83.0	89.0	85.75	17.0	1.75792	0.99868
5	2.5	1033.07	1047.61	14.538	79.0	78.0	78.50	1034.74	1049.41	14.672	89.0	84.0	84.0	93.0	87.50	16.0	1.75618	1.00107
6	3.0	1047.78	1058.75	10.972	78.0	78.0	78.00	1049.58	1060.66	11.078	91.0	84.0	84.0	87.0	86.50	11.0	1.74872	0.99847

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 1 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	1	-0.217
2	32	30	0.407
3	100	97	0.536
4	200	199	0.152
5	300	299	0.132
6	400	398	0.233
7	500	497	0.313
8	600	599	0.094
9	700	698	0.172
10	800	798	0.159
11	900	898	0.147
			0.193 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 2 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	30	0.407
3	100	97	0.536
4	200	199	0.152
5	300	300	0.000
6	400	397	0.349
7	500	496	0.417
8	600	599	0.094
9	700	698	0.172
10	800	797	0.238
11	900	898	0.147
			0.228 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 3 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	29	0.610
3	100	97	0.536
4	200	199	0.152
5	300	299	0.132
6	400	398	0.233
7	500	497	0.313
8	600	599	0.094
9	700	698	0.172
10	800	797	0.238
11	900	897	0.221
			0.245 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 4 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	30	0.407
3	100	98	0.357
4	200	199	0.152
5	300	300	0.000
6	400	398	0.233
7	500	497	0.313
8	600	599	0.094
9	700	698	0.172
10	800	797	0.238
11	900	897	0.221
			0.199 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 5 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	30	0.407
3	100	98	0.357
4	200	199	0.152
5	300	299	0.132
6	400	398	0.233
7	500	497	0.313
8	600	599	0.094
9	700	698	0.172
10	800	797	0.238
11	900	897	0.221
			0.211 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- ----------

Pre-Test Calibration-Contract #- ----------

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 6 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	30	0.407
3	100	98	0.357
4	200	199	0.152
5	300	300	0.000
6	400	398	0.233
7	500	497	0.313
8	600	598	0.189
9	700	698	0.172
10	800	798	0.159
11	900	898	0.147
			0.193 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 6 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 16-Aug-95

	Reference Temperature	Thermocouple Temperature	Difference %	
1	0	0	0.000	
2	32	30	0.407	
3	100	97	0.536	
4	200	198	0.303	
5	300	299	0.132	
6	400	397	0.349	
7	500	497	0.313	
8	600	598	0.189	
9	700	698	0.172	
10	800	797	0.238	
11	900	898	0.147	
			0.253	AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-709
Job I.D.

Print Date 09/13/96

Meter Box No.: 6
Delta H: 1.7361
Gamma: 0.9855

Analyst: [signature]
Calibration Date: 09/13/96
Test Meter No. 9548
Barometric Pressure 28.51

QA/QC Check: Lynne Sexton 9/17/96
Previous Calibration Date: 08/28/96
Previous Gamma: 0.9984

Temp Check
Ice H2O 31 degrees F
Boiling H2O 211.5 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	244.353	255.054	10.701	71.0	72.0	71.50	317.520	328.450	10.930	73.0	75.0	75.0	79.0	75.50	25.5	1.66537	0.98515
2	1.0	255.209	265.259	10.050	71.0	71.0	71.00	328.624	338.890	10.266	78.0	75.0	76.0	82.0	77.75	17.0	1.66815	0.98885
3	1.5	265.418	275.813	10.395	71.0	71.0	71.00	339.049	349.726	10.677	81.0	76.0	77.0	84.0	79.50	15.0	1.81503	0.98536
4	2.0	275.944	286.909	10.965	71.0	71.0	71.00	349.860	361.112	11.252	83.0	77.0	78.0	85.0	80.75	13.5	1.75766	0.98729
5	2.5	287.164	299.415	12.251	71.0	72.0	71.50	361.372	373.974	12.602	83.0	78.0	79.0	87.0	81.75	13.5	1.76009	0.98455
6	3.0	299.598	310.070	10.472	72.0	72.0	72.00	374.158	384.947	10.789	86.0	79.0	79.0	85.0	82.25	10.5	1.75036	0.98172

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-825
Job I.D.

Print Date 09/04/96

Meter Box No.: 7
Delta H: 1.6309
Gamma: 0.9994

Analyst
Calibration Date: 09/04/96
Test Meter No. 9548
Barometric Pressure 28.84

QA/QC Check: Lynne Sexton 9/5/96
Previous Calibration Date: 07/31/96
Previous Gamma: 1.0026

Temp Check
Ice H2O 32 degrees F
Boiling H2O 213 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	145.185	156.397	11.212	74.0	75.0	74.50	549.112	560.382	11.270	74.0	75.0	73.0	80.0	75.50	26.0	1.57671	0.99545
2	1.0	156.690	166.692	10.002	75.0	75.0	75.00	560.689	570.740	10.051	79.0	75.0	76.0	82.0	78.00	16.5	1.59142	0.99816
3	1.5	166.877	177.020	10.143	75.0	75.0	75.00	570.938	581.132	10.194	81.0	76.0	78.0	84.0	79.75	14.0	1.66569	1.00001
4	2.0	177.244	188.099	10.855	75.0	76.0	75.50	581.361	592.266	10.905	83.0	77.0	79.0	87.0	81.50	13.0	1.66971	1.00146
5	2.5	191.647	201.984	10.337	76.0	76.0	76.00	595.824	606.226	10.402	85.0	79.0	79.0	87.0	82.50	11.0	1.64790	0.99943
6	3.0	202.190	214.570	12.380	75.0	75.0	75.00	606.423	618.861	12.438	85.0	78.0	80.0	88.0	82.75	12.0	1.63386	1.00209

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 1 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	36	35	0.202
3	104	103	0.177
4	199	199	0.000
5	301	301	0.000
6	397	396	0.117
7	497	495	0.209
8	595	595	0.000
9	702	700	0.172
10	800	798	0.159
11	900	897	0.221
			0.114 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 2 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	37	36	0.201
3	104	103	0.177
4	204	203	0.151
5	298	297	0.132
6	399	397	0.233
7	494	492	0.210
8	602	601	0.094
9	697	696	0.086
10	802	800	0.158
11	895	893	0.148
			0.145 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 3 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	30	29	0.204
3	100	98	0.357
4	193	192	0.153
5	290	290	0.000
6	398	396	0.233
7	500	498	0.208
8	596	595	0.095
9	700	700	0.000
10	794	793	0.080
11	895	893	0.148
			0.134 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 4 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	108	106	0.352
4	210	210	0.000
5	306	306	0.000
6	399	397	0.233
7	502	500	0.208
8	607	606	0.094
9	715	713	0.170
10	808	805	0.237
11	886	884	0.149
			0.131 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 5 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	109	109	0.000
4	193	193	0.000
5	293	294	-0.133
6	404	403	0.116
7	500	498	0.208
8	605	604	0.094
9	699	697	0.173
10	796	794	0.159
11	892	890	0.148
			0.070 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR MH71 CAL-K
THERMOCOUPLE NUMBER 6 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	31	0.203
3	108	109	-0.176
4	199	200	-0.152
5	298	297	0.132
6	400	400	0.000
7	500	499	0.104
8	605	604	0.094
9	700	698	0.172
10	797	796	0.080
11	899	897	0.147
			0.055 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 15-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	31	30	0.204
3	109	108	0.176
4	201	200	0.151
5	299	297	0.264
6	399	396	0.349
7	500	498	0.208
8	603	602	0.094
9	700	699	0.086
10	799	797	0.159
11	901	899	0.147
			0.167 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-778
Job I.D.

Print Date 07/11/96

Meter Box No.: 8
Delta H: 1.7949
Gamma: 1.0003

Analyst: [signature]
Calibration Date: 07/11/96
Test Meter No. 9548
Barometric Pressure 28.88

QA/QC Check: Lynne Sexton 7/12/96
Previous Calibration Date: 01/03/96
Previous Gamma: 1.0173

Temp Check
Ice H2O 32 degrees F
Boiling H2O 212.5 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	616.254	626.703	10.449	73.0	73.0	73.00	173.551	184.102	10.551	75.0	75.0	75.0	79.0	76.00	25.5	1.73242	0.99464
2	1.0	626.885	637.554	10.669	73.0	72.0	72.50	184.276	195.050	10.774	79.0	75.0	77.0	82.0	78.25	18.5	1.73865	0.99841
3	1.5	637.934	649.218	11.284	69.0	71.0	70.00	195.432	206.818	11.386	72.0	72.0	74.0	80.0	74.50	16.5	1.85012	0.99565
4	2.0	649.415	664.153	14.738	71.0	72.0	71.50	206.996	221.835	14.839	79.0	74.0	76.0	85.0	78.50	18.5	1.81459	1.00118
5	2.5	664.313	675.448	11.135	72.0	73.0	72.50	221.984	233.144	11.160	84.0	76.0	77.0	87.0	81.00	12.5	1.81252	1.00728
6	3.0	675.631	687.311	11.680	72.0	73.0	72.50	233.373	245.104	11.731	82.0	77.0	78.0	88.0	81.25	12.0	1.82096	1.00434

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR #H71 CAL-K
THERMOCOUPLE NUMBER 3 Date 03-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	31	0.203
3	106	105	0.177
4	206	206	0.000
5	298	299	-0.132
6	397	396	0.117
7	505	504	0.104
8	599	599	0.000
9	706	706	0.000
10	800	800	0.000
11	902	901	0.073
			0.049 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR RH71 CAL-K
THERMOCOUPLE NUMBER 4 Date 03-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	33	32	0.203
3	103	102	0.178
4	200	200	0.000
5	300	300	0.000
6	402	401	0.116
7	503	501	0.208
8	602	601	0.094
9	705	705	0.000
10	802	802	0.000
11	904	904	0.000
			0.073 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 5 Date 03-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	34	33	0.202
3	100	99	0.179
4	202	201	0.151
5	310	309	0.130
6	400	400	0.000
7	501	499	0.208
8	601	600	0.094
9	702	702	0.000
10	804	803	0.079
11	905	904	0.073
			0.102 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR MH71 CAL-K
THERMOCOUPLE NUMBER 6 Date 03-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	33	33	0.000
3	102	101	0.178
4	203	203	0.000
5	301	301	0.000
6	403	402	0.116
7	502	501	0.104
8	600	600	0.000
9	700	700	0.000
10	802	801	0.079
11	902	901	0.073
			0.050 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 03-Jan-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	100	99	0.179
4	205	204	0.150
5	302	302	0.000
6	404	403	0.116
7	506	505	0.104
8	602	601	0.094
9	701	701	0.000
10	803	802	0.079
11	901	901	0.000
			0.066 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-709
Job I.D.

Print Date 09/13/96

Meter Box No.: 8
Delta H: 1.7493
Gamma: 0.9985

Analyst: [signature]
Calibration Date: 09/13/96
Test Meter No. 9548
Barometric Pressure 28.58

QA/QC Check: [signature] 9/17/96
Previous Calibration Date: 07/11/96
Previous Gamma: 1.0003

Temp Check
Ice H2O 32 degrees F
Boiling H2O 212 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	323.166	333.188	10.022	75.0	75.0	75.00	691.669	701.752	10.083	73.0	72.0	76.0	80.0	75.25	24.5	1.66598	0.99321
2	1.0	333.460	343.668	10.208	75.0	75.0	75.00	702.042	712.353	10.311	80.0	76.0	79.0	87.0	80.50	17.5	1.69172	0.99767
3	1.5	343.827	354.319	10.492	75.0	74.0	74.50	712.526	723.182	10.656	85.0	79.0	81.0	91.0	84.00	15.0	1.78587	0.99826
4	2.0	354.545	365.401	10.856	75.0	75.0	75.00	723.402	734.460	11.058	89.0	81.0	82.0	93.0	86.25	13.5	1.79751	0.99725
5	2.5	365.597	377.764	12.167	74.0	74.0	74.00	734.666	747.041	12.375	92.0	82.0	83.0	94.0	87.75	13.5	1.77721	1.00206
6	3.0	377.964	393.741	15.777	74.0	74.0	74.00	747.245	763.304	16.059	93.0	83.0	84.0	96.0	89.00	16.0	1.77754	1.00230

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 95-645
Job I.D.

Print Date 03/19/96

Meter Box No.: 11
Delta H: 1.7191
Gamma: 0.9910

Analyst: [signature]
Calibration Date: 03/19/96
Test Meter No. 9548
Barometric Pressure 28.67

QA/QC Check: Lynne Sexton 4/2/96
Previous Calibration Date: 12/28/95
Previous Gamma: 0.9869

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	126.422	136.404	9.982	70.0	75.0	72.50	269.689	279.755	10.066	71.0	70.0	72.0	74.0	71.75	24.0	1.70420	0.98899
2	1.0	136.650	157.287	20.637	75.0	78.0	76.50	280.004	300.814	20.810	75.0	72.0	76.0	80.0	75.75	34.5	1.66018	0.98777
3	1.5	157.564	172.650	15.086	75.0	78.0	76.50	301.094	316.220	15.126	77.0	77.0	77.0	81.0	78.00	21.0	1.71937	0.99631
4	2.0	172.750	191.326	18.576	77.0	79.0	78.00	316.405	335.117	18.712	80.0	79.0	77.0	83.0	79.75	22.5	1.73978	0.99088
5	2.5	191.648	202.731	11.083	78.0	78.0	78.00	335.428	346.602	11.174	83.0	79.0	78.0	83.0	80.75	12.0	1.73455	0.99057
6	3.0	202.938	212.981	10.043	77.0	78.0	77.50	346.792	356.911	10.119	83.0	79.0	79.0	83.0	81.00	10.0	1.75625	0.99132

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 1 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	31	31	0.000
3	103	102	0.178
4	199	198	0.152
5	299	299	0.000
6	400	401	-0.116
7	502	502	0.000
8	600	600	0.000
9	703	703	0.000
10	800	799	0.079
11	901	901	0.000
			0.027 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 2 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	103	103	0.000
4	204	204	0.000
5	301	300	0.131
6	402	401	0.116
7	500	500	0.000
8	601	601	0.000
9	706	706	0.000
10	802	801	0.079
11	900	899	0.074
			0.036 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 3 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	33	33	0.000
3	101	100	0.178
4	203	203	0.000
5	304	303	0.131
6	401	401	0.000
7	502	502	0.000
8	602	601	0.094
9	712	712	0.000
10	800	800	0.000
11	902	901	0.073
			0.043 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HM71 CAL-K
THERMOCOUPLE NUMBER 4 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	30	30	0.000
3	102	102	0.000
4	204	204	0.000
5	315	314	0.129
6	400	400	0.000
7	501	501	0.000
8	600	600	0.000
9	704	704	0.000
10	802	801	0.079
11	902	901	0.073
			0.026 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 5 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	32	32	0.000
3	100	100	0.000
4	203	204	-0.151
5	302	301	0.131
6	401	401	0.000
7	506	505	0.104
8	606	606	0.000
9	700	701	-0.086
10	804	804	0.000
11	903	902	0.073
			0.006 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR _HH71 CAL-K
THERMOCOUPLE NUMBER 6 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	33	34	-0.203
3	104	104	0.000
4	206	206	0.000
5	300	300	0.000
6	402	401	0.116
7	505	505	0.000
8	600	601	-0.094
9	703	702	0.086
10	802	802	0.000
11	904	904	0.000
			-0.009 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

R

E.T.S. INC.
METER CONSOLE CALIBRATION FORM

Meter Box No..... 11 REFERENCE CALIBRATOR HH71 CAL-K
THERMOCOUPLE NUMBER 7 Date 13-Mar-96

	Reference Temperature	Thermocouple Temperature	Difference %
1	0	0	0.000
2	31	31	0.000
3	101	101	0.000
4	200	200	0.000
5	298	299	-0.132
6	403	402	0.116
7	502	502	0.000
8	607	606	0.094
9	701	701	0.000
10	799	799	0.000
11	900	900	0.000
			0.007 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #\- _____

Pre-Test Calibration-Contract #- _____

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 96-815
Job I.D.

Print Date 10/02/96

Meter Box No.: 11
Delta H: 1.7281
Gamma: 1.0015

Analyst: [signature]
Calibration Date: 10/02/96
Test Meter No. 9548
Barometric Pressure 29.12

QA/QC Check: Lynne Sexton 10/3/96
Previous Calibration Date: 03/19/96
Previous Gamma: 0.9910

Temp Check
Ice H2O 32 degrees F
Boiling H2O 212 degrees F

Run	Orf Set	Initial Test	Final Test	Volume Test	Init Temp	Finl Temp	Test Temp	Initial Box	Final Box	Volume Box	I-I Temp	I-O Temp	F-I Temp	F-O Temp	Temp	Time	Delta H	Gamma
1	0.5	62.658	73.180	10.522	72.0	74.0	73.00	687.403	697.899	10.496	72.0	72.0	74.0	77.0	73.75	25.5	1.66749	1.00265
2	1.0	73.359	85.893	12.534	74.0	74.0	74.00	698.097	710.619	12.522	77.0	74.0	76.0	80.0	76.75	21.5	1.70167	1.00358
3	1.5	86.078	96.401	10.323	74.0	75.0	74.50	710.826	721.166	10.340	79.0	76.0	77.0	82.0	78.50	14.5	1.70920	1.00203
4	2.0	96.572	106.705	10.133	75.0	75.0	75.00	721.350	731.524	10.174	82.0	77.0	78.0	84.0	80.25	12.5	1.75531	1.00069
5	2.5	106.995	118.745	11.750	75.0	75.0	75.00	731.821	743.626	11.805	83.0	78.0	79.0	83.0	80.75	13.0	1.76332	0.99973
6	3.0	118.935	129.305	10.370	75.0	76.0	75.50	743.815	754.231	10.416	84.0	79.0	80.0	85.0	82.00	10.5	1.77145	1.00009

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 105 Pitot Tube Type: S

Standard Pitot I.D.: STD $C_{p(std)}$: .99

Calibration Technician: PAT McGUIRE Date: 8/29/96

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
0.44	0.63	.827	.002
0.45	0.64	.830	.001
0.45	0.64	.830	.001
Average		.829	.001

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
0.44	0.62	.834	.003
0.44	0.62	.834	.003
0.43	0.62	.824	.007
Average		.831	.004

$$C_{p(s)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{\Delta P_s}}$$

Deviation = $C_{p(s)}$ - Average $C_{p(s)}$ ≤ 0.01

Avg. $C_{p(s),A}$ - Avg. $C_{p(s),B}$ ≤ 0.01

C_p = .830

Verified By: Lynne Sexton Date: 9/4/96

Date:

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 106 Pitot Tube Type: S

Standard Pitot I.D.: STD $C_{p(std)}$: .99

Calibration Technician: PAT McGUIRE Date: 9/3/96

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
0.43	0.60	.838	.002
0.43	0.59	.845	.005
0.43	0.60	.838	.002
Average		.840	.003

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
0.43	0.60	.838	Ø
0.43	0.60	.838	
0.43	0.60	.838	
Average		.838	Ø

$$C_{p(S)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{\Delta P_s}}$$

Deviation = $C_{p(S)}$ - Average $C_{p(S)} \leq 0.01$

Avg. $C_{p(S),A}$ - Avg. $C_{p(S),B} \leq 0.01$

C_p = .839

Verified By: Lynne Sexton Date: 9/3/96

Date:

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 110 Pitot Tube Type: S

Standard Pitot I.D.: STD $C_{p(std)}$: .99

Calibration Technician: PAT McGUIRE Date: 8/29/96

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
0.43	0.61	.831	Ø
0.43	0.61	.831	
0.43	0.61	.831	
Average		.831	Ø

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
0.43	0.60	.838	.002
0.43	0.60	.838	.002
0.43	0.59	.845	.005
Average		.840	.003

$$C_{p(S)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{P_s}}$$

$$Deviation = C_{p(S)} - Average\ C_{p(S)} \leq 0.01$$

$$Avg.\ C_{p(S),A} - Avg.\ C_{p(S),B} \leq 0.01$$

C_p = .836

Verified By: Lynne Sutton Date: 9/3/96

Date:

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 115 Pitot Tube Type: S

Standard Pitot I.D.: STD $C_{p(std)}$: .99

Calibration Technician: PAT McGUIRE Date: 9/3/96

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
0.42	0.61	.821	.003
0.42	0.61	.821	.003
0.43	0.61	.831	.007
Average		.824	.004

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
0.43	0.63	.818	.001
0.43	0.63	.818	.001
0.42	0.62	.815	.002
Average		.817	.001

$$C_{p(S)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{P_s}}$$

$$\text{Deviation} = C_{p(S)} - \text{Average } C_{p(S)} \leq 0.01$$

$$\text{Avg. } C_{p(S),A} - \text{Avg. } C_{p(S),B} \leq 0.01$$

C_p = .821

Verified By: Lynne Lepton Date: 9/3/96

Date:

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 124 Pitot Tube Type: S

Standard Pitot I.D.: _____ $C_{p(std)}$: .99

Calibration Technician: Jeff Maides Date: 5/9/95

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
.43	.63	.818	.006
.44	.63	.827	.003
.44	.63	.827	.003
Average		.824	

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
.43	.62	.824	.002
.43	.62	.824	.002
.43	.61	.831	.005
Average		.826	

$$C_{p(s)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{\Delta P_s}}$$

$$Deviation = C_{p(s)} - Average\ C_{p(s)} \leq 0.01$$

$$Avg.\ C_{p(s),A} - Avg.\ C_{p(s),B} \leq 0.01$$

C_p = .825

PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 133 Pitot Tube Type: S

Standard Pitot I.D.: STD $C_{p(std)}$: .99

Calibration Technician: PAT McGUIRE Date: 8/29/96

Side "A" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),A}$	Deviation
0.44	0.60	.848	.005
0.44	0.61	.841	.002
0.44	0.61	.841	.002
Average		.843	.003

Side "B" Calibration			
ΔP_{std} (in. W.C.)	ΔP_s (in. W.C.)	$C_{p(S),B}$	Deviation
0.45	0.61	.850	.001
0.44	0.59	.854	.003
0.44	0.60	.848	.003
Average		.851	.002

$$C_{p(S)} = C_{p(std)} \times \sqrt{\frac{\Delta P_{std}}{P_s}}$$

$$Deviation = C_{p(S)} - Average\ C_{p(S)} \leq 0.01$$

$$Avg.\ C_{p(S),A} - Avg.\ C_{p(S),B} \leq 0.01$$

C_p = .847

Verified By: Lynne Sexton Date: 9/3/96

Date:

METHOD 20
INTERFERENCE RESPONSE TABLE

DATE: 1/3/95

ANALYZER TYPE: O_2 #5

SERIAL NUMBER: 115914

TEST GAS TYPE	CONCENTRATION (ppmdv)	ANALYZER OUTPUT	% OF SPAN
SO_2 cyl. #SGAL-2156	224	0.08	0.3
NO_x cyl. #ALM009351	223	0.00	0.0
CO cyl. #SGAL 1966	442	0.01	0.0
CO_2 cyl. #ALM028817	10.4%	0.01	0.0
TOTAL			0.3

% OF SPAN = (ANALYZER OUTPUT RESPONSE/INSTRUMENT SPAN) X 100

The sum of the (% of Span) values should not exceed 2%.

REFERENCE METHOD CALIBRATION DATA

ANALYZER ID: O_2 115914	
UNITS: %	SPAN: 25%
SOURCE ID:	
LOCATION: ETS	
TECHNICIAN: D. Vecellio	
DATE(S): 01 / 03 / 95	

ANALYZER CALIBRATION					
RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % SPAN	TIME
ZERO	N_2 - AX18304	0	0.09	0.36	15:00
LOW	O_2 - ALM045637	9.97	10.05	0.32	15:14
HIGH	O_2 - ALM044169	~~17.07~~ 21.7	21.7	0	15:10
OTHER					

SYSTEM BIAS AND DRIFT			SYSTEM BIAS				SYSTEM DRIFT			
RUN ID	RANGE	ANALYZER RESPONSE	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									

EPA METHOD 20
INTERFERENCE RESPONSE TABLE

Date: 04/19/93
Analyzer Type: Carbon Dioxide #5
Serial Number: 91-20-15
Span Value: 20 %

Test Gas Type	Concentration (ppmdv)	Analyzer Output	% of Span
CO	488	0.101	0.0051
O2	21.9	0.203	0.0102
SO2	231	-0.021	0.0011
NOx	232	-0.007	0.0004
Total			0.0166

% of Span = (Analyzer output response / Instrument span) x 100
The sum of the (% of Span) values should not exceed 2%.

EPA METHOD 20
INTERFERENCE RESPONSE TABLE

Date: 04/15/93
Analyzer Type: Nitrogen Oxides #3
Serial Number: 28304-231
Span Value: 250 ppm

Test Gas Type	Concentration (ppmdv)	Analyzer Output	% of Span
O2	21.9	0.137	0.0005
CO	488	0.168	0.0007
CO2	9.98	0.202	0.0008
SO2	231	-0.004	0.0000
Total			0.0020

% of Span = (Analyzer output response / Instrument span) x 100
The sum of the (% of Span) values should not exceed 2%.

ETS, Inc

NOx ANALYZER CONVERTER CHECK

TEST INFORMATION

Analyzer Manufarturer:	THERMO ENVIRONMENTAL
Model No.:	10 A/R
Serial No:	12304-231
Span Setting (ppm):	250
NO Gas Value:	224
NO2 Gas Value:	114
Date:	3 Oct 96
Technician:	W.C. HAYES

ANALYZER RESPONSE

Prepared Sample

time (min)	response (ppm)	time (min)	response (ppm)
1	114	16	114
2	114	17	114
3	114	18	114
4	114	19	114
5	114	20	114
6	114	21	114
7	114	22	114
8	114	23	114
9	114	24	114
10	114	25	114
11	114	26	114
12	114	27	114
13	114	28	114
14	114	29	114
15	114	30	114

Highest Response (ppm)
114

Final Response (ppm)
114

Reduction (%)
0

NO2 Gas

NO2 Gas (ppm):	114
Stable Response (ppm):	114
Conversion Eff. (%):	100

CHART

NO

F(4)

NOx CONVERTER
MDL 10 A/R
SN: 28304-231
CANISTER 6004-231

FAC SUPPORT 20
SUPPRESSION - 20
RANGE - 0250
CONV TEMP 650 °C
AIR VAC 28" Hg
FLOW 15 SCFH
EPI 224 @ 642
ZERO @ 044
REDUCTION - 0 %
EFFICIENCY 100%
3 OCT 86
W. E. HAYES

PRINTING

10 9 8 7 6 5 4 3 2 1 0

0 1 2 3 4 5 6 7 8 9 10

START NOX

OFF NO

(ppm)

METHOD 20
INTERFERENCE RESPONSE TABLE

DATE: 5/28/96

ANALYZER TYPE: CO #1

SERIAL NUMBER: 48-25815-222

TEST GAS TYPE	CONCENTRATION (ppmdv)	ANALYZER OUTPUT	% OF SPAN
O_2 ALM 019498	21.9 %	0.080	.008
CO_2 ALM 028817	10.14 %	-0.035	-.0035
SO_2 ALM 045690	224	0.0	0.0
N_{OX} AAL 3884	226	-0.130	-0.013
TOTAL		-.085	-0.0085

% OF SPAN = (ANALYZER OUTPUT RESPONSE/INSTRUMENT SPAN) X 100

The sum of the (% of Span) values should not exceed 2%.

FEI CE NO. ALI .TI DA

ANALYZER ID: CO #1 48-25815-222	
UNITS: (PPM dv)	SPAN: 1,000
SOURCE ID: Interference check	
LOCATION: ETS Shop T III	
TECHNICIAN: C.S.	
DATE(S): 5 / 28 / 96	

ANALYZER CALIBRATION					
RANGE	GAS CYLINDER ID	GAS VALUE	ANALYZER RESPONSE	ERROR % SPAN	TIME
ZERO	N_2 AX 29114	0	0.001	.0001	9:15
LOW	CO ALM 019286	298.2	300.0	.18	9:17
HIGH	CO ALM 044198	594	596.36	.236	9:19
OTHER	CO ALM 039316	845	847.8	.32	9:21

SYSTEM BIAS AND DRIFT			SYSTEM BIAS				SYSTEM DRIFT			
RUN ID	RANGE	ANALYZER RESPONSE	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME	SYSTEM RESPONSE	ABSOLUTE ERROR	ERROR % SPAN	TIME
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									
	ZERO									
	UPSCALE									

4256

Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS Inc.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 6011
Scott Project # 12-17593

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	ALM-046404	**Certification Date**	05-29-96	**Expiration Date**	05-29-99
Cylinder Pressure	2000 psig	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Oxygen	12.18 %	+/- 1% NIST Directly Traceable
Carbon Dioxide	10.28 %	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 2658	11-96	ALM-031884	9.68 % O2 Balance in N2
NTRM # 18000	12-96	ALM-047577	17.95 % CO2 Balance in N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	05-02-96	Gas Chromatography
Varian /3400/0160	05-06-96	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Oxygen	Date: 05-28-96 Response Units: Area STD=243662 SPL=307091 SPL=306732 STD=244129 STD=243722 SPL=306711	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 05-02-96
Carbon Dioxide	Date: 05-29-96 Response Units: Area STD=350818 SPL=200927 SPL=200852 STD=350922 STD=351004 SPL=200872	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 05-06-96

S. Vaughan
Analyst S. Vaughan

4032

Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, Inc.
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5733
Scott Project # 12-13940

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	AAL-4630	**Certification Date**	10-10-95	**Expiration Date**	10-10-98
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Oxygen	22.01 %	+/- 1% NIST Directly Traceable
Carbon Dioxide	17.30 %	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 2659	11-96	ALM-031720	20.72% O2 Balance in N2
NTRM # 18000	12-96	ALM-047691	17.95 % CO2 Balance in N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	10-06-95	Gas Chromatography
Varian /3400/0160	09-19-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Oxygen	Date: 10-10-95 Response Units: Area STD=551274 SPL=586650 SPL=585562 STD=551624 STD=550755 SPL=587284	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 10-06-95
Carbon Dioxide	Date: 10-10-95 Response Units: Area STD=314569 SPL=302979 SPL=303116 STD=313924 STD=314551 SPL=303018	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 09-19-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	

Analyst S. Vaughan

3001

Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5000
Scott Project # 12-08091

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	AAL-8753	**Certification Date**	08-17-94	**Expiration Date**	08-17-96
Cylinder Pressure	1915 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Nitric Oxide	50.1 PPM	+/- 1% NIST Directly Traceable
NOX	50.3 PPM	Reference Value Only
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
*NTRM# 1683	09/94	ALM-002964	49.2 PPM Balance in Nitrogen
**NTRM #1684	06/96	ALM-024695	95.2 PPM Balance in Nitrogen

*First Analysis ** Second Analysis

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
NO: Horiba/CLA53A/850658093	08-08-94	Chemiluminescent

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components: Nitric Oxide

First Triad Analysis

Date: 08-08-94 Response Units: PPM
Z1=0.08 R2=49.58 Z3=0.02
R1=49.77 Z2=0.00 T3=50.21
T1=50.11 T2=50.06 R3=49.78

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Second Triad Analysis

Date: 08-17-94 Response Units: PPM
Z1=0.0 R2=95.1 Z3=0.0
R1=95.1 Z2=0.0 T3=50.1
T1=50.0 T2=50.1 R3=95.1

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Calibration Curve

Date: 08-08-94

Date:

Date:

Analyst K. Cooke

3108

Scott Specialty Gases

1750 E. CLUB BLVD., DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: Interference Free™ Multi-Component EPA Protocol Gas

Customer
ETS Inc.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 E. Club Blvd.
Durham, NC 27704

Purchase Order 6011
Scott Project # 12-17593

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay and Certification of Gaseous Calibration Standards; Procedure G1; September, 1993.

Cylinder Number	AAL-5667		Certification Date	06-04-96
Cylinder Pressure+	1857 psig	Previous Certification Dates	Exp. Date	06-04-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Accuracy*
Nitric Oxide	125.8 ppm	±1% NIST Traceable
Total Oxides of Nitrogen	125.8 ppm	Reference Value Only
Nitrogen	Balance Gas	

+ Do not use when cylinder pressure is below 150 psig.
* Analytical accuracy is inclusive of usual known error sources which at least includes precision of the measurement processes.

REFERENCE STANDARD

Type/Sample No.	Expiration Date	Cylinder Number	Concentration
NTRM 1685	07-10-97	ALM-048498	247.5 ppm NO in N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Method
Nicolet FTIR/8220/AAB9400252	06-03-96	Scott Enhanced FTIR™

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

NO

First Triad Analysis

Date: 05-28-96 Response Units: ppm

Z1= 0.098	R1= 247.2	T1= 125.9
R2= 247.5	Z2= 0.218	T2= 125.8
Z3= 0.251	T3= 126.0	R3= 247.9

Avg. Concentration = 126.0

Second Triad Analysis

Date: 06-04-96 Response Units: ppm

Z1= 0.105	R1= 247.6	T1= 125.7
R2= 247.5	Z2= 0.622	T2= 125.7
Z3= 0.521	T3= 125.5	R3= 247.3

Avg. Concentration = 125.6

Calibration Curve

Concentration=$A+Bx+Cx^2+Dx^3+Ex^4+Fx^5$

r= 0.99999

Constants:	A= -2.04523E-1
B= 7.55972E-1	C= 2.59896E-4
D= 5.37744E-7	E= -1.13202E-1
F= 1.91805E-13	

Special Notes:

B. Becton
Analyst B. Becton

PS

3206

Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, Inc.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5129
Scott Project # 12-08743

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	ALM-045665	**Certification Date**	10-11-94	**Expiration Date**	10-11-96
Cylinder Pressure	1875 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Nitric Oxide	225 PPM	+/- 1% NIST Directly Traceable
NOX	227 PPM	Reference Value Only
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM# 1685	08/96	ALM-036516	245.4 PPM Balance in Nitrogen
NTRM# 1686	07/95	ALM-022384	492 PPM Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
NICOLET / 8220 / AAB9400252	09-24-94	FTIR
NO: Horiba/CLA53A/850658093	10-10-94	Chemiluminescent

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components: Nitric Oxide

First Triad Analysis

Date: 10-04-94 Response Units: PPM
Z1=0.1 R2=245.2 Z3=0.5
R1=245.4 Z2=0.3 T3=224.1
T1=224.4 T2=224.2 R3=244.2

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Second Triad Analysis

Date: 10-11-94 Response Units: PPM
Z1=0.6 R2=492.1 Z3=0.7
R1=491.4 Z2=0.2 T3=224.2
T1=224.5 T2=224.2 R3=491.4

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Date: Response Units:
Z1= R2= Z3=
R1= Z2= T3=
T1= T2= R3=

Calibration Curve

Date: 10-10-94

Date:

Date:

Analyst K. Cooke

213-585-2154
FAX# 213-585-0582

LIQUID CARBONIC

CYLINDER GAS PRODUCTS
5700 SOUTH ALAMEDA STREET • LOS ANGELES, CA 90058

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUS. DIST. P.O NUMBER SG110908

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
SULFUR DIOXIDE GMIS	vs 1694a	SA 5155	97.9 ppm

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT SULFUR DIOXIDE GMIS ANALYZER MAKE-MODEL-S/N Siemens Ultramat 5E S/N C1-009

ANALYTICAL PRINCIPLE NDIR LAST CALIBRATION DATE 04/21/95

FIRST ANALYSIS DATE 05/03/95 SECOND ANALYSIS DATE

Z 0.0	R 98.0	C 50.5	CONC. 50.4 ppm	Z	R	C	CONC.
R 97.8	Z 0.0	C 50.2	CONC. 50.3 ppm	R	Z	C	CONC.
Z 0.0	C 50.4	R 98.2	CONC. 50.2 ppm	Z	C	R	CONC.
U/M ppm		MEAN TEST ASSAY	50.3 ppm	U/M ppm		MEAN TEST ASSAY	

Values not valid below 150 psig
Last assay date: 08/17/93, results: 50.7 ppm SO2.

THIS CYLINDER NO. SA 8428
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R93/224
OF TRACEABILITY PROTOCOL NO. Rev. 9/93
PROCEDURE G1
CERTIFIED ACCURACY ± 2 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 05/03/95
EXPIRATION DATE 05/03/97 TERM 24 MONTHS

CERTIFIED CONCENTRATION

SULFUR DIOXIDE	50.5 ppm
NITROGEN	BALANCE

ANALYZED BY [signature] CERTIFIED BY [signature]
DOUG GRANT

Scott Specialty Gases

RECEIVED AUG 1 4 1996

1750 E. CLUB BLVD., DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: Interference Free™ Multi-Component EPA Protocol Gas

Customer
ETS Inc.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 E. Club Blvd.
Durham, NC 27704

Purchase Order 6067
Scott Project # 12-18382

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay and Certification of Gaseous Calibration Standards; Procedure G1; September, 1993.

Cylinder Number ALM-044084
Cylinder Pressure+ 1893 psig

Previous Certification Dates:

Certification Date 08-08-96
Exp. Date 08-08-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Accuracy*
Sulfur Dioxide	96.5 ppm	±1% NIST Traceable
Nitrogen	Balance Gas	

+ Do not use when cylinder pressure is below 150 psig.
* Analytical accuracy is inclusive of usual known error sources which at least includes precision of the measurement processes.

REFERENCE STANDARD

Type/Sample No.	Expiration Date	Cylinder Number	Concentration
NTRM1694	04-12-98	ALM-040177	94.4 ppm SO2 in N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Method
Nicolet FTIR/8220/AAB9400252	08-05-96	Scott Enhanced FTIR™

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components: SO2

First Triad Analysis

Date: 07-30-96 Response Units: ppm

Z1= 0.542	R1= 94.3	T1= 95.7
R2= 94.3	Z2= 0.769	T2= 96.0
Z3= 0.800	T3= 96.2	R3= 94.7

Avg. Concentration = 96.0

Second Triad Analysis

Date: 08-08-96 Response Units: ppm

Z1=0.521	R1= 94.1	T1= 96.8
R2= 94.7	Z2=0.696	T2= 96.7
Z3= 0.375	T3= 97.1	R3= 94.4

Avg. Concentration = 96.9

Calibration Curve

Concentration=A+Bx+Cx^2
r= 0.99999
Constants: A=-4.7404E-2
B= 8.28077E-1 C= -2.7722E-4

Special Notes:

B. Becton
Analyst B. Becton

PROOF

Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 4886
Scott Project # 12-07484

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	ALM-018993	**Certification Date**	06-27-94	**Expiration Date**	06-27-97
Cylinder Pressure	1915 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Carbon Monoxide	149.3 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 2636	12/94	ALM-024902	243.2 PPM Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	06-03-94	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Carbon Monoxide	Date: 06-20-94 Response Units: Area STD=11609 SPL=7159 SPL=7164 SPL=7137 STD=11581 STD=11659	Date: 06-27-94 Response Units: Area STD=12033 SPL=7393 SPL=7345 SPL=7425 STD=12157 STD=12048	Date: 06-03-94
	Date: Response Units: STD= SPL= SPL= SPL= STD= STD=	Date: Response Units: STD= SPL= SPL= SPL= STD= STD=	Date:
	Date: Response Units: STD= SPL= SPL= SPL= STD= STD=	Date: Response Units: STD= SPL= SPL= SPL= STD= STD=	

Analyst T. Richards

Scott Specialty Gases

5200

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS Inc.
Attn: Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12- 13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	ALM-019286	**Certification Date**	08-28-95	**Expiration Date**	08-28-98
Cylinder Pressure	2027 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Carbon Monoxide	298.2 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM# 2636	08-96	ALM-034285	244.2 PPM CO Balance in N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
NICOLET / 8220 / AAB9400252	08-01-95	FTIR

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Carbon Monoxide	Date: 08-21-95 Response Units: PPM Z1= -0.012 R2=244.2 Z3= -0.017 R1= 244.2 Z2= -0.012 T3=298.0 T1= 299.5 T2=298.5 R3= 243.9	Date: 08-22-95 Response Units: PPM Z1=-0.013 R2=243.7 Z3= 0.044 R1=244.2 Z2=0.093 T3= 297.5 T1= 297.6 T2= 298.0 R3=243.0	Date: 08-01-95
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:

B. Becton

Analyst B. Becton

54C

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LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CALIFORNIA 90058

213-585-2154
FAX# 213-585-0582

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUST. DIST. P.O NUMBER 120393-1

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON MONOXIDE GMIS	vs 1681b	CC 43665	950 ppm

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT CARBON MONOXIDE GMIS ANALYZER MAKE-MODEL-S/N Siemens Ultramat 5E S/N A12-729

ANALYTICAL PRINCIPLE NDIR LAST CALIBRATION DATE 12/06/93

FIRST ANALYSIS DATE 12/13/93 SECOND ANALYSIS DATE 12/20/93

Z 0	R 950	C 442	CONC. 442 ppm	Z 0	R 950	C 442	CONC. 442 ppm
R 950	Z 0	C 442	CONC. 442 ppm	R 950	Z 0	C 442	CONC. 442 ppm
Z 0	C 442	R 950	CONC. 442 ppm	Z 0	C 442	R 950	CONC. 442 ppm
U/M ppm		MEAN TEST ASSAY	442 ppm	U/M ppm		MEAN TEST ASSAY	442 ppm

THIS CYLINDER NO. SGAL 1966
HAS BEEN CERTIFIED ACCORDING TO SECTION 3.0.4
OF TRACEABILITY PROTOCOL NO. 1
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 1650 PSIG
CERTIFICATION DATE 12/20/93.
EXPIRATION DATE 12/20/96 TERM 36 MONTHS

CERTIFIED CONCENTRATION

CARBON MONOXIDE	442 ppm
NITROGEN	BALANCE

ANALYZED BY Kelly A. Gallagher KELLY A. GALLAGHER CERTIFIED BY Maria E. Nelson MARIA E. NELSON

Scott Specialty Gases, Inc.

6141 EASTON ROAD, P.O. BOX 310, PLUMSTEADVILLE, PA 18949-0310 (215) 766-8861 FAX: (215) 766-0320

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
Ets Inc
1401 Municipal Road Nw
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
6141 Easton Road
P.O. Box 310
Plumsteadville, PA 18949-0310

Purchase Order 5000
Scott Project # 01-59436-005

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure #G1, Section Number 3.0.4

Cylinder Number	ALM019356	Certification Date	08-08-94	Expiration Date	08-08-97
Cylinder Pressure	2000 psig+	Previous Certification Dates	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	44.8 ppm	±1% NIST Traceable
Balance Gas: Nitrogen		

+Do not use when cylinder is less than 150 psig.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM1668	08-16-94	ALM032011	95.5 ppm C_3H_8 in N_2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
C_3H_8: Varian/VA3300/7945	07-16-94	FID

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-08-94 Response Units: Area Z1=000000 R1=108250 T1=050832 R2=108260 Z2=000000 T2=050890 Z3=000000 T3=050904 R3=108530 Avg. Conc. of Cust. Cyl. 44.8 ppm		Concentration=A+Bx+Cx^2+Dx^3+Ex^4 r=0.99998 NTRM1685 Constants: A=-7.0980E-01 B=3.3276E+01 C=0.0000E+00 D=0.0000E+00 E=0.0000E+00

Special Notes:

☐ Check this box if certified concentration has been corrected for analytical interferences.

Analyst Walter Sabitus

Scott Specialty Gases

1516

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Mr. Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12-13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number ALM-019243
Cylinder Pressure 2000 PSIG
Certification Date 08-21-95
Previous Certification None
Expiration Date 08-21-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	14.83 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1666	08-95	AAL-8237	9.62 PPM C3H8 Balance in Air

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	08-16-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-21-95 Response Units: Area STD=122448 SPL=189498 SPL=189128 STD=123101 STD=122683 SPL=188989	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 08-16-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date:
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Analyst S. Vaughan

Scott Specialty Gases

1337

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Mr. Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12-13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number AAL-16530
Cylinder Pressure 2000 PSIG
Certification Date 08-21-95
Previous Certification None
Expiration Date 08-21-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	24.50 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1666	08-95	AAL-8237	9.62 PPM C3H8 Balance in Air

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	08-16-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-21-95 Response Units: Area STD=122448 SPL=312488 SPL=312617 STD=123101 STD=122683 SPL=312728	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 08-16-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date:
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Analyst / S. Vaughan

Scott Specialty Gases

1008

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Mr. Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12-13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number	AAL-13506	**Certification Date**	08-21-95	**Expiration Date**	08-21-98
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	24.59 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1666	08-95	AAL-8237	9.62 PPM C3H8 Balance in Air

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	08-16-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-21-95 Response Units: Area STD=122448 SPL=313778 SPL=313707 STD=123101 STD=122683 SPL=313675	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 08-16-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date:
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Analyst S. Vaughan

Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Mr. Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12-13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number ALM-032829
Cylinder Pressure 2000 PSIG
Certification Date 08-21-95
Previous Certification None
Expiration Date 08-21-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	44.82 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1666	08-95	AAL-8237	9.62 PPM C3H8 Balance in Air

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	08-16-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-21-95 Response Units: Area STD=122448 SPL=571784 SPL=572014 STD=123101 STD=122683 SPL=571929	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 08-16-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date:
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Analyst S. Vaughan

Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ETS, INC.
Attn: Mr. Bill Hayes
1401 Municipal Road NW
Roanoke, VA 24012

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order 5661
Scott Project # 12-13247

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

Cylinder Number AAL-16208
Cylinder Pressure 2000 PSIG
Certification Date 08-21-95
Previous Certification None
Expiration Date 08-21-98

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Propane	84.33 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

Do not use when cylinder pressure is less than 150 PSIG.

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1668	06-96	ALM-032005	95.5 PPM C3H8 Balance in Air

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/16804	08-16-95	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Propane	Date: 08-21-95 Response Units: Area STD=1229415 SPL=1084372 SPL=1083807 STD=1226238 STD=1224770 SPL=1081895	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: 08-16-95
	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date: Response Units: STD= SPL= SPL= STD= STD= SPL=	Date:
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Analyst S. Vaughan

Marker	Description	Display	Average
A	Data was Absent from original raw data file.	√	
C	CALIBRATION POINT	√	
*	Data was not used in calculated parameter averages.		

LOUISIANA PACIFIC - DUNGANNON
RTO OUTLET
9/10/96
LOCAL CALIBRATION

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
07:49	0.014C	0.032C	-0.04	0.32
07:50	0.013	0.028	-0.06	0.17
07:51	0.244	1.002	-0.06C	0.09
07:52	9.520	9.220	-0.37	0.04
07:53	11.730	10.160	-0.44	0.05
07:54	11.950	10.180	-0.40	0.03C
07:55	12.170	10.230	-0.36	0.04
07:56	12.170C	10.190C	-0.38	0.62
07:57	12.270	10.180	-0.44	1.70
07:58	12.410	10.200	-0.41	1.26
07:59	12.570	10.200	-0.40	0.96
08:00	12.740	10.200	-0.43	0.74
08:01	12.930	10.190	-0.45	0.58
08:02	13.110	10.190	-0.37	0.49
08:03	13.300	10.170	-0.38	0.44
08:04	13.490	10.170	-0.39	0.40
08:05	13.670	10.160	-0.44	0.37
08:06	13.850	10.160	-0.41	0.34
08:07	14.030	10.170	-0.38	0.32
08:08	13.980	10.130	-0.37	0.34
08:09	12.380	9.510	-0.39	0.12
08:10	17.630	15.330	-0.58	0.05
08:11	21.630	17.400C	-0.68	0.04
08:12	21.660C	17.420	-0.74	0.05
08:13	20.540	14.730	5.58	0.07
08:14	3.540	1.410	23.48	0.03
08:15	0.100	0.070	24.84	0.02
08:16	0.067	0.056	25.31C	0.02
08:17	0.108	0.049	37.37	0.02
08:18	0.135	0.036	61.49C	0.02
08:19	0.020	0.036	61.91	0.02
08:20	0.017	0.033	82.10	0.03
08:21	0.019	0.028	97.10C	0.03
08:22	0.017	0.026	61.43	8.33
08:23	0.027	0.035	35.14	41.75
08:24	0.100	0.067	3.62	49.82
08:25	0.059	0.040	0.29	49.67C
08:26	0.024	0.036	0.46	54.99
08:27	0.061	0.044	0.69	84.60
08:28	0.057	0.051	0.63	85.60
08:29	0.131	0.052	0.50	83.50

LOUISIANA PACIFIC - DUNGANNON
RTO OUTLET
9/10/96
LOCAL CALIBRATION

Starting
09-10-96

Time	RTO O2 (% dv)	RTO CO2 (% dv)	RTO CO (ppmdv)	RTO NOx (ppmdv)
08:30	0.313	0.052	0.40	83.20
08:31	0.392	0.050	0.38	83.10C

LOUISIANA PACIFIC - DUNGANNON
RTO OUTLET
REFERENCE METHOD 25A DATA
LOCAL CALIBRATION

Starting
09-10-96

Time	RTO OUTLET VOCppmwv
08:54	44.70
08:55	44.80C
08:56	24.34
08:57	0.11
08:58	0.04C
08:59	11.88
09:00	14.38C
09:01	14.40
09:02	18.92
09:03	25.56
09:04	25.59C

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD TESTING
CALIBRATION

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
07:31	5.1170	0.0160C
07:32	6.1550	0.1780
07:33	5.1890	0.2150
07:34	4.4490	12.8700
07:35	2.0720	20.1100
07:36	0.4070	50.9600
07:37	-0.0450	48.9800
07:38	-0.0140C	49.4200
07:39	-0.0320	99.6000
07:40	-0.0180	108.1000
07:41	0.0010	89.7000
07:42	0.7810	85.5000
07:43	2.6290	84.8000C
07:44	3.6700	82.9000
07:45	3.8060	80.8000
07:46	3.8240	78.8000
07:47	3.8090	84.0000
07:48	3.6880	86.4000
07:49	48.5400	79.2000
07:50	82.6000	24.3200C
07:51	83.0000	18.6100
07:52	83.3000	13.6800
07:53	84.3000C	4.8420
07:54	83.4000	-0.1800
07:55	47.9600	-2.5710
07:56	27.8400	-4.0210
07:57	25.0500	-4.6070
07:58	24.5200C	-.70E+04
07:59	12.4500	-.70E+04
08:00	5.3560	105.1000
08:01	4.9770	97.8000
08:02	4.8600	96.0000
08:03	4.8060	91.1000
08:04	4.8450	87.2000
08:05	4.7610	84.2000
08:06	5.3170	83.4000
08:07	4.2180	86.9000
08:08	0.1080	89.9000
08:09	4.7790	70.0000
08:10	34.5900	64.9000
08:11	45.2100C	59.5400

LOUISIANA PACIFIC
DRYER OUTLET AND SCRUBBER OUTLET
REFERENCE METHOD TESTING
CALIBRATION

Starting
09-10-96

Time	DRYEROUT VOC ppmwv	SCRUBOUT VOC ppmwv
08:12	43.5200	52.1800
08:13	17.4300	54.9800
08:14	6.8490	70.1000
08:15	7.1200	66.6600
08:16	7.0000	63.7100
08:17	7.0000	60.9200
08:18	-.70E+04	57.4900
08:19	98.1000	55.3400
08:20	51.9100	48.8300
08:21	25.5700	44.3000C

LOUISIANA PACIFIC - DUNGANNON
PRESS OUTLET
REFERENCE METHOD DATA
LOCAL CALIBRATION

Starting
09-10-96

Time	PRESS OUTLET VOCppmwv
08:36	0.23C
08:37	11.76
08:38	14.75C
08:39	1.95
08:40	0.28
08:41	0.24
08:42	0.29
08:43	0.33
08:44	0.33
08:45	0.29
08:46	0.26
08:47	0.43
08:48	0.67
08:49	0.64
08:50	0.36
08:51	11.40
08:52	34.60
08:53	45.71C
08:54	31.63
08:55	24.55
08:56	24.56C

LOUISIANA PACIFIC - DUNGANNON
KONIS STACK
9/11/96
LOCAL CALIBRATION

Starting
09-11-96

Time	KONIS O2 (% dv)	KONIS CO2 (% dv)	KONIS CO (ppmdv)	KONIS SO2 (ppmdv)	KONIS NOx (ppmdv)
07:26	0.025C	0.013C	-0.11	0.05C	0.02C
07:27	0.324	1.167	-0.10	0.06	0.10
07:28	10.070	9.470	-0.13	-0.00	0.02
07:29	12.150C	10.300C	-0.07C	0.03	0.03
07:30	12.290	10.930	-0.27	0.02	0.03
07:31	19.780	16.840	-1.13	-0.10	0.03
07:32	21.530	17.480	-1.11	-0.05	0.03
07:33	21.610	17.520	-1.12	-0.04	0.03
07:34	21.620C	17.470C	-1.06	-0.07	0.03
07:35	20.500	14.730	112.00	-0.04	0.04
07:36	3.552	1.438	424.30	-0.03	0.02
07:37	0.043	0.041	442.10C	-0.10	0.02
07:38	0.028	0.031	441.60	-0.16	0.02
07:39	0.035	0.025	351.30	-0.17	0.05
07:40	0.067	0.022	151.50	-0.13	0.03
07:41	0.021	0.023	148.20C	-0.15	0.03
07:42	0.016	0.018	221.30	-0.24	0.02
07:43	0.019	0.017	283.40	-0.29	0.02
07:44	0.016	0.018	286.10C	-0.21	0.02
07:45	0.017	0.020	285.90	5.56	0.06
07:46	0.063	0.023	81.80	45.01	0.08
07:47	0.012	0.013	1.24	48.64	0.08
07:48	0.016	0.015	0.88	49.32C	0.07
07:49	0.015	0.012	0.86	58.41	0.10
07:50	0.122	0.016	0.90	91.50	0.36
07:51	0.183	0.025	0.23	114.10	0.02
07:52	0.016	0.015	-0.11	114.80C	0.02
07:53	0.013	0.017	-0.10	114.60	0.02
07:54	0.019	0.016	0.17	40.64	36.04
07:55	0.034	0.015	0.02	1.43	50.32C
07:56	0.015	0.014	-0.06	0.89	69.54
07:57	0.034	0.018	0.02	0.39	82.60C

LOUISIANA PACIFIC - DUNGANNON
KONIS STACK
9/11/96
LOCAL CALIBRATION

Starting
09-11-96

Time	KONIS VOC (ppmwv)
08:10	0.08C
08:11	0.10
08:12	0.07
08:13	0.36
08:14	1.24
08:15	9.06
08:16	14.19
08:17	14.10
08:18	14.19
08:19	14.38
08:20	14.53C
08:21	13.70
08:22	11.60
08:23	22.04
08:24	24.22
08:25	24.48C
08:26	24.45
08:27	28.92
08:28	34.34
08:29	38.01
08:30	45.94
08:31	46.00C

APPENDIX R

FUEL HEATING CONTENT ANALYSES

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keaton Road
Glen Allen, Virginia 23059
Phone 804 • 550 • 3971
Fax 804 • 550 • 3826

Certificate of Analysis

ETS Inc.
Attn: Terry Williamson
1401 Municipal Road, NW
Roanoke, VA 24012-1309

Project No. :
Project Name : #96-815-T
Date Received: September 17, 1996
Date Sampled : September 11, 1996
Time Sampled :
Date Issued : September 25, 1996

Reference Method: ASTM

Two bark samples labeled Bark Fuel and Wood Burner Dry Fuel were analyzed for BTU.

Sample ID	BTU/lb
Bark Fuel as received	4529
Bark Fuel Dry	7506
Wood Burner as received	0
Wood Burner Dry	.8554

Mark D. Williams
Laboratory Manager

R6915627-1

DUNGANNON COMPLIANCE TEST SEPTEMBER 10-11, 1996

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LOUISIANA-PACIFIC CORPORATION
HAYWARD, WI 54843

DISTRIBUTE TO

OSB GROUP:

AL LAWRENCE (SAGOLA)

SOUTHWEST

JOE OLSON (SILSBEE)
JERRY STOKELD - NEW WAVERLY
ERIC MASSEY - NEW WAVERLY
- CARTHAGE
- CARTHAGE
LARRY AVANT - CORRIGAN
RUSSELL GUYNES - CORRIGAN
PAUL JONES - URANIA
MICHAEL MARTIN - URANIA
GREG WALKER - SILSBEE
JEFF WARD - SILSBEE
JOHN KNIERIM - JASPER
- JASPER

CENTRAL

JIM LAKE (HAYWARD)
MIKE RAZZETO - CHILCO
JASON PUTNAM - CHILCO
CLINT SHILTS - MONTROSE
GARY FIELDS - MONTROSE
DEL SALQUIST - HAYWARD
BRENT KETZENBERGER - HAYWARD
TODD MAKI - SAGOLA
BRIAN KAVEN - SAGOLA
GERRY NASON - HOULTON
MARK STILE - HOULTON

CANADIAN/IRELAND

JIM HEINEMANN (SWAN VALLEY)
NORM HANSON - DAWSON CREEK
KIM POON - DAWSON CREEK
VAUGHN BEHRMANN - SWAN VALLEY
KEVIN WARKENTIN - SWAN VALLEY
WILLIAM GLENN - WATERFORD
BRID NAGEL - WATERFORD

ATLANTIC

FRED HARGROVE (HANCEVILLE)
MIKE SARDER - DUNGANNON
X MICKEY MULLINS - DUNGANNON
WAYNE YOUNG - ROXBORO
SHANE MCCARTHY - ROXBORO
TROY BROWN - ATHENS
ANTHONY ROSS - ATHENS
RICHARD SOUTHEARD - HANCEVILLE
KEITH SMITH - HANCEVILLE

SIDING GROUP:

PETE WAINER (TWO HARBORS)
DICK HANSON - TWO HARBORS
MIKE ANDERSON - TWO HARBORS
STEVE DANIELSON - TWO HARBORS
CHRIS FORSLUND - TOMAHAWK
JAMIE DICKSON - TOMAHAWK
JEFF POTOCNIK - NEWBERRY
PATRICK DOYLE - NEWBERRY
STEPHANIE BROWNE - NEWBERRY

PORTLAND

LIZ SMITH
MICHAEL BRYGGER
SHANNON TOCCHINI
SALLY MARTIN
LAURI NEWTON

HAYWARD

TONY CAVADEAS
ROB MITTLESDORF
BOB SCHULTZ
MARK BECKER
KEITH SEELIG
SUE SOMERS
MIKE HARE
JOEL ANDERSON

HAYDEN LAKE

JIM ELLISOR
JIM EVENSEN

COMMENTS:
1996 Compliance Test
Process Data for Dungannon

DATE: 9/24/96

FROM: Joel Anderson

GENERAL DESCRIPTION

DUNGANNON DRYER & PRESS AND KONUS TESTING
SEPTEMBER 10-12, 1996

All testing was conducted using 95% hardwoods. The finished product was 7/16" 4' x 8' OSB.

DUNGANNON TESTING SEPTEMBER 10-11, 1996
Test schedule

Scrubber Inlet & Outlet/Press & RTO Outlet

	POLLUTANT	RUN #1	RUN #2	RUN #3
9-10	PM-10,PM,VOC,NOX CO,FORMALDEHYDE	1230-1340	1430-1540	1630-1740

RTO Outlet

	POLLUTANT	RUN #1	RUN #2	RUN #3
9-11	MDI	0930-1100	1235-1345	1438-1548

Konus Outlet

	POLLUTANT	RUN #1	RUN #2	RUN #3
9-11	PM-10,PM,VOC,NOX CO,FORMALDEHYDE	1020-1130	1235-1345	1450-1558

DUNGANNON TESTING SEPTEMBER 10-11, 1996

DUNGANNON 9/10/96 SCRUBBER INLET & OUTLET/PRESS & RTO OUTLET
PM-10,PM,VOC,NOX,CO,FORMALDEHYDE

12.82 =PressProduction rate in Tons per hour
29,249 = Production rate of both dryers in pounds per hour
1.81 = fuel burned in tons per hour
39.38% =average incoming moisture percent
7.72% =average dry moisture percent
1,292 =average inlet temperature
1,571 =average RTO chamber temperature
12.82 =Plant Production rate in Tons per hour
213 =MDI resin usage in pounds per hour
0.83% =MDI resin usage as % of finished product
568 =average lbs. per hour of phenol (100% solids) used during testing
2.22% =phenol used as % of finished product
154 =average lbs. per hour of wax (100% solids) used during testing
0.60% =wax used as % of finished product

DUNGANNON 9/11/96 RTO OUTLET
MDI

12.95 =PressProduction rate in Tons per hour
29,848 = Production rate of both dryers in pounds per hour
1.98 = fuel burned in tons per hour
40.60% =average incoming moisture percent
6.65% =average dry moisture percent
1,246 =average inlet temperature
1,569 =average RTO chamber temperature
12.95 =Plant Production rate in Tons per hour
212 =MDI resin usage in pounds per hour
0.82% =MDI resin usage as % of finished product
568 =average lbs. per hour of phenol (100% solids) used during testing
2.19% =phenol used as % of finished product
154 =average lbs. per hour of wax (100% solids) used during testing
0.60% =wax used as % of finished product

DUNGANNON 9/11/96 KONUS OUTLET
PM-10,PM,VOC,NOX,CO,FORMALDEHYDE

12.88 =Production rate in Tons per hour
1.10 =Total tons of dry bark per hour input
19.87 =total mmbtu per hour input

DUNGANNON 9/10/96 SCRUBBER INLET & OUTLET/PRESS & RTO OUTLET
PM-10,PM,VOC,NOX,CO,FORMALDEHYDE

DATA TIME:	START=	12:30	END=	13:40	HOURS=	1.17
	START=	14:30	END=	15:40		1.17
	START=	16:30	END=	17:40		1.17
						3.50

BOARD WEIGHTS - LBS

average weights determined by taking every 25th untrimmed board (from press tapes)

7/16"
lb per/ 4' x 8' 50.06
lb per/ 8' x 16' 200.25

213.1 lb= average untrimmed mat weight

6.05% =trim %

PLANT PRODUCTION RATE

3.50 =hours during testing
56 =pressloads (see press chart)
448 =no. of 8'x16' boards produced (pressloads x 8 boards per load)
57,344 =volume produced in surface footage (pressloads x 8'x16'x 8 openings)
66,903 =volume produced 3/8" basis (pressloads x 8'x16'x 8 openings x 1.1667)
89,711 =lbs of finished product (boards produced x weight of finished board)
25,632 =lbs of finished product per hour (lbs of finshed product / hours)
12.82 =tons of finished product per hour (lbs of finshed product per hour / 2000 lb)

FUEL BURNING RATE ESTIMATED BY DRY FUEL INPUT

6.73 fuel calibration in pounds per count
1,881 counts during testing hours
12,659 lbs of fuel burned during testing
3.50 =hours during testing
3,617 =lbs of dry fuel burned per hour during testing (pounds of dry fuel / testing hours)
1.81 =tons of dry fuel burned per hour during testing (pounds of dry fuel / 2000 lbs)
8,600 =estimated BTU content per pound of dry fuel,
31.1 =estimated mmbtu input per hour (lbs of dry fuel per hour x btu content)
1,292 =average inlet temperature
39.38 =average incoming moisture percent
7.72 =average dry moisture percent

DRYER THROUGHPUT RATE

3,617 =Total pounds of fuel burned per hour in Dryer
25,632 =lbs of finished product per hour (lbs of finshed product / hours)
29,249 =Pounds of material produced by the dryer per hour (dry basis, assuming fuel balances)
1,651 = weight of trim per hour at 6.05% of finished product
1,966 =weight of screened fines per hour (total fuel - trim)
6.72% =resulting loss to fines as percentage of dryer throughput

RESIN/WAX USAGE TAKEN FROM TOTALIZERS

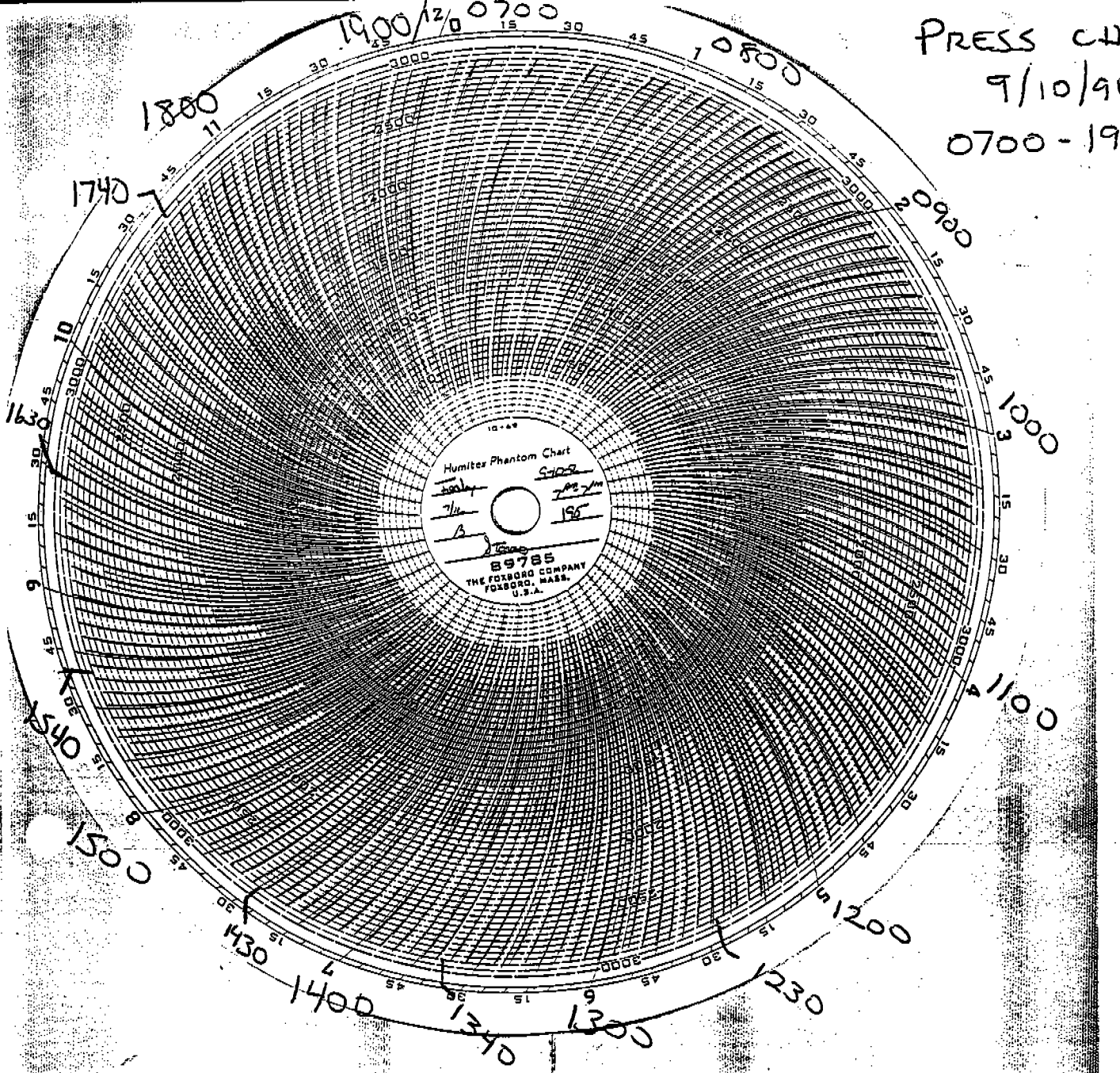
TIME	MDI	PHENOL	WAX
12:30-13:40	248	663	180
14:30-15:40	248	663	180
16:30-17:40	248	663	180
ave. lbs/hr. 100% solids	213	568	154

25,632 =average lbs. per hour finished product produced during testing
213 =average lbs. per hour of MDI resin used during testing
0.83% = MDI resin used as % of finished product

568 =average lbs. per hour of phenol (100% solids) used during testing
2.22% =phenol used as % of finished product

154 =average lbs. per hour of wax (100% solids) used during testing
0.60% =wax used as % of finished product

PRESS CHART
9/10/96
0700 - 1900



TEST TIMES	PRESSLOADS
1230 - 1340	19
1430 - 1540	19
1630 - 1740	18

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR Jackie Fraley SHIFT 7 AM-7 PM CREW B DATE 8-10-96

BLENDER SHUTDOWNS

THICKNESS: 7/16 PRESS LOADS 195-232967 CORE 2

DECOMPRESSION TIME _____ SURFACE 9

PRESS TEMP: _____

	CORE RESIN	SURFACE RESIN
BEGIN	305009	1623679
END	307498	1536020

LINESPEED FT/PER MIN.	FROM	TO
370	7:00	7:00

CLEANED BLENDER SHROUDS & TRACKS _____
FORMER HYDRAULIC AND RADIATER
BLOWN OUT _____
FCOS HYDRAULIC UNIT & RADIATER
BLOWN OUT _____
BLENDER OUTFEED CONV. TAIL PULLEYS
CLEANED _____

DOWNTIME FROM	DOWNTIME TO	DOWNTIME (MINS.) M	E	D	KEY	REASONS FOR DOWNTIME
						NMDT

7

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

12.00

12.95

SHIFT OPERATING REPORT

SUPERVISOR James SHIFT 7am 7pm CREW B DATE 9-10-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8" FOOTAGE	MINS. DOWNTIME M	E	O
7:00	7:00	37	7/16"	195	232,967			
			TOTAL			Total		NMDT

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	93
NO. OF "U" BUNDLES	-0-
NO. OF "E" BUNDLES	-0-

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
6714	0	1332	197	720	0	38.8	6.9

BARK MOISTURE % (AVG.) 33.7

FUEL MOISTURE 2.4

SCRUBBER WATER METER READING
BEGINNING OF SHIFT 1689.100
END OF SHIFT 1690.100

TOTAL GALLONS USED THIS SHIFT 1000

OIL USED
BEGINNING OF SHIFT 133230
END OF SHIFT 133230

TOTAL GALLONS USED THIS SHIFT 0

DUNGANNON BOARD WEIGHTS
(lbs./8x16 panel every 25th mat)

09/10/96 1200-1800	**09/11/96** 0900-1800	**09/11/96** 1000-1800	
210	215	208	
206	206	216	
217	208	210	
218	209	215	
212	219	213	
212	215	209	
212	208	212	
219	211	211	
217	212	219	
219	216	219	
216	211	210	
214	213	214	
209	216	209	
209	218	212	
211	211	211	
212	214	207	
217	213	215	
210	205	215	
210	213	216	
216	212	215	
217	208	212	
215	218	210	
216	220	203	
211	214	199	
212	212	217	
214	213	218	
208	207		
209	208		
	227		
	218		
213.14	**213.00**	**212.12**	*AVE.*

Q.C. DATA

DATE: 9-10-96 CREW: B QC TECHNICIAN: James Moore

1 ST SHIFT 1/4" _____ 7/16" 7/16

	WEIGHT	THICKNESS	DENSITY
7:00	51.4	448	43
8:00	50.4	452	41.8
9:00	51.7	469	41.3
10:00	49.4	441	42
11:00	50.1	452	41.5
12:00	49	422	43.5
1:00	49.1	436	42.2
2:00	51.1	444	43.1
3:00	50.2	451	41.7
4:00	49	448	41
5:00	48.9	425	43.1
6:00	49.5	450	41.2
AVG	49.9	445	42

FOOTAGE _____

RAW MATERIAL USAGE

Surface resin usage during test runs - Sept. 10 & Sept. 11, 1996

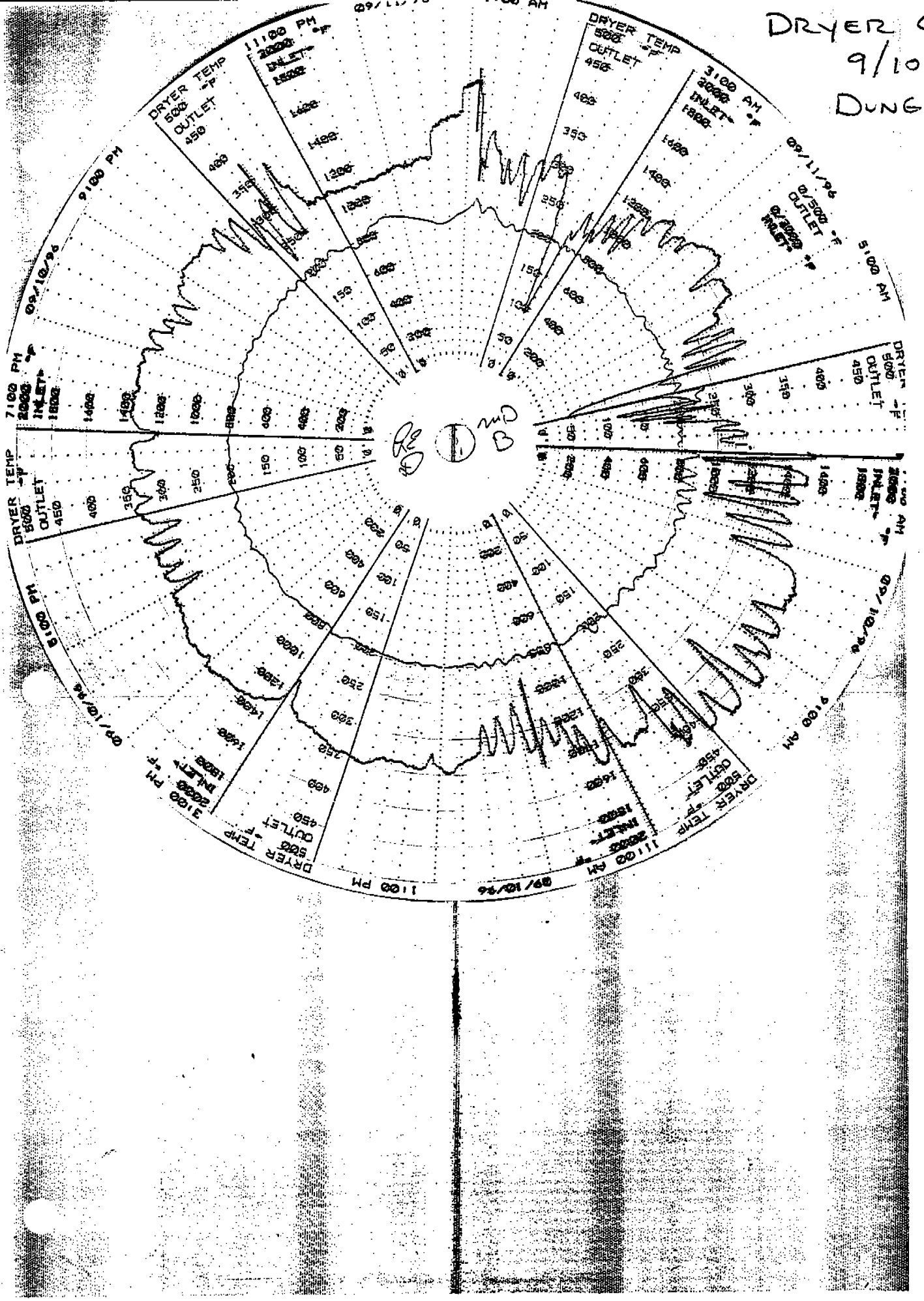
566.5 pounds/hour of resin at 100% solids.
1030 pounds/hour of resin at 55% solids.

Core resin usage during test runs

Limit is 1302 pounds/hour
212 pounds/hour of resin

WAX 57% SOLIDS
270#/HR
153.79 @ 100% SOLIDS

DRYER CHART
9/10/96
DUNGANNON



12

DRYER DATA SHEET

DATE: 9-10-96

SHIFT: 7AM 7PM

CREW: B

NAME: mike

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					6.1		OK	OK MD	1547	15	15
8:00	85	1311	219		5.8	1/2 1/2	OK	OK MD	1571	15	17
8:30					4.5		OK	OK MD	1578	15	17
9:00	85	1615	203		3.7	1/2 1/2	OK	OK MD	1566	15	17
9:30					5.6		OK	OK MD	1561	15	17
10:00	86	1685	199		7.4	1/2 1/2	OK	OK MD	1577	15	17
10:30					6.9		OK	OK MD	1569	15	17
11:00	84	1397	194	39.2	5.0	1/2 1/2	OK	OK MD	1578	15	17
11:30					6.8		OK	OK MD	1578	15	17
12:00	81	1025	195		7.5	1/2 1/2	OK	OK MD	1591	15	17
12:30					6.4		OK	OK MD	1574	15	17
1:00	84	1333	195		5.7	1/4 1/4	OK	OK MD	1581	15	17
1:30					6.6		OK	OK MD	1566	15	17
2:00	84	1364	191		8.8	1/4 1/4	OK	OK MD	1572	15	17
2:30					9.2		OK	OK MD	1567	15	17
3:00	82	1206	190	38.4	7.4	1/4 1/2	OK	OK MD	1561	15	17
3:30					9.7		OK	OK MD	1589	15	17
4:00	82	1344	195		8.5	1/2 1/4	OK	OK MD	1559	15	17
4:30					7.7		OK	OK MD	1562	15	17
5:00	82	1140	197		10.0	1/4 1/4	OK	OK MD	1576	15	17
5:30					6.8		OK	OK MD	1599	15	17
6:00	82	1348	192		6.3	1/4 1/4	OK	OK MD	1579	15	17
6:30					6.4		OK	OK MD	1572	15	17
7:00	82	1220	195		6.6	1/4 1/4	OK	OK MD	1579	15	17

DRYER DATA SHEET

DATE 9-10-96
BY RANDY BECK

PLANT: DUNGANNON VA.
REVOLUTIONS per MINUTE:
FUEL CALIBRATION:

(NOTE ANY CHANGES IN SETPOINTS)

TIME	OUTLET SET POINT	FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL		EVERY HOUR FLAKE MOISTURE	
							SUR.	CORE	IN	OUT
AM 8:00	215	85	1436	217	604	3/4	1/2	1/2		5.8
8:15	215	85	1564	213	757	full	1/2	1/2	42.9	
8:30	215	85	1579	210	921	3/4	1/2	1/2		4.5
8:45	210	85	1613	204	1091	3/4	1/2	1/2	41.0	
9:00	210	85	1623	201	1250	3/4	1/2	1/2		3.7
9:15	201	86	1696	196	1425	3/4	1/2	1/2	33.9	
9:30	200	86	1585	190	1557	3/4	1/2	1/2		5.6
9:45	200	86	1507	201	1733	3/4	1/2	1/2	34.1	
10:00	200	86	1674	201	1868	3/4	1/2	1/2		7.4
10:15	200	86	1674	205	2021	3/4	1/2	1/2	42.1	
10:30	200	85	1447	189	2165	3/4	1/2	1/2		6.9
10:45	200	82	1487	198	2314	3/4	1/2	1/2	39.2	
11:00	200	84	1347	195	2446	3/4	1/2	1/2		5.0
11:15	200	84	1249	199	2596	3/4	1/2	1/2	37.2	
11:30	195	82	1297	191	2719	3/4	1/2	1/2		6.8
11:45	195	81	1402	189	2863	1/2	1/2	1/2	37.7	
12:00	195	81	1037	196	2975	1/4	1/2	1/2		7.5
12:15	195	83	1081	193	3105	1/2	1/2	1/2	40.4	
12:30	195	83	1224	190	3227	1/2	1/2	1/2		6.4
12:45	195	83	1334	193	3370	3/4	1/2	1/4	38.3	
1:00	195	84	1346	195	3496	3/4	1/4	1/4		5.7
1:15	195	84	1351	195	3647	3/4	1/4	1/4	40.1	
1:30	195	84	1345	194	3777	3/4	1/4	1/4		6.6
1:45	195	84	1379	191	3923	3/4	1/4	1/4	39.4	
2:00	195	84	1365	191	4049	3/4	1/4	1/2		8.8
2:15	195	84	1337	190	4225	1/2	1/2	1/4	42.0	
2:30	195	84	1304	188	4329	1/4	1/2	1/2		9.2
2:45	195	82	1270	194	4469	1/4	1/2	1/4	38.4	
3:00	195	82	1202	190	4583	1/2	1/2	1/4		7.4
3:15	195	82	1303	188	4714	1/2	1/4	1/4	35.4	

DRYER DATA SHEET

DATE 9-10-96
BY RANDY BEEK

PLANT: DUNBANNON VA
REVOLUTIONS per MINUTE:
FUEL CALIBRATION:

(NOTE ANY CHANGES IN SETPOINTS)

TIME	OUTLET SET POINT	FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL		EVERY HOUR FLAKE MOISTURE	
							SUR.	CORE	IN	OUT
3:30	195	82	1359	189	4862	3/4	1/4	1/4		9.7
3:45	195	82	1366	189	4978	Full	1/4	1/4	40.4	
4:00	195	82	1349	195	5131	Full	1/4	1/2		8.5
4:15	195	82	1357	189	5242	3/4	1/2	1/4	39.6	
4:30	195	82	1337	189	5404	1/4	1/4	1/4		7.7
4:45	195	82	1304	188	5550	1/4	1/2	1/4	38.1	
5:00	195	82	1167	197	5675	1/2	1/2	1/4		10.0
5:15	195	82	1185	195	5808	1/2	1/4	1/4	42.1	
5:30	195	82	1191	197	5940	3/4	1/4	1/4		6.8
5:45										
6:00										
6:15										
6:30										
6:45										
7:00										
7:15										
7:30										
7:45										
8:00										
8:15										
8:30										
8:45										
9:00										
9:15										
9:30										
9:45										
10:00										
10:15										
10:30										
10:45										

DRYER OPERATION REPORT

OPERATOR Mike SHIFT 7Am 7Pm CREW B DATE 9-10-96

#1 BAGHOUSE
TIMES CHECKED

HAMMER MILL MAGNET	TIME	TIME	TIME	TIME	TIME	TIME
CLEANED (3TIMES)	11:00	3:00	7:00			
LEVEL IN MCCONNELL BINS (3 TIMES)	TIME 1/2	TIME Full	TIME 1/2			

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	2.0
#2 BAGHOUSE MAGNEHELIC READING	1.6
KONUS BAGHOUSE MAGNEHELIC READING	11.0
MCCONNELL BAGHOUSE MAGNEHELIC READING	5.0
SCRUBBER MAGNEHELIC READING	33

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY

SCRUBBER DATA SHEET - A

DATE 9-10-96

PAGE-1

TIME	DRYER ID FAN "OF WATER	SCRUBBER PUMP PRESSURE UPPER NOZZLE	SCRUBBER PUMP PRESSURE LOWER NOZZLE	SCRUBBER pH	VDF FEEDING OUT MATERIAL YES/NO	K-S FILTER ~~WEIGHTS~~ SCRUBBER READING	
8:00	N/A	15	17	5	yes	32	
8:15	↓	15	17		yes	32	
8:30		15	17		yes	32	
8:45		15	17		yes	32	
9:00		15	17	6	yes	32	
9:15		15	17		yes	32	
9:30		15	17		yes	32	
9:45		15	17		yes	32	
10:00		15	17	6	yes	32	
10:15		15	17		yes	32	
10:30		15	17		yes	32	
10:45		15	17		yes	32	
11:00		15	17	7	yes	32	
11:15		15	17		yes	33	
11:30		15	17		YES	32	
11:45		15	17		YES	32	
12:00		15	17	6	YES	33	
12:15		15	17		YES	33	
12:30		15	17		YES	33	
12:45		15	17		YES	33	
1:00		15	17	6	YES	33	
1:15		15	17		YES	33	
1:30		15	17		YES	33	
1:45		15	17		YES	33	
2:00		15	17	6	YES	33	380 LBS
2:15		15	17		YES	33	
2:30		15	17		YES	33	

SIGNATURE _____

SCRUBBER DATA SHEET - A

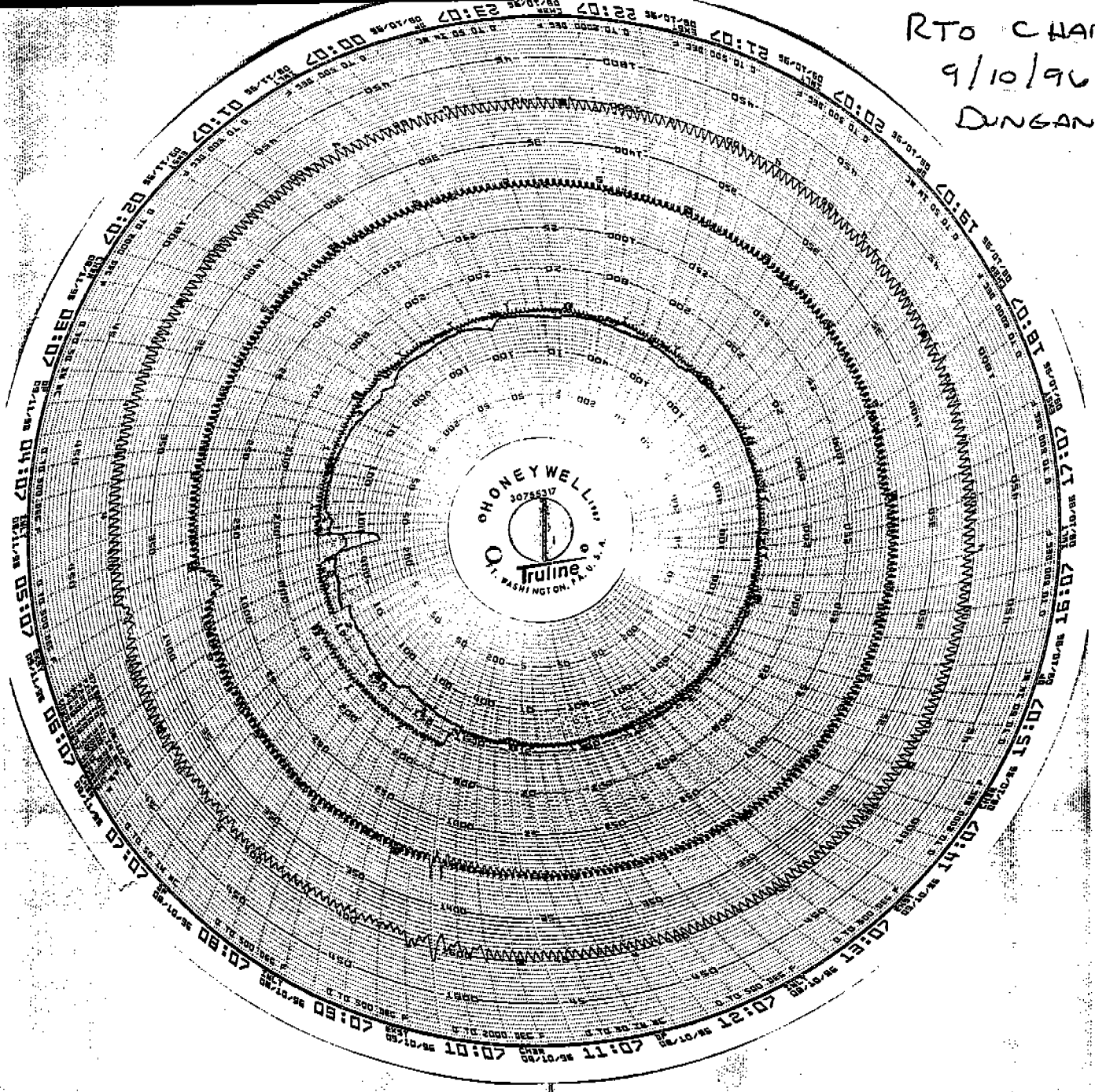
DATE 9-10-96

PAGE-2

TIME	DRYER ID FAN "OF WATER	SCRUBBER PUMP PRESSURE UPPER NOZZLE	SCRUBBER PUMP PRESSURE LOWER NOZZLE	SCRUBBER pH	VDF FEEDING OUT MATERIAL YES/NO	K-S FILTER WEIGHTS	
2:45		15	17		YES	33	
3:00		15	17	5	YES	33	
3:15		15	17		YES	33	
3:30		15	17		YES	33	
3:45		15	17		YES	33	
4:00		15	17	6	YES	33	380 LBS
4:15		15	17		YES	33	
4:30		15	17		YES	33	
4:45		15	17		YES	33	
5:00		15	17	6	YES	33	
5:15		15	17		YES	33	
5:30		15	17		YES	33	500 LBS

SIGNATURE _____

RTO CHART
9/10/96
DUNGANNON



RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	7:00a	8:00a	8:15a	8:30a	8:45a				
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A				
TEMP–CHAM #1 LOWER BED	286	283	285	284	287				
TEMP–CHAM #2 LOWER BED	312	313	314	318	315				
TEMP–CHAM #3 LOWER BED	346	346	344	343	348				
TEMP–CHAM #4 LOWER BED	335	332	340	343	335				
TEMP–CHAM #5 LOWER BED	343	346	344	346	347				
TEMP–CHAM #6 LOWER BED	383	379	383	379	383				
TEMP–CHAM #7 LOWER BED	380	381	383	386	383				
TEMP–CHAM #8 LOWER BED	330	334	332	331	335				
TEMP–BURNER #1	1516	1522	1520	1523	1521				
TEMP–BURNER #2	1527	1521	1543	1536	1519				
TEMP–BURNER #3	1503	1499	1503	1493	1503				
TEMP–EXHAUST	263	269	270	280	267				
RTO DEFERENTIAL PRESSURE	18	20	18	18	18				
TEMP–COMB. CHAMBER	1544	1572	1561	1566	1556				
TEMP–INLET	125	129	131	132	132				
PRESSURE–INLET DUCT	2.56	2.41	2.68	2.47	2.50				
OUTPUT–BURNER #1 CONT. %	53	48	55	56	50				
OUTPUT–BURNER #2 CONT. %	33	45	35	33	43				
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100				
SETPOINT–BURNER #1 CONT. F	1525	1525	1525	1525	1525				
SETPOINT–BURNER #2 CONT. F	1525	1525	1525	1525	1525				
SETPOINT–BURNER #3 CONT. F	1525	1525	1525	1525	1525				
MOTOR AMPS–FAN #1	400	440	440	460	440				
MOTOR AMPS–FAN #2	400	400	400	380	400				
MOTOR SPEED–FAN #1	87	87	86	86	87				
MOTOR SPEED–FAN #2	83	83	83	82	84				
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A				
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A				

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	9:00a	9:15a	9:30a	9:45a	10:00a	10:15a	10:30a	10:45a	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	286	285	288	284	288	283	296	297	
TEMP–CHAM #2 LOWER BED	318	317	318	318	318	332	312	314	
TEMP–CHAM #3 LOWER BED	344	343	345	347	347	333	343	343	
TEMP–CHAM #4 LOWER BED	344	343	344	335	343	352	344	351	
TEMP–CHAM #5 LOWER BED	347	346	347	350	347	354	340	341	
TEMP–CHAM #6 LOWER BED	380	380	382	377	384	363	386	389	
TEMP–CHAM #7 LOWER BED	388	387	387	388	387	407	391	393	
TEMP–CHAM #8 LOWER BED	332	331	333	334	334	329	327	389	
TEMP–BURNER #1	1526	1526	1519	1528	1531	1546	1535	1533	
TEMP–BURNER #2	1535	1537	1538	1512	1549	1505	1527	1547	
TEMP–BURNER #3	1495	1500	1498	1493	1514	1485	1500	1518	
TEMP–EXHAUST	281	280	282	280	270	275	282	266	
RTO DEFERENTIAL PRESSURE	18	17	18	18	16	14	15	14	
TEMP–COMB. CHAMBER	1559	1556	1565	1565	1564	1584	1551	1564	
TEMP–INLET	125	129	129	132	134	137	135	138	
PRESSURE–INLET DUCT	2.65	2.5	2.5	2.3	3.3	2.0	1.99	1.99	
OUTPUT–BURNER #1 CONT. %	53	53	53	55	56	49	55	46	
OUTPUT–BURNER #2 CONT. %	33	32	30	38	33	55	36	50	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1525	1525	1525	1525	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	380	380	420	420	360	380	360	360	
MOTOR AMPS–FAN #2	400	400	380	400	360	360	360	380	
MOTOR SPEED–FAN #1	86	87	85	86	82	81	80	82	
MOTOR SPEED–FAN #2	83	82	81	82	78	76	76	77	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	11:00a	11:15a	11:30a	11:45a	12:00p	12:15p	12:30p	12:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	296	293	294	296	292	294	293	292	
TEMP–CHAM #2 LOWER BED	315	319	318	318	320	318	320	320	
TEMP–CHAM #3 LOWER BED	346	344	349	349	349	351	348	351	
TEMP–CHAM #4 LOWER BED	346	350	342	348	342	345	349	340	
TEMP–CHAM #5 LOWER BED	342	344	346	345	347	346	345	348	
TEMP–CHAM #6 LOWER BED	389	384	386	389	385	389	389	385	
TEMP–CHAM #7 LOWER BED	391	395	393	393	394	393	395	393	
TEMP–CHAM #8 LOWER BED	332	333	337	336	338	338	337	340	
TEMP–BURNER #1	1531	1531	1535	1528	1535	1531	1534	1533	
TEMP–BURNER #2	1542	1546	1525	1544	1522	1533	1547	1525	
TEMP–BURNER #3	1517	1515	1517	1521	1511	1520	1514	1517	
TEMP–EXHAUST	266	273	272	270	273	267	275	273	
RTO DEFERENTIAL PRESSURE	14	15	15	15	15	15	15	15	
TEMP–COMB. CHAMBER	1563	1561	1570	1563	1577	1568	1571	1561	
TEMP–INLET	139	140	139	139	139	139	135	137	
PRESSURE–INLET DUCT	2.04	1.90	1.80	1.90	1.80	1.91	1.90	1.95	
OUTPUT–BURNER #1 CONT. %	52	53	44	51	49	50	54	48	
OUTPUT–BURNER #2 CONT. %	42	37	47	41	36	46	30	49	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	340	380	380	380	380	360	340	38	
MOTOR AMPS–FAN #2	360	320	340	340	340	340	320	340	
MOTOR SPEED–FAN #1	80	78	80	80	80	80	78	80	
MOTOR SPEED–FAN #2	74	76	76	76	75	76	75	74	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	1:00p	1:15p	1:30p	1:45p	2:00p	2:15p	2:30p	2:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	292	292	295	295	296	295	296	298	
TEMP–CHAM #2 LOWER BED	322	323	322	324	323	326	326	326	
TEMP–CHAM #3 LOWER BED	348	350	350	349	351	351	354	352	
TEMP–CHAM #4 LOWER BED	351	344	352	354	353	355	347	355	
TEMP–CHAM #5 LOWER BED	347	350	348	350	349	351	353	351	
TEMP–CHAM #6 LOWER BED	386	384	391	389	392	389	388	393	
TEMP–CHAM #7 LOWER BED	398	397	398	401	400	403	401	402	
TEMP–CHAM #8 LOWER BED	338	341	339	340	341	342	345	342	
TEMP–BURNER #1	1536	1539	1533	1535	1533	1532	1534	1533	
TEMP–BURNER #2	1544	1522	1549	1546	1551	1539	1524	1549	
TEMP–BURNER #3	1509	1511	1518	1514	1518	1507	1514	1516	
TEMP–EXHAUST	281	279	275	282	276	287	279	278	
RTO DEFERENTIAL PRESSURE	15	14	14	15	15	15	15	15	
TEMP–COMB. CHAMBER	1570	1589	1561	1569	1563	1581	1583	1563	
TEMP–INLET	139	141	140	142	141	142	142	142	
PRESSURE–INLET DUCT	1.87	1.96	1.92	1.94	1.86	1.82	1.90	1.88	
OUTPUT–BURNER #1 CONT. %	53	45	52	50	53	49	47	52	
OUTPUT–BURNER #2 CONT. %	30	50	29	27	27	27	36	32	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	340	340	380	360	360	380	400	
MOTOR AMPS–FAN #2	320	340	340	340	340	320	340	340	
MOTOR SPEED–FAN #1	79	80	79	80	80	80	81	79	
MOTOR SPEED–FAN #2	76	76	76	74	76	74	76	75	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	3:00p	3:15p	3:30p	3:45p	4:00p	4:15p	4:30p	4:45p	
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEMP–CHAM #1 LOWER BED	296	298	295	298	298	297	300	300	
TEMP–CHAM #2 LOWER BED	328	324	328	325	327	328	325	326	
TEMP–CHAM #3 LOWER BED	351	355	353	356	353	353	356	353	
TEMP–CHAM #4 LOWER BED	354	347	351	347	355	351	349	355	
TEMP–CHAM #5 LOWER BED	353	352	354	352	351	354	352	351	
TEMP–CHAM #6 LOWER BED	388	392	387	393	394	388	394	394	
TEMP–CHAM #7 LOWER BED	404	400	405	401	404	405	401	403	
TEMP–CHAM #8 LOWER BED	343	345	344	346	344	346	346	344	
TEMP–BURNER #1	1538	1531	1540	1529	1533	1538	1530	1533	
TEMP–BURNER #2	1538	1533	1522	1532	1548	1523	1538	1549	
TEMP–BURNER #3	1508	1523	1508	1521	1517	1510	1524	1516	
TEMP–EXHAUST	287	272	281	273	275	279	272	278	
RTO DEFERENTIAL PRESSURE	14	14	15	15	15	14	15	16	
TEMP–COMB. CHAMBER	1583	1564	1591	1561	1562	1590	1562	1565	
TEMP–INLET	141	142	142	143	143	142	143	142	
PRESSURE–INLET DUCT	1.89	1.93	1.96	1.89	1.97	1.87	1.93	1.90	
OUTPUT–BURNER #1 CONT. %	50	52	48	50	52	47	51	51	
OUTPUT–BURNER #2 CONT. %	30	43	32	48	35	34	43	24	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	360	340	380	360	400	340	340	
MOTOR AMPS–FAN #2	300	320	320	320	320	320	360	340	
MOTOR SPEED–FAN #1	79	79	80	80	78	80	81	79	
MOTOR SPEED–FAN #2	76	74	76	74	76	76	76	76	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-10-96 UNIT: Dungannon

INDICATE TIME OF READINGS	5:00p	5:15p	5:30p	5:45p					
BTUE (ON OR OFF)	N/A	N/A	N/A	N/A					
TEMP–CHAM #1 LOWER BED	298	300	296	299					
TEMP–CHAM #2 LOWER BED	326	325	326	323					
TEMP–CHAM #3 LOWER BED	356	354	351	354					
TEMP–CHAM #4 LOWER BED	346	352	351	348					
TEMP–CHAM #5 LOWER BED	354	351	353	350					
TEMP–CHAM #6 LOWER BED	390	395	387	393					
TEMP–CHAM #7 LOWER BED	401	401	403	399					
TEMP–CHAM #8 LOWER BED	347	344	344	344					
TEMP–BURNER #1	1535	1532	1537	1531					
TEMP–BURNER #2	1524	1541	1530	1544					
TEMP–BURNER #3	1519	1521	1505	1518					
TEMP–EXHAUST	275	275	280	266					
RTO DEFFERENTIAL PRESSURE	15	16	15	15					
TEMP–COMB. CHAMBER	1569	1566	1578	1555					
TEMP–INLET	142	139	137	138					
PRESSURE–INLET DUCT	1.91	1.89	1.86	1.96					
OUTPUT–BURNER #1 CONT. %	46	52	48	55					
OUTPUT–BURNER #2 CONT. %	49	35	26	38					
OUTPUT–BURNER #3 CONT. %	100	100	100	100					
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535					
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535					
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535					
MOTOR AMPS–FAN #1	340	340	360	360					
MOTOR AMPS–FAN #2	320	320	340	320					
MOTOR SPEED–FAN #1	80	80	80	80					
MOTOR SPEED–FAN #2	77	76	75	76					
CO OUT FROM CEM	N/A	N/A	N/A	N/A					
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A					

NAME: Mike SHIFT: 7Am 7Pm DATE: 9-10-96

TOTAL DRYER RUN TIME 720
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURANC
Dryer	Ran	Below	10%	All	Shift	
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

1 BAKE OUT
2 CLEANING RTO VALVES
3 RE–CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

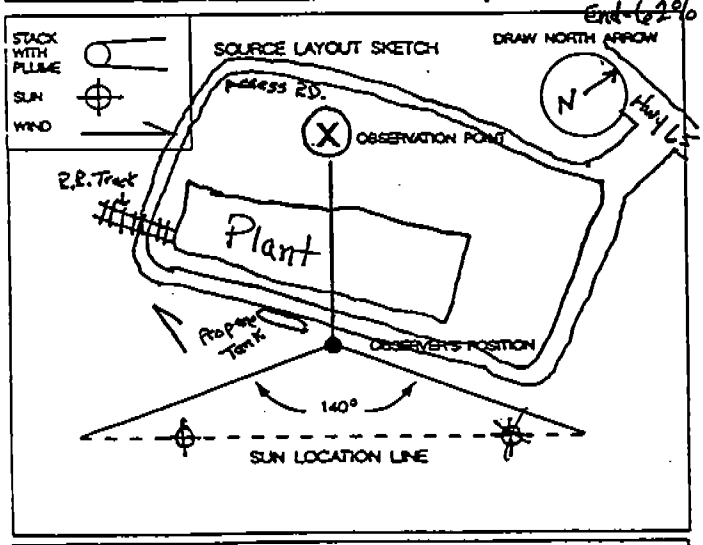
MILITARY TIME

7AM=0700	7PM=19
8AM=0800	8PM=20
9AM=0900	9PM=21
10AM=1000	10PM=22
11AM=1100	
12AM=1200	11PM=23
1PM=1300	12PM=24
2PM=1400	1AM=01
	2AM=02
3PM=1500	3AM=03
4PM=1600	4AM=04
5PM=1700	5AM=05

26

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END Same
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds. END
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START ~~Fogg~~ Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START ~~70°~~ 80 END 90°
WET BULB TEMP	~~67°~~ 74°
RH PERCENT	77 ~~75%~~ 76% End-62%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 1 OF 3

OBSERVATION DATE	START TIME	END TIME
9-10-96	12:16 P.M.	1:43 P.M.

SEC / MIN	0	15	30	45	COMMENTS
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28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

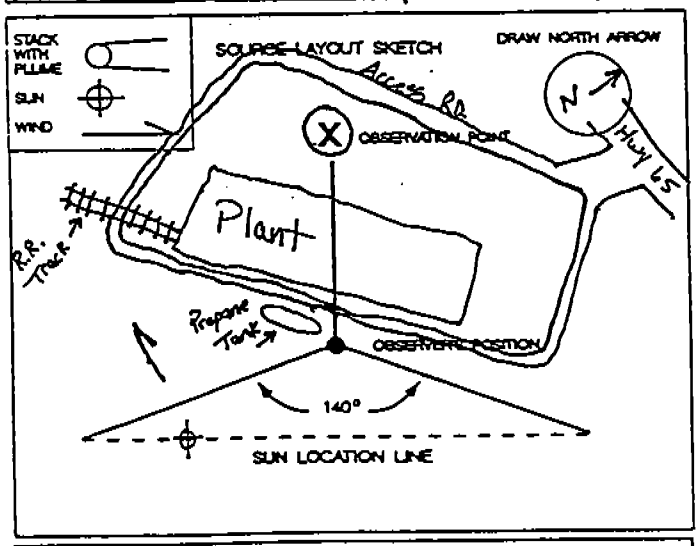
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. - (Eastern Technical Associates)
DATE	3-17-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END Same
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds. END 113 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START 80° END 90°
WET BULB TEMP	74° / 79°
RH PERCENT	76% / 62%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3

OBSERVATION DATE	START TIME	END TIME
9-10-96	12:26 P.M.	1:43 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
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27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

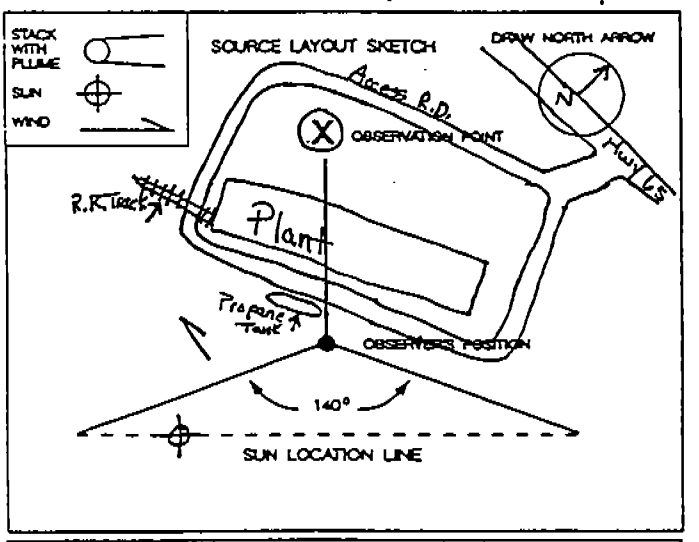
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. - (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 113 yds END 113 yds
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Broken
WIND SPEED	START Calm END Calm
WIND DIRECTION	START West END SW
AMBEINT TEMP	START 80° END 90°
WET BULB TEMP	74° / 79°
RH PERCENT	76% / 62%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-10-96
START TIME	12:26 P.M.
END TIME	1:43

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	
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17	0	0	0	0	
18					
19					
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24					
25					
26					
27					
28					
29					
30					

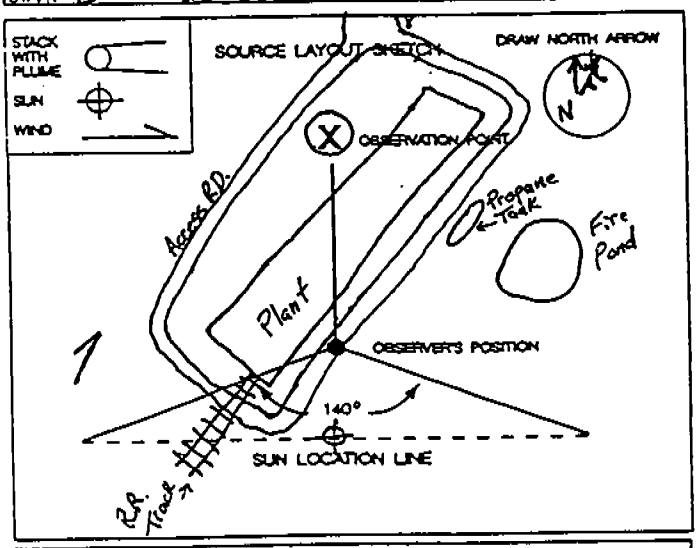
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corp.
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' tall, 8' Diameter, Silver R.T.O. stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10° NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-10-96
START TIME	2:30 P.M.
END TIME	3:40 P.M.

SEC / MIN	0	15	30	45	COMMENTS
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26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

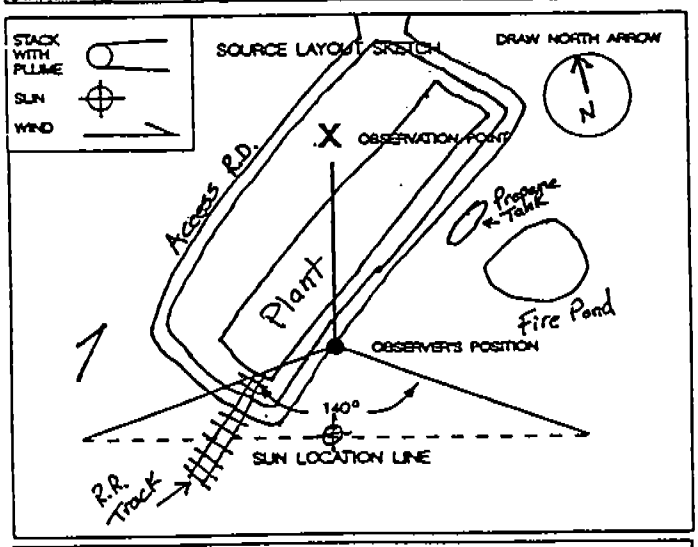
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION 2	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10 NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3

OBSERVATION DATE	START TIME	END TIME
9-10-96	2:30 P.M	3:40 P.M.

SEC / MIN	0	15	30	45	COMMENTS
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29	0	0	0	0	
30	0	0	0	0	

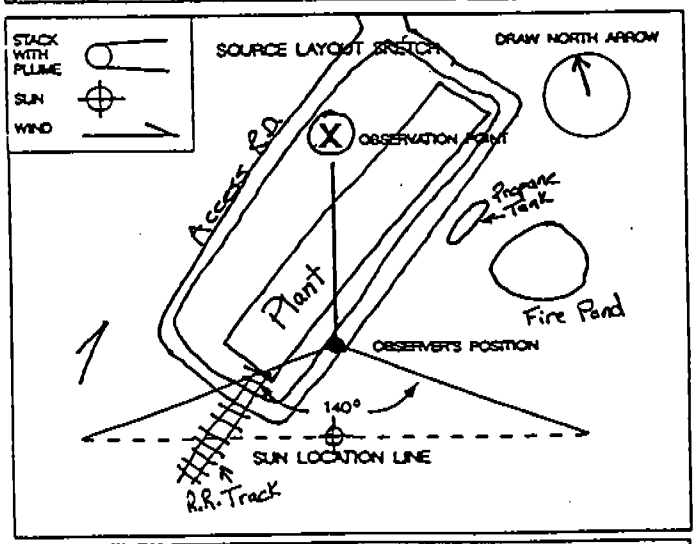
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corp.
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 100' END 100'
HEIGHT RELATIVE TO OBSERVER	START 96' END 96'
DISTANCE FROM OBSERVER	START 105 yds. END 105 yds.
DIRECTION FROM OBSERVER	START 10° NE END 10° NE
VERTICAL ANGLE TO OBS. PT.	START 18° END 18°
DIRECTION TO OBS. PT.	START 10° NE END 10° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 93° END 83°
WET BULB TEMP	81° / 76°
RH PERCENT	59% / 73%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-10-96
START TIME	1:30
END TIME	3:45

SEC / MIN	0	15	30	45	COMMENTS
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5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	"
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11	0	0	0	0	"
12	0	0	0	0	"
13	0	0	0	0	"
14	0	0	0	0	"
15	0	0	0	0	"
16					
17					
18					
19					
20					
21					
22					
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25					
26					
27					
28					
29					
30					

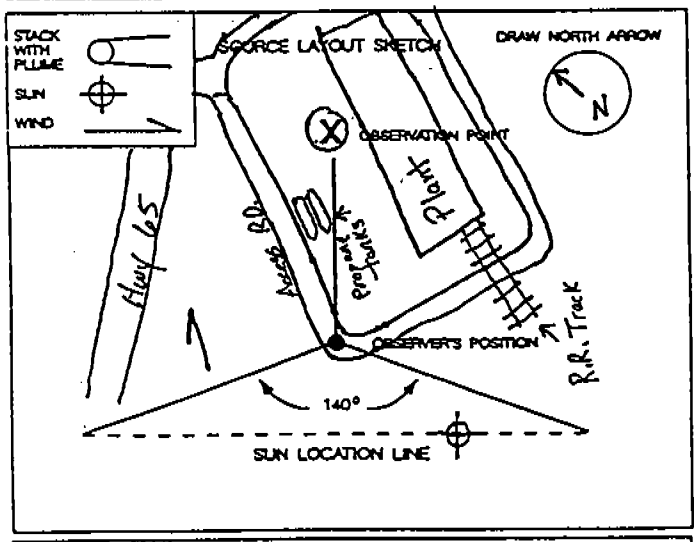
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 165 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	14245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds END 165 yds.
DIRECTION FROM OBSERVER	START 50° NE END 50° NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50° NE END 50° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBIENT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:40 P.M.

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	"
3	0	0	0	0	"
4	0	0	0	0	"
5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	"
8	0	0	0	0	"
9	0	0	0	0	"
10	0	0	0	0	"
11	0	0	0	0	"
12	0	0	0	0	"
13	0	0	0	0	"
14	0	0	0	0	"
15	0	0	0	0	"
16	0	0	0	0	"
17	0	0	0	0	"
18	0	0	0	0	"
19	0	0	0	0	"
20	0	0	0	0	"
21	0	0	0	0	"
22	0	0	0	0	"
23	0	0	0	0	"
24	0	0	0	0	"
25	0	0	0	0	"
26	0	0	0	0	"
27	0	0	0	0	"
28	0	0	0	0	"
29	0	0	0	0	"
30	0	0	0	0	"

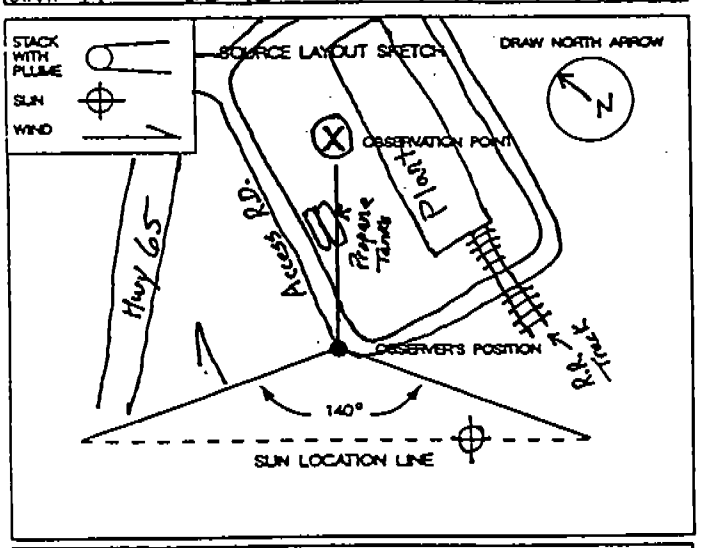
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds. END 165 yds
DIRECTION FROM OBSERVER	START 50°NE END 50°NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50°NE END 50°NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:40 P.M.

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	Quit Sprinkling Rain
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	Sprinkling Rain
30	0	0	0	0	"

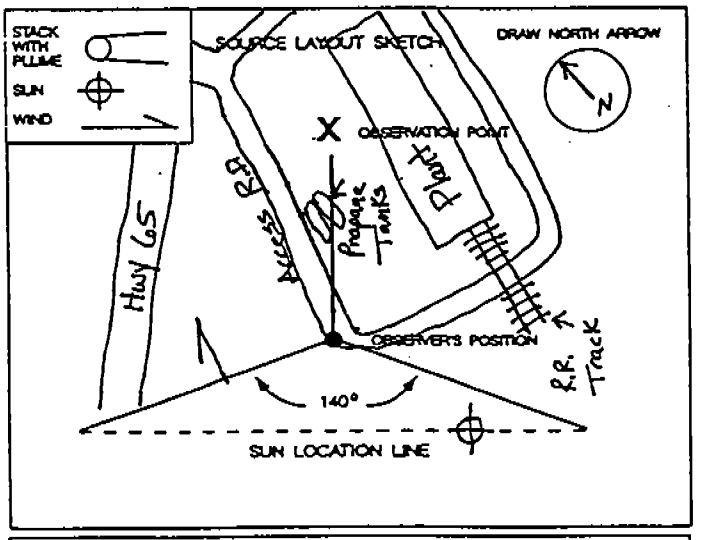
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	R.T.O.
OPERATING MODE	Auto
CONTROL EQUIPMENT	Wet Scrubber
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	100' Tall, 8' Diameter, Silver R.T.O. Stack
HEIGHT ABOVE GROUND LEVEL	START 97' END 97'
HEIGHT RELATIVE TO OBSERVER	START 93' END 93'
DISTANCE FROM OBSERVER	START 165 yds END 165 yds
DIRECTION FROM OBSERVER	START 50° NE END 50° NE
VERTICAL ANGLE TO OBS. PT.	START 11° END 11°
DIRECTION TO OBS. PT.	START 50° NE END 50° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey END Grey
SKY CONDITIONS	START Overcast END Overcast
WIND SPEED	START 1-3 MPH END Calm
WIND DIRECTION	START SW END SW
AMBEINT TEMP	START 79° END 73°
WET BULB TEMP	77° / 70°
RH PERCENT	91% / 86%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-10-96
START TIME	4:30 P.M.
END TIME	5:40 P.M.

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Sprinkling Rain
2	0	0	0	0	"
3	0	0	0	0	"
4	0	0	0	0	Raining
5	0	0	0	0	"
6	0	0	0	0	"
7	0	0	0	0	Sprinkling rain
8	0	0	0	0	"
9	0	0	0	0	"
10	0	0	0	0	Raining
11	0	0	0	0	"
12	0	0	0	0	"
13	0	0	0	0	"
14	0	0	0	0	"
15	0	0	0	0	"
16	0	0	0	0	"
17	0	0	0	0	"
18	0	0	0	0	"
19	0	0	0	0	"
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-10-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR: Mike SHIFT 7am-4pm CREW B DATE 9-10-96

KONUS CHECK LIST

Thermal Oil Level Inches above bottom	
Clarke Bin (quarters) Full	
Diesel Fuel Level (Emergency Pump) Full	
Diesel Oil Level (Emergency Pump) Full	
Space Heating: Inlet Temp	
Space Heating: Outlet Temp	
Space Heating: Discharge Pressure	
Press Pump 1 (Running) yes	
Press Pump 2 (Running)	

T.O. Pump Pressure	Suction	Discharge
Primary Pump I		
Primary Pump II		

Konus Baghouse Pressure

Was Baghouse Pulsed? YES NO

List any other problems:

Indicate Konus Problems

Flow Control OK

Level Control OK

Fan Disturb OK

Internal Press OK

High Flue Gas OK

Other:

LEFT (Counts) 1236 x ( ) =

RIGHT (Counts) 1246 x ( ) =

Indicate Temp. Set Points

Space Heat

Hot Pond

Emergency Cooling Tank - Full YES/NO

Konus Water Pressure PSI

Emergency Diesel (run each shift) YES/NO

Konus

Fuel Oil Level (gallons)

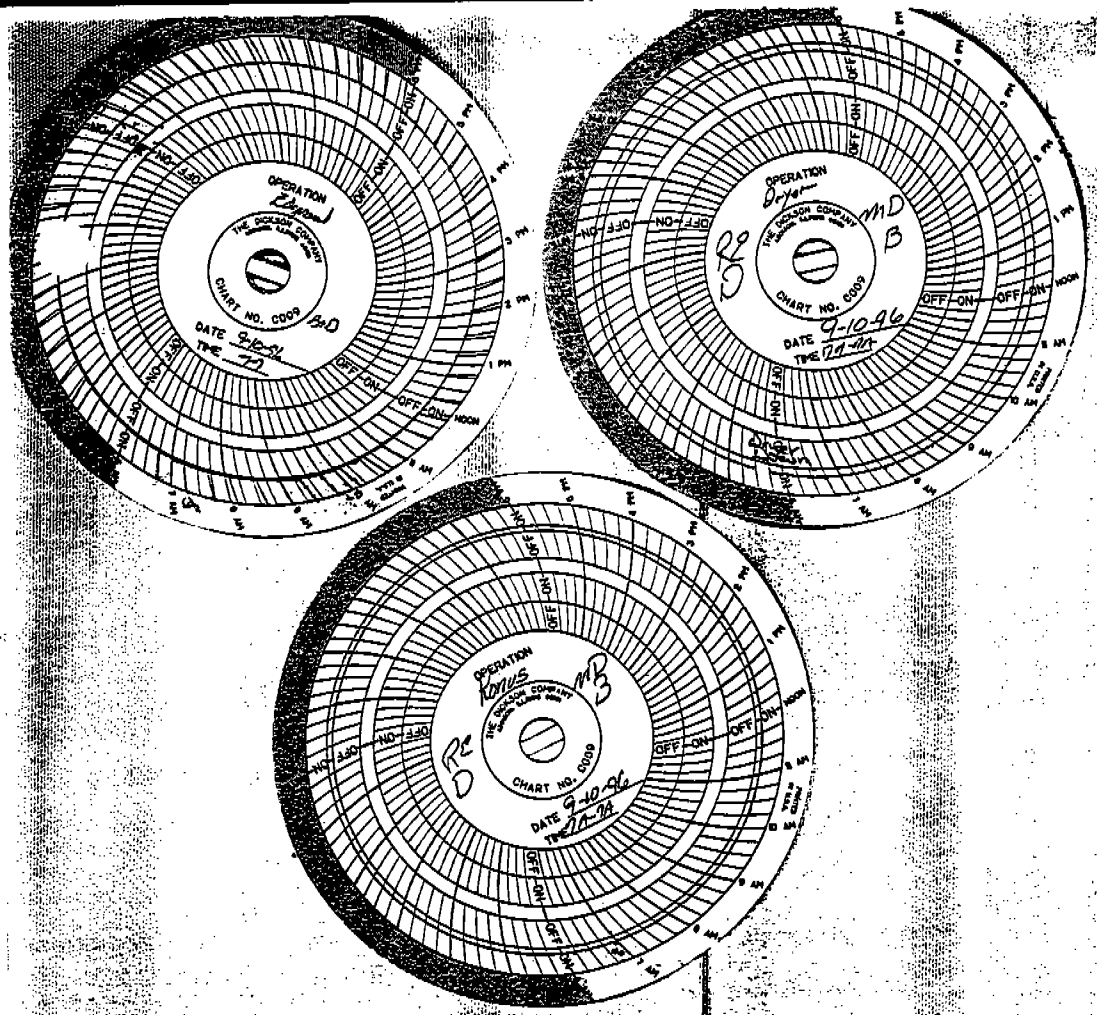
L.P. Level

Fire Dump Cleaned: OK

Bark Fuel Used

DRYER/KONUS/EDGE SEAL
9/10/96

BYPASS CHARTS



DUNGANNON 9/11/96 RTO OUTLET

MDI

DATA TIME:	START=	09:30	END=	11:00	HOURS=	1.50
	START=	12:35	END=	13:45		1.17
	START=	14:38	END=	15:48		1.17
						3.83

BOARD WEIGHTS - LBS

average weights determined by taking every 25th untrimmed board (from press tapes)

7/16"

lb per/ 4' x 8' 50.03

lb per/ 8' x 16' 200.11

213.0 lb= average untrimmed mat weight

6.05% =trim %

PLANT PRODUCTION RATE

3.83 =hours during testing

62 =pressloads (see press chart)

496 =no. of 8'x16' boards produced (pressloads x 8 boards per load)

63,488 =volume produced in surface footage (pressloads x 8'x16'x 8 openings)

74,071 =volume produced 3/8" basis (pressloads x 8'x16'x 8 openings x 1.1667)

99,256 =lbs of finished product (boards produced x weight of finished board)

25,893 =lbs of finished product per hour (lbs of finshed product / hours)

12.95 =tons of finished product per hour (lbs of finshed product per hour / 2000 lb)

FUEL BURNING RATE ESTIMATED BY DRY FUEL INPUT

6.73 fuel calibration in pounds per count

2,253 counts during testing hours

15,163 lbs of fuel burned during testing

3.83 =hours during testing

3,955 =lbs of dry fuel burned per hour during testing (pounds of dry fuel / testing hours)

1.98 =tons of dry fuel burned per hour during testing (pounds of dry fuel / 2000 lbs)

8,600 =estimated BTU content per pound of dry fuel,

34.0 =estimated mmbtu input per hour (lbs of dry fuel per hour x btu content)

1,246 =average inlet temperature

40.60 =average incoming moisture percent

6.65 =average dry moisture percent

DRYER THROUGHPUT RATE

3,955 =Total pounds of fuel burned per hour in Dryer

25,893 =lbs of finished product per hour (lbs of finshed product / hours)

29,848 =Pounds of material produced by the dryer per hour (dry basis, assuming fuel balances)

1,667 = weight of trim per hour at 6.05% of finished product

2,288 =weight of screened fines per hour (total fuel - trim)

7.67% =resulting loss to fines as percentage of dryer throughput

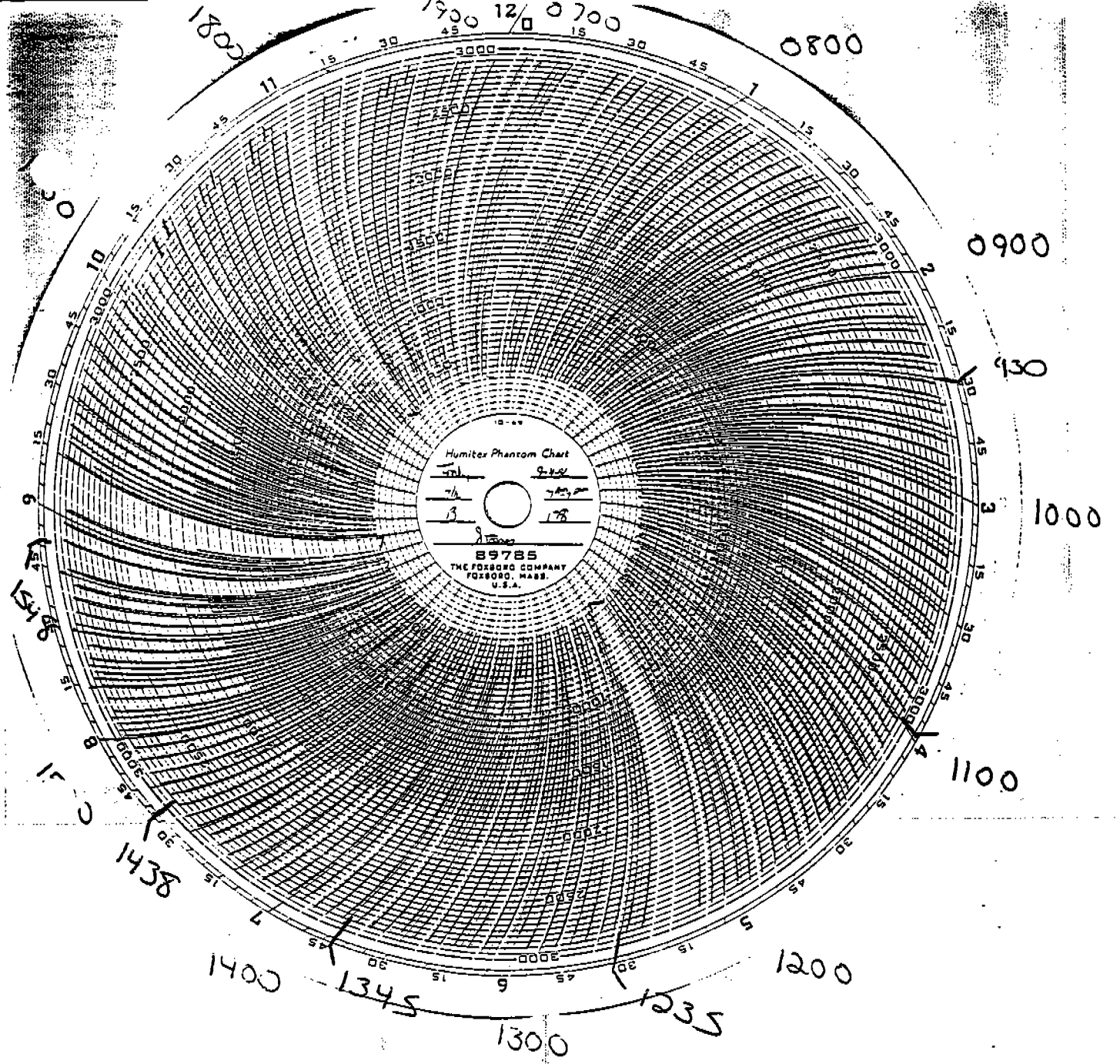
RESIN/WAX USAGE TAKEN FROM TOTALIZERS

TIME	MDI	PHENOL	WAX
9:30-11:00	318	850	231
12:35-13:45	248	663	180
14:38-15:48	248	663	180
ave. lbs/hr.	212	568	154
100% solids			

25,893 =average lbs. per hour finished product produced during testing
212 =average lbs. per hour of MDI resin used during testing
0.82% = MDI resin used as % of finished product

568 =average lbs. per hour of phenol (100% solids) used during testing
2.19% =phenol used as % of finished product

154 =average lbs. per hour of wax (100% solids) used during testing
0.60% =wax used as % of finished product



DUNGANNON PRESS CHART

7/11/96

0700 - 1900

TEST TIME	PRESSLOADS
0930 - 1100	24
1235 - 1345	19
1438 - 1548	19

40

DUNGANNON 9/11/96 KONUS OUTLET
PM-10,PM,VOC,NOX,CO,FORMALDEHYDE

DATA TIME:	START=	10:20	END=	11:30	HOURS=	1.17
	START=	12:35	END=	13:45	HOURS=	1.17
	START=	14:50	END=	15:58	HOURS=	1.13
					TOTAL=	3.47

BOARD WEIGHTS - LBS

average weights determined by taking every 25th untrimmed board (from press tapes)

7/16"
lb per/ 4' x 8' 49.82
lb per/ 8' x 16' 199.28

212.1 lb= average untrimmed mat weight

6.05% =trim %

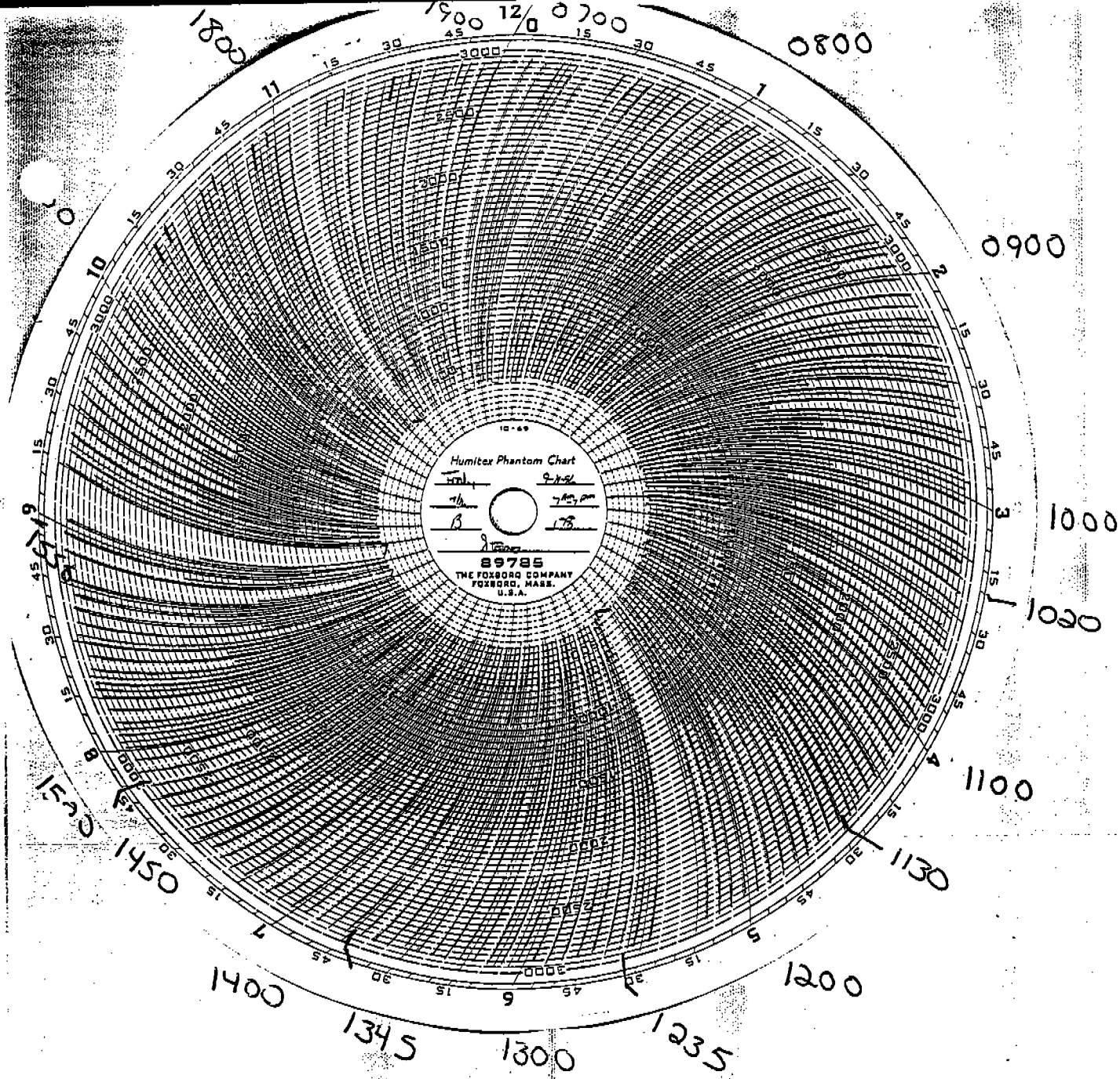
PLANT PRODUCTION RATE

3.47 =hours during testing
56 =pressloads (see press chart)
448 =no. of 8'x16' boards produced (pressloads x 8 boards per load)
57,344 =volume produced in surface footage (pressloads x 8'x16'x 8 openings)
66,903 =volume produced 3/8" basis (pressloads x 8'x16'x 8 openings x 1.1667)
89,279 =lbs of finished product (boards produced x weight of finished board)
25,753 =lbs of finished product per hour (lbs of finshed product / hours)
12.88 =tons of finished product per hour (lbs of finshed product per hour / 2000 lb)

K1
14.78&8.86 =K1 fuel calibration in pounds per count
948 =K1 counts during testing hours
11,481 =K1 lbs of wet fuel burned during testing
3.47 =hours during testing
33.33% =average moisture content of fuel
7,654 =total pounds of dry fuel burned during testing (wet pounds x (1- moisture content))
2,207.82 =lbs of dry fuel burned per hour during testing (pounds of dry fuel / testing hours)
1.10 =tons of dry fuel burned per hour during testing (pounds of dry fuel / 2000 lbs)
9,000 =estimated BTU content per pound of dry fuel,
19.87 =estimated mmbtu input per hour (lbs of dry fuel per hour x btu content)

FUEL BURNING RATE ESTIMATED TEMPERATURE DIFFERENTIAL

K1
480.67 =average incoming oil temperature on degrees f.
501.00 =average outgoinging oil temperature on degrees f.
60 =temperature differential at 100% capacity in degrees f
20.3 =actual temperature differential
31 =maximum mmbtu input at 100% capacity
10.51 =estimated mmbtu input per hour (actual temp. diff. / max temp. diff.) x max mmbtu input
9,000 =estimated BTU content per pound of dry fuel,
0.58 =estimated tons of dry fuel burned per hour during testing (btu input / btu content of dry fuel/2000)



DUNGANNON PRESS CHART
7/11/96
0700-1900

TEST TIME	PRESS LOADS
1020 - 1130	19
1235 - 1345	19
1450 - 1558	18
	42

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR Jackie SHIFT 7am-7pm CREW B DATE 9-11-96

BLENDER SHUTDOWNS

THICKNESS: 7/16 PRESS LOADS 178-212 657 CORE B

DECOMPRESSION TIME

PRESS TEMP:

SURFACE 37

	CORE RESIN	SURFACE RESIN
BEGIN	309664	1541191
END	311837	1567431

LINESPEED FT.PER MIN.	FROM	TO
34.0	7:00	7:12
37.0	7:12	6:16
31.0	6:16	6:63
37.0	6:63	7:00

CLEANED BLENDER SHROUDS & TRACKS

FORMER HYDRAULIC AND RADIATER BLOWN OUT

FCOS HYDRAULIC UNIT & RADIATER BLOWN OUT

BLENDER OUTFEED CONV. TAIL PULLEYS CLEANED

DOWNTIME FROM	DOWNTIME TO	DOWNTIME (MINS.) M	E	D	KEY	REASONS FOR DOWNTIME
7:00	7:03		3		3	Core doffing walls kicked out
7:23	7:25		2		6	Core doffing walls kicked out
7:26	7:28		2		7	Core doffing walls kicked out
7:29	7:30			1	8	working on doffing walls
12:16	12:27	12			20	Changing resin pump
3:50	3:53		3		23	#8 limited switch arm fell off on unloader
4:06	4:16			10	33	Low dry bins dryer couldn't keep up
6:07	6:09			2	36	#6 Kicked out
6:09	6:11		2		37	T.S.F separating walls kicked out

11.38

12.47

LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR James SHIFT 7am 7pm CREW B DATE 9-11-96

PRESS OPERATION

FROM	TO	LINE SPEED (FT. PER MIN.)	THICKNESS	PRESS LOADS	3/8"FOOTAGE	MINS. DOWNTIME M	E	O
7:00	7:00	31-32	7/16"	178	212,657			
			TOTAL			Total	37	

KONUS OPERATION

HOURS FUEL USAGE WOOD	HOURS FUEL USAGE OIL
12	0

NO. OF "A" BUNDLES	83
NO. OF "U" BUNDLES	2
NO. OF "E" BUNDLES	

DRYER OPERATION

DRY FUEL IN COUNTS	OIL FUEL USAGE HRS	AVERAGE TEMP INLET	OUTLET	RUNNING TIME (MIN)	DOWNTIME (MINUTES)	AVG. WET MOISTURE	AVG. DRY MOISTURE
5963	35min	1264	192	720	0	42.4	7.3

BARK MOISTURE % (AVG.) 33.4

FUEL MOISTURE 2.5

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 1693.500

END OF SHIFT 1696600

TOTAL GALLONS USED THIS SHIFT 3100

OIL USED

BEGINNING OF SHIFT 13382.0

END OF SHIFT 133950

TOTAL GALLONS USED THIS SHIFT 130

DUNGANNON BOARD WEIGHTS
(lbs./8x16 panel every 25th mat)

09/10/96 1200-1800	**09/11/96** 0900-1800	**09/11/96** 1000-1800	
210	215	208	
206	206	216	
217	208	210	
218	209	215	
212	219	213	
212	215	209	
212	208	212	
219	211	211	
217	212	219	
219	216	219	
216	211	210	
214	213	214	
209	216	209	
209	218	212	
211	211	211	
212	214	207	
217	213	215	
210	205	215	
210	213	216	
216	212	215	
217	208	212	
215	218	210	
216	220	203	
211	214	199	
212	212	217	
214	213	218	
208	207		
209	208		
	227		
	218		
213.14	**213.00**	**212.12**	*AVE.*

DATE: 9-11-96 CREW: B QC TECHNICIAN: James Moore

1 ST SHIFT 1/4" _____ 7/16" 7/16

	WEIGHT	THICKNESS	DENSITY
7:00	51	459	41.6
8:00	49.1	430	42.8
9:00	50.3	467	40.3
10:00	50.4	434	43.2
11:00	51	444	43
12:00	49.5	434	42.7
1:00	51.1	459	41.7
2:00	51.8	456	42.5
3:00	49.8	442	42.2
4:00	49.8	436	42.8
5:00	49.9	430	43.5
6:00	48.1	441	40.9
AVG	50.1	AVG 444	AVG 42.3

FOOTAGE _____

RAW MATERIAL USAGE

Surface resin usage during test runs - Sept. 10 & Sept. 11, 1996

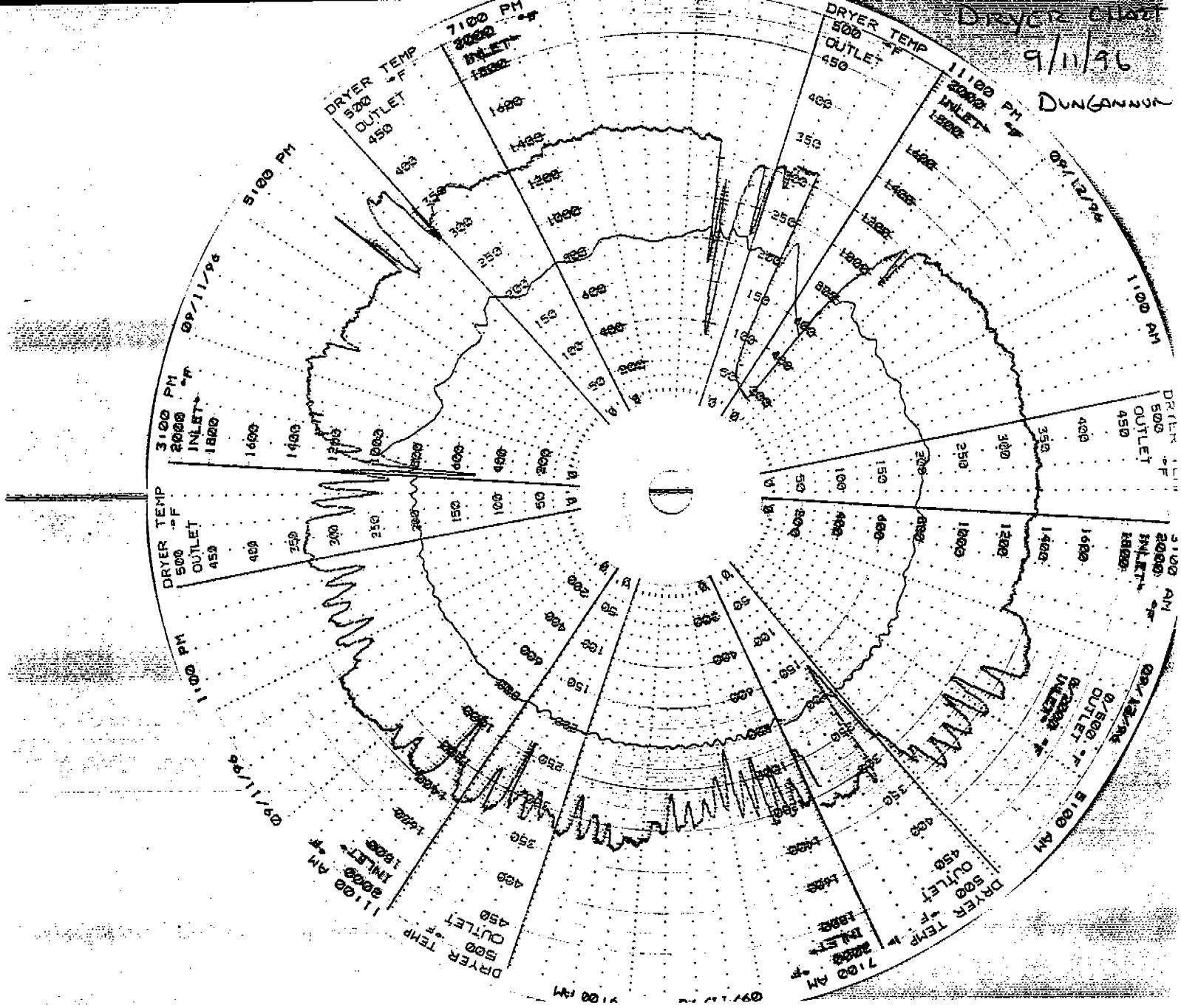
566.5 pounds/hour of resin at 100% solids.
1030 pounds/hour of resin at 55% solids.

Core resin usage during test runs

Limit is 1302 pounds/hour
212 pounds/hour of resin

WAX 57% SOLIDS
270#/HR
153.79 @ 100% SOLIDS

Dryer Chart
9/11/96
Dungannon



DRYER DATA SHEET

DATE: 9-11-96

SHIFT: 7am 7pm

CREW: B

NAME: Mike

OPACITY/DRYER CHARTS:_____CHECK AND INITIAL EVERY 30 MINUTES
BURNER OUTLET SET POINT:_____READING EVERY 30 MINUTES
OUTLET TEMP SET POINT:_____MOISTURE % EVERY HOUR
REVOLUTIONS PER MINUTE:_____BIN LEVEL EVERY HOUR
FUEL CALABRATION:_____NOTE ANY CHANGES IN SETPOINTS

TIME	FEED RATE	DRYER IN TEMP	DRYER OUT TEMP	FLAKE IN	MOIST. OUT	DRY BIN LEVEL	OPACITY MONITOR	DRYER CHT. CIRCULAR	RTO CHAMBER TEMP	SCRUBBER NOZZLE PSI UPPER NOZZLE	SCRUBBER NOZZLE PSI LOWER NOZZLE
7:30					7.3		OK	OK MD	1598	15	17
8:00	77	1084	195		6.9	Full	OK	OK MD	1572	15	17
8:30					7.4		OK	OK MD	1578	15	17
9:00	79	1255	193		6.2	1/2 1/2	OK	OK MD	1581	15	17
9:30					7.7		OK	OK MD	1578	15	17
10:00	79	1205	194		6.3	1/2 1/2	OK	OK MD	1555	15	17
10:30					6.6		OK	OK MD	1581	15	17
11:00	79	1365	193	40.3	6.4	1/2 1/2	OK	OK MD	1561	15	17
11:30					8.5		OK	OK MD	1556	15	17
12:00	82	1335	193		6.2	1/4 1/4	OK	OK MD	1592	15	17
12:30					8.4		OK	OK MD	1568	15	17
1:00	82	1287	192		8.1	1/2 1/2	OK	OK MD	1583	15	17
1:30					6.6		OK	OK MD	1555	15	17
2:00	82	1324	190		6.3	1/4 1/4	OK	OK MD	1583	15	17
2:30					7.7		OK	OK MD	1565	15	17
3:00	82	1018	200	44.4	5.5	1/4 1/4	OK	OK MD	1575	15	17
3:30					6.9		OK	OK MD	1562	15	17
4:00	90	1394	180		8.2	1/4 1/4	OK	OK MD	1566	15	17
4:30					9.8		OK	OK MD	1588	15	17
5:00	77	1274	186		10.6	1/4 1/4	OK	OK MD	1584	15	17
5:30					7.4		OK	OK MD	1586	15	17
6:00	84	1323	197		6.4	1/4 1/4	OK	OK MD	1557	15	17
6:30					7.3		OK	OK MD	1562	15	17
7:00	78	1308	193		7.1	1/4 1/4	OK	OK MD		15	17

DRYER DATA SHEET

DATE 9-11-96
BY Dennis Hallenwater

PLANT: DUNBARTON VA.
REVOLUTIONS per MINUTE:
FUEL CALIBRATION: 6.73 lbs PER REVOLUTION

(NOTE ANY CHANGES IN SETPOINTS)

TIME	OUTLET SET POINT	% FEED RATE	DRYER INLET TEMP	DRYER OUTLET TEMP	REVOLUTIONS FUEL COUNT	WET BIN LEVEL	DRY BIN LEVEL SUR.	DRY BIN LEVEL CORE	EVERY HOUR FLAKE MOISTURE IN	EVERY HOUR FLAKE MOISTURE OUT
9:00	195	79.0	1255	193	1034	Y2	Y2	Y2	37.2	6.2
9:15	195	79.0	1215	191	1040	Y2	Y2	Y2		[illegible]
9:30	195	79.0	1227	192	1048	Y2	Y2	Y2		
9.45	195	79.0	1269	193	1055	Y2	Y2	Y2		
10:00	195	79.0	1246	195	1568	Y2	Y2	Y2	45.2	6.3
10:15	195	79.0	1271	195	1734	Y2	Y2	Y2		
10:30	194	79.0	1259	194	1810	Y2	Y2	Y2		
10:45	195	79.0	1302	195	1943	Y2	Y2	Y2		
11:00	192	79.0	1365	193	2076	Y4	Y2	Y2	40.3	6.4
11:15	189	82.0	1011	197	2187	Y4	Y2	Y2		
11:30	194	82.0	1370	193	2342	Y4	Y2	Y2		
11:45	193	82.0	1336	193	2447	Y2	Y2	Y2		
12:00	195	82.0	1311	193	2560	Y2	Y2	Y2	45.4	6.2
12:15	190	82.0	1393	189	2740	Y2	Y2	Y2		
12:30	192	82.0	1392	191	2858	Y4	Y2	Y2		
12:45	196	82.0	1306	195	2986	Y4	Y2	Y2		
1:00	192	82.0	1291	191	3112	Y4	Y2	Y2	44.4	8.4
1:15	196	82.0	1257	195	3289	Y2	Y2	Y2		
1:30	195	82.0	1247	195	3379	Y2	Y2	Y2		
1:45	195	82.0	1207	196	3480	Y2	Y4	Y4		
2:00	190	82.0	1324	190	3610	Y2	Y2	Y2	45.3	6.3
2:15	192	82.0	1314	191	3817	Y4	Y4	Y4		
2:30	197	79.0	1126	197	3894	1/4	1/4	1/4		
2:45	194	80	995	192	4008	1/4	1/4	1/4		
3:00	191	80.	1176	191	4117	1/4	1/4	1/4	36.1	5.5
3:15	240	87.	1059	241	4234	1/4	1/4	1/4	37.0	
3:30	225	87.	1308	215	4355	1/4	1/4	1/4		
3:45	198	87.	1365	191	4497	1/4	1/4	1/4		
4:00	195	87.	1400	179	4634	1/4	1/4	1/4		
4:15	195	74.	1348	185	4763	1/2	1/4	1/4		

DRYER OPERATION REPORT

OPERATOR Mike SHIFT 7Am 7Pm CREW B DATE 9-11-96

#1 BAGHOUSE
TIMES CHECKED

HAMMER MILL MAGNET	TIME	TIME	TIME	TIME	TIME	TIME
CLEANED (3TIMES)	11:00	3:00	7:00			
LEVEL IN MCCONNELL BINS (3 TIMES)	TIME Full	TIME Full	TIME 1/2			

WOOD BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

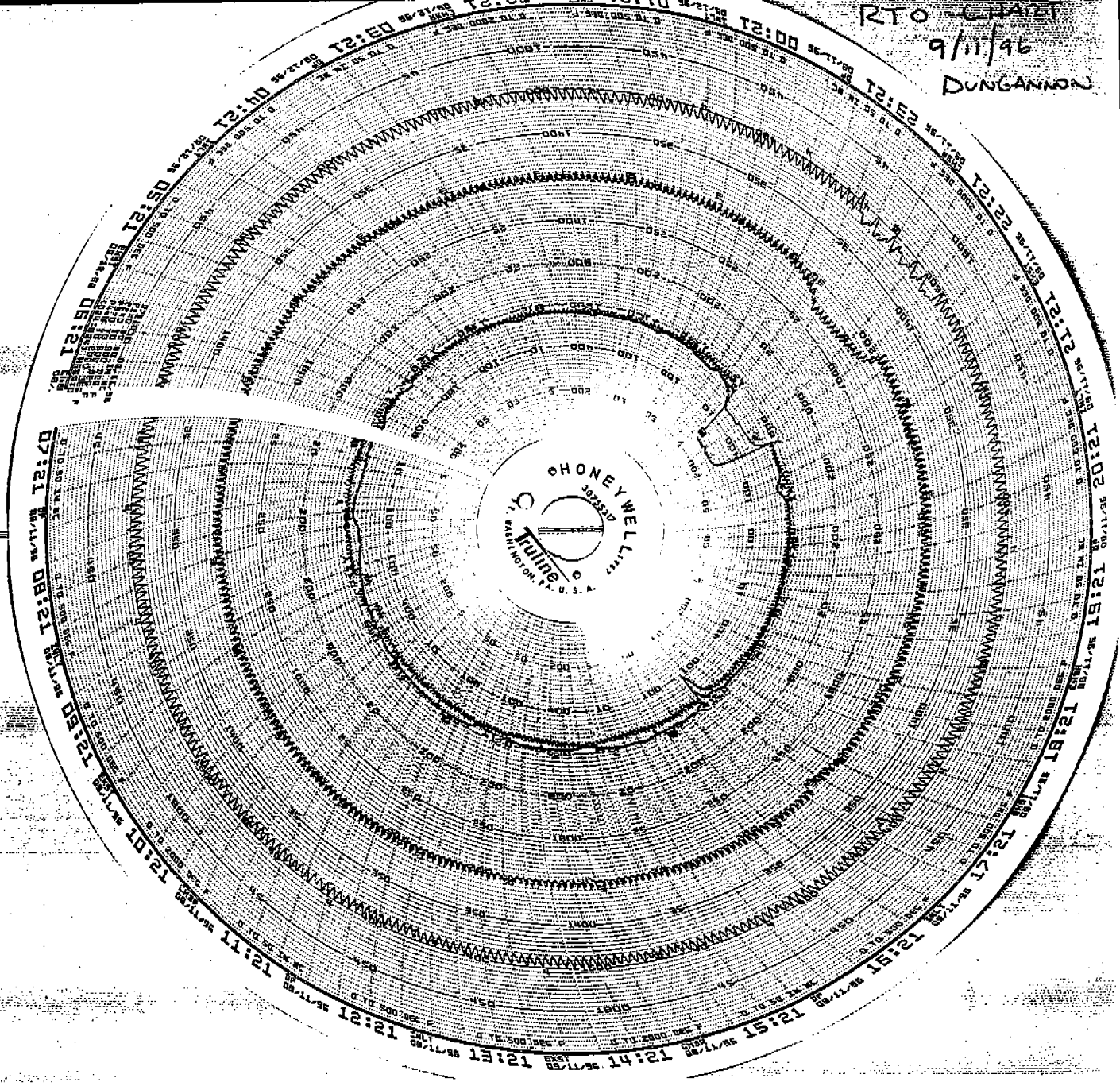
ONCE A SHIFT:

#1 BAGHOUSE MAGNEHELIC READING	1.4
#2 BAGHOUSE MAGNEHELIC READING	1.2
KONUS BAGHOUSE MAGNEHELIC READING	4.2
MCCONNELL BAGHOUSE MAGNEHELIC READING	4.2
SCRUBBER MAGNEHELIC READING	3.3

DRYER DOWN TIME

DOWN	UP	MINUTES	WHY

RTO CHART
9/11/96
DUNGANNON



RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: DUNGANNON

INDICATE TIME OF READINGS	6:30AM	8:00A	8:15A	8:30A	8:45A	9:00A	9:15A	9:30A	9:45A
BTUE (ON OR OFF)	OFF	off	off	off	off	off	off	off	off
TEMP–CHAM #1 LOWER BED	290	295	291	293	295	291	293	291	294
TEMP–CHAM #2 LOWER BED	314	317	319	317	319	317	315	319	318
TEMP–CHAM #3 LOWER BED	345	349	345	350	346	346	347	344	346
TEMP–CHAM #4 LOWER BED	336	340	347	339	349	337	342	345	347
TEMP–CHAM #5 LOWER BED	343	345	346	347	345	347	343	346	344
TEMP–CHAM #6 LOWER BED	382	388	384	386	387	383	382	381	387
TEMP–CHAM #7 LOWER BED	393	393	397	393	396	394	393	397	396
TEMP–CHAM #8 LOWER BED	337	343	339	343	340	342	339	339	339
TEMP–BURNER #1	1532	1536	1538	1529	1534	1530	1533	1540	1535
TEMP–BURNER #2	1522	1537	1539	1527	1549	1525	1544	1529	1547
TEMP–BURNER #3	1511	1518	1507	1520	1514	1519	1522	1508	1518
TEMP–EXHAUST	268	265	282	268	276	268	265	281	274
RTO DEFERENTIAL PRESSURE	16	15	16	16	16	15	15	16	14
TEMP–COMB. CHAMBER	1581	1557	1576	1562	1573	1569	1556	1585	1571
TEMP–INLET	127	134	135	137	134	130	129	132	134
PRESSURE–INLET DUCT	1.9	1.9	1.89	1.94	1.92	1.96	1.97	1.96	1.89
OUTPUT–BURNER #1 CONT. %	48	53	54	53	52	45	53	50	53
OUTPUT–BURNER #2 CONT. %	44	44	31	45	28	50	42	30	31
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	100
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	1535
MOTOR AMPS–FAN #1	380	400	360	380	360	360	380	360	360
MOTOR AMPS–FAN #2	360	360	380	340	340	320	360	340	300
MOTOR SPEED–FAN #1	82	82	81	82	81	80	80	80	81
MOTOR SPEED–FAN #2	78	78	76	76	77	76	77	76	76
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	10:00A	10:15A	10:30A	10:45A	11:00A	11:15A	11:30A	11:45A	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	292	294	294	295	295	296	296	292	
TEMP–CHAM #2 LOWER BED	319	319	322	319	322	323	320	324	
TEMP–CHAM #3 LOWER BED	348	350	346	351	342	349	351	349	
TEMP–CHAM #4 LOWER BED	339	339	348	341	349	351	342	351	
TEMP–CHAM #5 LOWER BED	342	342	348	348	348	348	342	349	
TEMP–CHAM #6 LOWER BED	383	384	383	382	385	382	391	386	
TEMP–CHAM #7 LOWER BED	395	395	400	395	400	400	392	401	
TEMP–CHAM #8 LOWER BED	343	343	341	344	342	343	343	343	
TEMP–BURNER #1	1533	1531	1538	1531	1536	1538	1532	1541	
TEMP–BURNER #2	1522	1524	1536	1534	1535	1544	1542	1536	
TEMP–BURNER #3	1512	1520	1508	1525	1511	1511	1521	1509	
TEMP–EXHAUST	271	271	282	262	284	285	270	285	
RTO DEFERENTIAL PRESSURE	16	15	15	14	16	15	14	14	
TEMP–COMB. CHAMBER	1571	1566	1585	1552	1583	1581	1552	1581	
TEMP–INLET	135	136	132	132	139	139	140	141	
PRESSURE–INLET DUCT	1.88	1.88	1.83	2.02	1.83	1.92	2.03	1.96	
OUTPUT–BURNER #1 CONT. %	49	48	50	52	50	48	52	49	
OUTPUT–BURNER #2 CONT. %	49	49	33	41	27	26	25	27	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	340	400	360	340	360	380	360	360	
MOTOR AMPS–FAN #2	340	340	340	340	360	340	320	340	
MOTOR SPEED–FAN #1	80	80	80	80	81	81	80	80	
MOTOR SPEED–FAN #2	77	75	76	76	75	75	75	76	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	12:00p	12:15p	12:30p	12:45p	1:00p	1:15p	1:30p	1:45p	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	299	299	298	302	301	299	300	298	
TEMP–CHAM #2 LOWER BED	322	324	324	323	323	324	322	321	
TEMP–CHAM #3 LOWER BED	351	350	353	352	353	351	351	354	
TEMP–CHAM #4 LOWER BED	351	353	346	353	349	353	352	344	
TEMP–CHAM #5 LOWER BED	348	350	353	350	392	351	349	352	
TEMP–CHAM #6 LOWER BED	391	389	387	393	400	389	391	388	
TEMP–CHAM #7 LOWER BED	400	401	400	401	398	402	400	398	
TEMP–CHAM #8 LOWER BED	344	344	345	345	345	344	344	347	
TEMP–BURNER #1	1533	1537	1538	1534	1534	1536	1533	1533	
TEMP–BURNER #2	1546	1545	1522	1550	1549	1547	1547	1524	
TEMP–BURNER #3	1518	1514	1516	1520	1518	1516	1519	1518	
TEMP–EXHAUST	277	285	277	279	277	280	277	275	
RTO DEFERENTIAL PRESSURE	14	15	14	14	14	15	14	16	
TEMP–COMB. CHAMBER	1562	1579	1577	1562	1564	1572	1562	1566	
TEMP–INLET	141	142	142	142	141	137	138	139	
PRESSURE–INLET DUCT	1.89	1.85	1.82	1.89	1.9	1.89	1.89	1.88	
OUTPUT–BURNER #1 CONT. %	51	48	44	50	51	49	51	47	
OUTPUT–BURNER #2 CONT. %	29	27	50	25	32	27	29	51	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	360	360	380	400	360	360	340	
MOTOR AMPS–FAN #2	320	340	340	340	320	320	340	340	
MOTOR SPEED–FAN #1	81	80	80	79	79	79	80	81	
MOTOR SPEED–FAN #2	75	76	76	74	75	76	75	76	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

SS

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	2:00p	2:15p	2:30p	2:45p	3:00p	3:15p	3:30p	3:45p	
BTUE (ON OR OFF)	off	off	off	off	off	off	off	off	
TEMP–CHAM #1 LOWER BED	299	301	306	302	301	298	301	299	
TEMP–CHAM #2 LOWER BED	321	323	322	322	321	323	321	324	
TEMP–CHAM #3 LOWER BED	355	351	355	354	355	352	353	353	
TEMP–CHAM #4 LOWER BED	344	354	345	351	346	349	352	350	
TEMP–CHAM #5 LOWER BED	352	350	353	350	351	352	349	353	
TEMP–CHAM #6 LOWER BED	389	391	389	394	392	386	393	387	
TEMP–CHAM #7 LOWER BED	398	401	399	400	399	402	399	403	
TEMP–CHAM #8 LOWER BED	347	344	348	346	347	345	344	346	
TEMP–BURNER #1	1532	1534	1535	1533	1530	1540	1533	1539	
TEMP–BURNER #2	1527	1548	1523	1548	1533	1529	1530	1523	
TEMP–BURNER #3	1522	1520	1518	1521	1524	1508	1519	1504	
TEMP–EXHAUST	272	283	277	276	270	276	277	285	
RTO DEFERENTIAL PRESSURE	14	15	13	14	16	16	14	14	
TEMP–COMB. CHAMBER	1558	1570	1562	1558	1557	1576	1562	1584	
TEMP–INLET	141	142	142	140	139	139	142	144	
PRESSURE–INLET DUCT	1.89	1.94	1.94	1.92	2.04	1.8	1.86	1.86	
OUTPUT–BURNER #1 CONT. %	49	49	49	53	52	47	51	47	
OUTPUT–BURNER #2 CONT. %	45	27	47	30	44	40	29	34	
OUTPUT–BURNER #3 CONT. %	100	100	100	100	100	100	100	100	
SETPOINT–BURNER #1 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #2 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
SETPOINT–BURNER #3 CONT. F	1535	1535	1535	1535	1535	1535	1535	1535	
MOTOR AMPS–FAN #1	360	340	380	380	360	360	360	380	
MOTOR AMPS–FAN #2	320	320	360	340	320	340	300	340	
MOTOR SPEED–FAN #1	79	79	81	79	80	82	79	80	
MOTOR SPEED–FAN #2	76	75	76	75	76	78	75	75	
CO OUT FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AIR FLOW FROM CEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RTO DATA SHEET
L–P DUNGANNON

DATE: 9-11-96 UNIT: Dungannon

INDICATE TIME OF READINGS	4:00p	4:15p							
BTUE (ON OR OFF)	off	off							
TEMP–CHAM #1 LOWER BED	300	302							
TEMP–CHAM #2 LOWER BED	324	326							
TEMP–CHAM #3 LOWER BED	355	354							
TEMP–CHAM #4 LOWER BED	342	355							
TEMP–CHAM #5 LOWER BED	354	353							
TEMP–CHAM #6 LOWER BED	389	391							
TEMP–CHAM #7 LOWER BED	402	404							
TEMP–CHAM #8 LOWER BED	348	346							
TEMP–BURNER #1	1538	1536							
TEMP–BURNER #2	1522	1539							
TEMP–BURNER #3	1513	1510							
TEMP–EXHAUST	276	289							
RTO DEFERENTIAL PRESSURE	15	15							
TEMP–COMB. CHAMBER	1578	1576							
TEMP–INLET	142	145							
PRESSURE–INLET DUCT	1.23	1.26							
OUTPUT–BURNER #1 CONT. %	45	50							
OUTPUT–BURNER #2 CONT. %	46	29							
OUTPUT–BURNER #3 CONT. %	100	100							
SETPOINT–BURNER #1 CONT. F	1535	1535							
SETPOINT–BURNER #2 CONT. F	1535	1535							
SETPOINT–BURNER #3 CONT. F	1535	1535							
MOTOR AMPS–FAN #1	360	360							
MOTOR AMPS–FAN #2	340	340							
MOTOR SPEED–FAN #1	80	80							
MOTOR SPEED–FAN #2	77	76							
CO OUT FROM CEM	N/A	N/A							
AIR FLOW FROM CEM	N/A	N/A							

NAME: Mike SHIFT: 7Am 7Pm DATE: 9-11-96

OTAL DRYER RUN TIME 720
MONITER DOWNTIME 0

DRYER OPACITY CHART
LOUISIANA–PACIFIC CORPORATION
DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

DATE	TIME FROM	TIME TO	MINUTES	OPACITY	CODE	DESCRIPTION OF OCCURANC
Dryer	Ran	Below	10%	An	Shift	
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:
						Corrective action taken:

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS OF SIX MINUTES

FROM	TO
0700	0706
0706	0712
0712	0718
0718	0724
0724	0730
0730	0736
0736	0742
0742	0748
0748	0754
0754	0800

CODES

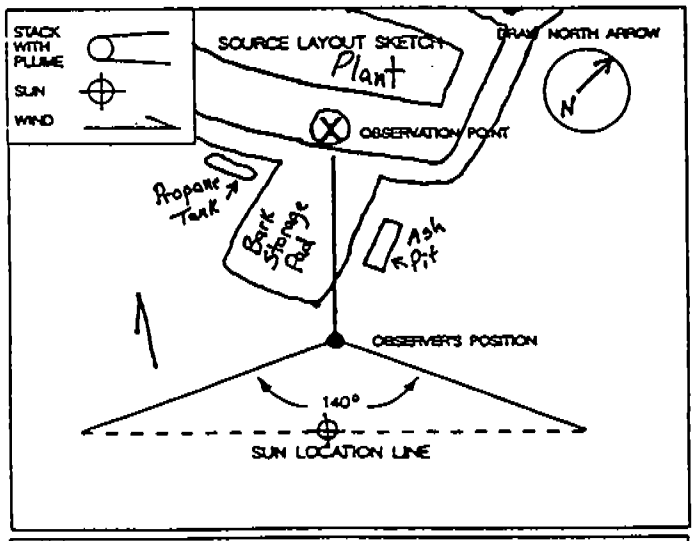
1 BAKE OUT
2 CLEANING RTO VALVES
3 RE–CALIBRATION
4 CLEANING LENS
5 MONITOR FAILURE
6 CONDENSATION
7 BURNER MALFUNCTION
8 MAINTENANCE
9 CHANGE (CERAMIC)
10 OTHER (DESCRIBE)
11 POWER FAILURE
12 DRUM FIRE

MILITARY TIME

7AM=0700	7PM=190
8AM=0800	8PM=200
9AM=0900	9PM=210
10AM=1000	10PM=220
11AM=1100	
12AM=1200	11PM=230
1PM=1300	12PM=240
2PM=1400	1AM=010
	2AM=020
3PM=1500	3AM=030
4PM=1600	4AM=040
5PM=1700	5AM=050

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81
DISTANCE FROM OBSERVER	START 88 yds END 88 yds
DIRECTION FROM OBSERVER	START 168° NW END 168° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 168° NW END 168° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 78° END 82°
WET BULB TEMP	71° \ 74°
RH PERCENT	72% \ 69%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 1 OF 3

OBSERVATION DATE	START TIME	END TIME
9-11-96	10:20 A.M.	11:36 A.M.

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
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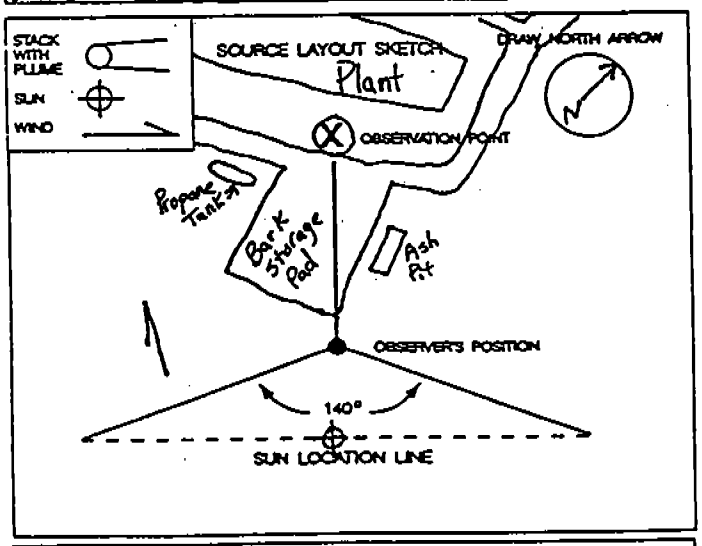
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 88 yds. END 88 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 69° END 82°
WET BULB TEMP	67° / 74°
RH PERCENT	69% / 69%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
OBSERVATION DATE 9-11-96	START TIME 10:20 A.M. / END TIME 11:36 A.M.

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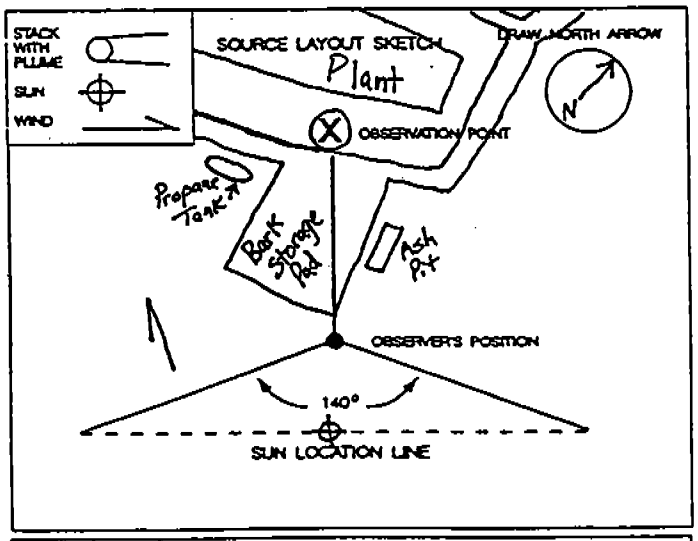
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 88 yds. END 88 yds.
DIRECTION FROM OBSERVER	START 68° NW END 68° NW
VERTICAL ANGLE TO OBS. PT.	START 16° END 16°
DIRECTION TO OBS. PT.	START 68° NW END 68° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START [redacted] 1-3 MPH END 2-5 MPH
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 69° END 82°
WET BULB TEMP	67° / 74°
RH PERCENT	[redacted]% / 69%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 3 OF 3

OBSERVATION DATE	START TIME	END TIME
9-11-96	10:20 A.M.	11:36 A.M.

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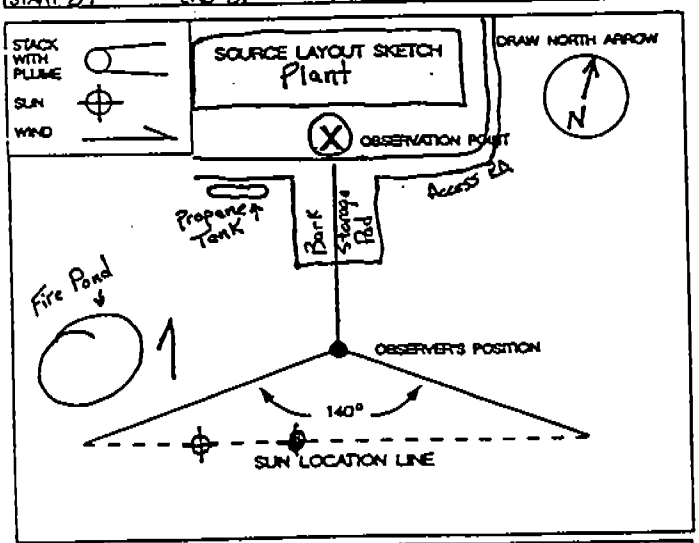
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Duncannon - Hwy 65 South
LOCATION	Scott County
CITY	Duncannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds. END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START ~~SW~~ SE END NE
AMBEINT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63° / 65%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-11-96
START TIME	12:30 P.M.
END TIME	1:46 P.M.

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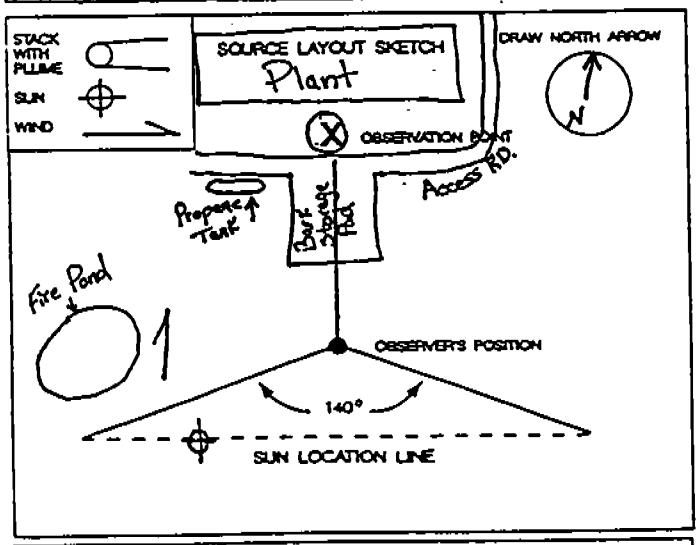
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96
CONTINUED ON VEO FORM NUMBER	

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START SE END NE
AMBEINT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63% / 65%



ADDITIONAL INFORMATION

FORM NUMBER	PAGE 2 OF 3
OBSERVATION DATE	9-11-96
START TIME	12:30 P.M.
END TIME	1:46 P.M.

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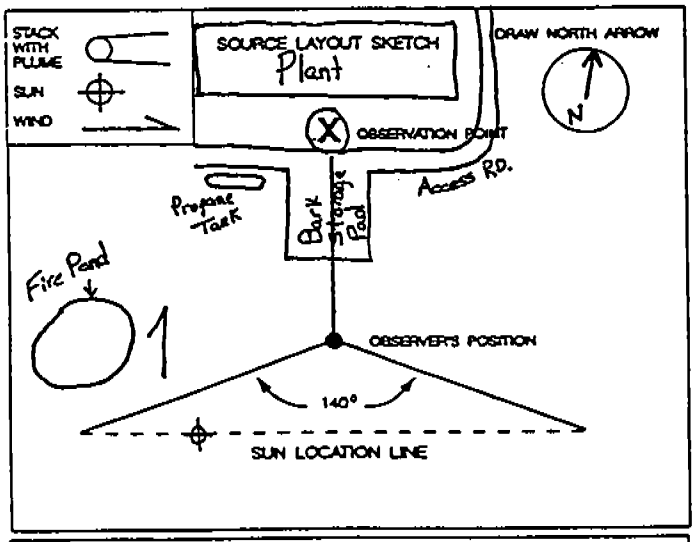
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 87' END 87'
HEIGHT RELATIVE TO OBSERVER	START 83' END 83'
DISTANCE FROM OBSERVER	START 85 yds. END 85 yds.
DIRECTION FROM OBSERVER	START 32° NW END 32° NW
VERTICAL ANGLE TO OBS. PT.	START 17° END 17°
DIRECTION TO OBS. PT.	START 32° NW END 32° NW
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START 1-3 MPH END 3-5 MPH
WIND DIRECTION	START SE END NE
AMBEINT TEMP	START 84° END 81°
WET BULB TEMP	74° / 72°
RH PERCENT	63% / 65%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-11-96
START TIME	12:30 P.M.
END TIME	1:46 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
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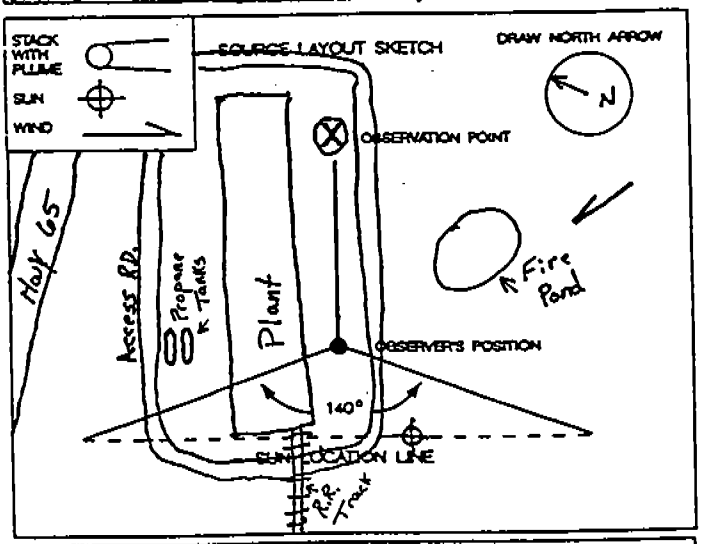
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65
LOCATION	Scott County
CITY	Dungannon
STATE	VA
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds. END 110 yds.
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65° NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° / 69°
RH PERCENT	55% / 49%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	1 OF 3
OBSERVATION DATE	9-11-96
START TIME	1:50 P.M.
END TIME	3:58 P.M.

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OBSERVER'S NAME (PRINT)	LOUIS CASTLE
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	LOUISIANA PACIFIC CORP.
CERTIFIED BY	E.T.A
DATE	3-27-96

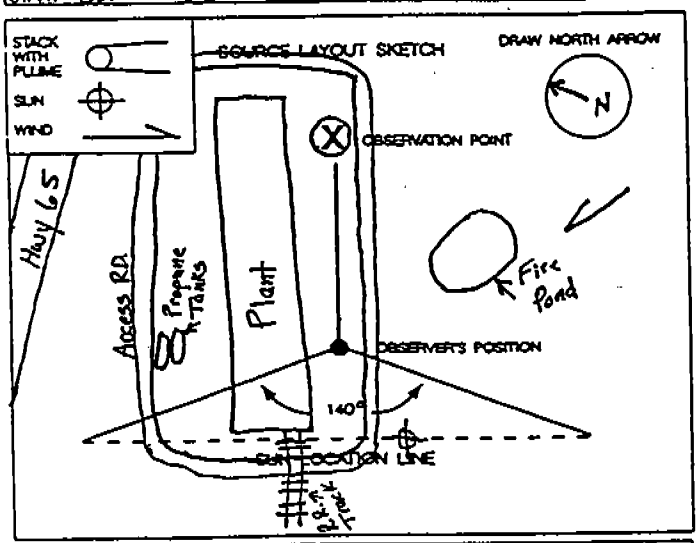
CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

65

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds. END 110 yds.
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65 NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° \ 69°
RH PERCENT	55% \ 49%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	2 OF 3
OBSERVATION DATE	9-11-96
START TIME	1:50 P.M.
END TIME	3:58 P.M.

SEC / MIN	0	15	30	45	COMMENTS
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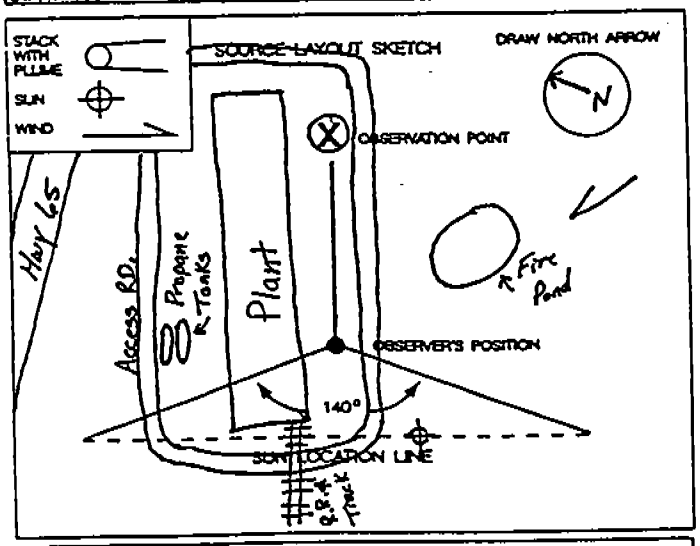
OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

ETA Revised 05-01-92

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Louisiana Pacific Corporation
LOCATION	Dungannon - Hwy 65 South
LOCATION	Scott County
CITY	Dungannon
STATE	VA.
ZIP	24245
PROCESS EQUIPMENT	Konus
OPERATING MODE	Auto
CONTROL EQUIPMENT	Baghouse
OPERATING MODE	Auto
DESCRIBE EMISSION POINT	85' Tall, 42" Diameter, Black Konus Stack
HEIGHT ABOVE GROUND LEVEL	START 85' END 85'
HEIGHT RELATIVE TO OBSERVER	START 81' END 81'
DISTANCE FROM OBSERVER	START 110 yds. END 110 yds.
DIRECTION FROM OBSERVER	START 65° NE END 65° NE
VERTICAL ANGLE TO OBS. PT.	START 13° END 13°
DIRECTION TO OBS. PT.	START 65° NE END 65° NE
DESCRIBE EMISSIONS	START None Present END None Present
EMISSION COLOR	START None END None
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET	START 12" Above END 12" Above
DESCRIBE PLUME BACKGROUND	START No Plume END No Plume
BACKGROUND COLOR	START Grey/Blue END Grey/Blue
SKY CONDITIONS	START Scattered END Scattered
WIND SPEED	START Calm END Calm
WIND DIRECTION	START SE END SE
AMBEINT TEMP	START 82° END 83°
WET BULB TEMP	70° / 69°
RH PERCENT	55% / 49%



ADDITIONAL INFORMATION

FORM NUMBER	
PAGE	3 OF 3
OBSERVATION DATE	9-11-96
START TIME	2:50 P.M.
END TIME	3:58 P.M.

MIN \ SEC	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
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30					

OBSERVER'S NAME (PRINT)	Louis Castle
OBSERVER'S SIGNATURE	Louis Castle
DATE	9-11-96
ORGANIZATION	Louisiana Pacific Corporation
CERTIFIED BY	E.T.A. (Eastern Technical Associates)
DATE	3-27-96

CONTINUED ON VEO FORM NUMBER

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR Mike SHIFT 7am 7pm CREW B DATE 9-11-96

KONUS CHECK LIST

Thermal Oil Level Inches above bottom	
Clarke Bin (quarters)	1/2
Diesel Fuel Level (Emergency Pump)	Full
Diesel Oil Level (Emergency Pump)	Full
Space Heating: Inlet Temp	
Space Heating: Outlet Temp	
Space Heating: Discharge Pressure	
Press Pump 1 (Running)	yes
Press Pump 2 (Running)	

T.O. Pump Pressure	Suction	Discharge
Primary Pump I		
Primary Pump II		

Konus Baghouse Pressure

Was Baghouse Pulsed? YES/NO

List any other problems:

Indicate Konus Problems	
Flow Control	OK
Level Control	OK
Fan Disturb	OK
Internal Press	OK
High Flue Gas	OK
Other:	
LEFT (Counts) 992 x ( ) =	
RIGHT (Counts) 808 x ( ) =	

Indicate Temp. Set Points	
Space Heat	0
Hot Pond	0

Emergency Cooling Tank - Full (YES)

Konus Water Pressure _____ PSI

Emergency Diesel (run each shift) YES

Konus

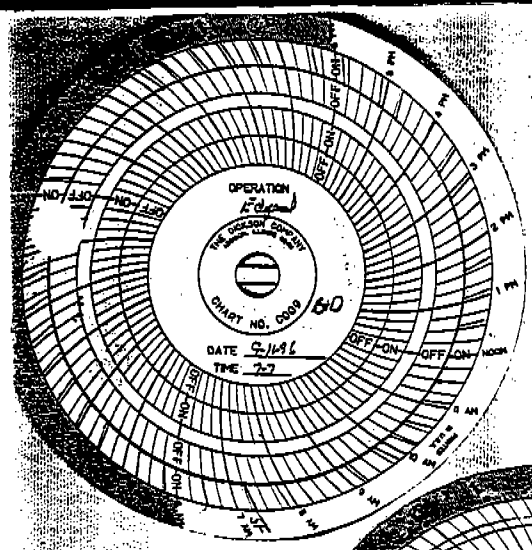
Fuel Oil Level (gallons)

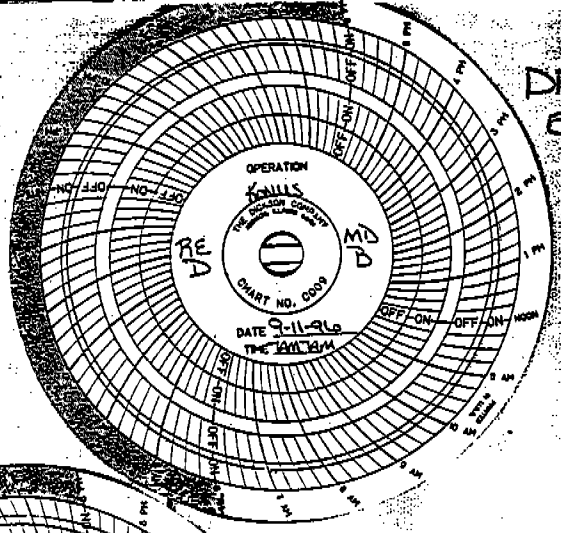
L.P. Level

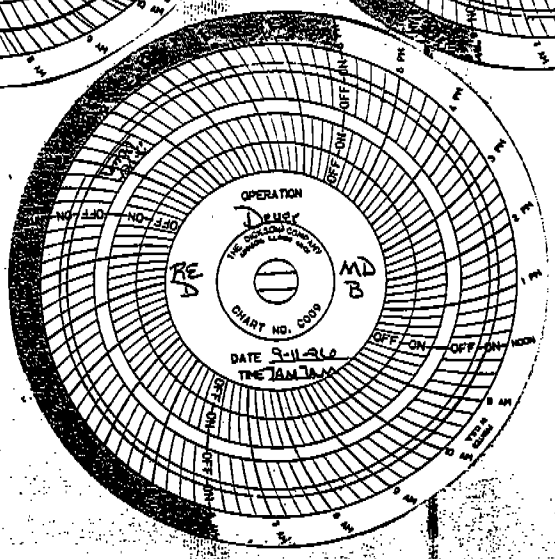
Fire Dump Cleaned: yes

Bark Fuel Used

68







DRYER/KONUS CHARTS
EDGE SEAT
9/11/96
DUNGANNON

DATE 9-11-96
BY Ernie Jenkins

KONUS DATA

PLANT: DUNGANNON VA.

OIL SETPOINT 500°

(NOTE ANY CHANGES IN SETPOINTS)

TIME	PRIMARY AIR LEFT	I.D. FAN	PRIMARY AIR RIGHT	OIL IN deg. F	OIL OUT deg. F	14.78 lbs ↓ FUEL COUNT (PER REVOLUTION) LT	8.86 lbs ↓ RT	FEED RATE SETTING LT	RT	EVERY HOUR BAG H. PRESS.	BARK % MOISTURE
8:30	120		100	482	501	124	106	15.7	9.4		
8:45	120		100	479	497	143	119	16.3	10.4		
9:00	110		100	480	498	163	133	16.7	11.1	2.5	35
9:15	110		100	474	504	186	151	18.8	14.1		
9:30	110		100	474	508	209	169	16.3	10.		
9:45	110		100	480	497	229	183	16.4	10.3		
10:00	110		100	478	493	251	198	18.5	13.5	2.5	35
10:15	180		100	472	491	276	220	22.6	20		
10:30	110		100	476	503	302	245	20	15.9		
10:45	110		100	481	510	319	257	OFF	OFF		
11:00	105		100	471	499	338	271	17	11.2	2.5	33
11:15	110		100	477	497	364	290	23	20		
11:30	110		100	487	507	386	313	15.9	9.3		
11:45	105		100	484	501	401	323	16	9.9		
12:00	100		100	471	497	428	344	20.3	19.8	2.5	35
12:15	160		100	481	498	454	367	22.6	19.1		
12:30	105		100	497	514	473	386	OFF	OFF		
12:45	105		100	488	503	478	389	15.7	9.5		
1:00	105		100	473	490	498	404	21.3	17.5	2.5	35
1:15	180		180	479	499	524	435	22.6	19.8		
1:30	105		100	483	500	553	455	17	11.6		
1:45	105		100	478	495	572	468	17.5	12		
2:00	320		260	471	497	598	491	25.5	24	2.5	36.7
2:15	110		100	485	501	630	579	15.8	9.4		
2:30	110		100	478	494	640	529	17.9	12.7		
2:45	360		260	474	496	666	551	26.2	25.3		
3:00	120		100	487	511	691	573	OFF	OFF	3	32
3:15	120		100	485	502	705	583	15.7	9.4		
3:30	110		100	479	497	724	595	17.5	11.9		
3:45	110		100	481	500	747	613	19.1	14.2		

DATE 9/11/96
BY Alan Perry

KONUS DATA

PLANT: DUNGANNON VA.

OIL SETPOINT 500°

(NOTE ANY CHANGES IN SETPOINTS)

TIME	PRIMARY AIR LEFT	I.D. FAN	PRIMARY AIR RIGHT	OIL IN deg. C	OIL OUT deg. F	FUEL COUNT LT	FUEL COUNT RT	FEED RATE SETTING LT	FEED RATE SETTING RT	EVERY HOUR BAG H. PRESS.	EVERY HOUR BARK MOISTURE
4:00	110		100	484	504	765	627	15.7	9.3	3	33
4:15	110		100	501	517	775	634	-004	-003		
4:30	110		100	495	515	775	634	-004	-003		
4:45	240		140	471	487	796	651	24.6	22.4		
5:00	120		100	477	506	822	676	18.9	13.1	3	33
5:15	120		100	479	509	842	691	15.7	9.3		
5:30	120		100	483	507	862	704	15.7	9.5		
5:45	110		100	480	497	880	716	16.9	11.0		
6:00	110		100	472	496	903	734	19.8	15.4	3	35
6:15	245		140	478	497	930	760	24.2	22.6		
6:30	110		100	490	507	947	774	15.8	9.4		
6:45	110		100	477	498	966	787	16.3	10.5		
7:00	110		100	473	495	977	795	17.7	12.5	3	33
7:15	140		120	489	510	30	30	-003	-003		
7:30	120		100	475	503	43	40	16.3	10.3		
7:45	120		100	474	492	62	56	22.2	19.0		
8:00	120		100	478	507	100	91	17.7	12.3	3	34
8:15	120		100	487	506	111	99	15.8	9.3		
8:30	120		100	482	498	125	108	16.1	9.9		
8:45											
9:00											