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.

Background Report Reference

AP-42 Section Number: 10.6.1

Background Report Section: 4

Reference Number: 51

Title: Offical Emission Test Report For Engineering Data of Wafer Dryer For Particulate Dryer WESP Exhaust Stack, Louisiana-Pacific Corporation, Montrose, CO

Emission Meassurement Group, Inc.

June 1995

OFFICIAL EMISSION TEST REPORT

for

Engineering Data

of

Wafer Dryer
for
Particulate
on
Dryer WESP Exhaust Stack
Louisiana-Pacific Corporation, Montrose, CO

4-51

Prepared for:

Louisiana-Pacific Corporation
Northern Division
Engineering
Rt. 8 Box 8263 Gehrts Rd.
Hayward, WI, 54843
Mr. Robert W. Schultz, Environmental Engineer
(715) 634-3454

Prepared by:

THE EMISSION MEASUREMENT GROUP, INC.
P.O. Box 4953, Englewood, CO 80155-4953
800-222-4187, 303-680-0406

Date of Report: June 9, 1995

THE EMISSION MEASUREMENT GROUP, INC.

REPORT VALIDATION, VERIFICATION, AND ACCEPTANCE OF REPORT

This Emission Measurement Compliance Test Report was compiled by the test leader and prepared by ***The Emission Measurement Group, Inc.'s*** ("***EMG***") Operations Department using data collected by ***EMG*** under contract to Louisiana-Pacific Corporation, as well as data supplied by the plant operator(s).

REPORT VALIDATION

As on-site Test Leader for ***The Emission Measurement Group, Inc.***, I hereby certify that these data and this report are authentic and correct for the emission testing reported here.

Dated this 9th of June 19 95.

John R. Floyd, President/CEO

QUALITY REVIEW

As quality reviewer for ***The Emission Measurement Group, Inc.***, I have reviewed the report for accuracy and completeness and find it acceptable and technically correct.

Dated this 9th of June 19 95.

Terrell L. Hastings, V.P. of Operations

ACCEPTANCE

As a final document, and from my level of involvement with the collection of these data, I have reviewed this report and find it accurate, complete, and a fair presentation of the pertinent facts, process records, and emission levels for Louisiana-Pacific Corporation. On behalf of Louisiana-Pacific Corporation, I accept this report as written. ~~I release the report for the purposes of evaluating the emission status of Louisiana-Pacific Corporation with applicable State and Federal air pollution regulations.~~ Not applicable this was an Engineering test only

Dated this ~~[illegible]~~ day of June 23 19 95

Louisiana-Pacific Corporation
Mr. Robert W. Schultz, Environmental Engineer

Signature: Robert W. Schultz
Name: ROBERT W. SCHULTZ, Title Environmental Engr

6/9/95

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Introduction

This emission test project was initiated by Louisiana-Pacific Corporation for Engineering Data at the Louisiana-Pacific Corporation facility operated by Louisiana-Pacific Corporation located in the Montrose, CO area. The process tested was the Wafer Dryer which is operating under permit number 89MO373-1 with samples taken at the Dryer WESP Exhaust Stack ports. The emission parameters reported are Particulate using the following methods: M1, M2, M3A, M4, M5, and M202. Louisiana-Pacific Corporation has retained **The Emission Measurement Group, Inc.** to conduct the tests. The test date was May 31, 1995.

This Official Emission Measurement Test Report has been prepared for submittal to Louisiana-Pacific Corporation. There was a pre-test meeting with all key personnel just prior to beginning testing in order to review the approved test protocol and project plans. The tests were performed according to the approved protocol. This report has been reviewed and certified for accuracy and correctness by project personnel, see certification page above, both from **The Emission Measurement Group, Inc.**, and Louisiana-Pacific Corporation.

Executive Summary

Below is a brief summary of the emission results for the tests on the above processes. Complete data can be found on each Emission Results table detailed for each stack tested.

Facility Name:	Louisiana-Pacific Corporation
Location:	Montrose, CO
Process:	Wafer Dryer
Stack Name:	Dryer WESP Exhaust Stack
Pollutants:	**Particulate**
gr./dscf:	0.029
lb./hr.	7.90
TPY:	34.60

This report contains company and facility contact information, test data and analysis, detailed description of process equipment and design and operation during tests, test location drawings and test method descriptions as well as quality assurance/quality control procedures and checks for equipment used during this test project

Company, Facility and EMG, Inc. Information

Operating Company

Company:	Louisiana-Pacific Corporation
Division:	Northern Division
Department:	Engineering
Mailing Address:	Rt. 8 Box 8263 Gehrts Rd.
City, State Zip:	Hayward, WI 54843
Contact Name:	Mr. Robert W. Schultz
Title:	Environmental Engineer
Telephone:	(715) 634-3454
Fax:	(715) 634-5963

Facility:	Louisiana-Pacific Corporation
Shipping Address:	Hwy. 50 North
City, State Zip:	Montrose, CO 81402

Facility Contact:	Mr. Jeff Schultz
Title:	Plant Manager
Telephone:	(303) 323-5603
Fax:	(303) 323-6875

Environmental Contact:	Mr. Dick Klopshinske
Title:	Plant Environmental Manager
Telephone:	(303) 323-5603
Fax:	(303) 323-6875

Emission Testing Firm

Name:	The Emission Measurement Group, Inc.
Mailing Address:	P.O. Box 4953
City, State Zip:	Englewood, CO 80155-4953
Phone:	303 680-0406
Fax:	303 680-0508
President/CEO:	John R. Floyd

Project Personnel

Test Leader

Name:	Mr. John R. Floyd
Title:	President/CEO

Technicians

Name:	Mr. Michael J. Lynn
Title:	Senior Field Technician
Name:	Mr. Keith L. Wyant
Title:	Field Technician
Name:	Terrell L. Hastings
Title:	V.P. of Operations
Name:	Mr. Eric Wilcox
Title:	Field Technician

Observers

Name:	Dick Klopshinske
Company:	Louisiana-Pacific Corporation

Permit Emission Limits

Permit Number:	89MO373-1
Particulate Emission Limit:	0.03 gr./dscf
Particulate Emission Limit:	7.44 lb./hr.
Particulate Emission Limit:	32.6 TPY
NO_x Emission Limit:	5.57 lb./hr.
NO_x Emission Limit:	24.4 TPY
CO Emission Limit:	57.9 lb./hr.
CO Emission Limit:	253.6 TPY
VOC Emission Limit:	156.6 lb./hr.
VOC Emission Limit:	685.9 TPY
CH202 Emission Limit:	5.9 lb./hr., 25.7 TPY
Opacity Emission Limit:	20%

Process and Control Equipment Information

Plant Description:	Manufacture Oriented Strand Board (OSB)
Process Name:	Wafer Dryer
Equipment	
Make:	MEC
Model:	1260-TNW/L
Serial No.:	1247
Max. Rated Capacity Type:	Heat Input
Max. Rated Capacity Amount:	40 MBTU/hr.
Hours of Operation per Year:	8760
Fuel Type:	Wood Fines (Primary)
Fuel Feed Rate:	2.353 TDF/hr.
Control Equipment	
Pollutant Controlled:	Particulate
Type:	Multicyclone
Make:	MEC - Primary Cyclone
Model:	2 Multicyclone
Control Equipment	
Pollutant Controlled:	Particulate
Type:	WESP
Make:	Geoenergy E-Tube (TM)
Model:	378

Emission Results

Not representative of normal operation per R. Klopshinske 6-23-95 R. Schultz

Facility Information

Stack / Duct Name:	Dryer WESP Exhaust Stack
Operation hr./yr.:	8760

PROCESS DATA

Run ID#, (VDRR):	**1112**	**1114**	**AVERAGE**
Test Date (mm/dd/yy):	5/31/95	5/31/95	
Console Time Start (hh:mm):	17:09	18:26	
Console Time End (hh:mm):	17:50	19:06	
Sampling Time (min):	40	40	

PARTICULATE RESULTS (M5/M202)

Front Half:			
gr/dscf:	0.012	0.020	0.016
gr/acf:	0.006	0.012	0.009
lb./hr.:	3.01	5.85	4.43
ton/yr.:	13.20	25.64	19.42
Water Back Half (Inorganic):			
gr/dscf:	0.008	0.004	0.006
gr/acf:	0.004	0.002	0.003
lb./hr.:	1.91	1.04	1.47
ton/yr.:	8.37	4.54	6.45
Total (Front+Water Back):			
gr/dscf:	0.020	0.024	0.022
gr/acf:	0.010	0.014	0.012
lb./hr.:	4.92	6.89	5.91
ton/yr.:	21.57	30.18	25.88
Methylene Chloride Back Half (Organic):			
gr/dscf:	0.010	0.005	0.008
gr/acf:	0.005	0.003	0.004
lb./hr.:	2.52	1.46	1.99
ton/yr.:	11.03	6.41	8.72
Total (Front+Water & Methylene Chloride Back):			
gr/dscf:	0.029	0.029	0.029
gr/acf:	0.016	0.017	0.016
lb./hr.:	**7.44**	**8.35**	**7.90**
ton/yr.:	32.60	36.59	34.60

PARAMETRIC FLUE GAS RESULTS

Delta P (in. w.g.):	1.2466	1.4040	1.3253
% Moisture (v/v):	26.28	19.93	23.11
CO2 instrument (%d):	3.30	1.88	2.59
O2 instrument (%d):	17.27	18.98	18.12
Stack Temperature ('F):	142.44	131.00	136.72
Velocity of flue gas (fps):	77.30	80.33	78.82
Flowrate (dscfm):	29438	33898	31668
Flowrate (acfm):	55289	57456	56372

Sampling Data and Analysis

Facility Information

Stack / Duct Name: Dryer WESP Exhaust Stack

TEST CONDITIONS

Run ID#, (VDRR):	**1112**	**1114**
Test Date (mm/dd/yy):	5/31/95	5/31/95
Console Operator (Last Name):	Floyd	Floyd
Tech./Helper#1 (Last Name):	Lynn	Lynn
Tech./Helper#2 (Last Name):	Wyant	Wyant

SAMPLE VOLUME DATA

No. of points:	16	16
No. of min./point:	2.5	2.5
Sampling Time (min):	40.00	40.00
Console Time Start (hh:mm):	17:09	18:26
Console Time End (hh:mm):	17:50	19:06
Delta P (in. w.g.):	1.2466	1.4040
Meter Volume Index (acf):	44.003	44.826
Delta-H Pressure (in. w.g.):	3.29	3.58
Stack Temperature ('F):	142.4	131.0
Impinger Temperature ('F):	48.3	44.6
Meter Temperature ('F):	84.8	82.3
Pump Vacuum (in. Hg.):	9.14	8.76
Condensed H2O @ Impinger (ml):	246.00	173.00
Leak Rate (cfm):	0.010	0.005
@ Vacuum (in.Hg.):	19.0000	15.1000
High Vacuum for Run (in.Hg.):	10.20	10.40
Sample Leak (cf):	0.400	0.200
Excess Leak (cf):	0.0	0.0
Meter Volume (actual-leak):	44.003	44.826
vapor pressure:	0.3396	0.2961
Pressure @ Silica Gel (in.Hg.):	15.50	15.90
Volume H2O @ Impingers (ml):	246.00	173.00
Volume H2O @ Silica Gel (ml):	20.93	18.05
Total H2O (ml):	266.93	191.05
Vmstd (dscf):	35.266	36.150
Vwstd (scf):	12.574	9.000
Bws, moisture (v/v):	0.2628	0.1993
Molecular weight dry:	29.23	29.07
Molecular weight wet:	26.28	26.87
Velocity of flue gas (fps):	77.3	80.3
Flow rate (dscf/hr):	1766289	2033878
Stack Area (sq.ft.):	11.9	11.9

Sampling Data and Analysis
Continued

TEST CONDITIONS		
Run ID#, (VDRR):	**1112**	**1114**
CONSOLE & PROBE PARAMETERS		
Console ID #:	AX-1	AX-1
Gas Meter ID No.:	932004	932004
Mtr. Factor, (Yo):	0.9943	0.9943
Orifice Delta-Ha:	1.9154	1.9154
Pitot ID #:	60-1	60-1
Pitobe ID #:	60-1	60-1
Pitot Side, A or B:	A	A
PARTICULATE SAMPLING DATA		
Final Isokinetic (%):	104.73	93.23
Ave. point-by-point Isokinetic (%):	101.66	101.74
Low point-by-point Isokinetic (%):	96.00	55.16
High point-by-point Isokinetic (%):	104.67	140.03
Filter 'A' ID:	7555	7556
Nozzle ID #:	8-1	8-1
Nozzle Actual Diameter(in):	0.2500	0.2500
Sample Rate Factor, K3:	2.28	2.45

Laboratory Data and Analysis

Facility Information

Stack / Duct Name:	Dryer WESP Exhaust Stack
Fuel Type:	Wood Bark

TEST CONDITIONS

Run ID#, (VDRR):	**1112**	**1114**
Test Date (mm/dd/yy):	5/31/95	5/31/95
Particulate Lab Results:		
Front Half:		
Wash Volume:	525.0	600.0
Weight Wash:	413.18	472.20
Acetone Correct Net Wt.:	21.35	34.25
Filter 'A' Correct Net Wt.:	5.95	12.95
Total Net Wt. (front):	**27.30**	**47.20**
Acetone Crct'n(mg.blk/gm.wsh):	0.005	0.005
Acetone Dynamic Blank Correct Net Wt.:	12.050	
Filter 'A' ID:	7555	7556
Water Back Half (Inorganic):		
Wash Volume:	500.00	600.00
Weight Wash:	500.00	600.00
Water Correct Net Wt.:	17.30	8.36
Total Net Wt. (front+water back, mg):	**44.60**	**55.56**
Water Crctn (mg.blk/gm.wsh):	0.0004	0.0004
Methylene Chloride Back Half (Organic):		
Wash Volume:	450.00	350.00
Weight Wash:	598.50	465.50
Methylene Chloride Correct Net Wt.:	22.80	11.80
Total Net Wt. (front+back(all), mg):	**67.40**	**67.36**
Methylene Chloride Crctn (mg.blk/gm.wsh):	0.0000	0.0000
Lab. Techs.		
Filter (Last Name):	Wyant	Wyant
Acetone (Last Name):	Wyant	Wyant
Water (Last Name):	Wyant	Wyant
Methylene Chloride (Last Name):	Wyant	Wyant

Stack/Port Dimension and Sampling Locations

Dryer WESP Exhaust Stack
Round Stack

Applicable Drawing in Report:	See Below		
Stack Height above Grade (ft.):	103.5		
Heigth of Test Ports (ft.):	61.9		
Flow Direction (@ Test Port(s)):	Vertical Flow		
Flue Size(s)	in.	ft.	
Inside Dia. (in.):	46.75	3.90	
Straight Flue Distance to Test Port	in.	ft.	Dia(s).
B, Before:	168.00	14.00	3.59
A, After:	459.00	38.25	9.82

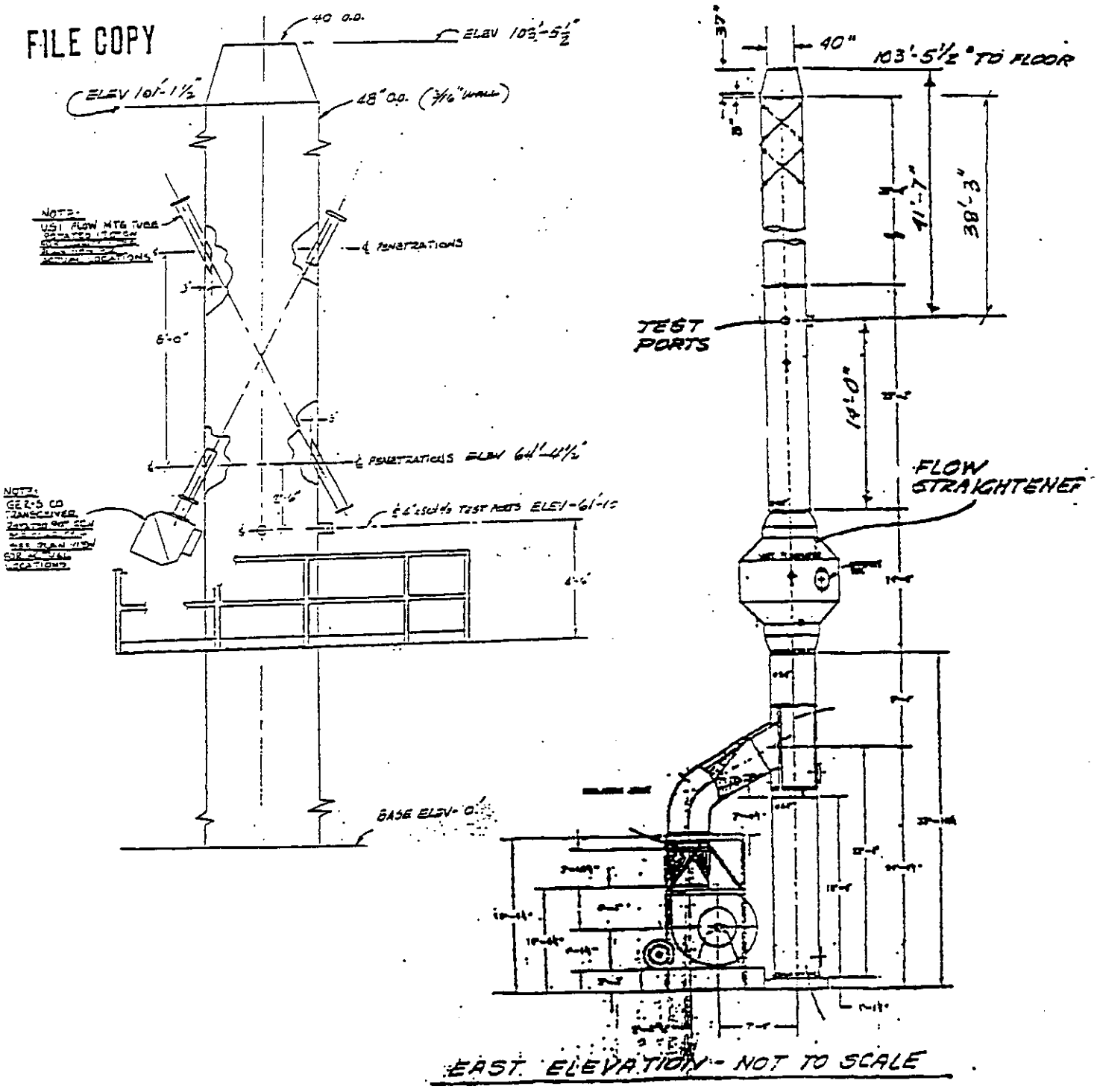
Sample Ports	
Type:	Male
Description:	NPT
Size, Dia. (in.):	4
Nipple, Len. (in.):	7
Quantity Used:	2
Orientation:	90
Distance Platform to Port (in.):	54
Distance Port to Cable Eye Hook(in.):	36

Sample Train Type:	Particulate	MW/H2O	Flow	Instruments
No. of Sample Points				
Total:	24	24	24	1
Per Port:	12	12	12	1
Required Probe Length (in. E.L.):	0	0		0
Pitobe ID. No.:	0	0		0

Points / Locations:

Point No.:	%:	Distance to Point from (in.): Near Wall: (in.)	Port End: (in.)	Inst. (in.)
1	2.10	0.98	7.98	14.81
2	6.70	3.13	10.13	30.38
3	11.80	5.52	12.52	45.94
4	17.70	8.27	15.27	
5	25.00	11.69	18.69	
6	35.60	16.64	23.64	
7	64.40	30.11	37.11	
8	75.00	35.06	42.06	
9	82.30	38.48	45.48	
10	88.20	41.23	48.23	
11	93.30	43.62	50.62	
12	97.90	45.77	52.77	

Stack and Traverse Diagram



Test Method Specifications

Parameters:	Flow	H2O	Particulate
Methods:	1,2	4	5/202
Number of Runs:	2	2	2
Number of Sample Points:	16	16	16
Sampling Time/Point (min):	2.5	2.5	2.5
Sampling Time/Run (min.):	40	40	40
Sampling Flowrate (dscfm):	-	0.784	0.784
Sample Volume (dscf):	-	31.36	31.36

Parameters:	O2	CO2
Methods:	3A	3A
Number of Runs:	4	4
Number of Sample Points:	1	1
Sampling Time/Point (min.):	21	21
Sampling Time/Run (min.):	21	21
Average Stack Concentration (ppm or %):	18.12	2.59
Instrument Span (ppm or %):	22	16
Calibration Gas Values (ppm or %):		
Zero:	0.00	0.00
Low:	-	-
Mid:	11.50	6.55
High:	20.90	13.70

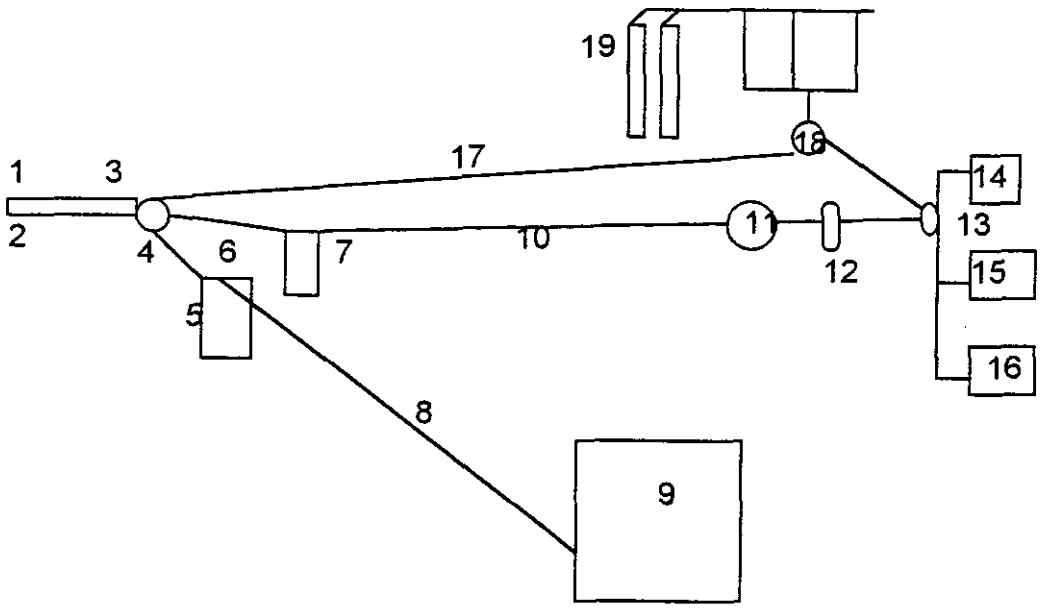
Testing Equipment Specifications

Equipment	Make	Serial Number	Date	Result
Console Gas Meter Yo	Rockwell	6843919	2-3-94	1.0001
Console Orifice Meter	TDDC	0.188	2-3-94	1.9154
Pitot Tip	TDD, Inc.		*on site*	0.84 (Cp)

Instrumental Equipment Specifications

Parameter	Manufacturer	Model	Serial Number	Type of Analysis
CO	Horiba	CMA331	568384061	NDIR
CO2	Horiba	CMA331	568384061	NDIR
O2	Horiba	CMA331	568384061	Paramagnetic

Sampling Train Diagram



Legend

1. Type S pitot.
2. Stack temperature thermocouple.
3. Stainless-steel probe.
4. Heated Filter Holder Box
5. Condenser- 3 bubbler impingers, 1 silica gel impinger all in ice bath.
6. Condenser outlet thermocouple.
7. Particulate Train umbilical.
8. Console- pump, dry gas meter, thermocouple outputs, pitot manometer.
9. Non-contact CEMS condenser in ice bath.
10. CEMS sample line.
11. Sample pump.
12. Sample indicator and flow control.
13. Sample/Calibration valve and manifold.
14. O_2, CO_2, CO analyzer.
15. NO_x analyzer.
16. SO_2 analyzer.
17. Sample/Cal valve-a. sample stack, b. sample air, c. calibrate, d. leak check.
18. Calibration gas line to probe.
19. Calibration gas manifold valve- a. Cal at probe, b. Cal at analyzer manifold.
20. Calibration gas cylinders.

Technical Discussion

Sample Trains

The instrumental sampling train consists of a stainless steel probe, sample lines, calibration lines, condenser, pumps and instrumental analyzers. The sample is drawn out of the stack through the probe and into a glass impinger non-contact condenser ice bath and then through the sample line and pumps to the analyzers. Each analyzer is connected to an analog-to-digital converter that records and prints out the data in 30 second intervals. Calibrations are performed at the probe to prove bias checks. Leak checks are also performed at the probe.

The particulate train consists of a stainless steel heated probe with type S pitot, stack and probe thermocouples connected to heated filter box which is connected to a 4 impinger system condenser. The sample is drawn through the nozzle, probe, filter, ice bath condenser, sample umbilical line and finally the pump. The gas is then pushed through a dry gas meter.

Test Methods

Method 1 - Sample and Velocity Traverse Locations

The selection of the sampling and/or velocity measurement sites are performed according to CFR 40 Pt. 60, App. A, Method 1.

Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate

This method is applicable for measurement of the average velocity of a gas stream and for quantifying gas flow at sites that meet Method 1 and is performed according to CFR 40 Pt. 60, App. A, Method 2.

Method 3A - Determination of Oxygen and Carbon Dioxide Concentrations

This method determines O_2 and CO_2 from a sample that is continuously extracted from the source and is conveyed into an instrumental analyzer(s). See sampling system drawing above. This method is performed according to CFR 40 Pt. 60, App. A, Method 3A.

Method 4 - Determination of Moisture Content in Stack Gases

This method is performed according to CFR 40 Pt. 60, App. A, Method 4 and Dalton's Law Procedure.

Method 5 - Determination of Particulate Emissions

This method is performed according to CFR 40 Pt. 60, App. A, Method 5.

Method 202 - Determination of Condensible Emissions

This method is performed according to CFR 40 Pt. 60, App. A, Method 202.

Process Operation

The process was running the best that the wood supply would allow. The dryer was fluctuating over a wide range of CO ppm which indicates that the load was varying greatly. The process was down due to a malfunction between the first run and the second.

Quality Assurance and Quality Controls

The tests procedures of *"The Red Book"– The U.S. EPA Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III - Stationary Source Specific Methods (# EPA 600/4-77-027b), August, 1977 (as Updated).*

APPENDIX

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Project and Quality Assurance Documentation

APPENDIX 3

Chain-of-Custody for Data and Samples

APPENDIX 5

Chain of Custody

Client Name: Louisiana-Pacific Corporation
Project No.: _____

Protocol Generation

Verified By: N/A Date: ____ Receiced By: N/A Date: ____

Samples Collected

(magnetic media, field data sheets, acetone, filters and etc.)

Type	Run No.	Label No.	By	Date
mag. media	all		JF	5-31-95
run sheet	1112		JF	5-31-95
run sheet	1114		JF	5-31-95
run sheet				

Transport

Carrier: EMG vehicle By: [signature] Date: 6-1-95

Laboratory (if applicable)

Type	Run No.	Label No.	By	Date
Acetone	1112	Ace 1112	KW	6/9/95
Acetone	1114	Ace 1114	KW	6/9/95
Acetone	Acetone Blank	Ac Blank	KW	6/9/95
Acetone	Dry. Blank	Dry Blk	KW	6/9/95
Filter	7555	7555	KW	6/9/95
Filter	7556	7556	KW	6/9/95
H_2O	Blank	H_2O Blank	KW	6/9/95
H_2O	1112	H_2O 1112	KW	6/9/95
H_2O	1112	H_2O 1114	KW	6/9/95
$MeCl_2$	Blank	Me Blk	KW	6/9/95
$MeCl_2$	1112	Me 1112	KW	6/9/95
$MeCl_2$	1114	Me 1114	KW	6/9/95
			KW	6/9/95

Q.A. and Q.C.

Level 1: Verified By: [signature] Date: 6-8-95
Level 2 Verified By: [signature] Date: 6-8-95

Report Generation

Level 3 Verified By: [signature] Date: 6-9-95

APPENDIX 6

Field Sampling Data

APPENDIX 7

Reference Method Data Sheets

APPENDIX 9

DP-1112

RUN # 110	DATE 5-31-95	THE EMISSION MEASUREMENT GROUP INC. rev. 1.03	CONSOLE ID AX-1 Meter ID A 902004
PLANT Louisiana-Pacific Corporation			PITOBE ID 60-1 PITOT ID 60-1
DUCT/FLUE Dryer WESP Exhaust	UNIT Dryer WESP Ex	FIELD DATA SHEET	NOZZLE ID 8-1
TEST LDR MJ Lynn		METHODS – M2,M3,M4,M5	FILTER ID (A) 7555 (B)
HELPER(S) E. Wilcox x2		Client Louisiana-Pacific Corporation	ORSAT BAG ID DAS BAROM ID B

PRE-TEST CHECKS and CONDITIONS

Ambient Temp		Rel Hum		Weather	
Wet Bulb Temp		Dry Bulb Temp			
Delta P Level	✓	Zero:	✓		
Delta H Level	✓	Zero:	✓		
Pitot LK Chk. (+)	✓ @	in wg	(-) ✓	@	in wg
Nozzle Leak Rate	✓ 0.012	CFM	@ ✓	23.5	in Hg.
Sampling Leak Rate	✓	CFM	@ ✓	10	in H2O

CONSTANTS and CALCULATIONS

STACK TYPE(Car/R)	C ✓	Diameter	47.75 ✓		Gas Concentration
NO. of POINTS	18 ✓	Stack Area (sq. ft.)	12.438		%O2=
NO. of PORTS	2 ✓	MinPrt	~~2.335~~ 2.5		%CO2=
Pbar	24.64	Ps	+0.24		ppm SO2=
Cp	0.84 ✓	dn(des)			ppm NOx=
Yo	1.0001 ✓	dn(act)	0.250		ppm CO=
Delta Hs	1.915 ✓	KG	2.631		MW (s)=

ASSUMED VALUES

DATA SOURCE	Head, Delta P	Delta H, Orifice	Moisture	Calc. Volume	STACK	PROBE	FILTER	IMP.	G.MTR	Vac.	ISO
Prev. Test or Estimate	in. H2O	in. H2O	%	DSCF	Deg. F	Deg. F	Deg. F	Deg. F	Deg. F	in. Hg	%
CEMS	1.25	2.5	22	>30	142	–	–	–	–	–	100

POINT – BY – POINT DATA

Location Port/Prt Ln/No.	Sec #	Time Clock 24 Hr (hh:mm:ss) Start	Stop	Elap. Min.	VELOCITY Delta P in. H2O	DRY GAS METER Index Rdg. Cu. Ft.	Delta H Orifice in. H2O DES	ACT	SYSTEM TEMPERATURES (Deg. F) Stack 1	Probe 2	Filter 3	Imp. 4	G.Mtr 5	VAC. Main in. Hg	RATE ISO %
START	0			0		838.792			144			48	79		
A-1	1	1709	11:36	2.5 ~~2.0~~	1.45	841.68	3.815	3.8	DAS	256	232	DAS	DAS	9.5	99.5
A-2	2		14	5.0 ~~3.0~~	1.4	844.66	3.683	3.7	142	255	245	48	84	9.5	104.1
A-3	3		16:30	2.5 ~~2.0~~	1.3	847.33	3.420	3.4	142	255	250	43	84.5	9.0	96.6
A-4	4		19	1.0 ~~2.0~~	1.15	849.98	3.025	3.0	140	255	252	45	82	8.2	101.6
A-5	5		21:30	2.5 ~~2.0~~	1.3	852.74	3.420	3.4	140	255	257	46	84	9.0	99.3
A-6	6		24	1.0 ~~1.0~~	1.2	855.44	3.157	3.2	142	255	258	47	84	9.0	101.2
A-7	7		26:30	2.5 ~~2.0~~	1.1	858.08	2.894	2.9	140	256	249	48	84	8.2	103.1
A-8	8		29	2.0 ~~1.0~~	1.05	860.669	2.762	2.8	139	255	251	49	85	8.0	103.2
B-1	9	17:30	32:30	2.5 ~~2.0~~	1.5	863.51	3.946	3.9	144	255	243	50	84.5	10.2	95.5
B-2	10		35	2.0 ~~2.0~~	1.4	866.45	3.683	3.7	148	256	245	49	85.5	10.2	102.4
B-3	11		37:30	2.5 ~~2.0~~	1.3	869.29	3.42	3.4	147	256	247	51	86	10.0	102.4
B-4	12		40	2.0 ~~2.0~~	1.15	872.00	3.025	3.0	146	255	246	52	86	9.0	103.6
B-5	13		42:30	2.5 ~~2.0~~	1.25	874.74	3.289	3.3	142	255	246	51	87.5	9.5	100.0
B-6	14		45	2.0 ~~2.0~~	1.2	877.47	3.157	3.2	142	255	249	50	88	9.2	101.6
B-7	15		47.5	2.5 ~~2.0~~	1.15	880.15	3.025	3.0	142	255	246	50	88.5	9.0	101.7
B-8	16		50	2.0 ~~2.0~~	1.1	882.795	2.894	2.9	142	255	248	50	89.5	8.8	102.4
	17														
	18														
	19														
	20														
	21														
	22														
	23														
	24														
	25			40											
TOTALS / AVERAGES				~~50.0~~	1.2313	44.083		3.249	142.5			48.2	84.8	9.1	101.1

CEMS 1111/1112

2024 Training Recovery. Mech. Rate Hold

FINAL LEAK CHECKS		ORSAT				COND. MOISTURE				DALTON'S LAW
Pitot (+) 0 @ 6.0 in H2O		Run #	% CO2	% Total	% O2	Imp.	Total	Tare	Net	Silica Gel Adsorbed H2O
Pitot (+) 0 @ 5.0 in H2O		1				1	246	100	146	Vapor Pressure
Nozzle Rate 0.01		2		CEMS		2	200	100	100	Total m H2O
in. Hg. Vac. 19		3				3	—	—		Vw (std)
Leak Cu. Ft.		Avg.				Volume Condensed H2O = 246				FINAL % H2O 25.81
FINAL AVERAGES		V(m)=		Vm (std)=		FINAL Yo @ avg D. H.=				FINAL ISO %= 103.81

OPERATOR SIGNATURE: Michael [illegible] AGENCY WITNESS: _____

TEST LEADER SIGNATURE: [illegible] PLANT WITNESS: _____

APPENDIX 10

DP - 1114/1115

RUN # ~~110~~	DATE 5/31/95	THE EMISSION MEASUREMENT GROUP INC. rev. 1.03	CONSOLE ID AX-1 Meter ID 332004
PLANT Louisiana-Pacific Corporation		FIELD DATA SHEET	PITOBE ID 60.1 PITOT ID 60.1
DUCT/FLUE Dryer WESP Exhaust	UNIT Dryer WESP Ex	METHODS – M2,M3,M4,M5	NOZZLE ID 8-1
TEST LDR M J Lynn		Client Louisiana-Pacific Corporation	FILTER ID (A) 7556 (B)
HELPER(S) E. Wilcox #2			ORSAT BAG ID — BARCM ID B

PRE-TEST CHECKS and CONDITIONS

Ambient Temp	Rel Hum	Weather			
Wet Bulb Temp	Dry Bulb Temp				
Delta P Level	Zero:				
Delta H Level	Zero:				
Pitot Lk. Chk. (+) @	in wg	(-) @	in wg		
Nozzle Leak Rate	CFM	@	in Hg.		
Sample Leak Rate	CFM	@	10	in H2O	

CONSTANTS and CALCULATIONS

STACK TYPE(Corr)	C	Diameter	47.75		Gas Concentration
NO. of POINTS	16	Stack Area (sq. ft.)	12.436		%O2=
NO. of PORTS	2	MinPrt	~~1.375~~ 2.5		%CO2=
Pbar	24.64/64	Ps			ppm SO2=
Cp	0.84	dh(des)			ppm NOx=
Yo	1.0001	dh(act)	.250		ppm CO=
Delta Ha	1.915	K3	2.521		WW (s)=

ASSUMED VALUES

DATA SOURCE	Head. Delta P	Delta H. Orifice	Moisture	Calc. Volume	STACK	PROBE	FILTER	IMP.	G.MTR	Vac.	ISO
Prev. Test or Estimate	in. H2O	in. H2O	%	DSCF	Deg. F	Deg. F	Deg. F	Deg. F	Deg. F	in. Hg	%

1976-2006

POINT – BY – POINT DATA

Location		Time			VELOCITY	DRY GAS METER			SYSTEM TEMPERATURES (Deg. F)					VAC.	RATE
Port/Prt	Seq	Clock		Elap.	Delta P	Index Rdg.	Delta H Orifice		Stack	Probe	Filter	Imp.	G.Mtr.	Main	ISC
Ln/No.	#	24 Hr. (hh:mm:ss)		Min.	in. H2O	Cu. Ft.	in. H2O		1	2	3	4	5	in. Hg	%
START	0 1926	Start	Stop	0		888.572	DES	ACT							
A-1	1	1826	2	~~1.5~~	1.60 1.60	891	4.270		1/1436	253	242	1/1440	~~85~~ 84	9.5	77
A-2	2	8.5	1931 5	~~2.0~~	1.50	895	3.856		135	253	241	41	85	9.5	131.9
A-3	3	31	5	~~5.6~~	1.55	896.6	3.98		136	254	242	42	86	9.1	82
A-4	4	3.5	36 10	~~7.5~~	1.50	899.85	3.856		130	255	236	44	86	8.5	106.7
A-5	5	36	8.5 15	~~9.4~~	1.55	902.9	3.985		124	254	230	45	86.5	8.6	92.0
A-6	6	8.5	41 15.0	~~11.3~~	1.40	905.73	3.599		130	254	233	46	85.1	8.0	96.2
A-7	7	41	3.5 17.5	~~13.1~~	1.45	908.6	3.728		119	253	234	45	85	8.2	95.1
A-8	8	3.5	46 20.0	~~15.0~~	1.35	911.5	3.47		124	254	226	45	84	7.9	100.0
B-1	9	46	8.5 22.5	~~18.8~~	1.78	914.5	4.576		126	255	228	44	82.5	10.4	90.9
B-2	10	8.5	51 25.0	~~18.8~~	1.50	917.52	3.7		126	255	230	44	83	10.0	99.4
B-3	11	51	3.5 27.5	~~20.6~~	1.45	920.48	3.72		131	256	234	46	80	9.7	100.0
B-4	12	3.7	56 30.0	~~22.5~~	1.15	923.16	3.07		136	255	231	46	79	9.5	102.1
B-5	13	56	8.5 32.5	~~24.4~~	1.28	925.87	~~3.3~~ 3.29		136	254	231	46	78.5	8.7	97.9
B-6	14	8.5	~~37~~ 40 35.0	~~28.3~~	1.30	928.7	3.342		137	255	236	46	77.5	8.9	101.8
B-7	15	~~37~~ 40	3.5 37.5	~~28.7~~	1.10	931.7	2.82		136	255	237	47	77.0	8.6	97.6
B-8	16	3.5	06 40.0	~~30.0~~	1.10	933.398	2.8	136	1/1445	253	231	46	77	7.5	85.9
	17											1/1445	1/1445		
	18														
	19														
	20														
	21														
	22														
	23														
	24														
	25			40	1.4040			3.525							
TOTALS / AVERAGES				~~30~~	~~1.4075~~	44.826		~~3.634~~	131	—	—	44.6	82.3	8.8	95.8

2023 A Lynn MEGI Rooney

FINAL LEAK CHECKS		ORSAT				COND. MOISTURE				DALTON'S LAW	
Prot (+) @	in H20	Run #	% CO2	% Total	% O2	Imp.	Total	Tare	Net	Silica Gel Adsorbed H2O	
Prot (-) @	in H20	1				1	270	100	130	Vapor Pressure	
Nozzle Rate	.005	2				2	143	100	43	Total m H2O	
in. Hg. Vac.	15.1	3				3				Vw (std)	
Leak Cu. Ft.		Avg.				Volume Condensed H2O =			173	FINAL % H2O	19.82
FINAL AVERAGES		V(m)=		Vm (std)=		FINAL Yo @ avg D. H.x				FINAL ISO %=	93.85

OPERATOR SIGNATURE: Jody R Floyd AGENCY WITNESS: _____

TEST LEADER SIGNATURE: Jody R Floyd PLANT WITNESS: _____

CEM Emission Data Printouts

APPENDIX 13

HISTORICAL DATA REPORT

D-112

Data Taken On: 05/31/95
Starting at: 17:04:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
17:04:00	~~17.263~~	~~OFF~~	~~3.276~~	~~OFF~~	581.3	OFF	~~603.0~~	~~OFF~~
17:28:00	17.366	OFF	3.201	OFF	585.1	OFF	588.4	OFF

586.75

HISTORICAL DATA REPORT

D-1112

Data Taken On: 05/31/95
Starting at: 17:04:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
17:04:00	17.035	OFF	3.476	OFF	876.1	OFF	810.0	OFF
17:05:00	17.140	OFF	3.386	OFF	645.4	OFF	697.0	OFF
17:06:00	17.153	OFF	3.371	OFF	731.1	OFF	690.9	OFF
17:07:00	17.173	OFF	3.351	OFF	682.2	OFF	666.5	OFF
17:08:00	17.266	OFF	3.277	OFF	642.4	OFF	622.6	OFF
17:09:00	17.355	OFF	3.202	OFF	550.1	OFF	558.0	OFF
17:10:00	17.031	OFF	3.488	OFF	682.4	OFF	795.1	OFF
17:11:00	16.856	OFF	3.638	OFF	886.1	OFF	1012.5	OFF
17:12:00	16.938	OFF	3.575	OFF	1006.2	OFF	965.0	OFF
17:13:00	17.085	OFF	3.453	OFF	891.1	OFF	820.6	OFF
17:14:00	17.552	OFF	3.042	OFF	535.5	OFF	470.5	OFF
17:15:00	17.590	OFF	3.003	OFF	391.0	OFF	403.9	OFF
17:16:00	17.580	OFF	3.017	OFF	456.2	OFF	413.2	OFF
17:17:00	17.587	OFF	3.016	OFF	407.9	OFF	399.2	OFF
17:18:00	17.513	OFF	3.071	OFF	352.3	OFF	450.4	OFF
17:19:00	17.090	OFF	3.447	OFF	672.0	OFF	796.0	OFF
17:20:00	17.045	OFF	3.494	OFF	910.2	OFF	855.7	OFF
17:21:00	17.240	OFF	3.321	OFF	804.6	OFF	701.7	OFF
17:22:00	17.415	OFF	3.173	OFF	664.9	OFF	581.9	OFF
17:23:00	17.666	OFF	2.954	OFF	479.8	OFF	395.8	OFF
17:24:00	17.849	OFF	2.799	OFF	287.9	OFF	273.4	OFF
17:25:00	17.920	OFF	2.709	OFF	232.0	OFF	226.7	OFF
17:26:00	17.810	OFF	2.806	OFF	241.8	OFF	286.3	OFF
17:27:00	17.410	OFF	3.153	OFF	414.9	OFF	540.5	OFF
17:28:00	17.514	OFF	3.073	OFF	475.6	OFF	498.8	OFF

HISTORICAL DATA REPORT

Data Taken On: 05/31/95
Starting at: 17:28:00

D-1113

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
17:28:00	~~17.366~~	~~OFF~~	~~3.201~~	~~OFF~~	~~585.1~~	~~OFF~~	~~588.4~~	~~OFF~~
17:52:00	17.170	OFF	3.401	OFF	808.2	OFF	809.5	OFF

808.85

HISTORICAL DATA REPORT

D-113

Data Taken On: 05/31/95
Starting at: 17:28:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
17:28:00	17.514	OFF	3.073	OFF	475.6	OFF	498.8	OFF
17:29:00	16.999	OFF	3.527	OFF	813.2	OFF	947.0	OFF
17:30:00	17.200	OFF	3.362	OFF	830.3	OFF	767.0	OFF
17:31:00	17.256	OFF	3.314	OFF	737.3	OFF	700.5	OFF
17:32:00	17.355	OFF	3.229	OFF	644.5	OFF	628.9	OFF
17:33:00	17.478	OFF	3.123	OFF	555.6	OFF	519.0	OFF
17:34:00	17.325	OFF	3.254	OFF	539.3	OFF	626.9	OFF
17:35:00	17.149	OFF	3.409	OFF	792.2	OFF	790.1	OFF
17:36:00	17.016	OFF	3.525	OFF	870.6	OFF	885.1	OFF
17:37:00	17.066	OFF	3.479	OFF	854.4	OFF	860.9	OFF
17:38:00	17.126	OFF	3.428	OFF	942.4	OFF	843.3	OFF
17:39:00	17.193	OFF	3.376	OFF	786.7	OFF	764.1	OFF
17:40:00	17.243	OFF	3.338	OFF	714.0	OFF	707.5	OFF
17:41:00	17.173	OFF	3.399	OFF	776.0	OFF	800.6	OFF
17:42:00	17.088	OFF	3.471	OFF	839.3	OFF	909.7	OFF
17:43:00	17.161	OFF	3.418	OFF	923.8	OFF	858.2	OFF
17:44:00	17.115	OFF	3.452	OFF	798.5	OFF	875.1	OFF
17:45:00	17.205	OFF	3.383	OFF	886.4	OFF	782.7	OFF
17:46:00	17.244	OFF	3.348	OFF	678.2	OFF	740.7	OFF
17:47:00	17.119	OFF	3.458	OFF	818.0	OFF	889.2	OFF
17:48:00	17.059	OFF	3.513	OFF	997.5	OFF	952.7	OFF
17:49:00	17.083	OFF	3.488	OFF	858.2	OFF	913.2	OFF
17:50:00	17.054	OFF	3.517	OFF	991.4	OFF	993.2	OFF
17:51:00	17.131	OFF	3.451	OFF	952.4	OFF	896.4	OFF
17:52:00	17.244	OFF	3.354	OFF	797.3	OFF	775.2	OFF

HISTORICAL DATA REPORT

D-1114

Data Taken On: 05/31/95
Starting at: 19:18:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
19:18:00	9.543	OFF	3.446	OFF	315.3	OFF	301.1	OFF
19:42:00	19.070	OFF	1.796	OFF	325.1	OFF	332.8	OFF

328.95

HISTORICAL DATA REPORT

D-1114

Data Taken On: 05/31/95
Starting at: 19:18:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
19:18:00	18.060	OFF	2.652	OFF	237.4	OFF	238.1	OFF
19:19:00	18.012	OFF	2.697	OFF	268.1	OFF	258.3	OFF
19:20:00	17.976	OFF	2.716	OFF	279.1	OFF	271.2	OFF
19:21:00	17.845	OFF	2.828	OFF	293.1	OFF	354.3	OFF
19:22:00	17.842	OFF	2.859	OFF	365.8	OFF	369.4	OFF
19:23:00	17.945	OFF	2.778	OFF	351.2	OFF	318.4	OFF
19:24:00	18.060	OFF	2.673	OFF	242.7	OFF	241.2	OFF
19:25:00	17.996	OFF	2.731	OFF	231.5	OFF	264.9	OFF
19:26:00	17.814	OFF	2.908	OFF	321.6	OFF	372.5	OFF
19:27:00	17.745	OFF	2.966	OFF	412.0	OFF	432.7	OFF
19:28:00	17.812	OFF	2.912	OFF	473.8	OFF	417.5	OFF
19:29:00	18.170	OFF	2.584	OFF	288.3	OFF	250.8	OFF
19:30:00	18.723	OFF	2.116	OFF	267.1	OFF	637.9	OFF
19:31:00	19.655	OFF	1.255	OFF	984.0	OFF	1067.0	OFF
19:32:00	19.877	OFF	1.077	OFF	980.3	OFF	916.7	OFF
19:33:00	19.934	OFF	1.036	OFF	761.6	OFF	720.6	OFF
19:34:00	20.399	OFF	0.632	OFF	617.1	OFF	627.4	OFF
19:35:00	21.039	OFF	0.060	OFF	274.6	OFF	159.3	OFF
19:36:00	21.129	OFF	0.000	OFF	75.5	OFF	55.2	OFF
19:37:00	21.088	OFF	0.026	OFF	47.2	OFF	41.0	OFF
19:38:00	20.593	OFF	0.447	OFF	66.6	OFF	50.4	OFF
19:39:00	20.401	OFF	0.620	OFF	48.9	OFF	36.9	OFF
19:40:00	19.296	OFF	1.611	OFF	44.2	OFF	42.0	OFF
19:41:00	18.830	OFF	2.062	OFF	63.6	OFF	45.4	OFF
19:42:00	19.476	OFF	1.503	OFF	43.0	OFF	35.7	OFF

HISTORICAL DATA REPORT

1115
D-~~114~~

Data Taken On: 05/31/95
Starting at: 19:42:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
19:42:00	19.070	OFF	1.796	OFF	325.1	OFF	332.8	OFF
20:06:00	18.885	OFF	1.963	OFF	225.7	OFF	222.6	OFF

224.15

HISTORICAL DATA REPORT

Data Taken On: 05/31/95
Starting at: 19:42:00

D-1115 ~~1114~~

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
19:42:00	19.476	OFF	1.503	OFF	43.0	OFF	35.7	OFF
19:43:00	20.013	OFF	1.001	OFF	46.7	OFF	34.0	OFF
19:44:00	19.031	OFF	1.852	OFF	37.9	OFF	45.5	OFF
19:45:00	17.899	OFF	2.812	OFF	159.3	OFF	347.3	OFF
19:46:00	17.871	OFF	2.807	OFF	416.5	OFF	366.4	OFF
19:47:00	18.902	OFF	1.968	OFF	156.2	OFF	99.9	OFF
19:48:00	19.470	OFF	1.455	OFF	55.9	OFF	41.6	OFF
19:49:00	18.425	OFF	2.354	OFF	63.1	OFF	209.6	OFF
19:50:00	17.430	OFF	3.262	OFF	607.2	OFF	677.1	OFF
19:51:00	17.617	OFF	3.103	OFF	622.2	OFF	523.3	OFF
19:52:00	18.001	OFF	2.767	OFF	398.2	OFF	292.8	OFF
19:53:00	18.300	OFF	2.486	OFF	172.8	OFF	150.0	OFF
19:54:00	18.346	OFF	2.452	OFF	169.1	OFF	128.7	OFF
19:55:00	18.756	OFF	1.920	OFF	127.8	OFF	146.0	OFF
19:56:00	18.715	OFF	2.098	OFF	363.4	OFF	456.2	OFF
19:57:00	18.843	OFF	2.007	OFF	563.5	OFF	514.6	OFF
19:58:00	19.273	OFF	1.642	OFF	299.4	OFF	219.6	OFF
19:59:00	19.497	OFF	1.437	OFF	147.1	OFF	110.5	OFF
20:00:00	19.477	OFF	1.441	OFF	101.4	OFF	127.0	OFF
20:01:00	19.322	OFF	1.580	OFF	240.7	OFF	257.3	OFF
20:02:00	19.485	OFF	1.445	OFF	166.8	OFF	164.3	OFF
20:03:00	19.563	OFF	1.377	OFF	163.2	OFF	128.0	OFF
20:04:00	19.625	OFF	1.317	OFF	121.5	OFF	102.0	OFF
20:05:00	19.652	OFF	1.295	OFF	99.2	OFF	98.7	OFF
20:06:00	19.713	OFF	1.242	OFF	117.6	OFF	101.0	OFF

CEM Drift Data Printouts

HISTORICAL DATA REPORT

Pre 1111-D

Data Taken On: 05/31/95
Starting at: 16:22:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
16:22:00	21.127	OFF	0.000	OFF	9.6	OFF	0.0	OFF
16:22:20	21.123	OFF	0.000	OFF	4.0	OFF	0.0	OFF
16:22:40	21.118	OFF	0.000	OFF	4.0	OFF	0.0	OFF
16:23:00	21.120	OFF	0.000	OFF	4.0	OFF	0.0	OFF
16:23:20	21.118	OFF	0.000	OFF	4.0	OFF	0.0	OFF
16:23:40	21.090	OFF	0.002	OFF	4.0	OFF	1.9	OFF
16:24:00	20.152	OFF	0.639	OFF	1[illegible].0	OFF	95.1	OFF
16:24:20	18.635	OFF	1.918	OFF	28[illegible].0	OFF	240.3	OFF
16:24:40	17.805	OFF	2.644	OFF	28[illegible].9	OFF	365.5	OFF
16:25:00	17.410	OFF	2.992	OFF	304.9	OFF	482.3	OFF
16:25:20	17.250	OFF	3.137	OFF	687.0	OFF	539.5	OFF
16:25:40	17.136	OFF	3.238	OFF	687.0	OFF	605.1	OFF
16:26:00	17.118	OFF	3.251	OFF	690.2	OFF	611.9	OFF
16:26:20	17.203	OFF	3.196	OFF	754.0	OFF	562.0	OFF
16:26:40	17.620	OFF	2.277	OFF	754.0	OFF	359.8	OFF
16:27:00	10.244	OFF	1.281	OFF	755.2	OFF	537.8	OFF
16:27:20	1.475	OFF	0.140	OFF	781.0	OFF	704.0	OFF
16:27:40	0.664	OFF	0.005	OFF	781.0	OFF	709.1	OFF
16:28:00	0.509	OFF	0.000	OFF	781.3	OFF	711.0	OFF
16:28:20	0.427	OFF	0.000	OFF	790.0	OFF	714.2	OFF
16:28:40	0.362	OFF	0.000	OFF	790.0	OFF	717.0	OFF
16:29:00	0.305	OFF	0.000	OFF	790.2	OFF	719.0	OFF
16:29:20	0.246	OFF	0.000	OFF	796.0	OFF	720.2	OFF
16:29:40	0.211	OFF	0.000	OFF	796.0	OFF	775.5	OFF
16:30:00	0.175	OFF	0.000	OFF	795.3	OFF	787.6	OFF
16:30:20	0.137	OFF	0.000	OFF	784.0	OFF	788.1	OFF
16:30:40	0.105	OFF	0.000	OFF	784.0	OFF	789.0	OFF
16:31:00	0.091	OFF	0.000	OFF	784.0	OFF	790.2	OFF
16:31:20	0.079	OFF	0.000	OFF	786.0	OFF	788.2	OFF
16:31:40	0.052	OFF	0.000	OFF	786.0	OFF	784.0	OFF
16:32:00	0.034	OFF	0.000	OFF	785.8	OFF	784.0	OFF
16:32:20	0.022	OFF	0.000	OFF	785.0	OFF	784.0	OFF
16:32:40	0.007	OFF	0.000	OFF	785.0	OFF	782.6	OFF
16:33:00	5.568	OFF	0.000	OFF	752.7	OFF	594.5	OFF
16:33:20	17.615	OFF	0.000	OFF	142.0	OFF	147.7	OFF
16:33:40	20.567	OFF	0.000	OFF	142.0	OFF	27.2	OFF
16:34:00	20.968	OFF	0.000	OFF	135.2	OFF	8.2	OFF
16:34:20	21.097	OFF	0.000	OFF	8.0	OFF	2.6	OFF
16:34:40	21.127	OFF	0.000	OFF	8.0	OFF	0.5	OFF
16:35:00	21.147	OFF	0.000	OFF	7.7	OFF	0.0	OFF
16:35:20	21.164	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:35:40	21.158	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:36:00	21.158	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:36:20	21.164	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:36:40	21.165	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:37:00	21.177	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:37:20	21.180	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:37:40	21.185	OFF	0.000	OFF	5.0	OFF	0.0	OFF
16:38:00	20.888	OFF	0.101	OFF	18.7	OFF	27.2	OFF

STACK

D- 1113
Post Bias

HISTORICAL DATA REPORT

Data Taken On: 05/31/95
Starting at: 18:00:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
18:00:00	9.560	OFF	0.670	OFF	863.7	OFF	579.6	OFF
18:00:20	1.422	OFF	0.032	OFF	764.0	OFF	755.1	OFF
18:00:40	0.674	OFF	0.000	OFF	764.0	OFF	767.2	OFF
18:01:00	0.514	OFF	0.000	OFF	764.5	OFF	770.7	OFF
18:01:20	0.432	OFF	0.000	OFF	776.0	OFF	773.6	OFF
18:01:40	0.357	OFF	0.000	OFF	776.0	OFF	776.2	OFF
18:02:00	0.305	OFF	0.000	OFF	776.2	OFF	778.5	OFF
18:02:20	0.247	OFF	0.000	OFF	782.0	OFF	779.8	OFF
18:02:40	0.205	OFF	0.000	OFF	782.0	OFF	781.5	OFF
18:03:00	0.180	OFF	0.000	OFF	782.0	OFF	782.2	OFF
18:03:20	0.137	OFF	0.000	OFF	784.0	OFF	783.8	OFF
18:03:40	0.116	OFF	0.000	OFF	784.0	OFF	784.2	OFF
18:04:00	0.095	OFF	0.000	OFF	784.0	OFF	785.2	OFF
18:04:20	0.074	OFF	0.000	OFF	786.0	OFF	786.0	OFF
18:04:40	0.060	OFF	0.000	OFF	786.0	OFF	786.0	OFF
18:05:00	0.046	OFF	0.000	OFF	786.0	OFF	786.0	OFF
18:05:20	0.029	OFF	0.000	OFF	788.0	OFF	786.5	OFF
18:05:40	0.070	OFF	0.000	OFF	788.0	OFF	784.2	OFF
18:06:00	8.057	OFF	0.000	OFF	753.6	OFF	510.9	OFF
18:06:20	18.412	OFF	0.000	OFF	103.0	OFF	117.2	OFF
18:06:40	20.748	OFF	0.000	OFF	103.0	OFF	21.2	OFF
18:07:00	21.097	OFF	0.000	OFF	98.2	OFF	4.5	OFF
18:07:20	21.163	OFF	0.000	OFF	10.0	OFF	1.4	OFF
18:07:40	21.175	OFF	0.000	OFF	10.0	OFF	0.2	OFF
18:08:00	21.184	OFF	0.000	OFF	9.9	OFF	0.0	OFF
18:08:20	21.187	OFF	0.000	OFF	8.0	OFF	0.0	OFF
18:08:40	21.187	OFF	0.000	OFF	8.0	OFF	0.0	OFF
18:09:00	21.183	OFF	0.000	OFF	7.9	OFF	0.0	OFF
18:09:20	21.188	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:09:40	21.185	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:10:00	21.190	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:10:20	21.192	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:10:40	21.185	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:11:00	21.190	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:11:20	21.198	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:11:40	21.195	OFF	0.000	OFF	7.0	OFF	0.0	OFF
18:12:00	20.918	OFF	0.047	OFF	7.1	OFF	31.0	OFF

HISTORICAL DATA REPORT

Post Bias

D-1114

1115

Data Taken On: 05/31/95
Starting at: 20:10:00

TIME	DPCT.O2.R AVG VALUE	STAT	DPCT.C2.R AVG VALUE	STAT	DPPM.SH.R AVG VALUE	STAT	DPPM.CO.R AVG VALUE	STAT
20:10:00	9.457	OFF	0.452	OFF	107.6	OFF	150.8	OFF
20:10:20	1.511	OFF	0.010	OFF	196.0	OFF	193.7	OFF
20:10:40	0.669	OFF	0.000	OFF	196.0	OFF	197.2	OFF
20:11:00	0.500	OFF	0.000	OFF	196.1	OFF	198.7	OFF
20:11:20	0.407	OFF	0.000	OFF	200.0	OFF	199.1	OFF
20:11:40	0.341	OFF	0.000	OFF	200.0	OFF	200.0	OFF
20:12:00	0.280	OFF	0.000	OFF	200.1	OFF	200.2	OFF
20:12:20	0.234	OFF	0.000	OFF	203.0	OFF	200.5	OFF
20:12:40	0.195	OFF	0.000	OFF	203.0	OFF	201.0	OFF
20:13:00	0.149	OFF	0.000	OFF	203.0	OFF	201.0	OFF
20:13:20	0.117	OFF	0.000	OFF	203.0	OFF	201.0	OFF
20:13:40	0.086	OFF	0.000	OFF	203.0	OFF	201.0	OFF
20:14:00	0.062	OFF	0.000	OFF	203.0	OFF	201.3	OFF
20:14:20	0.042	OFF	0.000	OFF	203.0	OFF	202.0	OFF
20:14:40	0.019	OFF	0.000	OFF	203.0	OFF	202.0	OFF
20:15:00	0.004	OFF	0.000	OFF	203.0	OFF	202.0	OFF
20:15:20	0.000	OFF	0.000	OFF	204.0	OFF	202.0	OFF
20:15:40	0.050	OFF	0.010	OFF	204.0	OFF	200.0	OFF
20:16:00	2.280	OFF	2.203	OFF	195.0	OFF	125.0	OFF
20:16:20	4.925	OFF	5.443	OFF	25.0	OFF	25.9	OFF
20:16:40	5.410	OFF	6.042	OFF	25.0	OFF	5.1	OFF
20:17:00	5.500	OFF	6.137	OFF	24.1	OFF	1.0	OFF
20:17:20	5.529	OFF	6.161	OFF	8.0	OFF	0.0	OFF
20:17:40	5.540	OFF	6.175	OFF	8.0	OFF	0.0	OFF
20:18:00	5.544	OFF	6.182	OFF	7.9	OFF	0.0	OFF
20:18:20	5.548	OFF	6.187	OFF	7.0	OFF	0.0	OFF
20:18:40	5.544	OFF	6.187	OFF	7.0	OFF	0.0	OFF
20:19:00	5.554	OFF	6.194	OFF	7.0	OFF	0.0	OFF
20:19:20	5.555	OFF	6.191	OFF	7.0	OFF	0.0	OFF
20:19:40	5.554	OFF	6.195	OFF	7.0	OFF	0.0	OFF
20:20:00	5.560	OFF	6.192	OFF	7.0	OFF	0.0	OFF
20:20:20	5.553	OFF	6.191	OFF	7.0	OFF	0.0	OFF
20:20:40	5.558	OFF	6.195	OFF	7.0	OFF	0.0	OFF
20:21:00	5.560	OFF	6.195	OFF	7.0	OFF	0.0	OFF
20:21:20	5.556	OFF	6.194	OFF	7.0	OFF	0.0	OFF
20:21:40	5.521	OFF	6.145	OFF	7.0	OFF	2.2	OFF
20:22:00	2.263	OFF	2.501	OFF	24.9	OFF	231.1	OFF
20:22:20	0.490	OFF	0.445	OFF	366.0	OFF	370.7	OFF
20:22:40	0.225	OFF	0.179	OFF	366.0	OFF	387.3	OFF
20:23:00	0.147	OFF	0.102	OFF	366.9	OFF	392.4	OFF
20:23:20	0.114	OFF	0.064	OFF	385.0	OFF	394.9	OFF
20:23:40	0.081	OFF	0.039	OFF	385.0	OFF	397.0	OFF
20:24:00	0.060	OFF	0.015	OFF	385.3	OFF	398.3	OFF
20:24:20	0.040	OFF	0.004	OFF	390.0	OFF	399.8	OFF
20:24:40	0.029	OFF	0.000	OFF	390.0	OFF	400.9	OFF
20:25:00	0.015	OFF	0.000	OFF	390.0	OFF	401.9	OFF
20:25:20	0.000	OFF	0.000	OFF	392.0	OFF	402.5	OFF
20:25:40	0.000	OFF	0.000	OFF	392.0	OFF	403.0	OFF
20:26:00	0.000	OFF	0.000	OFF	392.2	OFF	403.5	OFF
20:26:20	0.000	OFF	0.000	OFF	395.0	OFF	404.8	OFF

20:26:40	0.000	OFF	0.000	OFF	395.0	OFF	405.0	OFF
20:27:00	0.000	OFF	0.000	OFF	395.2	OFF	405.0	OFF
20:27:20	0.000	OFF	0.000	OFF	398.0	OFF	405.0	OFF
20:27:40	0.039	OFF	0.041	OFF	398.0	OFF	400.7	OFF
20:28:00	4.739	OFF	4.738	OFF	380.5	OFF	246.3	OFF
20:28:20	10.393	OFF	11.255	OFF	49.0	OFF	50.6	OFF
20:28:40	11.456	OFF	12.486	OFF	49.0	OFF	8.6	OFF
20:29:00	11.610	OFF	12.642	OFF	47.0	OFF	1.9	OFF
20:29:20	11.651	OFF	12.684	OFF	10.0	OFF	0.0	OFF
20:29:40	11.669	OFF	12.691	OFF	10.0	OFF	0.0	OFF
20:30:00	11.671	OFF	12.704	OFF	10.0	OFF	0.0	OFF
20:30:20	11.681	OFF	12.717	OFF	10.0	OFF	0.0	OFF
20:30:40	11.684	OFF	12.727	OFF	10.0	OFF	0.0	OFF
20:31:00	11.689	OFF	12.730	OFF	10.0	OFF	0.0	OFF
20:31:20	11.693	OFF	12.734	OFF	10.0	OFF	0.0	OFF
20:31:40	11.693	OFF	12.737	OFF	10.0	OFF	0.0	OFF
20:32:00	11.700	OFF	12.742	OFF	9.7	OFF	0.0	OFF
20:32:20	11.698	OFF	12.751	OFF	7.0	OFF	0.0	OFF
20:32:40	11.695	OFF	12.751	OFF	7.0	OFF	0.0	OFF
20:33:00	11.694	OFF	12.860	OFF	7.0	OFF	0.0	OFF
20:33:20	11.698	OFF	13.743	OFF	8.0	OFF	0.0	OFF
20:33:40	11.310	OFF	12.992	OFF	8.0	OFF	22.9	OFF
20:34:00	4.124	OFF	4.628	OFF	43.2	OFF	499.3	OFF
20:34:20	0.954	OFF	0.924	OFF	715.0	OFF	735.7	OFF
20:34:40	0.550	OFF	0.515	OFF	715.0	OFF	761.1	OFF
20:35:00	0.397	OFF	0.362	OFF	716.5	OFF	770.0	OFF
20:35:20	0.322	OFF	0.282	OFF	747.0	OFF	775.5	OFF
20:35:40	0.269	OFF	0.226	OFF	747.0	OFF	778.8	OFF
20:36:00	0.222	OFF	0.189	OFF	747.5	OFF	782.5	OFF
20:36:20	0.189	OFF	0.150	OFF	757.0	OFF	784.6	OFF
20:36:40	0.157	OFF	0.120	OFF	757.0	OFF	787.6	OFF
20:37:00	0.122	OFF	0.094	OFF	757.1	OFF	789.0	OFF
20:37:20	0.102	OFF	0.062	OFF	760.0	OFF	790.2	OFF
20:37:40	0.085	OFF	0.054	OFF	760.0	OFF	791.8	OFF
20:38:00	0.070	OFF	0.031	OFF	760.1	OFF	793.2	OFF
20:38:20	0.051	OFF	0.016	OFF	764.0	OFF	794.1	OFF
20:38:40	0.040	OFF	0.006	OFF	764.0	OFF	795.1	OFF
20:39:00	0.029	OFF	0.000	OFF	764.0	OFF	796.5	OFF
20:39:20	0.012	OFF	0.000	OFF	766.0	OFF	797.1	OFF
20:39:40	0.010	OFF	0.000	OFF	766.0	OFF	757.7	OFF
20:40:00	11.104	OFF	0.000	OFF	766.0	OFF	170.1	OFF
20:40:20	19.390	OFF	0.000	OFF	766.0	OFF	9.6	OFF
20:40:40	20.108	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:41:00	20.976	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:41:20	21.245	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:41:40	21.258	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:42:00	21.260	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:42:20	21.269	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:42:40	21.268	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:43:00	21.269	OFF	0.000	OFF	766.0	OFF	0.0	OFF
20:43:20	21.273	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:43:40	21.270	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:44:00	21.278	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:44:20	21.283	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:44:40	21.280	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:45:00	21.274	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:45:20	21.279	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:45:40	21.282	OFF	0.000	OFF	767.0	OFF	0.0	OFF
20:46:00	21.274	OFF	0.000	OFF	766.8	OFF	0.0	OFF

Laboratory Analytical Results

The Emission Measurement Group, Inc.

Particulate Lab Analytical Data Entry Sheet

FRONTSIDE

Company Name: LPC
Plant Name: Montrose, CO
Unit Name: Dryer
Test Date: 5/31/95
Analysts Sign.:

Acetone Density (gm/ml) 0.787
Lab Conditions:
Temp:
Humidity:
Reviewer Sign.:

Sample Id./Run No.:	REA Blank	Pre DB Probe rinsh	1112	1114	
Beaker No.:	5	6	8	11	
Wash Volume (ml.):	250 ml	450 ml	525 ml	600 ml	
Wt. of Acetone Wash (g):					
Tare Lab Book Page:	B63	B63	B63	B63	
1st Weight (g):	99.9029	104.1150	98.5932	101.9722	
2nd Weight (g):	99.9031	104.1151	98.5934	101.9724	
Average (g):	99.9030	104.11505	98.5933	101.9723	
Final Lab Book Page:	B64	B64	B64	B64	
1st Weight (g):	98.9041	104.1290	98.6169	102.0091	
2nd Weight (g):	98.9039	104.1288	98.6166	102.0088	
Average (g):	98.9040	104.1289	98.61675	102.00895	
Raw Net Wt. (mg):	1.0	13.85	23.45	36.65	
Blank Wt. (mg/g):	0.00508				
Blank Correction (mg):		-1.80	-2.1	-2.4	
Net Corrected Wt. (mg):		12.05	21.35	34.25	
Filter Id. No.:			7555	7556	
Tare Lab Book Page:			~~F20~~ F21	F21	
1st Weight (g):			0.3308	0.3291	
2nd Weight (g):			0.3308	0.3290	
Average (g):			0.3308	0.32905	
Final Lab Book Page:			F22	F22	
1st Weight (g):			0.3367	0.3419	
2nd Weight (g):			0.3368	0.3421	
Average (g):			0.33675	0.3420	
Raw Net Wt. (mg):			5.95	12.95	
Blank Wt. (mg/g):					
Blank Correction (mg):					
Net Corrected Wt. (mg):			5.95	12.95	

Balance pre and post calibrations at 100.0008 g. (internal weight) +/- 0.0001g.) for each weighing.

The Emission Measurement Group, Inc.

Particulate Lab Analytical Data Entry Sheet

BACKSIDE

Company Name: LPC
Plant Name: Montrose, CO
Unit Name: Dryer
Test Date: 5/31/95
Analysts Sign.:

Water Density (gm/ml): 1.000
Lab Conditions:
Temp:
Humidity:
Reviewer Sign.:

Sample Id./Run No.:	Blank	1112	1114		
Beaker No.:	18	15	17		
Wash Volume (ml.):	250	500	600		
Wt. of Water Wash (g):					
Tare Lab Book Page:	B65	B65	B65		
1st Weight (g):	105.7024	101.3677	98.7735		
2nd Weight (g):	105.7025	101.3679	98.7734		
Average (g):	105.70245	101.3678	98.77345		
Final Lab Book Page:	B66	B66	B66		
1st Weight (g):	105.7025	101.3855	98.7822		
2nd Weight (g):	105.7026	101.3851	98.7819		
Average (g):	105.70255	101.3853	98.78205		
Raw Net Wt. (mg):	0.100	17.500	8.600		
Blank Wt. (mg/g):	0.00040				
Blank Correction (mg):		-0.20	-0.24		
Net Corrected Wt. (mg):		17.30	8.36		

Balance pre and post calibrations at 100.0008 g. (internal weight) +/- 0.0001g.) for each weighing.

The Emission Measurement Group, Inc.

Particulate Lab Analytical Data Entry Sheet

BACKSIDE

Company Name:	LPC	$MeCl_2$ ~~Water~~ Density (gm/ml):	~~1.000~~
Plant Name:	Montrose, CO	Lab Conditions:	
Unit Name:	Dryer	Temp:	
Test Date:	5/31/95	Humidity:	
Analysts Sign.:		Reviewer Sign.:	

Sample Id./Run No.:	Blank	1112	1114		
Beaker No.:	40	21	25		
Wash Volume (ml.):	275	450	350		
Wt. of Water Wash (g):					
Tare Lab Book Page:	B61	B65	B65		
1st Weight (g):	101.4180	99.9648	99.8580		
2nd Weight (g):	101.4180	99.9650	99.8581		
Average (g):	101.4180	99.9649	99.85805		
Final Lab Book Page:	B62	B66	B66		
1st Weight (g):	101.4180	99.9878	99.8658		
2nd Weight (g):	101.4180	99.9876	99.8659		
Average (g):	101.4180	99.9877	99.86985		
Raw Net Wt. (mg):	0.0000	22.800	11.800		
Blank Wt. (mg/g):	0.0000				
Blank Correction (mg):					
Net Corrected Wt. (mg):		22.80	11.80		

Balance pre and post calibrations at 100.0008 g. (internal weight) +/- 0.0001g.) for each weighing.

The Emission Measurement Group Inc.

Calibration Weight Records *

Page: C17

DATE: 6/7/95		DATE: 18:12		DATE: 6/8/95		DATE: 6/8/95	
TIME: 17:09		TIME: 6/7/95		TIME: 16:00		TIME: 22:00	
Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.
100.0008	17:09/KW	100.0009	18:12/KW	100.0007	1607/TCH	100.0007	2201/TCH
100.0008	17:13/KW		/	100.0007	1617/TCH	100.0007	2201/TCH
100.0008	17:27/KW		/	100.0007	1621/TCH	100.0008	2203/TCH
100.0008	17:54/KW		/		/		/
100.0009	18:02/KW		/		/		/
100.0009	18:07/KW		/		/		/

DATE: 6/9/95		DATE:		DATE:		DATE:	
TIME: 4:30		TIME:		TIME:		TIME:	
Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.
100.0009	4:33/TCH		/		/		/
100.0008	4:34/TCH		/		/		/
100.0008	4:36/TCH		/		/		/
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DATE:		DATE:		DATE:		DATE:	
TIME:		TIME:		TIME:		TIME:	
Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.
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DATE:		DATE:		DATE:		DATE:	
TIME:		TIME:		TIME:		TIME:	
Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.
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DATE:		DATE:		DATE:		DATE:	
TIME:		TIME:		TIME:		TIME:	
Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.	Bal. Weight	Time/Init.
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Englewood, CO 80155
1-800-222-4187

* Using internal certified weight of 100.0008 gm.

Beaker Tare Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
21		9/17/94 MZ 08:27 pg.C15 99.9649 gm.	9/18/94 BC 08:45 pg.C15 99.9653 gm.	9/19/94 BC 09:06 pg.C15 99.9651 gm.	/ / : pg. gm.	99.9652
23		9/17/94 MZ 08:28 pg.C15 103.7532 gm.	9/18/94 BC 08:45 pg.C15 103.7531 gm.	9/19/94 BC 09:07 pg.C15 103.7533 gm.	/ / : pg. gm.	103.7532
25		9/17/94 MZ 08:30 pg.C15 99.8584 gm.	9/18/94 BC 08:46 pg.C15 99.8587 gm.	9/19/94 BC 09:08 pg.C15 99.8587 gm.	/ / : pg. gm.	99.8587
26		09/17/94 MZ 08:32 pg.C15 99.1341 gm.	9/18/94 BC 08:47 pg.C15 99.1380 gm.	9/19/94 BC 09:10 pg.C15 99.1381 gm.	/ / : pg. gm.	99.13805
29		9/17/94 MZ 08:33 pg.C15 98.2281 gm.	9/18/94 BC 08:47 pg.C15 98.2282 gm.	9/19/94 BC 09:08 pg.C15 98.2283 gm.	/ / : pg. gm.	98.22825
30c		9/17/94 MZ 08:34 pg.C15 99.5332 gm.	9/18/94 BC 08:48 pg.C15 99.5334 gm.	9/19/94 BC 09:09 pg.C15 99.5335 gm.	/ / : pg. gm.	99.53345
32	[redacted]	9/29/94 KLW 8:30 pg.C15 99.2301 gm.	9/30/94 MZ 09:20 pg.C15 99.2301 gm.	/ / : pg. gm.	/ / : pg. gm.	99.2301
33	[redacted]	9/29/94 KLW 8:32 pg.C15 101.0393 gm.	9/30/94 MZ 09:19 pg.C15 101.0394 gm.	/ / : pg. gm.	/ / : pg. gm.	101.03935
34	[redacted]	9/29/94 KLW 8:35 pg.C15 106.4321 gm.	9/30/94 MZ 09:18 pg.C15 106.4332 gm.	/ / : pg. gm.	/ / : pg. gm.	106.43305
35	[redacted]	9/29/94 KLW 8:42 pg.C15 99.1146 gm.	9/30/94 MZ 09:17 pg.C15 99.1141 gm.	/ / : pg. gm.	/ / : pg. gm.	99.1146
36	[redacted]	9/29/94 KLW 8:43 pg.C15 104.7677 gm.	9/30/94 MZ 09:26 pg.C15 104.7680 gm.	/ / : pg. gm.	/ / : pg. gm.	104.76785
37	[redacted]	9/29/94 KLW 8:45 pg.C15 101.7527 gm.	9/30/94 MZ 09:24 pg.C15 101.7527 gm.	/ / : pg. gm.	/ / : pg. gm.	101.7527
38	[redacted]	9/29/94 KLW 8:47 pg.C15 98.5647 gm.	9/30/94 MZ 09:23 pg.C15 98.5648 gm.	/ / : pg. gm.	/ / : pg. gm.	98.56475
40	LB $MeCl_2$ Chem (ion)	9/29/94 KLW 8:49 pg.C15 101.4177 gm.	9/30/94 MZ 09:22 pg.C15 101.4180 gm.	10/14/94 KLW 15:36 pg.C16 101.4180 gm.	/ / : pg. gm.	101.4180
41		9/29/94 KLW 8:49 pg.C15 99.6872 gm.	9/30/94 MZ 09:22 pg.C15 99.6872 gm.	/ / : pg. gm.	/ / : pg. gm.	99.6872

Beaker Final Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
21	[redacted]	9 11 94 MTL 11:15 pg. C15 99.9705 gm.	~~9 9 94~~ ~~BC~~ ~~09:06~~ pg. C15 99.9691 gm.	9 11 9 94 MTL 08:08 pg. C15 99.9694 gm.	9 12 94 MTL 07:55 pg. C15 99.9192 gm.	
25	[redacted]	9 11 9 94 MTL 11:17 pg. C15 102.662 gm.	9 11 9 94 MTL 11:06 pg. C15 102.7656 gm.	9 11 9 94 MTL 08:09 pg. C15 102.7654 gm.	9 12 94 MTL 07:56 pg. C15 102.7651 gm.	
25	[redacted]	9 11 9 94 MTL 11:15 pg. C15 99.8197 gm.	9 11 9 94 MTL 11:05 pg. C15 99.8190 gm.	9 11 9 94 MTL 08:13 pg. C15 99.8186 gm.	9 12 94 MTL 07:58 pg. C15 99.8183 gm.	
26	[redacted]	9 11 9 94 MTL 11:20 pg. C15 99.1037 gm.	9 11 9 94 MTL 11:10 pg. C15 99.1627 gm.	9 11 9 94 MTL 08:15 pg. C15 99.1622 gm.	9 12 94 MTL 08:01 pg. C15 99.1622 gm.	
29	[redacted]	9 11 9 94 MTL 11:21 pg. C15 98.2526 gm.	9 11 9 94 MTL 11:11 pg. C15 98.2521 gm.	9 11 9 94 MTL 08:16 pg. C15 98.2516 gm.	9 12 94 MTL 08:03 pg. C15 98.2511 gm.	
30c	[redacted]	9 11 94 MTL 11:22 pg. C15 99.5607 gm.	9 11 9 94 MTL 11:09 pg. C15 99.5601 gm.	9 11 9 94 MTL 08:14 pg. C15 99.5591 gm.	9 12 94 MTL 08:02 pg. C15 99.5593 gm.	
32	[redacted]	10 11 6 94 KLW 8:19 pg. C15 99.2317 gm.	10 11 6 94 KLW 17:04 pg. C15 99.2319 gm.	/ / / pg. / gm.	/ / / pg. / gm.	99.2318
33	[redacted]	10 11 6 94 KLW 8:23 pg. C15 101.0415 gm.	10 16 94 KLW 17:03 pg. C15 101.0414 gm.	/ / / pg. / gm.	/ / / pg. / gm.	101.04145
34	[redacted]	10 16 94 KLW 8:26 pg. C15 106.4413 gm.	10 16 94 KLW 16:54 pg. C15 106.4414 gm.	/ / / pg. / gm.	/ / / pg. / gm.	106.44135
35	[redacted]	10 16 94 KLW 8:24 pg. C15 99.1583 gm.	10 16 94 KLW 16:54 pg. C15 99.1579 gm.	/ / / pg. / gm.	/ / / pg. / gm.	99.1581
36	[redacted]	10 16 94 KLW 8:25 pg. C15 104.8002 gm.	10 16 94 KLW 17:05 pg. C15 104.8001 gm.	/ / / pg. / gm.	/ / / pg. / gm.	104.80015
37	[redacted]	10 16 94 KLW 8:19 pg. C15 101.7821 gm.	10 16 94 KLW 17:03 pg. C15 101.7824 gm.	/ / / pg. / gm.	/ / / pg. / gm.	101.78225
38	[redacted]	10 16 94 KLW 8:18 pg. C15 98.5716 gm.	10 16 94 KLW 17:05 pg. C15 98.5719 gm.	/ / / pg. / gm.	/ / / pg. / gm.	98.57175
40	LP REA BLANK McC12	6 17 95 KW 14:04 pg. C17 101.4180 gm.	6 18 95 TLH 16:11 pg. C17 101.4169 gm.	6 18 95 TLH 22:00 pg. C17 101.4167 gm.	/ / / pg. / gm.	101.4180
41		/ / / pg. / gm.	/ / / pg. / gm.	/ / / pg. / gm.	/ / / pg. / gm.	

Beaker Tare Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
42	[redacted]	9 29194 KLW 5 :56 pg. C15 101.7833 gm.	9 30194 MTL 09 :28 pg. C15 101.7836 gm.	4 14195 KW 15 :13 pg. C16 101.7834 gm.	/ / : pg. gm.	101.7835
43	[redacted]	9 29194 KLW 8 :57 pg. C15 100.1435 gm.	9 30194 MTL 09 :27 pg. C15 100.1432 gm.	4 14195 KW 15 :12 pg. C16 100.1434 gm.	/ / : pg. gm.	100.1433
44	[redacted]	9 29194 KLW 8 :59 pg. C15 102.6582 gm.	9 30194 MTL 09 :31 pg. C15 102.6583 gm.	/ / : pg. gm.	/ / : pg. gm.	.65825 KW
45	[redacted]	9 29194 KLW 9 :01 pg. C15 102.4826 gm.	9 30194 MTL 09 :30 pg. C15 102.4826 gm.	/ / : pg. gm.	/ / : pg. gm.	102.4826
1	[redacted]	11 15194 MTL 08 :04 pg. C15 98.0134 gm.	4 14195 KW 15 :09 pg. C16 98.0152 gm.	4 18195 KW 9 :44 pg. C16 98.0150 gm.	/ / : pg. gm.	98.0151
2	[redacted]	11 15194 MTL 08 :03 pg. C15 100.4571 gm.	4 14195 KW 15 :09 pg. C16 100.4586 gm.	4 18195 KW 9 :45 pg. C16 100.4586 gm.	/ / : pg. gm.	100.4586
3	[redacted]	11 15194 MTL 08 :01 pg. C15 103.6069 gm.	4 14195 KLW 15 :04 pg. C16 103.6081 gm.	4 18195 KW 9 :52 pg. C16 103.6082 gm.	4 18195 MTL 15 :33 pg. C16 103.6082 gm.	103.6084
4	[redacted]	11 15194 MTL 08 :09 pg. C15 100.4213 gm.	4 14195 KW 14 :53 pg. C16 100.4202 gm.	4 18195 KW 9 :42 pg. C16 100.4201 gm.	/ / : pg. gm.	100.42015
5	LP REA BLNK	11 15194 MTL 8 :07 pg. C15 98.9013 gm.	4 14195 KW 14 :55 pg. C16 98.9029 gm.	4 18195 KW 9 :43 pg. C16 98.9031 gm.	/ / : pg. gm.	98.9030
6	LP Pre OB ACETONE	11 15194 MTL 08 :06 pg. C15 104.1135 gm.	4 14195 KLW 14 :56 pg. C16 104.1150 gm.	4 18195 KW 9 :55 pg. C16 104.1151 gm.	/ / : pg. gm.	104.11505
7		11 15194 MTL 08 :14 pg. C15 102.5463 gm.	4 14195 KLW 14 :41 pg. C15 102.5475 gm.	4 18195 KW 9 :49 pg. C16 102.5480 gm.	4 18195 MTL 15 :35 pg. C16 102.5473 gm.	102.5493
8	LP ACETONE 1112	11 15194 MTL 08 :13 pg. C15 98.5913 gm.	4 14195 KW 14 :51 pg. C16 98.5932 gm.	4 18195 KW 9 :50 pg. C16 98.5934 gm.	/ / : pg. gm.	98.5933
9		11 15194 MTL 08 :11 pg. C15 99.9050 gm.	4 14195 KW 15 :03 pg. C16 99.9065 gm.	4 18195 KW 09 :54 pg. C16 99.9069 gm.	4 18195 MTL 15 :32 pg. C16 99.9062 gm.	
10		11 15194 MTL 08 :19 pg. C15 101.5495 gm.	4 14195 KLW 14 :40 pg. C15 101.5506 gm.	4 18195 KW 09 :40 pg. C16 101.5510 gm.	6 16 95 KW 9 :16 pg. C16 101.5519 gm.	
11	LP 1114 ACETONE	11 15194 MTL 08 :17 pg. C15 101.9709 gm.	4 14195 KLW 15 :05 pg. C15 101.9722 gm.	4 18195 KW 9 :39 pg. C16 101.9724 gm.	/ / : pg. gm.	101.9723

Beaker Final Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
42	[redacted]	4 12 95 TLH 14:35 pg. C16 101.7850 gm.	4 12 95 TLH 16:26 pg. C16 101.7842 gm.	4 12 95 TLH 8:51 pg. C16 101.7846 gm.	/ / : pg. gm.	101.7844
43	[redacted]	4 12 95 TLH 14:34 pg. C16 100.1492 gm.	4 12 95 TLH 16:25 pg. C16 100.1484 gm.	4 12 95 TLH 8:52 pg. C16 100.1487 gm.	/ / : pg. gm.	100.14855
44	[redacted]	4 12 95 TLH 14:35 pg. C16 102.6887 gm.	4 12 95 TLH 16:24 pg. C16 102.6887 gm.	4 12 95 TLH 8:53 pg. C16 102.6880 gm.	/ / : pg. gm.	102.6879
45	[redacted]	4 12 95 TLH 14:36 pg. C16 102.5124 gm.	4 12 95 TLH 16:23 pg. C16 102.5116 gm.	4 12 95 TLH 8:54 pg. C16 102.5119 gm.	/ / : pg. gm.	102.51175
1	[redacted]	5 11 95 KLW 8:40 pg. C16 98.0164 gm.	5 12 95 KW 9:56 pg. C16 98.0166 gm.	/ / : pg. gm.	/ / : pg. gm.	98.0165
2	[redacted]	5 11 95 KLW 8:43 pg. C16 100.4699 gm.	5 12 95 KLW 9:59 pg. C16 100.4702 gm.	5 13 95 TLH 8:09 pg. C16 100.4700 gm.	/ / : pg. gm.	100.4701
3	[redacted]	5 11 95 KLW 8:49 pg. C16 103.6329 gm.	5 12 95 KW 9:54 pg. C16 103.6330 gm.	/ / : pg. gm.	/ / : pg. gm.	103.63295
4	[redacted]	5 11 95 KLW 8:44 pg. C16 100.4453 gm.	5 12 95 KW 9:55 pg. C16 100.4458 gm.	5 13 95 TLH 8:10 pg. C16 100.4457 gm.	/ / : pg. gm.	100.44575
5	LP REA BLANK	6 17 95 KW 14:06 pg. C17 98.9041 gm.	6 18 95 TLH 16:13 pg. C17 98.9039 gm.	/ / : pg. gm.	/ / : pg. gm.	98.9040
6	LP PIC OB Acetone	6 17 95 KW 14:11 pg. C17 104.1290 gm.	6 18 95 TLH 16:14 pg. C17 104.1288 gm.	/ / : pg. gm.	/ / : pg. gm.	104.1289
7		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
8	LP 1112 ACETONE	6 17 95 KW 14:03 pg. C17 98.6169 gm.	6 18 95 TLH 16:15 pg. C17 98.6166 gm.	/ / : pg. gm.	/ / : pg. gm.	98.61675
9		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
10		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
11	LP 1114 ACETONE	6 17 95 KW 14:10 pg. C17 102.0091 gm.	6 18 95 TLH 16:16 pg. C17 102.0088 gm.	/ / : pg. gm.	/ / : pg. gm.	102.00895

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
12		11/15/94 MT 08:16 pg. C15 98.8160 gm.	4/14/95 KW 15:23 pg. C16 98.8180 gm.	4/18/95 KW 09:22 pg. C16 98.8185 gm.	4/18/95 MTC 15:40 pg. C16 98.8180 gm.	
13		11/15/94 MT 08:25 pg. C15 102.9316 gm.	4/14/95 KW 15:43 pg. C16 102.9327 gm.	4/18/95 KW 09:34 pg. C16 102.9332 gm.	4/18/95 MTC 15:47 pg. C16 102.9327 gm.	
14		11/15/94 MT 08:27 pg. C15 96.4921 gm.	4/14/95 KW 15:42 pg. C16 96.4932 gm.	4/18/95 KW 09:35 pg. C16 96.4937 gm.	4/18/95 MTC 15:42 pg. C16 96.4932 gm.	
15	LP 1112 H_2O	11/15/94 MT 08:22 pg. C15 101.3667 gm.	4/14/95 KW 15:41 pg. C16 101.3677 gm.	4/18/95 KW 9:29 pg. C16 101.3679 gm.	/ / : pg. gm.	101.3678
16		11/15/94 MT 08:30 pg. C15 98.9715 gm.	4/14/95 KW 15:36 pg. C16 98.9729 gm.	4/18/94 KW 09:30 pg. C16 98.9731 gm.	6/6/95 KW 9:24 pg. C16 98.9737 gm.	
17	LP 1114 H_2O	11/15/94 MT 08:28 pg. C15 98.7710 gm.	~~4/14/95 KW~~ ~~15 pg. C16~~ ~~98.7735~~ gm.	4/14/95 KW 15:36 pg. C16 98.7735 gm.	4/18/95 KW 9:31 pg. C16 98.7734 gm.	98.77345
18	LP Blank H_2O	11/15/94 MT 08:27 pg. C15 105.7008 gm.	4/14/95 KW 15:34 pg. C16 105.7024 gm.	4/18/95 KW 9:33 pg. C16 105.7025 gm.	/ / : pg. gm.	105.70245
19		11/15/94 MT 08:26 pg. C15 98.0015 gm.	4/14/95 KW 15:24 pg. C16 98.0014 gm.	4/18/95 KW 09:21 pg. C16 98.0018 gm.	6/6/95 KW 9:27 pg. C16 98.0023 gm.	
21	LP 1112 $MeCl_2$	11/15/94 MT 08:35 pg. C15 99.9636 gm.	4/14/95 KW 15:29 pg. C16 99.9648 gm.	4/18/95 KW 9:18 pg. C16 99.9650 gm.	/ / : pg. gm.	99.9649
22		11/15/94 MT 08:24 pg. C15 107.3371 gm.	4/14/95 KW 15:30 pg. C16 107.3344 gm.	4/18/95 KW 09:17 pg. C16 107.3347 gm.	4/18/95 MTC 15:46 pg. C16 107.3338 gm.	
23		11/15/94 MT 08:42 pg. C15 103.7529 gm.	4/14/95 KW 15:21 pg. C16 103.7541 gm.	4/18/95 KW 09:24 pg. C16 103.7547 gm.	6/6/95 KW 9:37 pg. C16 103.7556 gm.	
24		11/15/94 MT 08:41 pg. C15 96.9940 gm.	4/14/95 KW 15:25 pg. C16 96.9952 gm.	4/18/95 KW 09:16 pg. C16 96.9956 gm.	6/6/95 KW 9:33 pg. C16 96.9959 gm.	
25	LP 1114 $MeCl_2$	11/15/94 MT 08:39 pg. C15 99.8565 gm.	4/14/95 KW 15:27 pg. C16 99.8550 gm.	4/18/95 KW 9:20 pg. C16 99.8581 gm.	/ / : pg. gm.	99.85805
26		6/7/95 KW 10:00 pg. C16 99.1347 gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
27		6/7/95 KW 10:00 pg. C16 98.6297 gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	

Beaker Final Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
12		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
13		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
14		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
15	LP 1112 H_2O	6 17 95 KW 17:59 pg. C17 101.3855 gm.	6 18 95 TLH 16:01 pg. C17 101.3851 gm.	/ / : pg. gm.	/ / : pg. gm.	101.3853
16		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
17	LP 1114 H_2O	6 17 95 KW 19:01 pg. C17 98.7822 gm.	6 18 95 TLH 16:02 pg. C17 98.7819 gm.	/ / : pg. gm.	/ / : pg. gm.	98.78205
18	LP H_2O Blank	6 17 95 KW 14:14 pg. C17 105.7025 gm.	6 18 95 TLH 16:09 pg. C17 105.7026 gm.	/ / : pg. gm.	/ / : pg. gm.	105.70255
19		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
21	LP 1112 $MeCl_2$	6 17 95 KW 14:12 pg. C17 99.9903 gm.	6 18 95 TLH 16:10 pg. C17 99.9885 gm.	6 19 95 TLH 22:01 pg. C17 99.9878 gm.	6 19 95 TLH : pg. C17 99.9876 gm.	99.9877
22		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
23		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
24		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
25	LP 1114 $MeCl_2$	6 17 95 KW 17:59 pg. C17 99.8717 gm.	6 18 95 TLH 16:07 pg. C17 99.8706 gm.	6 18 95 TLH 22:02 pg. C17 99.8698 gm.	6 19 95 TLH 4:34 pg. C17 99.8699 gm.	99.86985
26		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
27		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	

Filter Tare Weight Records

Page: F21

Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
750	[redacted]	10/19/93 BC 07:52 pg. C10 0.3290 gm.	10/20/93 BC 07:52 pg. C10 0.3290 gm.	/ / : pg. gm.	/ / : pg. gm.	0.32900 A
751		10/19/93 BC 07:54 pg. C10 0.3309 gm.	10/20/93 BC 07:53 pg. C10 0.3310 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33095
752		10/19/93 BC 07:53 pg. C10 0.3294 gm.	10/20/93 BC 07:53 pg. C10 0.3292 gm.	10/21/93 BC 07:49 pg. C10 0.3291 gm.		0.32915 0.32915
753		10/19/93 BC 07:57 pg. C10 ~~0.3310~~ 0.3310 gm.	10/20/93 BC 07:57 pg. C10 0.3308 gm.	10/21/93 BC 07:48 pg. C10 0.3309 gm.	/ / : pg. gm.	0.33085
754		10/19/93 BC 07:56 pg. C10 0.3321 gm.	10/20/93 BC 07:54 pg. C10 0.3320 gm.	~~10/21/93~~ : pg. gm.	/ / : pg. gm.	0.33205 A
755	LP 1112	10/19/93 BC 08:01 pg. C10 0.3308 gm.	10/20/93 BC 07:55 pg. C10 0.3308 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33080
756	LP 1114	10/19/93 BC 07:59 pg. C10 0.3294 gm.	10/20/93 BC 07:55 pg. C10 0.3291 gm.	10/21/93 BC 07:48 pg. C10 0.3290 gm.	/ / : pg. gm.	0.32905
757		10/19/93 BC 07:53 pg. C10 0.3357 gm.	10/20/93 BC 07:57 pg. C10 0.3356 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33565
758		10/19/93 BC 07:54 pg. C10 0.3321 gm.	10/20/93 BC 07:57 pg. C10 0.3321 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33210
759		10/19/93 BC 07:57 pg. C10 0.3316 gm.	10/20/93 BC 07:58 pg. C10 0.3313 gm.	10/21/93 BC 07:47 pg. C10 0.3314 gm.	/ / : pg. gm.	0.33135
760		10/19/93 BC 08:01 pg. C10 0.3344 gm.	10/20/93 BC 07:58 pg. C10 0.3342 gm.	10/21/93 BC 07:46 pg. C10 0.3342 gm.	/ / : pg. gm.	0.33420 A
761		10/19/93 BC 07:56 pg. C10 0.3347 gm.	10/20/93 BC 07:59 pg. C10 0.3346 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33465
762		10/19/93 BC 07:52 pg. C10 0.3358 gm.	10/20/93 BC 07:59 pg. C10 0.3353 gm.	10/21/93 BC 07:45 pg. C10 0.3354 gm.	/ / : pg. gm.	0.33535
763		10/19/93 BC 07:59 pg. C10 0.3336 gm.	10/20/93 BC 08:00 pg. C10 0.3336 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33360
764		10/19/93 BC 07:58 pg. C10 0.3338 gm.	10/20/93 BC 08:00 pg. C10 0.3338 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33350

The Emission Measurement Group Inc.

Filter Final Weight Records

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Item Number:	Project Name:	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Date/ Initials Time/ Cal. Pg. Weight, gm.	Average Weight (gm.)
7550	[redacted]	4/25/95 TCH 14:27 pg. C16 0.3461 gm.	4/26/95 TCH 16:22 pg. C16 0.3460 gm.	/ / : pg. gm.	/ / : pg. gm.	0.34605
7551	[redacted]	5/2/95 KW 10:17 pg. C16 0.4364 gm.	5/3/95 TCH 17:59 pg. C16 0.4368 gm.	/ / : pg. gm.	/ / : pg. gm.	0.4366
7552		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7553		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7554		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7555	LP 1112	6/17/95 KW 17:29 pg. C17 0.3367 gm.	6/18/95 TCH 16:20 pg. C17 0.3368 gm.	/ / : pg. gm.	/ / : pg. gm.	0.33675
7556	LP 1114	6/17/95 KW 17:31 pg. C17 0.3419 gm.	6/18/95 TCH 16:21 pg. C17 0.3421 gm.	/ / : pg. gm.	/ / : pg. gm.	0.3420
7557		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7558		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7559		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7560		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7561		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7562		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7563		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	
7564		/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	/ / : pg. gm.	

Calculation and Spreadsheet Formulas

Sample Calculations

Run Number: = 1112

Water Total (Vlc)

= [(Vwf - Vwi) + ((Vm/(1-(Vapor/(Pbar-Pump Vac)))-Vm)/(Rhow*R*Tstd/Mw*Pstd))]

= [(246.00 - 0.00)+((44.00 /(1.00 .-(0.3396 /(24.64 - 9.14)))- 44.00) /(0.0471))]

= 266.93 ml

Dry Gas Volume (Vmstd)

= [Vm*Y*Tstd*(Pbar+(Delta-H/Hgsg))/(Tm*Pstd)]

= [44.00 * 0.9943 * 528.00 *(24.64 .+(3.29 / 13.6))/(544.75 * 29.92)]

= 35.27 dscf

Wet Gas Volume (Vwstd)

= [Vlc * (Rw*R*Tstd/Mw *Pstd)]

= [266.93 *(0.0471)]

= 12.57 scf

Moisture Content (Bws)

= [Vwstd/(Vmstd+Vwstd)]

= [12.57 /(35.27 + 12.57)]

= 0.2628

Molecular Wt. Dry (Md)

= [(Mco2*CO2pct+Mo2*O2pct+Mar*Arpct+Mso2*SO2pct+Mco*COpct+Mn2*N2pct)/100]

= [(44.01 * 3.30 + 32.00 * 17.27 + 39.95 * 0.0078 + 64.07 * 0.0000 + 28.01 * 0.0000 + 28.01 * 79.42)/ 100.00]

= 29.23 lb./lb.-mole

Molecular Wt. Wet (Ms)

= [Md*(1-Bws)+(Mw*Bws)]

= [29.23 *(1.00 - 0.263)+(18.0 * 0.263)]

= 26.28 lb./lb.-mole

Velocity (Vs)

= [Kp*Cp*((DeltaP)^.5)*(Ts/(Ps*Ms)^.5)]

= [(85.49 * 0.84 *(1.2466)^ 0.5)*(602.44 /(24.66 * 0.00)^ 0.5)]

= 77.30 fps

Flow Rate (Qstd)

= [3600*(1-Bws)*Vs*Area*Tstd*Ps/(Ts*Pstd)]

= [3600 *(1.00 - 0.263)* 77.30 * 11.92 * 528.00 * 24.66 /(602.44 * 29.92)]

= 1766289 dscf/hr.

Sample Calculations

Run Number: = 1112

Particulate Emissions (Front half)

Final Isokinetic

= [100*Ts*Pstd*Vmstd/(1-Bws)*Tstd*Ps*60*Total Time*Area Nozzle]

= [100 * 602.44 * 29.92 * 35.26593 /(1 - 0.262838)
* 528.00 * 24.66 * 60 * 40.00 * 77.30 * 0.000341]

= 104.73

mg = 27.30

gr./dscf = [(mg. * 0.015432)/ Vmstd dscf]

= [(27.30 * 0.015432)/ 35.2659]

= 0.0119

gr./acf = [(1-Bws) * gr./dscf * Ps * (Tstd/Pstd) / Ts]

= [(1.00 - 0.263)* 0.0119 * 24.66 * 17.65 / 602.44]

= 0.0064

gr./dscf @ 15.0 O2%:
= [Partic. gr./dscf*(20.9-ref. O2%)/(20.9- stack O2%)]

= [0.0119 *(20.9 - 15.0)/(20.9 - 17.27)]

= 0.0194

gr./dscf @ 12.0 CO2%:
= [Partic. gr./dscf*ref. CO2% / stack CO2%]

= [0.0119 * 12.0 / 3.30)]

= 0.0434

lb./hr.: = [Partic. gr./dscf *Qstd / 7000]

= [0.0119 * 1766289 / 7000]

= 3.01

TPY: = [Partic. lb./hr. * (Hr. Operation/yr.)/ 2000 lb./ton]

= [3.01 * 8760 / 2000]

= 13.20

LMBTU: = [Partic. gr./dscf * Fuel Factor * (20.9/ (20.9-O2pct))/ 7000]

= [0.0119 * 1860 *(20.9 /(20.9 - 17.27)/ 7000]

= 0.0183

Sample Calculations

Run Number: = 1112

Total Particulate Emissions (Front half + Water Back half)

mg. = 44.60

gr./dscf = [(mg. * 0.015432)/ Vmstd dscf]

= [(44.60 * 0.015432)/ 35.2659]

= 0.0195

gr./acf = [(1-Bws) * gr./dscf * Ps * (Tstd/Pstd) / Ts]

= [(1.00 - 0.263)* 0.0195 * 24.66 * 17.65 / 602.44]

= 0.0104

gr./dscf @ 15.0 O2%:

= [Total Partic. gr./dscf*(20.9-ref. O2%)/(20.9- stack O2%)]

= [0.0195 *(20.9 - 15.0)/(20.9 - 17.27)]

= 0.0317

gr./dscf @ 12.0 CO2%:

= [Total Partic. gr./dscf*ref. CO2% / stack CO2%]

= [0.0195 * 12.0 / 3.30)]

= 0.0709

lb./hr.: = [Total Partic. gr./dscf *Qstd / 7000]

= [0.0195 * 1766289 / 7000]

= 4.92

TPY: = [Total Partic. lb./hr. * (Hr. Operation/yr.)/ 2000 lb./ton]

= [4.92 * 8760 / 2000]

= 21.57

LMBTU: = [Total Partic. gr./dscf * Fuel Factor * (20.9/ (20.9-O2pct))/ 7000]

= [0.0195 * 1860 *(20.9 /(20.9 - 17.27)/ 7000]

= 0.0298