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**Title: Report of Air Emissions Tests for
Louisiana-Pacific Corporation,
Hanceville, AL, June 14-17, 1994,**

Environmental Monitoring Lab., Inc.

July 1994

REPORT OF
AIR EMISSIONS TESTS
FOR
LOUISIANA PACIFIC CORPORATION

Hanceville, Alabama
June 14 through 17, 1994

Prepared for
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Subject: Louisiana Pacific Corporation
Hanceville, Alabama

On June 14 through 17, 1994, Environmental Monitoring Laboratories performed air emissions testing for Louisiana Pacific Corporation's oriented strand board (OSB) facility in Hanceville, Alabama. Testing was performed to determine emissions of particulate matter (PM), volatile organic compounds (VOC), formaldehyde (HCOH) nitrogen oxides (NOx), and carbon monoxide (CO) from the regenerative thermal oxidizer (RTO) system controlling emissions from five OSB dryers and from the RTO controlling emissions from the press vent. Testing was also simultaneously performed at the RTO inlets to determine removal efficiency.

DRYERS RTO	PM		VOC as C		HCOH		CO		NOx	
	#/hr.	gr/dscf	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm
WEST RTO	4.88	0.009	1.25	9.1	0.118	0.34	5.84	20	14.86	32
EAST RTO	5.60	0.011	0.62	5.1	0.133	0.43	4.20	16	12.87	29
RTO INLET	103.7	---	263.6	---	5.52	---	24.12	---	16.54	---
REMOVAL EFFICIENCY	90.4		99.3		95.4		58.4		-67.7	

PRESS VENT RTO	PM		VOC as C		HCOH		CO		NOx	
	#/hr.	gr/dscf	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm
RTO OUTLET	2.08	0.002	0.34	1.6	0.030	0.06	5.33	11	7.89	10
RTO INLET	4.13	---	147.4	---	1.81	---	ND	ND	ND	ND
REMOVAL EFFICIENCY	74.8		99.8		98.3		---		---	

The testing project was coordinated by Dr. James T. Boswell of Louisiana Pacific Corporation. Mr. Scott Roberts of ADEM was present to witness portions of the testing. Danny Russell of Environmental Monitoring laboratories coordinated sample collection and analysis and report preparation. Armstrong Environmental performed testing at the RTO inlets. All formaldehyde samples were shipped to Oxford Laboratories in Wilmington, North Carolina for analysis. Otherwise sample custody was limited to Mr. Moore and Mr. Russell. Mr. David Chiles and Mr. Russ Karon of Smith Engineering Company were also present.

Following is a report of the test.

REPORT OF AIR EMISSIONS TESTS FOR
LOUISIANA PACIFIC CORPORATION
HANCEVILLE, ALABAMA
JUNE 14 THROUGH 17, 1994

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REPORT CERTIFICATION

I certify that I have examined the information submitted herein,
and based upon my inquiries of those responsible for obtaining the
data or upon my direct acquisition of data, I believe the submitted
information is true, accurate and complete.

Signed



Daniel G. Russell

1.0 TEST RESULTS: The following tables present the measured flow parameters and test results for air emissions samples taken on June 14 through 17, 1994. for three emissions sources at Louisiana Pacific Corporation 's OSB facility in Hanceville, Alabama.

1.1 OUTLETS

1.1.1 Dryers East Side RTO

PM/NOx/CO Emissions Test - June 16, 1994

Run No.		4	5	6	AVG.
Date		6/17/94	6/17/94	6/17/94	—
Time Start		0811	1124	1505	—
Time End		0913	1226	1606	—
Particulate Emissions	#/hr	✓ 5.78	✓ 5.28	✓ 5.74	5.60
Particulate Emissions	gr/dscf	0.011	0.010	0.011	0.011
CO Emissions	#/hr	✓ 4.10	✓ 4.26	✓ 4.24	✓ 4.20
CO Emissions	ppm	15	16	16	16
NOx Emissions	#/hr	✓ 14.31	✓ 13.44	✓ 10.88	12.87
NOx Emissions	ppm	32	31	25	29
Volumetric Flowrate	acfm	109156	110618	108727	109500
Volumetric Flowrate	dscfm	62617	61106	60702	61475
Velocity	ft./sec.	45.6	46.2	45.4	45.8
Stack Temperature	°F	267	269	275	271
Moisture	%	20.0	22.8	21.3	21.3
Sample Rate	% isokinetic	110	105	104	107

1.1.2 Dryers East RTO

VOC/HCOH Emissions Test - June 16, 1994

Run No.		1	2	3	AVG.
Date		6/16/94	6/16/94	6/16/94	—
Time Start		0839	1300	1453	—
Time End		1001	1403	1620	—
Formaldehyde Emissions	#/hr	✓0.168	✓0.116	✓0.116	✓0.133
Formaldehyde Emissions	ppm	0.47	0.41	0.40	0.43
VOC Emissions	#/hr	✓0.72	✓0.64	✓0.52	✓0.62
VOC Emissions	ppm as C	5.1	5.7	4.5	5.1
Volumetric Flowrate	acfm	134941	106757	111975	117891
Volumetric Flowrate	dscfm	75557	59722	61852	65711
Velocity	ft./sec.	56.4	44.6	46.8	49.3
Stack Temperature	°F	290	278	283	284
Moisture	%	19.5	20.8	21.4	20.6
Sample Rate	% isokinetic	108	106	108	107

1.1.3 Dryers West Side RTO
PM/NOx/CO Emissions Test - June 16, 1994

Run No.		4	5	6	AVG.
Date		6/17/94	6/17/94	6/17/94	-----
Time Start		0812	1125	1506	---
Time End		0915	1228	1609	---
Particulate Emissions	#/hr	✓ 5.07	✓ 4.99	✓ 4.57	4.88
Particulate Emissions	gr/dscf	0.009	0.009	0.008	0.009
CO Emissions	#/hr	✓ 5.79	✓ 6.07	✓ 5.66	5.84
CO Emissions	ppm	20	22	20	20
NOx Emissions	#/hr	✓ 15.71	✓ 14.22	✓ 14.64	14.86
NOx Emissions	ppm	33	31	31	32
Volumetric Flowrate	acfm	115710	115036	115794	115513
Volumetric Flowrate	dscfm	66683	64679	66149	65837
Velocity	ft./sec.	48.4	48.1	48.4	48.3
Stack Temperature	°F	274	264	279	272
Moisture	%	18.9	22.0	19.1	20.0
Sample Rate	% isokinetic	104	104	107	105

75.60
= 10.48

14.86
12.87
17.73

1.1.4 Dryers West RTO

VOC/HCOH Emissions Test - June 16, 1994

Run No.		1	2	3	AVG.
Date		6/16/94	6/16/94	6/16/94	-----
Time Start		0840	1300	1455	-----
Time End		1000	1406	1620	-----
Formaldehyde Emissions	#/hr	✓ 0.160	✓ 0.101	✓ 0.092	0.118
Formaldehyde Emissions	ppm	0.40	0.32	0.30	0.34
VOC Emissions	#/hr	✓ 1.58	✓ 1.10	✓ 1.08	1.25
VOC Emissions	ppm as C	10.0	8.6	8.7	9.1
Volumetric Flowrate	acfm	150109	120381	119930	130140
Volumetric Flowrate	dscfm	84682	67749	65971	72801
Velocity	ft./sec.	62.7	50.3	50.1	54.4
Stack Temperature	°F	292	282	287	287
Moisture	%	18.7	19.9	21.2	19.9
Sample Rate	% isokinetic	103	105	106	105

1.1.5 Press Vent RTO

PM/NOx/CO Emissions Test - June 14, 1994

Run No.		1	2	3	AVG.
Date		6/14/94	6/14/94	6/14/94	-----
Time Start		1009	1152	1350	-----
Time End		1110	1255	1659	-----
Particulate Emissions	#/hr	1.99	2.11	2.14	2.08
Particulate Emissions	gr/dscf	0.002	0.002	0.002	0.002
CO Emissions	#/hr	5.22	4.20	6.58	5.33
CO Emissions	ppm	11	9	14	11
NOx Emissions	#/hr	8.07	6.94	8.65	7.89
NOx Emissions	ppm	10	9	11	10
Volumetric Flowrate	acfm	150794	149197	151197	150396
Volumetric Flowrate	dscfm	110803	108076	110121	109667
Velocity	ft./sec.	62.3	61.6	62.5	62.1
Stack Temperature	°F	227	235	233	232
Moisture	%	3.5	3.9	3.5	3.6
Sample Rate	% isokinetic	98	99	100	99

1.1.6 Press Vent RTO

VOC/HCOH Emissions Test - June 15, 1994

Run No.		4	5	6	AVG.
Date		6/15/94	6/15/94	6/15/94	—
Time Start		1000	1153	1332	—
Time End		1106	1258	1450	—
Formaldehyde Emissions	#/hr	0.033	0.030	0.028	0.030
Formaldehyde Emissions	ppm	0.06	0.06	0.05	0.06
VOC Emissions	#/hr	0.24	0.35	0.42	0.34
VOC Emissions	ppm as C	1.1	1.7	2.0	1.6
Volumetric Flowrate	acfm	155683	153732	156054	155156
Volumetric Flowrate	dscfm	111920	110086	111648	111218
Velocity	ft./sec.	64.3	63.5	64.5	64.1
Stack Temperature	°F	238	241	241	240
Moisture	%	4.3	4.3	4.3	4.3
Sample Rate	% isokinetic	101	102	102	102

1.2 Inlet Tests:

Inlet testing was performed by Armstrong Environmental. Results of that testing are presented in summary tables here and the entire report of that testing is provided as Appendix D of this report.

Dryers RTO Inlet Tests: RTO inlet testing was performed at a location between the primary cyclones exhausts and the inlets to the multicyclones. For each set of tests, two of the five dryers were selected for testing. For determining total RTO inlet loading, the average of results of the two dryers tested was deemed to represent the loading rates of all 5 dryers.

1.2.1 No. 4 Dryer Multiclone Inlet

PM/NOx/CO Loading Test - June 17, 1994

Run No.		1	2	3	AVG.
Date		6/17/94	6/17/94	6/17/94	-----
Time Start		0812	1125	1507	-----
Time End		0930	1235	1612	-----
Particulate Loading	#/hr	37.59	30.43	23.43	30.48
Particulate Loading	gr/dscf	0.1536	0.1219	0.0949	0.1235
CO Loading	#/hr	5.28	5.97	5.14	5.46
CO Loading	ppm	42	47	41	43
NOx Loading	#/hr	5.03	3.47	5.07	4.52
NOx Loading	ppm	25	17	25	22
Volumetric Flowrate	acfm	46233	46985	46019	46412
Volumetric Flowrate	dscfm	28535	29110	28792	28812
Velocity	ft./sec.	80.1	81.4	79.7	80.4
Stack Temperature	°F	188	189	190	189
Moisture	%	22.45	21.81	21.00	21.75
Sample Rate	% isokinetic	94	93	92	93

3.75
4.52

1.2.2 No. 5 Dryer Multiclone Inlet
PM/NOx/CO Loading Test - June 17, 1994

Run No.		1	2	3	AVG.
Date		6/17/94	6/17/94	6/17/94	-----
Time Start		0815	1125	1507	---
Time End		0925	1230	1612	---
Particulate Loading	#/hr	✓ 22.79	✓ 25.94	✓ 15.33	21.35
Particulate Loading	gr/dscf	0.0973	0.1092	0.0668	0.0911
CO Loading	#/hr	✓ 6.71	✓ 6.88	✓ 6.20	✓ 6.60
CO Loading	ppm	56	57	53	55
NOx Loading	#/hr	✓ 3.54	✓ 3.27	✓ 4.44	✓ 3.75
NOx Loading	ppm	18	16	23	19
Volumetric Flowrate	acfm	44700	44678	43954	44444
Volumetric Flowrate	dscfm	✓ 27328	27708	✓ 26751	27262
Velocity	ft./sec.	77.4	77.4	76.1	77.0
Stack Temperature	°F	182	186	186	185
Moisture	%	24.08	22.42	23.84	23.45
Sample Rate	% isokinetic	97	95	96	96

1.2.3 No. 1 Dryer Multiclone Inlet
VOC/HCOH Loading Test - June 16, 1994

Run No.		1	2	3	AVG.
Date		6/16/94	6/16/94	6/16/94	-----
Time Start		0840	1302	1454	-----
Time End		1002	1409	1622	-----
Formaldehyde Loading	#/hr	✓ 2.09	✓ 1.45	✓ 1.51	1.68
Formaldehyde Loading	ppm	16.8	11.4	11.6	13.3
VOC Loading	#/hr	✓ 79.19	✓ 62.72	✓ 58.56	✓ 66.82
VOC Loading	ppm as C	1302	1009	923	1078
Volumetric Flowrate	acfm	43028	45799	45579	44802
Volumetric Flowrate	dscfm	✓ 26622	/ 27220	/ 27783	27208
Velocity	ft./sec.	74.5	79.3	79.0	77.6
Stack Temperature	°F	183	186	189	186
Moisture	%	22.49	25.46	23.13	23.69
Sample Rate	% isokinetic	106	94	92	97

1.2.4 No. 2 Dryer Multiclone Inlet
VOC/HCOH Loading Test - June 16, 1994

Run No.		1	2	3	AVG.
Date		6/16/94	6/16/94	6/16/94	-----
Time Start		0837	1300	1452	---
Time End		1005	1410	1615	---
Formaldehyde Loading	#/hr	1.19	1.13	0.93	1.08
Formaldehyde Loading	ppm	9.8	9.3	7.0	8.7
VOC Loading	#/hr	68.0	70.3	56.7	65.0
VOC Loading	ppm as C	1142	1184	1190	1172
Volumetric Flowrate	acfm	44747	44696	46904	45449
Volumetric Flowrate	dscfm	< 26038	25997	28210	26748
Velocity	ft./sec.	77.5	77.4	81.3	78.73
Stack Temperature	°F	194	192	195	194
Moisture	%	25.83	26.25	23.38	25.15
Sample Rate	% isokinetic	109	94	91	98

1.2.5 North Press Vent Inlet
PM/NOx/CO Loading Test - June 14, 1994

Run No.		1	2	3	AVG.
Date		6/14/94	6/14/94	6/14/94	---
Time Start		1010	1155	1350	---
Time End		1120	1302	1700	---
Particulate Loading	#/hr	4.43	3.85	4.15	4.14
Particulate Loading	gr/dscf	0.0099	0.0042	0.0046	0.0062
CO Loading	#/hr	ND	ND	ND	ND
CO Loading	ppm	ND	ND	ND	ND
NOx Loading	#/hr	ND	ND	ND	ND
NOx Loading	ppm	ND	ND	ND	ND
Volumetric Flowrate	acfm	59545	60994	60332	60290
Volumetric Flowrate	dscfm	52004	52941	52707	52551
Velocity	ft./sec.	58.0	59.4	58.8	58.73
Stack Temperature	°F	119	122	121	121
Moisture	%	3.25	3.03	2.55	2.94
Sample Rate	% isokinetic	94	95	102	97

1.2.6 South Press Vent Inlet
PM/NOx/CO Loading Test - June 14, 1994

Run No.		1	2	3	AVG.
Date		6/14/94	6/14/94	6/14/94	—
Time Start		1010	1155	1350	—
Time End		1115	1310	1655	—
Particulate Loading	#/hr	2.63	5.24	4.48	4.12
Particulate Loading	gr/dscf	0.0031	0.0062	0.0054	0.0049
CO Loading	#/hr	ND	ND	ND	ND
CO Loading	ppm	ND	ND	ND	ND
NOx Loading	#/hr	ND	ND	ND	ND
NOx Loading	ppm	ND	ND	ND	ND
Volumetric Flowrate	acfm	56908	57265	56091	56755
Volumetric Flowrate	dscfm	49814 ✓	49599	48367	49260
Velocity	ft./sec.	55.5	55.8	54.7	55.33
Stack Temperature	°F	118	122	122	121
Moisture	%	2.96	3.36	3.68	3.33
Sample Rate	% isokinetic	103	103	100	102

1.2.7 North Press Vent RTO Inlet
VOC/HCOH Loading Test - June 15, 1994

Run No.		4	5	6	AVG.
Date		6/15/94	6/15/94	6/15/94	—
Time Start		1000	1153	1333	—
Time End		1108	1259	1451	—
Formaldehyde Loading	#/hr	0.77	0.93	0.96	0.89
Formaldehyde Loading	ppm	3.04	3.71	3.91	3.55
VOC Loading	#/hr	64.86	97.07	97.00	86.31
VOC Loading	ppm as C	525	796	808	710
Volumetric Flowrate	acfm	61358	60947	60146	60817
Volumetric Flowrate	dscfm	54110	/53405	/ 52495	53337
Velocity	ft./sec.	59.8	59.4	58.6	59.3
Stack Temperature	°F	123	124	127	125
Moisture	%	2.71	3.02	3.00	2.91
Sample Rate	% isokinetic	104	103	103	103

1.2.8 South Press Vent RTO Inlet
VOC/HCOH Loading Test - June 15, 1994

Run No.		4	5	6	AVG.
Date		6/15/94	6/15/94	6/15/94	—
Time Start		1000	1152	1332	—
Time End		1105	1255	1451	—
Formaldehyde Loading	#/hr	1.11	0.91	0.73	0.92
Formaldehyde Loading	ppm	4.64	3.93	3.19	3.92
VOC Loading	#/hr	49.42	70.33	63.37	61.04
VOC Loading	ppm as C	432	619	568	540
Volumetric Flowrate	acfm	56751	57013	56145	56636
Volumetric Flowrate	dscfm	50106	49718	48845	49556
Velocity	ft./sec.	55.3	55.6	54.7	55.2
Stack Temperature	°F	123	125	127	125
Moisture	%	2.51	3.36	3.23	3.03
Sample Rate	% isokinetic	103	103	103	103

1.3 Totals, Averages and Efficiency Summaries

1.3.1 Dryer Multiclone Inlets

PARAMETER	UNITS	Average of two dryers tested	Projected total of four dryers *
PARTICULATE LOADING	#/hr	25.92	103.67
VOC LOADING (as C)	#/hr	65.91	263.64
NOx LOADING	#/hr	4.14	16.54
CO LOADING	#/hr	6.03	24.12
FORMALDEHYDE LOADING	#/hr	1.38	5.52
VOLUMETRIC FLOWRATE	dscfm	27508	110030

* Four dryer total is presented here. Attempts to operate all five dryers at maximum load were not successful. Therefore four of the dryers were operated at maximum furnish rates.

1.3.2 Dryer East and West RTO Outlets

PARAMETER	UNITS	Average of both RTO's	Total of both RTO's	Removal Efficiency
PARTICULATE LOADING	#/hr	5.24	10.48	90.4
VOC LOADING (as C)	#/hr	0.94	1.87	99.3
NOx LOADING	#/hr	13.87	27.73	- 67.7
CO LOADING	#/hr	5.02	10.04	58.4
FORMALDEHYDE LOADING	#/hr	0.126	0.251	95.4
VOLUMETRIC FLOWRATE	dscfm	66456	132912	—

1.3.3 Press Vent Inlets

PARAMETER	UNITS	Average of two inlets	Total of two inlets
PARTICULATE LOADING	#/hr	4.13	8.26
VOC LOADING (as C)	#/hr	73.68	147.35
NO _x LOADING	#/hr	ND	ND
CO LOADING	#/hr	ND	ND
FORMALDEHYDE LOADING	#/hr	0.91	1.81
VOLUMETRIC FLOWRATE	dscfm	51176	102352

1.3.4 Press Vent RTO Outlet

PARAMETER	UNITS	RTO Outlet	Removal Efficiency
PARTICULATE LOADING	#/hr	2.08	74.8
VOC LOADING (as C)	#/hr	0.34	99.8
NO _x LOADING	#/hr	7.89	----
CO LOADING	#/hr	5.33	----
FORMALDEHYDE LOADING	#/hr	0.030	98.3
VOLUMETRIC FLOWRATE	dscfm	110443	----

2.0 SOURCE DESCRIPTION: Louisiana Pacific Corporation operates an Oriented Strand Board (OSB) plant at a new location in Hanceville, Alabama. Two emissions producing processes associated with the manufacture of OSB are the drying of wood flakes and ventilation of the press. Process description here is limited to a brief description of the emissions sources and their sampling locations. Detailed descriptions of the processes, the pollution control equipment, and records of operating rates and conditions may be supplied by Louisiana Pacific Corporation.

2.1 Five rotary dryers are used for drying wood flakes. Each dryer exhausts to a primary cyclone, then to high efficiency multicyclones. Exhausts from all five dryer multiclones are directed to a concrete mixing chamber then to dual Smith Engineering Company (SEC) regenerative thermal oxidizers (RTO). The RTO's are two mirrored sections referred to as the East RTO and West RTO. RTO inlet sampling was done at the inlets to the multiclones. The multiclone inlets are 41.75 inch diameter downflow ducts. Two sample ports at 90 degrees were installed at a location 8.6 diameters downstream of an elbow and 3.1 diameters upstream of a vertical to horizontal elbow. The two RTOs each exhaust to the atmosphere by way of a vertical 85.5 inch diameter stack. Two sample ports are provided at a location that is 3.7 diameters downstream of the inlet duct and 6.4 diameters below the stack exit. Sketches of the stacks and sampling locations are provided in Appendix A.

2.2 Emissions from the press are controlled by a Smith Engineering Company RTO. The press area is enclosed and fumes are directed to a concrete mixing chamber preceding the RTO by way of two 56 inch ducts and ID fans. The sampling location for the inlet to the press vent RTO is a vertical turned downward section of 56 inch diameter duct. Two sampling ports at 90° are provided at a location which is 120 inches (2.1 diameters) downstream of a horizontal to vertical elbow and 80 inches (0.7 diameters) above the ID fan. The RTO exhausts to the atmosphere by way of an 86.0 inch diameter vertical stack. Two sample ports at 90° are provided at a location which is 48 feet (6.6 diameters) below the stack exit and 18 feet (2.5 diameters) above the system inlet duct to stack transition. Sketches of the stack and sampling locations are provided in Appendix A.

3.0 TEST PROCEDURES: Test procedures used are those described in 40 CFR, Part 60, Appendix A and in Part 266, Appendix IX..

Particulate sampling was done as described in Method 5. An exception was the inclusion of the condenser section particulate as described in Method 202. Reported particulate is based on three fractions: the front half, the back half organic (methylene chloride extraction), and the back half aqueous. The contribution of each fraction can be reviewed in Section 4.0.

Carbon monoxide concentrations were continuously monitored as described in Method 10. A Beckman Model 864 NDIR with a 0 to 1000 ppm range was used for inlet locations. Outlet concentrations were monitored using a TECO Model 48H gas correlation filter NDIR in various ranges. The exhausts of the CO instruments were captured in Tedlar bags in order to obtain an integrated gas sample. Oxygen content of the bag samples was measured using a calibrated Servomex paramagnetic oxygen analyzer. Carbon dioxide was measured using an Orsat analyzer. Instrument calibration was performed prior to and following each series of tests, and a mid range system bias check was made prior to and following each run by directing calibration to the gas sampling probe.

Nitrogen oxides were continuously monitored as described in Method 7E. Two TECO Model 10S analyzers were used. Instrument calibration was performed prior to and following each series of tests, and a mid range system bias check was made prior to and following each run by directing calibration to the gas sampling probe.

VOC concentrations were measured using Method 25A (continuous monitoring with a flame ionization detector). A TECO Model 51 was used at the inlet locations and a Ratfish Model 55CA was used at the outlet locations. Both FIDs are equipped with multiple scales. The 0 to 100 ppm scale and the 0 to 1000 ppm scale were used for calibrations using zero air, and appropriate low, mid and high range concentrations of EPA protocol propane in nitrogen. Since calibrations are made with propane (C_3H_8), results as methane (CH_4) (or as carbon) are determined by increasing the measured concentration by a factor of three. A continuous trace of VOC as propane was recorded and manually integrated for each 60 minute test period. Instrument calibration was performed initially, and following each 60 minute test period. Any necessary adjustments were made after recording the response of the mid range calibration gas, which was introduced at the inlet to the VOC sampling probe. The gas samples were directed to the heated FID analyzers by way of heated teflon sample lines maintained at a minimum temperature of 275°F.

Instrument calibrations were made with Protocol 1 cylinder gas and with the aid of an Environics Model 2020 gas diluter. (Carbon monoxide cylinder gas was certified rather than Protocol 1). All calibrations were made by introducing calibration gas at the probe inlet.

Formaldehyde was measured using the procedure described in CFR 40, Part 266, Appendix IX, Method 0011. Reagent preparation and sample analysis was performed by Oxford Laboratories of Wilmington, North Carolina.

Inlet sampling was done simultaneously with outlet sampling in order to determine removal efficiency or additional pollutant contribution. For the dryers, this required the operation of four sample trains simultaneously at relatively far removed locations. Armstrong Engineering of Dallas, Texas, performed the inlet sampling at the dryer outlets and the Press Vent RTO inlet. A copy of Armstrong Environmental's report is provided in Appendix E of this report.

4.0 DATA REDUCTION

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers East RTO
 VOC/HCOH Emissions Test - June 16, 1994

Collected Test Data:

	RUN 1	RUN 2	RUN 3
Date :	6/16/94	6/16/94	6/16/94
Time start :	0839	1300	1453
Time end :	1001	1403	1620
1. As : sq ft	39.8712	39.8712	39.8712
2. Dn : in.	0.262	0.262	0.275
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.01	1.01	1.01
6. Pbar : in. Hg	29.60	29.60	29.60
7. Pg : in. H ₂ O	-0.57	-0.57	-0.57
8. Vm : cf (dry gas)	48.472	38.015	44.638
9. $\text{sqr}(\text{DP})_{\text{avg}}$: in.H ₂ O ^{0.5}	0.8117	0.6455	0.6743
10. DH : in. H ₂ O	2.0375	1.2050	1.6083
11. ts : degrees F	290.08	278.04	282.54
12. tm : degrees F	99.83	105.58	109.92
13. Vlc : ml	236	199	239.5
14. CO ₂ : percent	4.00	4.00	4.00
15. O ₂ : percent	16.50	16.40	16.50
16. CO : percent	0	0	0
17. M,HCOH : micrograms	770	520	590
18. C,VOC : ppm as CH ₄	2.1	2.4	1.9

283.55

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers East RTO
 VOC/HCOH Emissions Test - June 16, 1994

Calculations:

		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.7498	29.6886	29.7183	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.5581	29.5581	29.5581	
3. An	: sq ft ((Dn/24) ²)(3.1416)	3.74E-04	3.74E-04	4.12E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	45.911	35.567	41.487	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	11.109	9.367	11.273	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1948	0.2085	0.2137	0.2057
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.3	29.296	29.3	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.10	26.94	26.89	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	56.41	44.63	46.81	49.28
10. Q	: cfm Vs As(60 sec/min)	134941	106757	111975	117891
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	93839	75451	78659	82650
12. Qstd	: dscfm Qstw(1-Bws)	75557	59722	61852	65711
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	107.86	105.72	108.08	107.22

Formaldehyde Emissions

14. E,HCOH	: pounds/hr (M,HCOH/Vmstd)(Qstd)(60)/(453590000)	0.168	0.116	0.116	0.133
15. C,HCOH	: ppm (M,HCOH/Vmstd)(.0283)	0.47	0.41	0.40	0.43

VOC Emissions

16. C'VOC	: ppm as Carbon, dry ((C,VOC)*3)/(1-Bws)	5.07	5.70	4.48	5.08
17. E,VOC	: pounds/hr (C'VOC)(3.116e-8)(Qstd)(60)	0.72	0.64	0.52	0.62

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers East Side RTO
 PM/NOx/CO Emissions Test - June 16, 1994

Collected Test Data:

	RUN 4	RUN 5	RUN 6	
Date :	6/17/94	6/17/94	6/17/94	
Time start :	0811	1124	1505	
Time end :	0913	1226	1606	
1. As : sq ft	39.8712	39.8712	39.8712	
2. Dn : in.	0.270	0.270	0.270	
3. Cp : dimensionless	0.84	0.84	0.84	
4. Theta : minutes	60.00	60.00	60.00	
5. Y : dimensionless	1.01	1.01	1.01	
6. Pbar : in. Hg	29.60	29.60	29.60	
7. Pg : in. H2O	-0.66	-0.66	-0.66	
8. Vm : cf (dry gas)	43.313	41.213	40.684	
9. sqn(DP),avg : in.H2O ^{0.5}	0.6662	0.6705	0.6583	
10. DH : in. H2O	1.6071	1.4246	1.3583	
11. ts : degrees F	267.33	269.08	275.33	270.58
12. tm : degrees F	96.17	105.96	109.90	
13. Vlc : ml	219	241.5	217	
14. CO2 : percent	4.10	4.20	4.20	
15. O2 : percent	16.60	16.50	16.50	
16. CO : percent	0	0	0	
17. CO : ppm	15.00	16.00	16.00	16
18. M,PM : milligrams				
front half	25.1	20.8	21.8	
back half organic	1.6	0.9	0.5	
back half aqueous	2.1	3.5	4.7	
19. NOx : ppm	32.0	30.8	25.1	29

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers East Side RTO
 PM/NOx/CO Emissions Test - June 16, 1994

Calculations:

		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.7182	29.7048	29.6999	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.5515	29.5515	29.5515	
3. An	: sq ft ((Dn/24)*2)(3.1416)	3.98E-04	3.98E-04	3.98E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	41.250	38.554	37.790	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	10.308	11.367	10.214	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1999	0.2277	0.2128	0.2135
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.32	29.332	29.332	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.06	26.75	26.92	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	45.63	46.24	45.45	45.77
10. Q	: cfm Vs As(60 sec/min)	109156	110618	108727	109500
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	78265	79123	77109	78166
12. Qstd	: dscfm Qstw(1-Bws)	62617	61106	60702	61475
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	110.11	105.46	104.06	106.55

Particulate Emissions

14. E,PM	: pounds/hr (M,PM/Vmstd)(Qstd)(60)/(453590)				
front half		5.040	4.361	4.632	4.678
back half	0.26	0.321	0.189	0.106	0.205
back half	2.9	0.422	0.734	0.999	0.718
Total		5.783	5.283	5.737	5.601
15. C,PM	: grains/dscf (M,PM/Vmstd)(.0154 grains/mg)				
front half		0.0094	0.0083	0.0089	0.0089
back half	0.26	0.0006	0.0004	0.0002	0.0004
back half	2.9	0.0008	0.0014	0.0019	0.0014
Total		0.0108	0.0101	0.0110	0.0106

CO Emissions

16. E,CO	: pounds/hr (C,CO)(7.27e-8)(Qstd)(60)	4.10	4.26	4.24	4.20
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NOx Emissions

17. E,NOx	: pounds/hr C,NOx(1.19e-7)(Qstd)(60)	14.31	13.44	10.88	12.87
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Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers West RTO
 VOC/HCOH Emissions Test - June 16,
 1994

Collected Test Data:

	RUN 1	RUN 2	RUN 3
Date :	6/16/94	6/16/94	6/16/94
Time start :	0840	1300	1455
Time end :	1000	1406	1620
1. As : sq ft	39.8712	39.8712	39.8712
2. Dn : in.	0.262	0.262	0.295
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.00	1.00	1.00
6. Pbar : in. Hg	29.60	29.60	29.60
7. Pg : in. H2O	-0.65	-0.65	-0.65
8. Vm : cf (dry gas)	51.449	41.978	52.878
9. $\text{sqr}(\text{DP}), \text{avg}$: $\text{in. H}_2\text{O}^{.5}$	0.9022	0.7271	0.7202
10. DH : in. H2O	2.3292	1.5725	2.5917
11. ts : degrees F	291.92	281.96	287.04
12. tm : degrees F	90.13	90.40	94.71
13. Vlc : ml	239.5	211.5	286.5
14. CO2 : percent	3.50	3.90	4.00
15. O2 : percent	16.50	16.40	16.50
16. CO : percent	16.6	16.5	16.4
17. M,HCOH : micrograms	700	450	530
18. C,VOC : ppm as CH ₄	4.1	3.6	3.7

286.97

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers West RTO
 VOC/HCOH Emissions Test - June 16,
 1994

Calculations:

		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.7713	29.7156	29.7906	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.5522	29.5522	29.5522	
3. An	: sq ft ((Dn/24)^2)(3.1416)	3.74E-04	3.74E-04	4.75E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	49.134	39.995	50.114	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	11.273	9.955	13.486	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1866	0.1993	0.2120	0.1993
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.22	29.28	29.3	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.13	27.03	26.90	
9. Vs	: ft/sec Kp Cp (sqrdP)sqr(Ts/(Ps Ms))	62.75	50.32	50.13	54.40
10. Q	: cfm Vs As(60 sec/min)	150109	120381	119930	130140
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	104111	84613	83723	90816
12. Qstd	: dscfm Qstw(1-Bws)	84682	67749	65971	72801
13. I	: percent [(100 Ts)(.002669 Vlc*(Vm Pm/Tm))/(60 theta Vs Ps An)	103.00	104.79	106.37	104.72

Formaldehyde Emissions

14. E,HCOH	: pounds/hr (M,HCOH/Vmstd)(Qstd)(60)/(453590000)	0.160	0.101	0.092	0.118
15. C,HCOH	: ppm (M,HCOH/Vmstd)(.0283)	0.40	0.32	0.30	0.34

VOC Emissions

16. C,VOC	: ppm as Carbon, dry ((C,VOC)*3)/(1-Bws)	10.00	8.65	8.75	9.13
17. E,VOC	: pounds/hr (C,VOC)(3.116e-8)(Qstd)(60)	1.58	1.10	1.08	1.25

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers West Side RTO
 PM/NOx/CO Emissions Test - June 16, 1994

Collected Test Data:

	RUN 4	RUN 5	RUN 6	
Date :	6/17/94	6/17/94	6/17/94	
Time start :	0812	1125	1506	
Time end :	0915	1228	1609	
1. As : sq ft	39.8712	39.8712	39.8712	
2. Dn : in.	0.270	0.270	0.270	
3. Cp : dimensionless	0.84	0.84	0.84	
4. Theta : minutes	60.00	60.00	60.00	
5. Y : dimensionless	1.00	1.00	1.00	
6. Pbar : in. Hg	29.60	29.60	29.60	
7. Pg : in. H2O	-0.65	-0.65	-0.65	
8. Vm : cf (dry gas)	43.549	42.219	44.471	
9. $\sqrt{DP}, \text{avg}$: in.H2O ^{.5}	0.7049	0.7011	0.7027	
10. DH : in. H2O	1.6996	1.6346	1.6758	
11. ts : degrees F	273.50	263.54	278.63	271.89
12. tm : degrees F	89.29	89.21	91.52	
13. Vlc : ml	206.5	241.5	212	
14. CO2 : percent	4.20	4.20	4.20	
15. O2 : percent	16.50	16.50	16.40	
16. CO : percent	0	0	0	
17. CO : ppm	19.9	21.5	19.6	20
18. M,PM : milligrams				
front half	19.8	20.5	19.1	
back half organic	0.3	0.6	0.1	
back half aqueous	3.8	2.4	2.9	
19. NOx : ppm	33.0	30.8	31.0	32

Louisiana Pacific Corporation - Hanceville, Alabama
 Dryers West Side RTO
 PM/NOx/CO Emissions Test - June 16, 1994

Calculations:		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.7250	29.7202	29.7232	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.5522	29.5522	29.5522	
3. An	: sq ft ((Dn/24)^2)(3.1416)	3.98E-04	3.98E-04	3.98E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	41.588	40.317	42.294	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	9.720	11.367	9.979	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1894	0.2199	0.1909	0.2001
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.332	29.332	29.328	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.19	26.84	27.17	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	48.37	48.09	48.40	48.29
10. Q	: cfm Vs As(60 sec/min)	115710	115036	115794	115513
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	82269	82915	81756	82313
12. Qstd	: dscfm Qstw(1-Bws)	66683	64679	66149	65837
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	104.25	104.19	106.87	105.10

Particulate Emissions

14. E,PM	: pounds/hr (M,PM/Vmstd)(Qstd)(60)/(453590)				
front half		4.200	4.350	3.951	4.167
back half organic		0.064	0.127	0.021	0.071
back half aqueous		0.806	0.509	0.600	0.638
Total		5.069	4.987	4.572	4.876
15. C,PM	: grains/dscf (M,PM/Vmstd)(.0154 grains/mg)				
front half		0.0073	0.0078	0.0070	0.0074
back half organic		0.0001	0.0002	0.0000	0.0001
back half aqueous		0.0014	0.0009	0.0011	0.0011
Total		0.0089	0.0090	0.0080	0.0086

CO Emissions

16. E,CO	: pounds/hr (C,CO)(7.27e-8)(Qstd)(60)	5.79	6.07	5.66	5.84
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NOx Emissions

17. E,NOx	: pounds/hr C,NOx(1.19e-7)(Qstd)(60)	15.71	14.22	14.64	14.86
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Louisiana Pacific Corporation - Hanceville, Alabama
 Press Vent RTO
 PM/NOx/CO Emissions Test - June 14, 1994

Collected Test Data:

A66

RUN 1

RUN 2

RUN 3

Date :	6/14/94	6/14/94	6/14/94
Time start :	1009	1152	1350
Time end :	1110	1255	1659
1. As : sq ft	40.3389	40.3389	40.3389
2. Dn : in.	0.242	0.242	0.242
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.01	1.01	1.01
6. Pbar : in. Hg	29.70	29.70	29.70
7. Pg : in. H2O	-0.58	-0.58	-0.58
8. Vm : cf (dry gas)	54.743	55.361	55.937
9. $\text{sq}(\text{DP})_{\text{avg}}$: in.H2O ^{^5}	0.9640	0.9484	0.9627
10. DH : in. H2O	2.5188	2.4917	2.5833
11. ts : degrees F	227.42	234.50	233.08
12. tm : degrees F	106.67	120.54	108.15
13. Vlc : ml	39.5	43.5	41
14. CO2 : percent	1.10	1.20	1.20
15. O2 : percent	20.60	20.50	20.50
16. CO : percent	0	0	0
17. CO : ppm	10.8	8.9	13.7
18. M ₁ PM : milligrams			
front half	4.3	4.4	4.4
back half organic	1	1	1.6
back half aqueous	1.7	2.1	1.7
19. NOx : ppm	10.2	9.0	11.0

231.67

11

10

Louisiana Pacific Corporation - Hanceville, Alabama
 Press Vent RTO
 PM/NOx/CO Emissions Test - June 14, 1994

<i>Calculations:</i>		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.8852	29.8832	29.8899	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.6574	29.6574	29.6574	
3. An	: sq ft $((Dn/24)^2)(3.1416)$	3.19E-04	3.19E-04	3.19E-04	
4. Vmstd	: dscf $Vm Y(Pm/Pstd)(Tstd/Tm)$	51.457	50.792	52.451	
5. Vwstd	: scf $(.04707cf/ml)(Vlc)$	1.859	2.048	1.930	
6. Bws	: dimensionless $Vwstd/(Vwstd+Vmstd)$	0.0349	0.0388	0.0355	0.0364
7. Md	: mol.wt. dry basis .44 CO ₂ + .32 O ₂ + .28(CO+N ₂)	29	29.012	29.012	
8. Ms	: mol.wt. wet basis $Md(1-Bws)+18 Bws$	28.62	28.59	28.62	
9. Vs	: ft/sec $Kp Cp (sqrDP)sqr(Ts/(Ps Ms))$	62.30	61.64	62.47	62.14
10. Q	: cfm $Vs As(60 \text{ sec/min})$	150794	149197	151197	150396
11. Qstw	: scfm $Q(Ps/Pstd)(Tstd/Ts)$	114807	112433	114173	113804
12. Qstd	: dscfm $Qstw(1-Bws)$	110803	108076	110121	109667
13. I	: percent $((100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 \text{ theta } Vs Ps An)$	97.75	98.92	100.26	98.98

Particulate Emissions

14. E,PM	: pounds/hr $(M,PM/Vmstd)(Qstd)(60)/(453590)$				
front half		1.225	1.238	1.222	1.228
back half organic		0.285	0.281	0.444	0.337
back half aqueous		0.484	0.591	0.472	0.516
Total		1.994	2.111	2.138	2.081
15. C,PM	: grains/dscf $(M,PM/Vmstd)(.0154 \text{ grains/mg})$				
front half		0.0013	0.0013	0.0013	0.0013
back half organic		0.0003	0.0003	0.0005	0.0004
back half aqueous		0.0005	0.0006	0.0005	0.0005
Total		0.0021	0.0023	0.0023	0.0022

CO Emissions

16. E,CO	: pounds/hr $(C,CO)(7.27e-8)(Qstd)(60)$	5.22	4.20	6.58	5.33
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NOx Emissions

17. E,NOx	: pounds/hr $C,NOx(1.19e-7)(Qstd)(60)$	8.07	6.94	8.65	7.89
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Louisiana Pacific Corporation - Hanceville, Alabama

Press Vent RTO

VOC/HCOH Emissions Test - June 15, 1994

Collected Test Data:

	RUN 4	RUN 5	RUN 6
Date :	6/15/94	6/15/94	6/15/94
Time start :	1000	1153	1332
Time end :	1106	1258	1450
1. As : sq ft	40.3389	40.3389	40.3389
2. Dn : in.	0.215	0.215	0.215
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.01	1.01	1.01
6. Pbar : in. Hg	29.75	29.75	29.75
7. Pg : in. H2O	-0.58	-0.58	-0.58
8. Vm : cf (dry gas)	45.322	45.614	46.112
9. $\text{sqr}(\text{DP})_{\text{avg}}$: in.H2O ^{0.5}	0.9872	0.9729	0.9874
10. DH : in. H2O	1.6833	1.6354	1.7017
11. ts : degrees F	238.00	240.79	241.00
12. tm : degrees F	106.58	116.27	116.35
13. Vlc : ml	40.5	40	41
14. CO2 : percent	1.20	1.20	1.20
15. O2 : percent	20.50	20.50	20.60
16. CO : percent	0	0	0
17. M _{HCOH} : micrograms	96.3	85.4	81.6
18. C _{VOC} : ppm as CH ₄	0.4	0.6	0.7

239.93

Louisiana Pacific Corporation - Hanceville, Alabama
 Press Vent RTO
 VOC/HCOH Emissions Test - June 15, 1994

Calculations:		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.8738	29.8703	29.8751	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.7074	29.7074	29.7074	
3. An	: sq ft ((Dn/24)^2)(3.1416)	2.52E-04	2.52E-04	2.52E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	42.592	42.141	42.602	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	1.906	1.883	1.930	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.0428	0.0428	0.0433	0.0430
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.012	29.012	29.016	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	28.54	28.54	28.54	
9. Vs	: ft/sec Kp Cp (sq(DP)/Ts/(Ps Ms))	64.32	63.52	64.48	64.11
10. Q	: cfm Vs As(60 sec/min)	155683	153732	156054	155156
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	116929	115004	116706	116213
12. Qstd	: dscfm Qstw(1-Bws)	111920	110086	111648	111218
13. I	: percent ((100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	101.49	102.08	101.76	101.77

Formaldehyde Emissions

14. E,HCOH	: pounds/hr (M,HCOH/Vmstd)(Qstd)(60)/(453590000)	0.033	0.030	0.028	0.030
15. C,HCOH	: ppm (M,HCOH/Vmstd)(.0283)	0.06	0.06	0.05	0.06

VOC Emissions

16. C,VOC	: ppm as Carbon, dry ((C,VOC)*3)/(1-Bws)	1.15	1.72	2.01	1.63
17. E,VOC	: pounds/hr (C,VOC)(3.116e-8)(Qstd)(60)	0.24	0.35	0.42	0.34

5.0 NOMENCLATURE

SYMBOL	UNITS	DESCRIPTION
An	ft ²	Nozzle cross sectional area
As	ft ²	Stack cross sectional area
Bws	dimensionless	Wet gas fraction
CO ₂	percent	Carbon dioxide content by volume
CO	percent	Carbon monoxide content by volume
Cp	dimensionless	Pitot correction factor
C _X	as labeled	Concentration of pollutant X
DGF	dimensionless	Dry gas fraction
Dn	inches	Nozzle diameter
ΔH (delta H)	in. H ₂ O	Pressure drop across meter orifice
ΔP (delta P)	in. H ₂ O	Stack gas velocity pressure
E _X	#/hr	Emission rate of pollutant X
EX	#/MM Btu	Emission rate of pollutant X
F	dscf	Volume of flue gas per MM Btu
I	percent	Nozzle velocity/stack gas velocity
Kp	consistent	Pitot tube constant
M _X	milligrams	Sample weight of pollutant X
Md	### mole	Dry molecular weight of stack gas
Ms	### mole	Wet molecular weight of stack gas
N ₂	percent	Nitrogen content by volume, dry basis
O ₂	percent	Oxygen content by volume, dry basis
Pbar	in. Hg	Barometric pressure
Pg	in. Hg	Stack static pressure
Pm	in. Hg	Total pressure at meter (Pbar+(ΔH/13.6))
Ps	in. Hg	Total stack pressure (Pbar+(Pg/13.6))
Pstd	in. Hg	Standard barometric pressure = 29.92
Q	acfm	Volumetric flow rate at stack conditions
Qstd	dscfm	Volumetric flow rate at standard conditions, dry basis
Qstdw	scfm	Volumetric flow rate at standard conditions, wet basis
θ (theta)	minutes	Sample duration
tm	°F	Meter temperature (Tm denotes °R)
ts	°F	Stack temperature (Ts denotes °R)
Tstd	°R	Standard temperature = 528°R
Vlc	ml	volume of water collected
Vm	ft ³	Volume of dry gas sampled through meter
Vmstd	dscf	Sample volume at standard conditions
Vwstd	scf	Sample volume of water vapor
Y	dimensionless	Meter coefficient
Xsair	percent	Excess air

6.0 CALIBRATIONS:

Measurement devices used by Environmental Monitoring Laboratories and subject to changes in measurement precision are initially calibrated prior to use. Those instruments for which calibration factors are subject to change or for which calibration checks are required, are calibrated following each field use or as otherwise directed and noted. Calibration procedures for specific equipment are as follows.

Dry Gas Meter:

Dry gas meters are periodically removed from the sampling consoles and cleaned and repaired (new gaskets etc. as required). Following the overhaul of a meter, the measuring precision is checked by the Bell Prover Method and adjusted when necessary to read to within 2% of 100% accuracy. This service is provided by Big Three Meter Company in Jackson, Mississippi. Overhaul service or any six month period is followed by a five point calibration described in APTD-0576 using either a wet test meter or calibrated dry gas meter (used exclusively for calibrations) as a standard reference. Following field use, a gas meter calibration is checked in one of two ways. [1] Three calibration checks at intermediate orifice settings are performed or [2] orifice meter coefficients are used.

If a meter coefficient obtained from pre-test and post-test checks differs by more than 5%, the coefficient (Y) giving the lower sample volume is used in the calculations.

Orifice:

The orifice coefficient is initially determined and is rechecked following a major gas meter repair and calibration.

Nozzles:

Nozzles are checked before each field use with a precision (.001 in.) dial caliper. Three measurements on different axes are made; an average of those three readings is used in calculations. If the tolerance among measurements exceeds 0.004 inches (highest to lowest reading) the nozzle is repaired and recalibrated or discarded.

Pitot Tubes:

Pitot tubes meeting EPA geometry standards are assigned a coefficient of 0.84. Pitot tubes are visually inspected for damage before, during and after use. Those pitot tubes not meeting the geometry standards are assigned a coefficient from the manufacturer's calibration which it retains unless damaged. All pitot tubes used by Environmental Monitoring Laboratories are manufactured by NAPP, Inc.

Temperature Measuring Instruments:

Most temperature measurements are made with a type K thermocouple and an Omega digital thermocouple thermometer which has an initial calibration traceable to NBS. Other measurements are made using bimetallic dial thermometers. The thermocouples and dial thermometers are checked following or during a test series against an ASTM mercury in glass thermometer.

Barometer:

Aneroid field barometers are checked against and adjusted to readings from a mercury barometer or readings obtained from local weather authorities.

Differential Pressure Gauges:

Velocity head (ΔP) and orifice pressure differential (ΔH) measurements are made using water manometers of the appropriate range unless otherwise noted in the test data. Manometers do not require calibration.

7.0 APPENDICES

- A. Field and Laboratory Data
- B. Calibrations
- C. Instrument Recorder Traces/Data Log
- D. HCOH Analysis Report (Oxford Laboratories)
- E. Armstrong Environmental Report

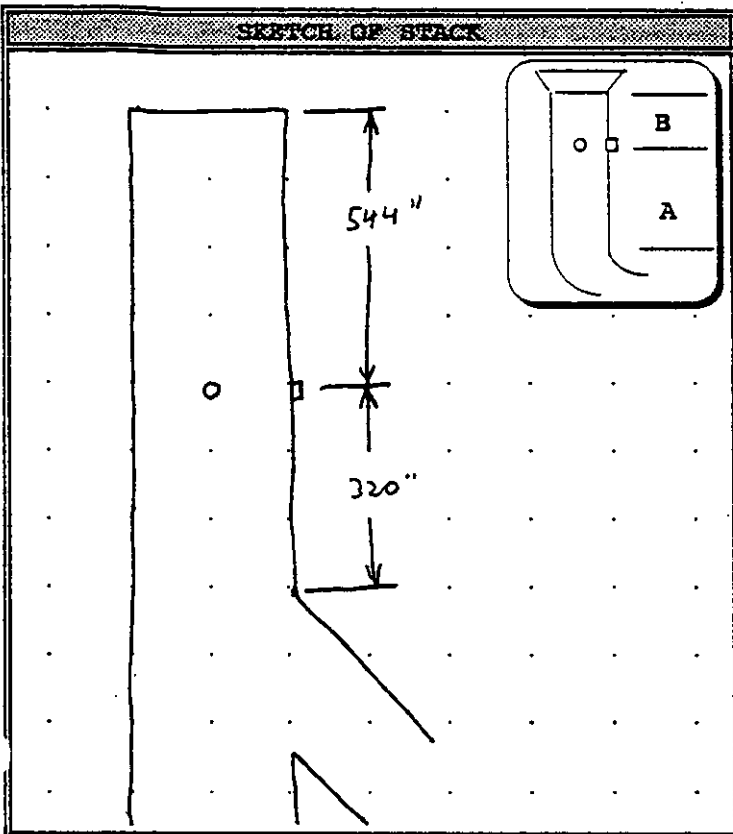
7.0 APPENDICES

APPENDIX A.

FIELD AND LABORATORY DATA

STACK CONFIGURATION AND SAMPLE POINT LAYOUT FOR CIRCULAR STACKS

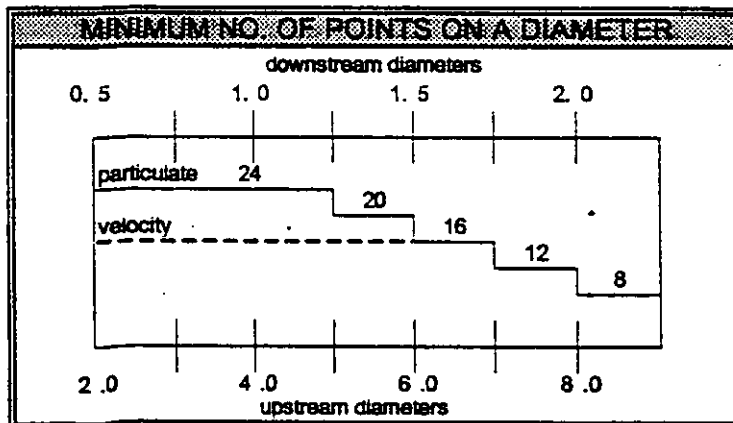
PLANT: Louisiana Pacific - Hanceville, Alabama Date: _____
 SOURCE: Dryden RTO
 TEST FOR: Isokinetic Setup
 TEST OPERATORS: _____



PERCENT OF DIAMETER								
points on a diameter								
	2	4	6	8	10	12	14	16
point no.								
1	14.6	6.7	4.4	3.2	2.6	2.1	1.8	1.6
2	85.4	25.0	14.6	10.5	8.2	6.7	5.7	4.9
3		75.0	29.6	19.4	14.6	11.8	9.9	8.5
4		93.3	70.4	32.3	22.6	17.7	14.6	12.5
5			85.4	67.7	34.2	25.0	20.1	16.9
6			95.6	80.6	65.8	35.6	26.9	22.0
7				89.5	77.4	64.4	38.6	28.3
8				96.8	85.4	75.0	63.4	37.5
9					91.8	82.3	73.1	62.5
10					97.4	88.2	79.9	71.7
11						93.3	85.4	78.0
12						97.9	90.1	83.1
13							94.3	87.5
14							98.2	91.5
15								95.1
16								98.4

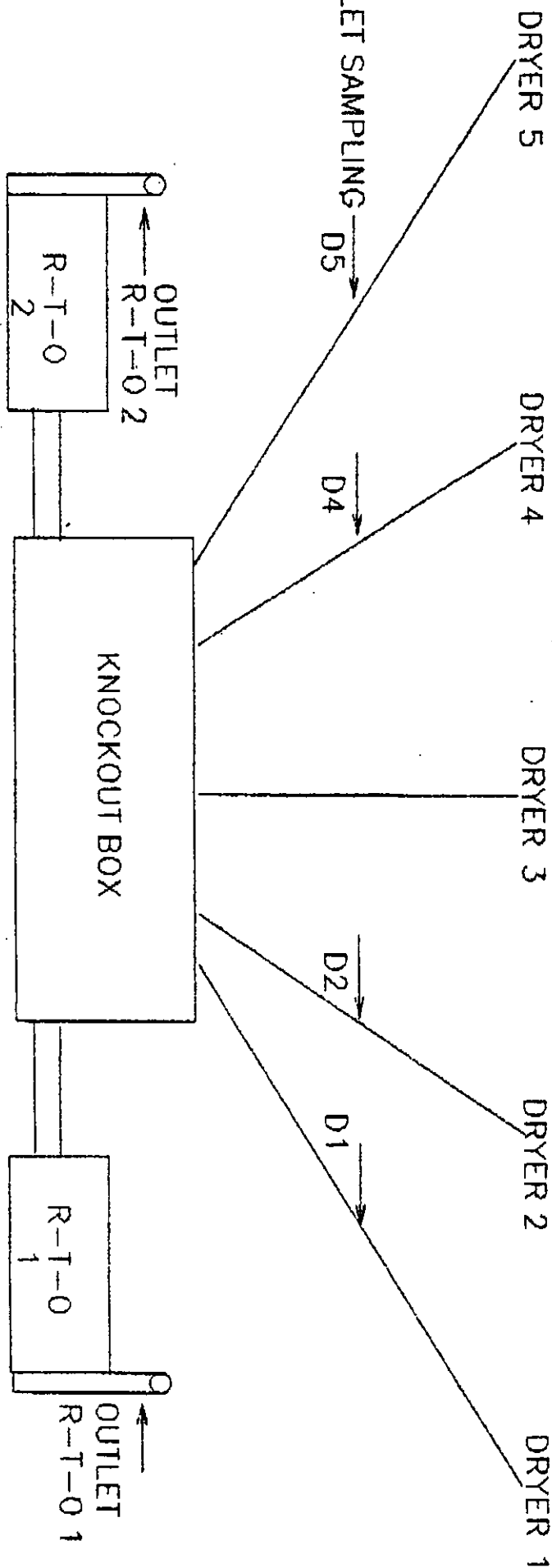
Point No.	inches from wall	velocity head
1	1.8	
2	5.7	
3	10.1	
4	15.1	
5	21.4	
6	30.4	
7	55.1	
8	64.1	
9	70.4	
10	75.4	
11	79.8	
12	83.3	

STACK DIAMETER: 85.5"
 Distance from ports to disturbance:
 A. to upstream disturbance 320"
 B. to downstream disturbance 544"
 Upstream diameters: 3.7
 Downstream diameters: 6.4
 Minimum No. sample points required: 24
 No. sample points selected: 12 x 2
 Port Length: 4.25"
 Port Type: 4" pipe nipple
 Port Access: Platform / ladders



Pilot ID: _____ Pilot Cp: _____ Stack Temp: _____
 Remarks:

HANCEVILLE DRYER SCHEMATIC SAMPLING PROTOCOL

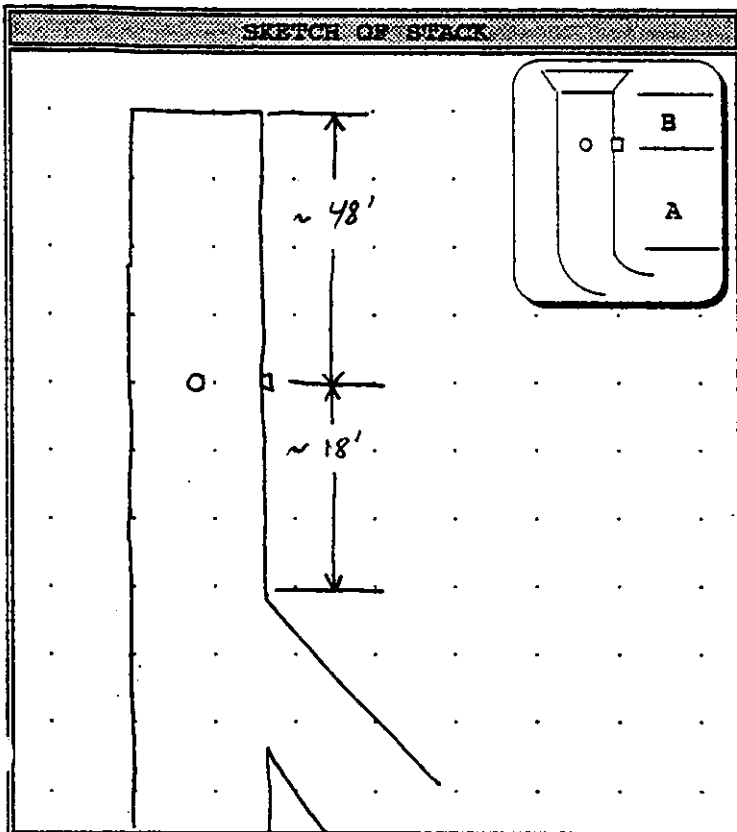


FOR FIRST SET OF PARAMETERS (e.g. TSP, NOx, CO)
SIMULTANEOUS R-T-0 1 & 2 WITH D5 & D1 (THREE 1-HR SAMPLES EACH)

FOR SECOND SET OF PARAMETERS (e.g. FORMALDEHYDE, VOC)
SIMULTANEOUS R-T-0 1 & 2 WITH D4 & D2 (THREE 1-HR SAMPLES EACH)

STACK CONFIGURATION AND SAMPLE POINT LAYOUT FOR CIRCULAR STACKS

PLANT: Louisiana Pacific - Hanceville, Alabama Date: _____
 SOURCE: Press Vents RTU
 TEST FOR: Isokinetic Setup
 TEST OPERATORS: _____



PERCENT OF DIAMETER

point no.	points on a diameter							
	2	4	6	8	10	12	14	16
1	14.6	6.7	4.4	3.2	2.6	2.1	1.8	1.6
2	85.4	25.0	14.6	10.5	8.2	6.7	5.7	4.9
3		75.0	29.6	19.4	14.6	11.8	9.9	8.5
4		93.3	70.4	32.3	22.6	17.7	14.6	12.5
5			85.4	67.7	34.2	25.0	20.1	16.9
6			95.6	80.6	65.8	35.6	26.9	22.0
7				89.5	77.4	64.4	36.6	28.3
8				96.8	85.4	75.0	63.4	37.5
9					91.8	82.3	73.1	62.5
10					97.4	88.2	79.9	71.7
11						93.3	85.4	78.0
12						97.9	90.1	83.1
13							94.3	87.5
14							98.2	91.5
15								95.1
16								98.4

Point No.	Inches from wall	velocity head
1	1.8	.91
2	5.8	1.1
3	10.1	1.7
4	15.2	1.1
5	21.5	
6	30.6	1.1
7	55.4	
8	64.5	.92
9	70.8	
10	75.9	.78
11	80.2	
12	83.8	.72

STACK DIAMETER: 86.0"

Distance from ports to disturbance:

A. to upstream disturbance 18'

B. to downstream disturbance 48'

Upstream diameters: 2.5

Downstream diameters: 6.6

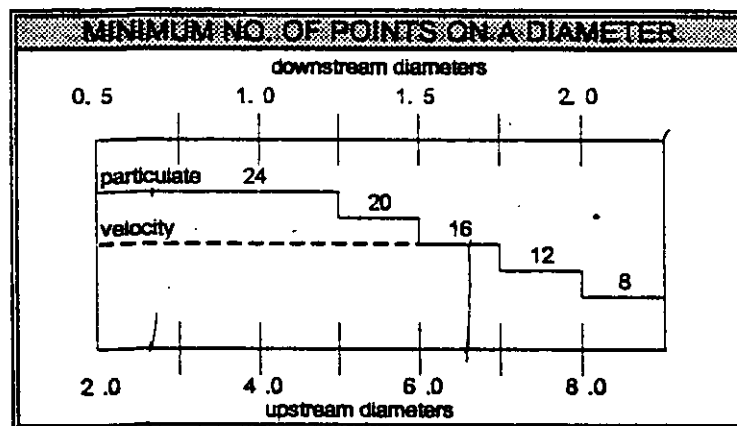
Minimum No. sample points required: 24

No. sample points selected: 12 x 2

Port Length: 4"

Port Type: 4" pipe nipple

Port Access: Platform 7' in rail

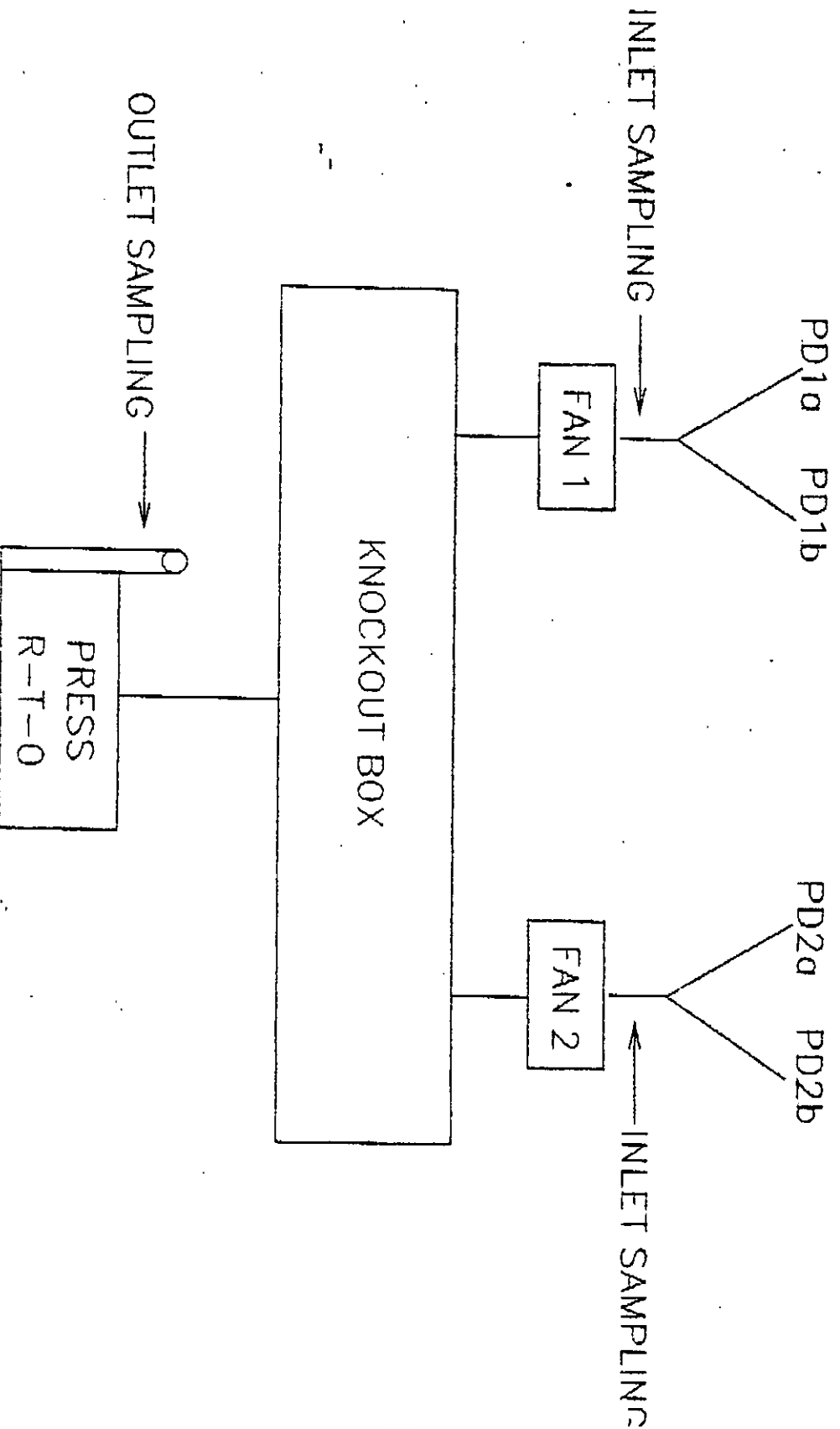


Pitot ID: _____ Pitot Cp: _____ Stack Temp: 240

Remarks:

HANCEVILLE PRESS SCHEMATIC SAMPLING PROTOCOL

PRESS DUCTS (4) GO TO TWO FANS WITH SEPARATE DUCTS TO "KNOCKOUT" BOX



SIMULTANEOUSLY SAMPLE ROUND VERTICAL INLET DUCTS TO FANS 1 & 2
AND THE STACK OUTLET TO THE R-T-0 FOR ALL PARAMETERS
THREE 1-HR SAMPLES EACH

To	From	Co.	Dept.	Fax #
<i>Danny</i>	<i>Bar</i>			

DRYERS WEST RTO

HCOH/VOC EMISSIONS TEST

Plant Louisiana Pacific - Hancockville, Alabama D&B PlantSampling Location Dugan RTO WESTTest For HCOH/VOCTest Operators Russell B. McKnightRUN No. 1Date 6-18-97Time start 0840 end 1000

Meter Box RAC
 Sample Box No. 2
 Probe/Pitot 8' Tef
 Pitot Cp .84 262 ftg
 Nozzle Dia. .262 in
 Filter No. N/A

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5

NOMOGRAPH

$\Delta H @$ 1.95
 Meter Temp. 100
 % H₂O 16 / 16
 C-Factor .81
 Stack Temp. 290 / 300
 Ref. ΔP .66 / .58

Gas Analysis

CO₂ 3.6 Expt
 O₂ 16.6
 CO
 Time

Remarks:

impingers: Tare final
 1) D&B 584 729.5
 2) DNPH 597 684
 3) MT 728 795.5
 4) S.Cal 481 481
 728.5 735.5

Amb. Temp. °F 80
 Bar. Press. "Hg 29.60
 Static Press. "H₂O -.65

Condensate:

tare Remarks fin

Silica gel:

tare Remarks fin

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	0100	85.9	1.10	3.00	291	77 70	N/A	70	2
2	230	86.1	1.10	3.00	293	77 74		68	2
3	500	86.3	1.10	3.00	291	76 71		68	2
4	730	86.6	1.05	2.95	296	78 72		68	2
5	1000	86.8	1.05	2.80	291	87 73		66	2
6	1230	87.0	1.05	2.95	293	89 70		66	2
7	1500	87.3	0.73	2.00	290	94 76		64	2
8	1730	87.4	0.58	1.65	297	96 77		64	2
9	2000	87.7	0.50	1.40	290	98 79		64	2
10	2230	87.8	0.46	1.30	293	103 81		64	2
11	2500	88.0	0.42	1.20	290	103 82		66	2
12	2730	88.1	0.35	1.00	255	106 82		66	2
1	3000	88.3	0.90	2.50	290	87 85		60	2
2	230	88.5	0.98	2.70	293	91 85		60	2
3	500	88.7	1.10	3.00	297	94 87		63	2
4	730	89.0	1.05	2.95	296	100 87		63	2
5	1000	89.2	1.10	3.00	298	97 87		64	2
6	1230	89.5	1.10	3.00	294	107 91		65	2
7	1500	89.7	0.90	2.50	295	110 89		64	2
8	1730	89.9	0.70	1.95	297	112 91		64	2
9	2000	90.1	0.74	2.05	299	115 92		64	2
10	2230	90.3	0.68	1.90	299	117 92		65	2
11	2500	90.5	0.67	2.05	296	116 92		65	2
12	2730	90.8	0.67	2.05	287	118 93		65	2
and	60	91.0							
Leak check: 1076 → 081 = 0.5 of m @ 5" Hg pitot - 4.5 pitot - 4.0 51.4490 9022 2.3292 291.92 90.13									

Plant Louisiana Pacific - Homerville, Alabama DSB PlantSampling Location Dugan RTOTest For HCOH/VOCTest Operators Russell / B. McKnightRUN No. 2Date 6-16-94Time start 1300 end 1406

Meter Box AAC
 Sample Box No. 1
 Probe/Pitot 8' 5/8" / .840
 Pitot Cp
 Nozzle Dia. 7.62 gts
 Filter No. N/A

No. Sample Pts. 13 x 2
 Minutes/Pt. 3.5

NOMOGRAPH

$\Delta H @$ 1.9
 Meter Temp. 100
 % H₂O 20 | 19
 C-Factor 88 | 84
 Stack Temp. 300 | 280
 Ref. ΔP .64 | .64

Gas Analysis Servomax

CO₂ 2.6
 O₂ 17.9
 CO
 Time

Condensate:

tare Remake fin
 Silica gel:
 tare Remake fin

Remarks:

inspired: init. final
 1) DNPH 589.5 695.0
 2) DNPH 577 652
 3) MT 446 447
 4) S. Gel 692 701.5

Amb. Temp. °F 88
 Bar. Press. "Hg 29.60
 Static Press. "H₂O - .65

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	0:00	921.656	0.65	1.90	277	76 76	N/A	71	2
2	2:30	923.3	0.65	1.90	278	78 78		67	2
3	5:00	925.0	0.70	2.00	283	81 78		67	2
4	7:30	927.0	0.68	2.00	283	85 77		65	2
5	10:00	929.0	0.72	2.05	280	88 77		60	2
6	12:30	930.9	0.71	2.05	282	90 78		61	2
7	15:00	932.9	0.60	1.75	286	89 78		60	2
8	17:30	934.9	0.52	1.50	283	96 79		60	2
9	20:00	936.6	0.44	1.25	284	98 81		60	2
10	22:30	938.5	0.44	1.25	281	100 81		61	2
11	25:00	940.2	0.37	1.05	279	102 82		63	2
12	27:30	941.7	0.36	1.05	278	102 83		63	2
1	30:00	943.168	0.74	2.20	284	99 88		60	2
2	2:30	945.1	0.73	2.10	283	100 85		63	2
3	5:00	947.2	0.75	2.20	287	102 85		62	2
4	7:30	949.3	0.68	2.00	283	103 86		62	2
5	10:00	951.5	0.62	1.75	284	104 86		63	2
6	12:30	953.3	0.67	2.00	286	105 86		63	2
7	15:00	955.4	0.49	1.40	283	109 87		63	2
8	17:30	956.8	0.38	1.15	288	109 86		63	2
9	20:00	958.4	0.34	0.96	285	109 86		63	2
10	22:30	960.0	0.32	0.89	284	109 86		63	2
11	25:00	961.3	0.25	0.67	273	109 89		64	2
12	27:30	962.5	0.23	0.67	273	109 89		65	2
and	60	963.634							
Leachcheck: 0.30 → 0.32 = .002 Apr 6 "H ₂ " pitot - ve 41.9780 .7271 1.5725 281.96 90.40									

Plant Louisiana Pacific - Hanceville, Alabama O&B Plant
 Sampling Location Dryden RTO West
 Test For HCOH/VOC
 Test Operators Russell B. McKnight

RUN No. 3
 Date 6-16-94
 Time start 1455 end 1620

Meter Box PAC
 Sample Box No. 2
 Probe/Pitot 8' Teflon
 Pitot Cp .84
 Nozzle Dia. 2.959 in
 Filter No. N/A

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5

NOMOGRAPH
 $\Delta H @$ 1.9
 Meter Temp. 100
 % H₂O 20
 C-Factor 0.83
 Stack Temp. 280
 Ref. ΔP .38

Gas Analysis Scrapping
 CO₂ _____
 O₂ _____
 CO _____
 Time _____

Condensate:
 tare Remains fin _____
 Silica gel:
 tare Remains fin _____

Remarks:
 impingers: init final
 1) DNPH 570.5 732.9
 2) DNPH 541.5 688
 3) MT 472 480
 4) S.Gel 757 777
4 dry

Port Point	El. Time, Min.	DGM Reading, Ft. ²	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In Out	Oven Temp., °F	Imp. Temp., °F	Vac in. Hg
1	000	9.64.40.4	0.67	2.25	290	84 84	N/A	69	2
2	230	9.66.4	0.67	2.25	290	87 84		68	2
3	500	9.68.8	0.66	3.20	286	90 86		65	2
4	730	9.71.5	0.64	3.10	285	96 87		61	2
5	1000	9.74.6	0.69	3.35	284	100 85		60	2
6	1230	9.76.3	0.50	2.40	287	103 85		61	2
7	1500	9.78.5	0.48	2.35	287	105 83		61	2
8	1730	9.80.8	0.40	1.95	287	108 84		63	2
9	2000	9.82.8	0.30	1.45	286	107 86		65	2
10	2230	9.84.3	0.30	1.45	285	109 89		65	2
11	2500	9.86.2	0.25	1.25	280	112 88		65	2
12	2730	9.87.9	0.20	1.00	280	111 88		65	2
13	3000	9.89.323	0.67	3.25	290	87 83		66	2
14	230	9.91.8	0.67	3.25	290	87 85		66	2
15	500	9.94.1	0.69	3.35	284	92 85		64	2
16	730	9.96.6	0.72	3.50	287	96 86		64	2
17	1000	9.99.2	0.73	3.50	289	96 87		64	2
18	1230	0.02.2	0.76	3.70	290	106 89		64	2
19	1500	0.04.6	0.62	3.00	293	113 90		67	2
20	1730	0.06.9	0.53	2.60	289	113 89		66	2
21	2000	0.09.2	0.46	2.20	287	114 89		65	2
22	2230	0.11.9	0.46	2.30	287	115 90		58	2
23	2500	0.13.6	0.41	1.95	286	116 91		60	2
24	2730	0.15.3	0.33	1.60	286	116 90		62	2
end	601	0.17.2812							

Each check .005 → .007 = .002 6 in @ 9' Hg

52.8780 1700 2.5917 287.04 94.71

DRYERS WEST RTO

PM/NOX/CO EMISSIONS TEST

Plant Louisiana Pacific - Hanceville, Alabama OSB PlantSampling Location Dyers RTO WESTTest For PM/CO/NOxTest Operators Russell / B. McKnightRUN No. 4Date 6-17-94Time start 0812 end 0915

Meter Box RAC
 Sample Box No 1
 Probe/Pitot 8' SS
 Pitot Cp .84
 Nozzle Dia. 270
 Filter No. _____

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5

NOMOGRAPH

$\Delta H @$ 1.9
 Meter Temp. 100
 % H₂O 20
 C-Factor .82
 Stack Temp. 280
 Ref. ΔP .56

Gas Analysis Sample
 CO₂ _____
 O₂ _____
 CO _____
 Time _____

Condensate:

tare 200 fin 378

Silica gel:

tare _____ fin +28.5

Remarks: _____

Amb. Temp. °F 59
 Bar. Press. "Hg 29.60
 Static Press. "H₂O 29 - .65

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	000	017.813	0.62	2.10	272	73 70	243	66	2
2	230	020.0	0.61	2.00	273	73 72	238	60	2
3	500	021.8	0.65	2.10	277	77 71	263	60	2
4	730	024.3	0.70	2.35	274	83 72	259	61	2
5	1000	026.5	0.67	2.20	264	86 72	258	61	2
6	1230	028.2	0.69	2.60	262	90 75	263	60	2
7	1500	030.5	0.58	1.90	274	87 75	260	60	2
8	1730	032.1	0.77	1.50	275	93 76	260	60	2
9	2000	034.4	0.70	1.30	278	97 78	260	60	2
10	2230	035.9	0.72	1.30	261	93 79	260	68	2
11	2500	037.4	0.37	1.25	267	93 80	260	63	2
12	2730	038.8	0.31	1.00	251	101 84	260	63	2
1	3000	040.377	0.77	2.40	260	100 81	261	63	2
2	230	042.4	0.69	2.30	280	104 82	260	63	2
3	500	044.6	0.70	2.30	278	104 84	263	63	2
4	730	046.7	0.64	2.10	277	108 85	263	64	2
5	1000	049.0	0.60	2.00	280	107 86	265	64	2
6	1230	051.2	0.57	1.85	279	110 86	260	64	2
7	1500	052.7	0.48	1.60	280	111 88	260	64	2
8	1730	054.4	0.37	1.25	282	114 89	260	64	2
9	2000	056.2	0.28	0.93	280	112 89	259	64	2
10	2230	057.0	0.28	0.93	280	111 87	262	64	2
11	2500	058.5	0.25	0.93	280	112 87	260	64	2
12	2730	060.0	0.18	0.60	280	111 88	260	64	2
and	60	061.362							

Leak check. 008 → 010 = .002 gpc 10" $\frac{1}{2}$

Pitot - 5.6
 Pitot - 4.1

43.5190

.7049

1.6996

27350

89.29

Time start 1125 end 1228

Remarks: _____

Plant Louisiana Pacific - Hanceville, Alabama OSB PlantSampling Location Dryden RTO WESTTest For PM/CO/NOXTest Operators Russell/B. McKnightRUN No. 6Date 6-17-94Time start 1506 end 1609Meter Box RACSample Box No. 1Probe/Pitot 8" IDPitot Cp 275.84Nozzle Dia. .276

Filter No. _____

No. Sample Pts. 12 x 2Minutes/Pt. 2.5

NOMOGRAPH

 $\Delta H @$

Meter Temp. _____

% H₂O _____

C-Factor _____

Stack Temp. _____

Ref. ΔP .56Gas Analysis SawsonCO₂ 4.1O₂ 16.7

CO _____

Time _____

Condensate:

tare 200 fin 402

Silica gel:

tare _____

fin 410

Remarks: _____

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head Δ P, in. H ₂ O	Orifice Δ H in. H ₂ O	Stack Temp. °F	Meter Temp., °F		Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
						In	Out			
1	0900	105.444	0.56	1.85	275	75	75	271	20	2
2	230	107.5	0.66	2.20	275	76	75	274	66	2
3	500	109.2	0.66	2.20	282	78	75	266	64	2
4	730	111.2	0.70	2.30	276	82	75	270	62	2
5	1000	113.1	0.65	2.20	275	86	76	261	64	2
6	1230	115.5	0.70	2.30	286	89	77	270	61	2
7	1500	117.6	0.57	1.85	278	95	80	271	62	2
8	1730	119.1	0.45	1.45	277	99	79	270	62	2
9	2000	121.0	0.46	1.50	285	98	78	274	62	2
10	2230	122.9	0.42	1.40	280	100	81	270	63	2
11	2500	124.3	0.36	1.20	274	102	82	270	63	2
12	2730	125.9	0.32	1.05	265	103	83	269	63	2
1	3000	127.513	0.55	1.80	268	99	82	266	65	2
2	230	129.3	0.71	2.40	285	102	85	265	64	2
3	500	131.7	0.68	2.25	281	104	85	264	65	2
4	730	133.5	0.60	2.00	281	107	86	265	60	2
5	1000	135.5	0.62	2.00	287	110	86	257	61	2
6	1230	137.3	0.61	2.00	283	110	87	256	62	2
7	1500	139.8	0.43	1.45	279	113	91	267	62	2
8	1730	141.4	0.44	1.45	285	114	91	272	62	2
9	2000	143.1	0.31	1.00	284	114	91	272	62	2
10	2230	144.8	0.28	0.91	278	115	90	278	62	2
11	2500	146.6	0.24	0.80	278	115	90	263	62	2
12	2730	148.2	0.20	0.66	270	115	92	263	62	2
and	60	149.915								

back check .082 → .096 = .014 @ 8" AS
pitot to 5.1
pitot to 4.0
44.4710 .0027 1.6758 276.63 9152

PARTICULATE CATCH ANALYSIS

SAMPLES: L.P. Haverhill - Dryers WEST RTO
 DATE TAKEN: 6-17-94 DATE ANALYZED: 6-27-94
 DELIVERED BY: [Signature] RECEIVED BY: [Signature]
 ANALYZED BY: [Signature]

(Attach chain of custody if additional exchanges occur)

FILTERS:

RUN NO.	4	5	6	
FILTER NO.	2168	2169	2110	
FILTER TARE, gms.	.5688	.5760	.5709	
	.5877	.5945	.5860	
	.5877	.5947	.5860	
FINAL WEIGHT, gms.	.5877	.5947	.5860	
NET GAIN, gms.	.0189	.0187	.0051	

PROBE WASH:

RUN NO.	4	5	6	BLANK
CONTAINER I.D.	LP WEST RTO R1	LP WEST RTO R2	LP WEST RTO R3	—
VOLUME INTACT?	✓	✓	✓	—
VOLUME, ml	170	150	160	200
TARE WEIGHT, gms.	(E) 99.1379	(6) 113.9883	(84) 105.3517	109.3736
	99.1392	113.9899	105.3561	109.3738
	99.1388	113.9901	105.3557	109.3735
FINAL WEIGHT, gms.	99.1388	113.9901	105.3557	109.3736
NET GAIN, gms.				
LESS BLANK, gms.	.0009	.0018	.0040	

PARTICULATE SAMPLE WEIGHT:

RUN NO.	4	5	6	
filter + probe, mg.	19.8	29.5	19.1	

PARTICULATE CATCH ANALYSIS

(Back Half Methylene Chloride Extraction)

SAMPLES:

L.P. Hancock - West RTO

DATE TAKEN:

6-17-94

DATE ANALYZED:

6-27-94

DELIVERED BY:

[Signature]

RECEIVED BY:

[Signature]

ANALYZED BY:

[Signature]

(Attach chain of custody if additional exchanges occur)

AQUEOUS FRACTION:

RUN NO.	4	5	6	
CONTAINER ID.	LP West RTO-B-R4	LP West RTO-B-R5	LP West RTO-B-R6	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	~ 450	~ 450	~ 450	
TARE WEIGHT, gms.	(H) 96.7809	(E) 100.4388	(G) 108.4571	
	97.7846	100.4414	108.4605	
	97.7847	100.4412	108.4600	
FINAL WEIGHT, gms.	96.5847	100.4412	108.4600	
NET GAIN, gms.	.0038	.0024	.0029	
LESS BLANK, gms.	-0-	-0-	-0-	

ORGANIC FRACTION

RUN NO.	4	5	6	
CONTAINER ID.				
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml				
TARE WEIGHT, gms.	(F) 97.5725	(I) 115.8210	(K) 108.1480	
	97.5725	115.8214	108.1484	
	97.5728	115.8216	108.1481	
FINAL WEIGHT, gms.	97.5728	115.8216	108.1481	
NET GAIN, gms.	.0003	.0006	.0001	
LESS BLANK, gms.				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
OR6	0.3	0.6	0.1	
Aqueous fraction, mg	3.8	2.4	2.9	

DRYERS EAST RTO

HCOH/VOC EMISSIONS TEST

Plant Louisiana Pacific - Hanceville, Alabama OSA Plant
 Sampling Location Ramp RTD Outlet East
 Test For HCOH/VOC
 Test Operators Mou/B. McEnight

RUN No. 1
 Date 6-16-94
 Time start 0839 end 1001

Meter Box Anderson
 Sample Box No. 4
 Probe/Pitot 8'6"
 Pitot Cp .84
 Nozzle Dia. .262 orifice
 Filter No.

No. Sample Pts. 12x2
 Minutes/Pt. 2.5

NOMOGRAPH
 $\Delta H @$ 1.75
 Meter Temp. 110
 % H₂O 17
 C-Factor .83
 Stack Temp. 265 / 290
 Ref. ΔP .59 / .61

Gas Analysis
 CO₂
 O₂
 CO
 Time

Condensate:
 tare Ramona fin
 Silica gel:
 tare Ramona fin

Remarks:
 impinger: init final
 1) DNP 603 799
 2) DNP 601 630.5
 3) MT 485 485
 4) S-Gel 776 786.5
 VOC avg / 60: 7.7 ppm

Port Point	El. Time, Min.	DGM Reading, Ft. ²	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp., °F	Imp. Temp., °F	Vac in. Hg
1	2100	9105, 154	0.810	2.401	2944	79	78	710	58	3
2	2300	9107, 3	0.810	2.401	2941	83	78		57	3
3	500	9109, 5	0.811	2.455	2819	89	78		55	3
4	730	9111, 7	0.68	2.10	292	95	79		55	3
5	1000	913, 7	0.73	2.20	291	99	80		56	2
6	1220	915, 8	0.66	2.00	298	111	89		55	2
7	1500	917, 8	0.67	2.05	291	106	83		58	3
8	1730	919, 9	0.58	1.75	283	109	85		55	3
9	2000	921, 8	0.53	1.55	287	110	86		56	2
10	2230	923, 6	0.53	1.55	286	112	88		57	2
11	2500	925, 4	0.38	1.15	285	113	91		57	2
12	2730	927, 0	0.32	0.95	285	112	92		58	2
1	2600	928, 432	0.98	2.90	298	96	93		62	3
2	230	930, 5	0.91	2.80	298	102	93		62	3
3	500	932, 9	1.00	3.00	287	108	93		60	3
4	730	935, 4	0.98	2.90	287	113	94		61	3
5	1000	937, 9	0.94	2.85	296	116	95		62	3
6	1230	940, 4	0.97	2.90	295	121	97		60	3
7	1500	942, 8	0.70	2.15	289	124	98		58	3
8	1730	945, 0	0.55	1.65	291	123	100		58	3
9	2000	946, 9	0.51	1.55	290	122	101		62	3
10	2230	948, 7	0.48	1.45	289	123	103		61	2
11	2500	950, 4	0.35	1.05	285	121	104		62	2
12	2730	952, 0	0.38	1.15	285	122	105		63	2
end	60	953, 626								
Zach: 022 — 027 — 005 C Ave 8" K5										
Pitot + 1 @ 5.9 Pitot - 1 @ 5.7										
48.472 .817 2.0325 290.08 99.83										

Plant Louisiana Pacific - Hanceville, Alabama OSR Plant
 Sampling Location Dryers RTO
 Test For HCOH/VOL
 Test Operators M. G. McKnight

RUN No. 2
 Date 6-16-94
 Time start 1300 end 1403

Meter Box Unk
 Sample Box No. 3
 Probe/Pitot 8' 6"
 Pitot Cp 84
 Nozzle Dia. .262 or 2
 Filter No.

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5
 NOMOGRAPH
 $\Delta H @$ 1.75
 Meter Temp. 110
 % H₂O 2.0 2.1
 C-Factor 68 .76
 Stack Temp. 280 290
 Ref. ΔP .75 .67

Gas Analysis

CO₂
 O₂
 CO 6.42
 Time

Condensate:

tare Remarks fin
 Silica gel:
 tare Remarks fin

Remarks:

impinger: init. Final
 1) DMPH 598.5 712.5
 2) DMPH 624.5 688.5
 3) MT 501 501
 4) S. Gel 711 722

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head Δ P, in. H ₂ O	Orifice Δ H in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	01:00	953.922	0.70	1.95	278	86	86	111	60	3
2	2:30	955.8	0.66	1.85	286	89	86		59	3
3	5:00	957.7	0.68	1.90	279	94	86		57	3
4	7:30	959.6	0.65	1.80	281	99	87		59	3
5	10:00	961.5	0.65	1.80	282	103	87		60	3
6	12:30	963.5	0.65	1.80	275	107	88		61	3
7	15:00	965.4	0.44	1.25	281	110	90		61	3
8	17:30	967.1	0.34	0.95	281	110	91		62	3
9	20:00	968.5	0.30	0.85	271	110	93		62	2
10	22:30	969.9	0.26	0.72	270	111	95		62	2
11	25:00	971.2	0.20	0.56	270	111	96		60	2
12	27:30	972.3	0.23	0.64	271	111	98		62	2
1	30:00	973.509	0.52	1.45	282	106	100		62	3
2	2:30	975.2	0.49	1.35	278	115	102		63	3
3	5:00	977.0	0.46	1.30	282	118	103		64	3
4	7:30	978.7	0.44	1.25	283	120	104		64	3
5	10:00	980.5	0.40	1.10	280	122	106		64	3
6	12:30	982.0	0.47	1.30	285	123	107		65	3
7	15:00	983.7	0.47	1.30	283	125	108		66	2
8	17:30	985.3	0.35	0.96	275	126	110		67	2
9	20:00	986.8	0.30	0.84	274	125	111		68	2
10	22:30	988.2	0.30	0.84	275	125	112		68	2
11	25:00	989.6	0.22	0.60	276	125	113		69	2
12	27:30	990.8	0.20	0.56	275	124	114		69	2
end	60	991.937								
		2nd ch. 029		0.36		007	02m @ 8	114		
		1st ch. @ 5.7								
		1st ch. @ 4.9								
		38.015	0.6455	1.2050	278.04		105.50			

2nd ch. 029

036 = .007 @ 2m @ 8 "H₂

Pitot + V @ 5.7
 Pitot - V @ 4.9

38.015

.6455

1.2050

278.04

105.58

Plant Louisiana Pacific - Hanceville, Alabama DSB PlantSampling Location Dumas RTD EastTest For VOL/HCOHTest Operators Moss/B. G. G. G.RUN No. 3Date 6-16-94Time start 1453 end 1620

Meter Box Huber
 Sample Box 10.4
 Probe/Pitot 6.34
 Pitot Cp .84
 Nozzle Dia. .275
 Filter No. N/A

No. Sample Pts. 12x2
 Minutes/Pt.

NOMOGRAPH

$\Delta H @$ 1.75
 Meter Temp. 110
 % H₂O 21 19
 C-Factor 76 80
 Stack Temp. 280 290
 Ref. ΔP .54 .52

Gas Analysis

CO₂
 O₂
 CO
 Time

Remarks:

Impingers: init final
 1) DNPH 590 778.5
 2) DNPH 589.5 628.5
 3) MT 475 481
 4) S. Gel 777 783

Amb. Temp. °F 90
 Bar. Press. "Hg 29.60
 Static Press. "H₂O -.57

Condensate:

tare Remade fin
 Silica gel:
 tare Remade fin

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	0100	992.4	0.52	1.80	282	98	97	N/A	68	2
2	230	994.2	0.47	1.65	280	100	99		68	2
3	500	996.1	0.47	1.65	286	104	99		67	2
4	730	997.9	0.43	1.50	282	108	99		65	2
5	1000	999.7	0.44	1.50	281	110	99		62	2
6	1230	001.5	0.46	1.60	284	114	100		60	2
7	1500	003.3	0.44	1.50	287	116	103		61	2
8	1730	005.2	0.44	1.50	282	118	102		62	2
9	2000	007.0	0.45	1.55	274	120	103		60	2
10	2230	008.8	0.42	1.45	275	122	105		58	2
11	2500	010.6	0.40	1.40	276	124	106		57	2
12	2730	012.3	0.30	1.05	275	125	107		55	2
1	3000	013.8	0.50	1.75	284	101	102		56	2
2	230	015.8	0.46	1.60	292	106	103		58	2
3	500	017.7	0.49	1.80	284	110	103		59	2
4	730	019.7	0.46	1.60	282	114	103		60	2
5	1000	021.5	0.44	1.60	292	116	103		61	2
6	1230	023.4	0.48	1.75	288	119	104		61	2
7	1500	025.3	0.48	1.75	278	122	105		62	2
8	1730	027.2	0.46	1.65	285	124	106		62	2
9	2000	029.3	0.46	1.65	284	126	108		64	2
10	2230	031.1	0.47	1.70	282	128	109		65	2
11	2500	033.0	0.50	1.80	284	130	111		66	2
12	2730	035.1	0.50	1.80	281	133	112		67	3
end	60	037.1	0.6							
Total 893 — 897 = 004 cfm @ 87°F										
Total 5.7 Total 5.9										
44.638 .6743 1.6083 282.54 109.92										

DRYERS EAST RTO

PM/NOX/CO EMISSIONS TEST

Plant Louisiana Pacific - Hamoville, Alabama OSG Plant
 Sampling Location Dayene RTO Outlet East
 Test For PM₁₀/NO_x
 Test Operators Russell/Moran/B & G. McKnight

RUN No. 4
 Date 6-17-94
 Time start 0811 end 0913

Meter Box <u>Anderson</u>	No. Sample Pts. <u>12x2</u>	Gas Analysis	Remarks: <u>① = .270</u> <u>② = .270</u> <u>③ = .270</u> <u>④ = .270</u>
Sample Box <u>4.3</u>	Minutes/Pt. <u>2.5</u>	CO ₂ _____	
Probe/Pitot <u>8' in</u>		O ₂ _____	
Pitot Cp <u>.84</u>	NOMOGRAPH	CO _____	
Nozzle Dia. <u>.270</u>	ΔH@ _____	Time _____	
Filter No. _____	Meter Temp. <u>110</u>	Condensate:	
Amb. Temp. °F <u>84</u>	% H ₂ O <u>18</u>	tare <u>200</u> fin <u>406</u>	
Bar. Press. "Hg <u>29.60</u>	C-Factor <u>.81</u>	Silica gel:	
Static Press. "H ₂ O <u>-66</u>	Stack Temp. <u>290/280</u>	tare _____ fin <u>713</u>	
	Ref. ΔP <u>.56/.55</u>		

Port Point	El. Time, Min.	DGM Reading, Ft. ²	Velocity Head ΔP, in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	0100	0.317 3.97	0.67	2.25	268	72 69	258	55	3
2	230	0.319 4	0.62	2.05	266	76 69	259	55	3
3	500	0.41 4	0.62	2.05	271	81 70	263	56	4
4	730	0.43 4	0.58	1.90	270	87 71	262	57	4
5	1000	0.45 3	0.54	1.80	278	92 72	261	55	3
6	1230	0.47 3	0.60	2.00	274	96 74	257	56	3
7	1500	0.49 2	0.52	1.70	264	99 75	258	56	3
8	1730	0.51 0	0.46	1.55	271	101 77	262	58	3
9	2000	0.52 8	0.36	1.20	258	103 79	262	59	3
10	2230	0.54 4	0.31	1.05	260	103 81	263	60	3
11	2500	0.55 9	0.24	0.80	261	103 83	258	60	2
12	2730	0.57 2	0.26	0.87	259	104 85	259	61	2
1	3000	0.58 6.10	0.62	2.05	271	99 88	257	62	4
2	230	0.60 6	0.64	2.15	277	110 90	260	62	4
3	500	0.62 7	0.65	2.20	270	115 92	263	64	4
4	730	0.64 9	0.66	2.20	273	119 94	264	64	4
5	1000	0.67 1	0.69	2.30	275	122 95	258	62	4
6	1230	0.69 5	0.67	2.25	274	125 97	267	62	4
7	1500	0.71 6	0.41	1.35	272	125 100	265	60	3
8	1730	0.73 3	0.37	1.25	274	123 101	260	60	3
9	2000	0.75 0	0.33	1.10	256	123 102	261	59	3
10	2230	0.76 6	0.27	0.90	257	121 103	258	59	2
11	2500	0.78 0	0.24	0.80	257	120 105	263	60	2
12	2730	0.79 4	0.24	0.80	260	120 105	260	61	2
end	60	0.80 7.10							
Total: 0.89 0.97 0.08 came 8 m/s									
Total: 0.00 came 4 m/s									
Pitot @ 6.1									
Pitot @ 6.1									
43.313 1.662 1.6071 267.33 96.17									

Plant Louisiana Pacific - Henneville, Alabama OSR PlantSampling Location Danger RTD outlet EastTest For PM/CO/NOxTest Operators Russell / Brown / B. G. McEnigleyRUN No. 5Date 6-17-94Time start 1124 end 1226Meter Box AndersonSample Box M. 4Probe/Pitot 8' linePitot Cp .84Nozzle Dia. 2.70

Filter No. _____

No. Sample Pts. 12x2Minutes/Pt. 2.5

NOMOGRAPH

 $\Delta H @$ 1.75Meter Temp. 110% H₂O 23C-Factor .73Stack Temp. 280/290Ref. ΔP .61/.62

Gas Analysis

CO₂ _____O₂ _____

CO _____

Time _____

Remarks: _____

Amb. Temp. °F 91Bar. Press. "Hg 29.60Static Press. "H₂O -7.66c

Condensate:

tare 200 fin 428

Silica gel:

tare _____ fin 413.25

Port Point	El. Time, Min.	OGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	200	081 049	0.65	2.00	256	84 85	263	68	4
2	230	083 0	0.63	1.90	265	88 85	257	65	4
3	500	085 0	0.69	2.10	283	92 85	258	65	4
4	730	087 0	0.68	2.10	276	98 85	257	62	4
5	1000	089 1	0.70	2.15	266	103 86	267	60	4
6	1230	091 0	0.75	2.30	277	108 87	256	61	4
7	1500	093 3	0.51	1.60	275	112 89	265	60	4
8	1730	095 2	0.43	1.30	263	113 90	257	61	3
9	2000	096 8	0.32	0.96	246	112 92	262	55	3
10	2230	098 3	0.28	0.85	248	112 93	263	56	3
11	2500	099 7	0.24	0.73	252	112 95	261	58	3
12	2720	101 0	0.18	0.55	251	111 96	259	58	2
1	3000	102 090	0.56	1.70	267	106 99	264	52	3
2	330	103 9	0.58	1.75	282	117 100	261	54	3
3	500	105 8	0.54	1.65	276	121 102	256	55	4
4	730	107 7	0.53	1.60	266	123 103	257	56	4
5	1000	109 5	0.43	1.30	282	125 105	261	57	4
6	1230	111 3	0.53	1.60	291	126 106	256	58	4
7	1500	113 1	0.52	1.60	266	129 108	258	60	4
8	1730	115 0	0.44	1.35	276	130 109	263	60	3
9	2000	116 7	0.35	1.05	270	130 111	257	61	3
10	2230	118 3	0.28	0.85	275	129 112	262	62	3
11	2500	119 8	0.20	0.60	274	128 114	258	62	3
12	2730	121 0	0.20	0.60	275	126 114	263	62	3
and	60	122 262							
Total: 0.57 - 0.64 = 0.07 (Am) 8.75									
Pitot + 2 @ 5.6									
Pitot - 1 @ 5.1									
41.213 .6705 1.4246 269.08 105.96									

Plant Louisiana Pacific - Hanceville, Alabama OSB PlantSampling Location DRIVEN RTD EastTest For PM/CO/NOxTest Operators Tracy / G. McKnightRUN No. 6Date 6-17-89Time start 1505 and 1606

Meter Box	<u>Drum</u>	No. Sample Pts.	<u>12 x 2</u>	Gas Analysis		Remarks:
Sample Box	<u>10.3</u>	Minutes/Pt.	<u>2.5</u>	CO ₂		
Probe/Pitot	<u>8" ms</u>			O ₂		
Pitot Cp	<u>.84</u>	NOMOGRAPH		CO		
Nozzle Dia.	<u>.270</u>	$\Delta H @$	<u>1.75</u>	Time		
Filter No.		Meter Temp.	<u>180</u>			
		% H ₂ O	<u>23</u>	Condensate:		
Amb. Temp. °F	<u>94</u>	C-Factor	<u>.73</u>	tare <u>200</u> fin <u>405</u>		
Bar. Press. "Hg	<u>29.66</u>	Stack Temp.	<u>290</u>	Silica gel:		
Static Press. "H ₂ O	<u>-.66</u>	Ref. ΔP	<u>.62</u>	tare fin <u>412</u>		

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In Out	Oven Temp., °F	Imp. Temp., °F	Vac in. Hg
1	000	122.755	0.55	1.70	280	89 90	265	67	3
2	230	124.6	0.60	1.80	283	92 91	256	68	3
3	500	126.6	0.51	1.55	274	97 90	264	65	3
4	730	128.4	0.46	1.40	282	100 90	260	62	3
5	1000	130.1	0.43	1.30	282	103 91	257	61	2
6	1230	131.7	0.48	1.45	273	106 92	257	62	2
7	1500	133.5	0.51	1.55	277	110 93	263	62	2
8	1730	135.3	0.42	1.25	280	113 94	260	60	2
9	2000	136.9	0.32	0.97	263	114 96	265	61	2
10	2230	138.4	0.28	0.85	271	114 97	259	64	2
11	2500	139.9	0.31	0.91	270	114 98	260	61	2
12	2730	141.3	0.21	0.61	268	115 100	263	60	2
13									
1	3000	142.456	0.59	1.75	283	112 102	264	61	2
2	230	144.3	0.62	1.90	288	121 104	261	58	2
3	500	146.3	0.67	2.05	269	126 106	274	56	3
4	730	148.4	0.67	2.05	277	130 107	262	56	3
5	1000	150.5	0.62	1.90	287	132 109	250	57	3
6	1230	152.7	0.68	2.10	272	134 111	260	56	3
7	1500	154.7	0.44	1.35	278	136 113	260	56	2
8	1730	156.5	0.37	1.15	280	134 114	256	58	2
9	2000	158.1	0.32	0.95	264	132 116	264	59	2
10	2230	159.6	0.24	0.73	270	132 117	249	60	2
11	2500	160.9	0.24	0.73	268	131 118	251	63	2
12	2710	162.2	0.20	0.60	267	130 119	260	62	2
end	60	163.939							
27		Leak: E 39		046	007	672 @	874		
30		PSH + 5.6							
		PSH - 5.8							
33		40.684	1.6583	1.3583	275.33	109.80			

PARTICULATE CATCH ANALYSIS

SAMPLES:

L.P. - Hancock, Oregon EAST RTO

DATE TAKEN:

6-17-84

DATE ANALYZED:

6-27-94

DELIVERED BY:

TOR

RECEIVED BY:

TOR

ANALYZED BY:

TOR

(Attach chain of custody if additional exchanges occur)

FILTERS:

RUN NO.	4	5	6	
FILTER NO.	2165	2108	2109	
FILTER TARE, gms.	.5715	.5711	.5714	
	.5912	.5834	.5845	
	.5912	.5833	.5844	
FINAL WEIGHT, gms.	.5912	.5833	.5844	
NET GAIN, gms.	.0167	.0122	.0130	

PROBE WASH:

RUN NO.	4	5	6	
CONTAINER I.D.	LPEAST R4	LPEAST R5	LPEAST R6	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	190	200	200	
TARE WEIGHT, gms.	(45) 107.2504	(69) 112.5830	(71) 115.8205	
	107.292	112.5914	115.8288	
	107.2588	112.5916	115.8293	
FINAL WEIGHT, gms.	107.2588	112.5916	115.8293	
NET GAIN, gms.				
LESS BLANK, gms.	- 0 -	- 0 -	- 0 -	

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
filter + probe, mg.	25.1	20.8	21.8	

PARTICULATE CATCH ANALYSIS

(Back Half Methylene Chloride Extraction)

SAMPLES:

LP - Hancock EAST RD PA - BAK

DATE TAKEN:

7-17-94 DATE ANALYZED: 7-27-94

DELIVERED BY:

DCR

RECEIVED BY:

DCR

ANALYZED BY:

DCR

(Attach chain of custody if additional exchanges occur)

AQUEOUS FRACTION:

RUN NO.	4	5	6	
CONTAINER I.D.	LP EAST R 4 - BAK	LP EAST R 5 - BAK	LP EAST R 6 - BAK	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	~ 450	~ 450	~ 450	
TARE WEIGHT, gms.	(69) 112.5836	(81) 104.6052	(98) 108.5430	
	112.5859	104.6089	108.5476	
	112.5857	104.6087	108.5477	
FINAL WEIGHT, gms.	112.5857	104.6087	108.5477	
NET GAIN, gms.	.0021	.0035	.0047	
LESS BLANK, gms.				

ORGANIC FRACTION

RUN NO.	4	5	6	
CONTAINER I.D.	?	?	?	
VOLUME INTACT?	?	?	?	
VOLUME, ml	1	1	1	
TARE WEIGHT, gms.	(45) 107.2508	(68) 112.5357	(89) 106.4096	
	107.2528	112.5366	106.4103	
	107.2524	112.5366	106.4101	
FINAL WEIGHT, gms.	107.2524	112.5366	106.4101	
NET GAIN, gms.	.0016	.0009	.0005	
LESS BLANK, gms.				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	4	5	6	
ORE	1.6	0.9	0.5	
Aqueous fraction, mg	2.1	3.5	4.7	

PRESS VENT RTO

PM/NOX/CO EMISSIONS TEST

Plant Louisiana Pacific - Hanceville, Alabama O&B PlantSampling Location RTO Pda Vent RTOTest For PM/CO/NOxTest Operators Russell/Moore/B. L. McKnightRUN No. 1Date 6-14-94Time start 1009 end 2110Meter Box AndersonSample Box 20.1Probe/Pitot 8' inPitot Cp .84Nozzle Dia. .242

Filter No. _____

No. Sample Pts. 12 x 2Minutes/Pt. 2.5

NOMOGRAPH

 $\Delta H @$ 1.75Meter Temp. 100% H₂O 10C-Factor 93Stack Temp. 230Ref. ΔP .70

Gas Analysis

CO₂ _____O₂ _____

CO _____

Time _____

Remarks: _____

O = .243
O = .242 } = .242
O = .242Amb. Temp. °F 74Bar. Press. "Hg 29.70Static Press. "H₂O -.58

Condensate:

tare 200 fin 228

Silica gel:

tare _____ fin 4.5

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	0200	597.4	1.20	3.20	229	79 77	257	69	3
2	0300	599.9	1.10	2.90	229	84 77	260	65	3
3	0500	602.4	1.05	2.75	226	91 78	257	65	3
4	0700	604.8	0.95	2.50	234	97 79	261	62	3
5	0900	607.0	1.10	2.90	225	102 80	262	62	3
6	1030	609.5	0.99	2.35	235	107 81	261	62	3
7	1500	611.8	0.81	2.15	225	111 84	260	60	3
8	1730	613.9	0.79	2.05	232	113 85	263	61	3
9	2000	615.9	0.62	1.65	224	114 87	260	61	2
10	2230	617.8	0.73	1.90	224	115 89	258	62	3
11	2500	619.8	0.52	1.35	222	117 91	260	62	2
12	2730	621.6	0.69	1.80	222	116 93	262	60	2
13									
1	3000	623.5	1.70	4.50	225	120 96	264	58	5
2	2300	626.5	1.60	4.20	231	131 98	235	57	4
3	5100	629.5	1.46	3.70	232	134 99	247	57	4
4	7300	632.4	1.40	3.70	228	136 101	258	55	4
5	1000	635.1	1.40	3.70	229	138 103	259	54	4
6	1220	638.0	1.20	3.20	228	140 106	262	55	4
7	1500	640.6	0.80	2.10	231	139 107	262	54	3
8	1730	642.9	0.66	1.75	228	135 109	260	55	3
9	2000	644.7	0.62	1.65	226	134 110	261	55	3
10	2230	646.6	0.59	1.55	225	133 111	261	56	3
11	2500	648.5	0.59	1.55	224	133 112	259	55	2
12	2730	650.4	0.52	1.35	224	134 114	261	55	2
and	60	652.1	1.49						

Tach. 020 → 02'6" = 006 CFM @ 8" Hg

1st 4 of 6.1
1st - 6.2

547430 .9640 2.5188 227.42 106.67

 ΔH seems to be too high. Review should check
ISO Kinetics carefully. Scott Roberts 6/14/94

Plant Louisiana Pacific - Homer, Alabama O&B Plant
 Sampling Location Pass Vent RTD
 Test For PM/CO/NOx
 Test Operators Russell/Moore/B. & G. McKnight

RUN No. 2
 Date 6-14-94
 Time start 1152 end 1255

Meter Box Anderson
 Sample Box no. 4
 Probe/Pitot 8' in
 Pitot Cp .84
 Nozzle Dia. .242
 Filter No. _____
 Amb. Temp. °F 85
 Bar. Press. "Hg 29.70
 Static Press. "H₂O -.58

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5
 NOMOGRAPH
 ΔH@ 1.75
 Meter Temp. 100
 % H₂O 10 210
 C-Factor .93 .95
 Stack Temp. 230 240
 Ref. ΔP .70 .69

Gas Analysis
 CO₂ _____
 O₂ _____
 CO _____
 Time _____
 Condensate:
 tare 200 fin 230
 Silica gel:
 tare _____ fin 413.5

Remarks: _____

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	000	65.2	1.50	4.00	234	98	99	262	68	6
2	230	65.5	1.50	4.00	232	105	99	257	67	6
3	500	65.8	1.40	3.80	234	113	99	262	66	6
4	730	66.0	1.40	3.80	230	120	99	260	66	6
5	1000	66.3	1.30	3.50	238	125	100	257	65	6
6	1230	66.6	1.30	3.50	228	129	101	256	64	6
7	1500	66.9	0.80	2.15	234	131	103	236	62	4
8	1730	67.1	0.67	1.80	229	129	104	235	62	4
9	2000	67.3	0.62	1.65	232	128	105	259	63	3
10	2230	67.5	0.63	1.65	233	128	106	264	60	3
11	2500	67.7	0.60	1.60	230	129	108	263	60	3
12	2730	67.9	0.50	1.35	230	129	109	262	58	3
1	3000	68.0	0.98	2.60	241	126	110	228	57	3
2	330	68.3	1.10	3.00	231	135	112	231	57	3
3	520	68.5	0.94	2.50	240	138	113	241	56	4
4	720	68.8	1.10	3.00	233	140	114	226	56	5
5	1000	69.0	0.98	2.60	241	143	115	225	56	4
6	1230	69.3	1.10	3.00	239	144	117	224	56	4
7	1500	69.5	0.82	2.20	240	145	119	154	55	4
8	1730	69.8	0.72	1.95	239	144	120	141	55	4
9	2000	70.0	0.62	1.65	236	142	120	134	54	3
10	2230	70.2	0.53	1.40	236	142	122	128	54	3
11	2500	70.4	0.61	1.65	235	141	122	123	54	3
12	2730	70.5	0.55	1.45	234	142	124	120	55	3
end	60	70.7	77.3							
Leak ch. 042										
044 - 002 cfm @ 8' in										
Puff + 1 @ 6.1										
Puff - 1 @ 5.8										
55.3610										
9484										
249.17										
224.50										
120.54										

Plant Louisiana Pacific - Hancock, Alabama DSR Plant
 Sampling Location Press Vent RTD
 Test For PA/CO/N₂O
 Test Operators Russell Moore B. & G. McKnight

RUN No. 3
 Date 6-14-94
 Time start 1330 end 1659

Meter Box Order
 Sample Box Real
 Probe/Pitot 8' ion
 Pitot Cp .84
 Nozzle Dia. .242
 Filter No.

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5
 NOMOGRAPH
 $\Delta H @$ 1400 1.75
 Meter Temp. 100
 % H₂O 50
 C-Factor .95
 Stack Temp. 240
 Ref. ΔP .69

Gas Analysis
 CO₂
 O₂
 CO
 Time
 Condensate:
 tare 200 fin 132
 Silica gel:
 tare fin 29

Remarks:
Downtime 1420
1623

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp., °F	Imp. Temp., °F	Vac. in. Hg
1	0030	70.81 04.8	1.10	3.00	241	99	99	260	6.7	3
2	230	71.01 5	1.20	3.20	232	105	100	261	6.9	3
3	500	71.31 1	1.20	3.20	226	112	100	259	6.5	3
4	730	71.5 9	1.10	3.00	235	119	101	263	6.5	3
5	1000	71.81 2	1.10	3.00	234	123	101	263	6.4	3
6	1230	72.01 8	1.05	2.85	234	127	102	260	6.4	3
7	1500	72.3 3	.82	2.20	234	129	104	249	6.3	2
8	1730	72.5 5	.75	2.00	232	129	105	259	6.0	3
9	2000	72.7 6	.75	2.00	229	130	107	252	5.8	3
10	2230	72.9 7	.63	1.65	229	132	108	253	5.8	3
11	2500	73.1 5	.61	1.65	230	132	109	259	5.7	2
12	2730	73.3 5	.62	1.65	231	87	87	258	5.7	2
13										
1	3000	73.5 40.0	1.50	4.10	236	91	87	262	6.4	4
2	230	73.9 2	1.60	4.30	227	100	88	263	6.5	4
3	500	74.1 1	1.50	4.10	232	109	87	257	6.5	4
4	730	74.4 0	1.40	3.80	229	115	90	259	6.4	4
5	1000	74.6 7	1.40	3.80	241	120	91	264	6.2	4
6	1230	74.9 7	.90	2.45	228	125	93	261	6.2	4
7	1500	75.2 4	.73	1.95	240	127	95	261	6.4	3
8	1730	75.4 6	.73	1.95	225	124	97	260	6.5	3
9	2000	75.6 6	.61	1.65	235	124	98	257	6.5	3
10	2230	75.8 5	.68	1.85	234	124	100	260	6.6	3
11	2500	76.0 5	.48	1.30	235	126	102	259	6.5	3
12	2730	76.2 2	.50	1.35	235	125	104	260	6.4	3
and	60	76.31 9.85								
27		266.41 049		056	207	170	8			
30		Pitot @ 5.9								
		Pitot @ 5.7								
33		55.930	.9627	2.5833	233.08			108.15		

PARTICULATE CATCH ANALYSIS

SAMPLES: L.P. Hamville - Pm Vent RTU
 DATE TAKEN: 6-14-94 DATE ANALYZED: 6-27-94
 DELIVERED BY: RR RECEIVED BY: RR
 ANALYZED BY: RR

(Attach chain of custody if additional exchanges occur)

FILTERS:

RUN NO.	1	2	3	
FILTER NO.	2166	2050	2167	
FILTER TARE, gms.	.5703	.6870	.5717	
	.5717	.6884	.5732	
	.5720	.6884	.5732	
FINAL WEIGHT, gms.	.5720	.6884	.5732	
NET GAIN, gms.	.0017	.0014	.0015	

PROBE WASH:

RUN NO.	1	2	3	
CONTAINER I.D.	LPPVR1	LPPVR2	LPPVR3	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	180	150	150	
TARE WEIGHT, gms.	(I) 100.4382	(4) 108.4554	(8) 108.1474	
	100.4411	108.4586	108.1500	
	100.4408	108.4584	108.1503	
FINAL WEIGHT, gms.	100.4408	108.4584	108.1503	
NET GAIN, gms.	.0026	.0030	.0029	
LESS BLANK, gms.				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
filter + probe, mg.	4.3	4.4	4.4	

PARTICULATE CATCH ANALYSIS

(Back Half Methylene Chloride Extraction)

SAMPLES:

L.P. Hancock - Pres Vent RTO

DATE TAKEN:

6-14-94

DATE ANALYZED:

6-27-94

DELIVERED BY:

DR

RECEIVED BY:

DR

ANALYZED BY:

DR

(Attach chain of custody if additional exchanges occur)

AQUEOUS FRACTION:

RUN NO.	1	2	3	
CONTAINER I.D.	LPPV R1 B	LPPV R2 B	LPPV R3 B	
VOLUME INTACT?	✓	✓	—	
VOLUME, ml	100	120	130	
TARE WEIGHT, gms	(5) 104.4034	(K) 101.6484	(2) 98.8249	
	104.4054	101.6508	98.8267	
	104.4051	101.6501	98.8266	
		101.6505		
FINAL WEIGHT, gms	104.4051	101.6505	98.8266	
NET GAIN, gms	.0017	.0021	.0017	
LESS BLANK, gms				

ORGANIC FRACTION

RUN NO.	1	2	3	
CONTAINER I.D.	S	S	S	
VOLUME INTACT?				
VOLUME, ml				
TARE WEIGHT, gms	(80) 107.9680	(84) 105.3511	(90) 107.9601	
	107.9692	105.3522	107.9616	
	107.9690	105.3521	107.9617	
FINAL WEIGHT, gms	107.9690	105.3521	107.9617	
NET GAIN, gms	.0010	.0010	.0016	
LESS BLANK, gms				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
DRG	1.0	1.0	1.6	
Aqueous fraction, mg	1.7	2.1	1.7	

PRESS VENT RTO

HCOH/VOC EMISSIONS TEST

Plant Louisiana Pacific - Hanceville, Alabama DSB PlantSampling Location Press Vent RTOTest For H₂O H₂OTest Operators Hassell/Moore/B. & G. McKnightRUN No. 4Date 6-15-94Time start 9:00 and 11:06

Meter Box Anderson
 Sample Box No. 3
 Probe/Pitot 8 ft. to 2 ft.
 Pitot Cp .84
 Nozzle Dia. .215 O.D.
 Filter No.

No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5
 NOMOGRAPH
 $\Delta H @$ 1.70
 Meter Temp. 100
 % H₂O 9.0
 C-Factor .95
 Stack Temp. 240
 Ref. ΔP 1.10

Gas Analysis San/omaga
 CO₂ 1.2%
 O₂ 20.5%
 CO
 Time

Condensate:
 tare Rena fin
 Silica gel:
 tare Rena fin

Remarks:
improper init. Fuel
 1) DNPH 598.5 618.5
 2) DNPH 616.0 614.5
 3) AT 507.0 509.0
 4) S. Gel 747 762.0
 $\Theta = .215$
 $\Theta = .215$
 $\Theta = .215$

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp, °F	Meter Temp., °F In Out	Oven Temp, °F	Imp. Temp, °F	Vac. in. Hg
1	000	76.4 .3135	1.50	2.50	238	87 86	N/A	69	3
2	230	76.6 .6	1.60	2.70	240	91 86		68	4
3	520	76.8 .9	1.50	2.50	233	97 86		68	4
4	720	77.1 .2	1.50	2.50	242	103 87		65	4
5	1000	77.3 .6	1.40	2.40	236	108 88		65	4
6	1230	77.5 .7	1.20	2.00	244	111 89		60	3
7	1500	77.7 .8	0.90	1.50	235	113 90		61	3
8	1730	77.9 .7	0.70	1.20	243	113 92		60	3
9	2000	78.1 .3	0.64	1.05	236	113 93		60	2
10	2230	78.2 .8	0.64	1.05	234	113 95		58	2
11	2500	78.4 .3	0.58	0.97	234	114 96		58	2
12	2730	78.5 .8	0.65	1.10	233	115 98		59	2
13									
1	3000	78.7 .404	1.20	2.00	240	104 100		58	3
2	230	78.9 .4	1.05	1.75	240	115 101		51	3
3	500	79.1 .4	1.30	2.20	242	118 102		55	3
4	720	79.3 .6	1.05	1.75	246	122 103		56	3
5	1000	79.5 .5	1.10	1.85	243	124 104		55	3
6	1230	79.7 .5	1.10	1.85	242	126 106		52	3
7	1500	79.9 .5	1.00	1.70	236	127 107		53	3
8	1730	80.1 .5	0.82	1.40	244	128 108		55	2
9	2000	80.3 .2	0.65	1.10	231	128 110		54	2
10	2230	80.4 .9	0.74	1.25	232	127 111		56	2
11	2500	80.6 .6	0.58	0.99	233	128 112		58	2
12	2730	80.8 .9	0.65	1.10	235	128 113		59	2
end	260	80.9 .657							
27									
28									
29									
30									
31									
32									
33									
34									
35									

Leak ch. 024 ——— 024 = 0.03 $\times$ m @ 8" Hg

Pitot + 2.0 5.8
 Pitot - 1.0 5.7

45322 9872 1.6833 238.0 106.58

Plant Louisiana Pacific - Hanceville, Alabama USB Plant
 Sampling Location Pass Vent RTD
 Test For HCOH/VOC
 Test Operators Russell/Mace/B. & G. McKnight

RUN No. 5
 Date 6-15-94
 Time start 1153 end 1258

Meter Box Andrew
 Sample Box No. 4
 Probe/Pitot 8' over top
 Pitot Cp .94
 Nozzle Dia. .215 orz
 Filter No. _____
 Amb. Temp. °F 88
 Bar. Press. "Hg 29.75
 Static Press. "H₂O -.58
 No. Sample Pts. 12 x 2
 Minutes/Pt. 2.5
 NOMOGRAPH
 ΔH@ 1.75
 Meter Temp. 100
 % H₂O <10
 C-Factor .95
 Stack Temp. 240
 Ref. ΔP 1.10

Gas Analysis
 CO₂ _____
 O₂ _____
 CO _____
 Time _____

Condensate:
 tare Remaker fin _____
 Silica gel:
 tare Remaker fin _____

Remarks:
Impinger Time Final
 1) DNPH 603.0 620.5
 2) DNPH 601.0 605.0
 3) MT 485.0 488.0
 4) 5 Gel 762.5 778.0

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH, in. H ₂ O	Stack Temp, °F	Meter Temp., °F In Out	Oven Temp, °F	Imp. Temp, °F	Vac in. Hg
1	000	810.9	9.93	1.10	1.85	239	97 98	114	60 3
2	230	812.0		1.10	1.85	243	101 99		58 3
3	500	814.0		1.10	1.85	237	106 99		55 3
4	730	816.0		1.05	1.75	244	110 99		58 3
5	1000	818.0		1.00	1.70	239	114 100		58 3
6	1230	820.0		1.05	1.75	244	117 101		57 3
7	1500	821.8		0.90	1.50	239	119 101		56 3
8	1730	823.8		0.80	1.35	242	121 103		56 3
9	2000	825.4		0.66	1.10	238	122 104		52 3
10	2230	827.0		0.84	1.40	232	122 105		53 3
11	2500	828.8		0.56	0.95	236	124 107		56 2
12	2730	830.3		0.76	1.30	238	124 108		58 3
13									
14	3000	832.0	0.28	1.40	2.40	243	115 109		57 3
15	230	834.3		1.70	2.85	242	127 111		59 3
16	500	836.7		1.50	2.50	239	132 111		59 4
17	730	839.1		1.60	2.70	251	135 112		60 4
18	1000	841.6		1.30	2.20	239	138 114		62 4
19	1230	843.9		0.78	1.30	252	138 115		62 3
20	1500	845.7		0.90	1.50	238	135 116		64 3
21	1730	847.5		0.67	1.15	250	136 117		65 3
22	2000	849.2		0.65	1.10	233	135 118		66 3
23	2230	850.8		0.60	1.00	241	135 119		65 2
24	2500	852.3		0.65	1.10	240	135 120		66 2
25	2730	854.0		0.65	1.10	240	136 121		66 2
26	end 60	855.6	0.7						
27									
28		2.66	969	0.74	0.05	CFM @	97.4		
29									
30		Pitot + 1 @ 5.9							
31		Pitot - 1 @ 4.4							
32									
33		45.614	9729	1.6254	240.79		116.27		

Plant Louisiana Pacific - Hanceville, Alabama OSB Plant
 Sampling Location from Vent RTO
 Test For HCDH/VOC
 Test Operators Hussell/Moore/B. & G. McKnight

RUN No. 6
 Date 6-15-84
 Time start 1332 end 1450

Meter Box Anderson
 Sample Box No. 3
 Probe/Pitot 8' m. def
 Pitot Cp .84
 Nozzle Dia. .215 or
 Filter No. _____
 Amb. Temp. °F 91
 Bar. Press. "Hg 29.75
 Static Press. "H₂O -.58

No. Sample Pts. 12x2
 Minutes/Pt. 2.5
 NOMOGRAPH
 ΔH@ _____
 Meter Temp. 100
 % H₂O 40
 C-Factor .95
 Stack Temp. 240
 Ref. ΔP 1.10

Gas Analysis
 CO₂ _____
 O₂ _____
 CO _____
 Time _____
 Condensate:
 tare Remarks fin _____
 Silica gel:
 tare Remarks fin _____

Remarks:
insignificant with final

1) DNPH	599	614.5
2) DNPH	613.5	6200
3) MT	507.0	507.5
4) SGel	745	764.5

Remedial time 1402
1420

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	0100	856.433	1.80	3.00	243	110	108	111	69	4
2	130	858.9	1.60	2.70	238	116	108		65	4
3	500	861.3	1.80	3.00	248	121	108		62	4
4	730	863.9	1.70	2.85	238	126	109		60	4
5	1000	866.4	1.40	2.40	249	129	109		62	4
6	1230	868.8	1.30	2.20	240	130	110		60	3
7	1500	871.0	0.80	1.35	245	130	110		60	3
8	1730	872.8	0.77	1.30	237	130	111		61	3
9	2000	874.5	0.63	1.05	236	129	112		62	2
10	2230	876.1	0.63	1.05	236	128	113		64	2
11	2500	877.6	0.50	0.85	235	128	114		65	2
12	2730	879.0	0.55	0.93	235	128	115		66	2
1	20100	880.488	1.10	1.85	240	110	110		67	3
2	220	882.5	1.10	1.85	247	117	111		65	3
3	500	884.5	1.10	1.85	247	120	111		66	3
4	730	886.5	1.10	1.85	248	123	111		62	3
5	1000	888.6	1.05	1.75	243	126	111		62	3
6	1230	890.6	1.10	1.85	244	128	112		64	3
7	1500	892.6	0.90	1.50	247	130	113		65	3
8	1730	894.4	0.80	1.35	242	130	114		66	3
9	2000	896.1	0.75	1.25	241	131	115		65	3
10	2230	898.0	0.75	1.25	236	131	115		66	3
11	2500	899.6	0.55	0.93	235	131	117		67	3
12	2730	901.6	0.53	0.88	234	131	117		66	3
end	60	902.545								

Leak chi 016 → .021 = 0.05 cfm @ 8 in. Hg

Pitot + 6.0
 Pitot - 5.6

46.112 .9874 1.7017 241.00 116.35

APPENDIX B.

CALIBRATION DATA

DRY GAS METER CALIBRATION

Meter ID RAC

Calibration Method DGM/DGM By DGR

Calibration Meter ID 651729 Pbar 29.66

Date 5/2/94

Vac. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp. °F	V _i ft ³	V _f ft ³	Temp. in		Temp. out					
								init.	final	init.	final				
1	5.00	10.00	399.509	412.041	68	229.010	241.663	73	84	73	76	0.994	1.25	0.715	1.800
1	4.00	10.00	412.041	422.831	68	241.663	252.650	84	95	76	80	1.001	1.09	0.692	1.925
1	3.00	11.00	422.831	433.120	70	252.650	263.242	91	120	80	84	1.007	0.95	0.693	1.917
1	2.00	13.00	433.120	443.475	70	263.242	273.918	92	112	83	90	1.009	0.82	0.727	1.743
1	1.00	18.00	443.475	453.864	70	273.918	284.929	108	118	86	94	0.997	0.6	0.748	1.646
Averages:												1.00			1.81

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{P_m M_m})/((T_m \text{ out})(DH))$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{M,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID RAC - 591349
Calibration Method DGM/DGM **By** RSM
Calibration Meter ID 651729 **Pbar** 29.85
Date 7/5/94

Vac. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp. °F	V _i ft ³	V _f ft ³	Temp. in		Temp. out					
								init.	final	init.	final				
1	1.80	15.00	925.121	936.199	90	911.371	922.735	93	116	94	95	0.987	0.74	0.692	1.924
1	1.80	15.00	936.199	947.270	91	922.735	934.225	113	138	95	105	0.997	0.75	0.694	1.914
1	1.80	16.00	947.270	958.985	92	934.225	946.560	132	144	105	117	1.001	0.75	0.694	1.915
Averages:												1.00			1.92

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)/((T_m \text{ out})(DH))})$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{M,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID Andersen
 Calibration Method DGM/DGM By DGR
 Calibration Meter ID 651729 Pbar 29.80
 Date 4/11/94

Vac. in. Hg	DH in. H2O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			VI cf	VF cf	Temp F	VI cf	VF cf	Temp. In		Temp out					
								init	final	init	final				
1	4.00	10.00	346.87	358.001	82	93.507	104.898	100	117	102	103	1.010	1.14	0.71	1.815
1	3.00	11.00	358.001	368.729	84	104.898	115.935	113	129	103	107	1.016	1.01	0.72	1.774
1	2.00	13.00	368.729	379.137	84	115.935	126.714	118	133	107	111	1.020	0.83	0.73	1.738
1	1.00	18.00	379.137	389.442	84	126.714	137.456	118	127	111	115	1.016	0.6	0.74	1.683
1	0.75	20.00	389.442	399.506	84	137.456	148.024	112	125	113	118	1.008	0.53	0.75	1.626
Averages:												1.01			1.73

$$Y = [V_{cal}](P_{bar})(T_{dgm}) / [(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)} / ((T_m \text{ out})(DH)))$$

$$Q = ((V_{mi} - V_{mf}) / \text{min.})(T_{M, out} / T_{M, avg})(Y)$$

$$DH@ = 0.921 / K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIROMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4.

Cylinder Number ALM028536
Cylinder Pressure 1900 psig

Certification Date 7-10-93
Previous Certification Dates None

General Exp. Date 7-10-96
Acid Rain Exp. Date 7-10-96

ANALYZED CYLINDER

Components
Propane

Certified Concentration
485.7 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: AIR

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type GMS
Expiration Date 6-5-93

Cylinder Number
AAL4736

Concentration
999.8PPM C3/AIR

INSTRUMENTATION

Instrument/Model/Serial #
Prop: Beckman/400/1002059/

Last Date Calibrated
6-22-93

Analytical Principle
Flame Ionization Detector

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: 7-10-93 Response Units: mv
Z1=0.00 R1=100.0 T1=48.60
R2=100.0 Z2=0.00 T2=48.60
Z3=0.00 T3=48.60 R3=100.0
Avg. Conc. of Cust. Cyl. 485.7 ppm

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 1669B
Constants: A=-0.4359671
B=10.00236 C=0
D=0 E=0

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Special Notes 999.8PPM C3/AIR ANALYZED ON GC AGAINST SRM 1669B
If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

Y. P. Doran
Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIROMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number AAL4233
Cylinder Pressure 1900 psig

Certification Date 7-11-93
Previous Certification Dates None

General Exp. Date 7-11-96
Acid Rain Exp. 7-11-96
Date

ANALYZED CYLINDER

Components
Propane

Certified Concentration
92.29 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: Air

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type
GMS*
Expiration Date 5-15-93

Cylinder Number
AAL-5521

Concentration
100.4 PPM PROPANE IN AIR

INSTRUMENTATION

Instrument/Model/Serial #
Prop: Beckman/400/1002059

Last Date Calibrated
5-24-93

Analytical Principle
Flame Ionization Detector

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: 7-11-93 Response Units: mv
Z1=0.00 R1=100.4 T1=92.30
R2=100.4 Z2=0.00 T2=92.30
Z3=0.00 T3=92.30 R3=100.4
Avg. Conc. of Cust. Cyl. 92.29 ppm

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 1668B
Constants: A=-0.08652353
B=1.000862 C=0
D=0 E=0

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

L. P. Doran
Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIROMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM018482
Cylinder Pressure 1900 psig

Certification Date 7-10-93
Previous Certification Dates None

General Exp. Date 7-10-96
Acid Rain Exp. Date 7-10-96

ANALYZED CYLINDER

Components
Propane

Certified Concentration
936.8 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: AIR

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type GMIS
Expiration Date 6-5-93

Cylinder Number
AAL4736

Concentration
999.8PPM C3/AIR

INSTRUMENTATION

Instrument/Model/Serial #
Prop: Beckman/400/1002059/

Last Date Calibrated
6-22-93

Analytical Principle
Flame Ionization Detector

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components:

Propane

First Triad Analysis

Date: 7-10-93 Response Units: mv
Z1=0.00 R1=100.0 T1=93.70
R2=100.0 Z2=0.00 T2=93.70
Z3=0.00 T3=93.70 R3=100.0
Avg. Conc. of Cust. Cyl. 936.8 ppm

Second Triad Analysis

Calibration Curve

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 1669B
Constants: A=-0.4359671
B=10.00236 C=0
D=0 E=0

Special Notes 999.8PPM C3/AIR ANALYZED ON GC AGAINST SRM 1669B
If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

L. P. Doran
Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIROMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM022478
Cylinder Pressure 1900 psig

Certification Date 7-19-93
Previous Certification Dates None

General Exp. Date 7-19-95
Acid Rain Exp. Date 7-19-95

ANALYZED CYLINDER

Components
Nitric Oxide

Certified Concentration
12.90 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Total Oxides of Nitrogen
Balance Gas: Nitrogen

12.90 ppm

Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type SRM 2629A
Expiration Date 1-4-95

Cylinder Number
FF-28502

Concentration
19.40 ppm NO in N₂

INSTRUMENTATION

Instrument/Model/Serial #
NO: Horiba/OPE-235/560543082

Last Date Calibrated
5-18-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Nitric Oxide

First Triad Analysis

Date: 7-11-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Second Triad Analysis

Date: 7-19-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Calibration Curve

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 2629A
Constants: A=0.01381712
B=0.9992878 C=0
D=0 E=0

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer

ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory

Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48063

Purchase Order: 0630DR
Scott Project #: 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM036507
Cylinder Pressure 1900 psig

Certification Date 7-19-93
Previous Certification Dates None

General Exp. Date 7-19-95
Acid Rain Exp. Date 7-19-95

ANALYZED CYLINDER

Components

Nitric Oxide

Certified Concentration

94.50 ppm

Analytical Uncertainty*

±1% NIST Directly Traceable

Total Oxides of Nitrogen

95.90 ppm

Reference Value Only

Balance Gas: Nitrogen

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type: GRM 1684
Expiration Date: 9-17-94

Cylinder Number
ALM-024698

Concentration
95.6 PPM NO IN N₂

INSTRUMENTATION

Instrument/Model/Serial #
DO: Horiba/OPE-235/483814

Last Date Calibrated
6-10-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Nitric Oxide

First Triad Analysis

Date: 7-11-93 Response Units: mv
Z1=0.00 R1=95.60 T1=94.50
R2=95.60 Z2=0.00 T2=94.50
Z3=0.00 T3=94.50 R3=95.60
Avg. Conc. of Cust. Cyl. 94.50 ppm

Second Triad Analysis

Date: 7-19-93 Response Units: mv
Z1=0.00 R1=95.60 T1=94.50
R2=95.60 Z2=0.00 T2=94.50
Z3=0.00 T3=94.50 R3=95.60
Avg. Conc. of Cust. Cyl. 94.50 ppm

Calibration Curve

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 1684B
Constants: A=-0.000967384
B=1.000115 C=0
D=0 E=0

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.


Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIROMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order: 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM001331
Cylinder Pressure 1900 psig

Certification Date 7-19-93
Previous Certification Dates None

General Exp. Date 7-19-95
Acid Rain Exp. Date 7-19-95

ANALYZED CYLINDER

Components
Nitric Oxide

Certified Concentration
245.8 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Total Oxides of Nitrogen
Balance Gas: Nitrogen

246.0 ppm

Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type CRM
Expiration Date 3-5-97

Cylinder Number
ALM024135

Concentration
244.7 PPM NO/N₂

INSTRUMENTATION

Instrument/Model/Serial #
NO: Beckman/951A/270-082899B

Last Date Calibrated
6-21-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

First Triad Analysis

Second Triad Analysis

Calibration Curve

Nitric Oxide

Date: 7-11-93 Response Units: mv
Z1=0.00 R1=97.80 T1=98.30
R2=97.80 Z2=0.00 T2=98.30
Z3=0.00 T3=98.30 R3=97.80
Avg. Conc. of Cust. Cyl. 246.0 ppm

Date: 7-19-93 Response Units: mv
Z1=0.00 R1=97.80 T1=98.20
R2=97.80 Z2=0.00 T2=98.20
Z3=0.00 T3=98.20 R3=97.80
Avg. Conc. of Cust. Cyl. 245.7 ppm

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 1685
Constants: A=0.008456338
B=2.502916 C=0
D=0 E=0

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

F. P. Doran
Analyst Frank P. Doran



Scott Specialty Gases, Inc.

Shipped 3714 LAPAS DRIVE
From: HOUSTON TX 77023
Phone: 713-644-4820 Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DAN RUSSELL
P O BOX 655

RIDGELAND

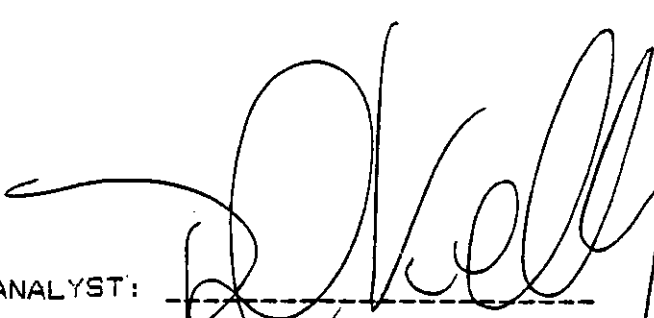
MS 39158

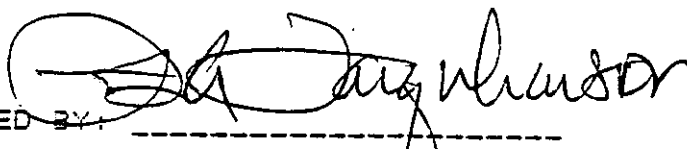
PROJECT #: 04-29381-003
PO#: DRV-0107
ITEM #: 04021453 2AL
DATE: 1/11/94

CYLINDER #: ALM007930
FILL PRESSURE: 2000 PSI
BLEND TYPE : ACUBLEND MASTER GAS

ANALYTICAL ACCURACY: +/- 1%
PRODUCT EXPIRATION: 1/11/95

COMPONENT	REQUESTED GAS	ANALYSIS
	CONC MOLES	(MOLES)
CARBON MONOXIDE	4,500. PPM	4,540. PPM
NITROGEN	BAL	BAL

ANALYST: 

APPROVED BY: 

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DAN RUSSELL
P O BOX 655

PROJECT #: 04-29381-002
PO#: DRV-0107
ITEM #: 04024520 2AL
DATE: 1/11/94

RIDGELAND

MS 39158

CYLINDER #: AAL10051

ANALYTICAL ACCURACY: +/- 1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 1/11/95

BLEND TYPE: ACUBLEND MASTER GAS

COMPONENT

CARBON DIOXIDE
CARBON MONOXIDE
OXYGEN
NITROGEN

REQUESTED GAS

CONC MOLES

12. PCT
950. PPM
3. PCT
BAL

ANALYSIS

(MOLES)

11.93 PCT
955. PPM
3.00 PCT
BAL

ANALYST

APPROVED BY:

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped From: 3714 LAPAS DRIVE
HOUSTON TX 77023
Phone: 713-644-4820 Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DAN RUSSELL
P O BOX 655

PROJECT #: 04-29381-001
PO#: DRV-0107
ITEM #: 04024520 2AL
DATE: 1/11/94

RIDGELAND MS 39158

CYLINDER #: ALM023154
FILL PRESSURE: 2000 PSI
BLEND TYPE : ACUBLEND MASTER GAS

ANALYTICAL ACCURACY: +/- 1%
PRODUCT EXPIRATION: 1/11/95

COMPONENT

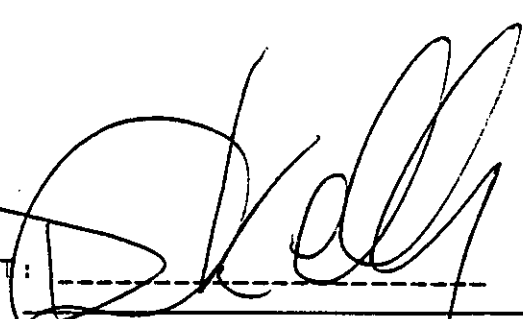
CARBON DIOXIDE
CARBON MONOXIDE
OXYGEN
NITROGEN

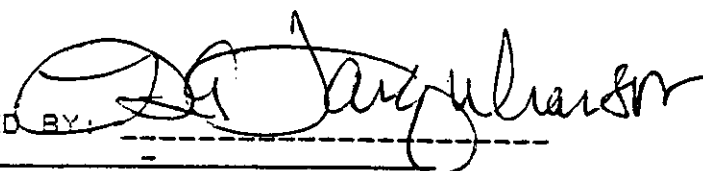
REQUESTED GAS

CONC	MOLES
5.	PCT
450.	PPM
11.	PCT
	BAL

ANALYSIS

(MOLES)
5.04 PCT
450. PPM
11.03 PCT
BAL

ANALYST: 

APPROVED BY: 

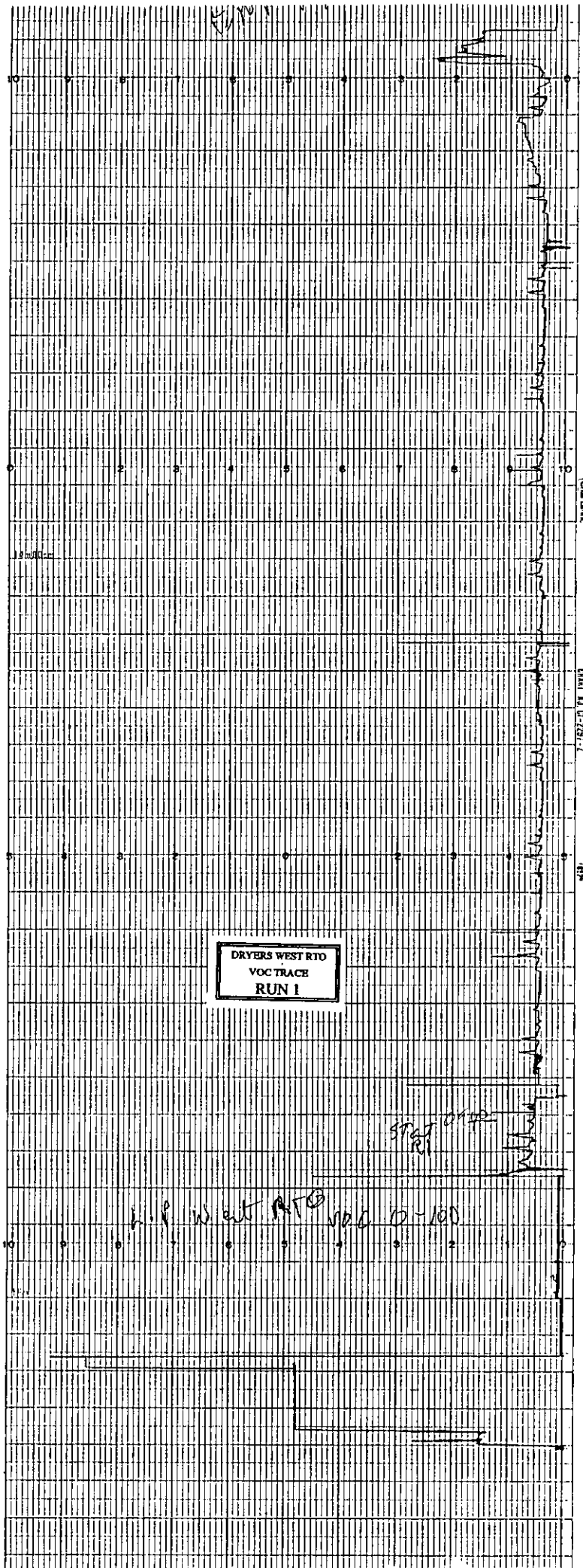
PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA

APPENDIX C.

INSTRUMENT RECORDER TRACES/DATA LOG

DRYERS WEST RTO

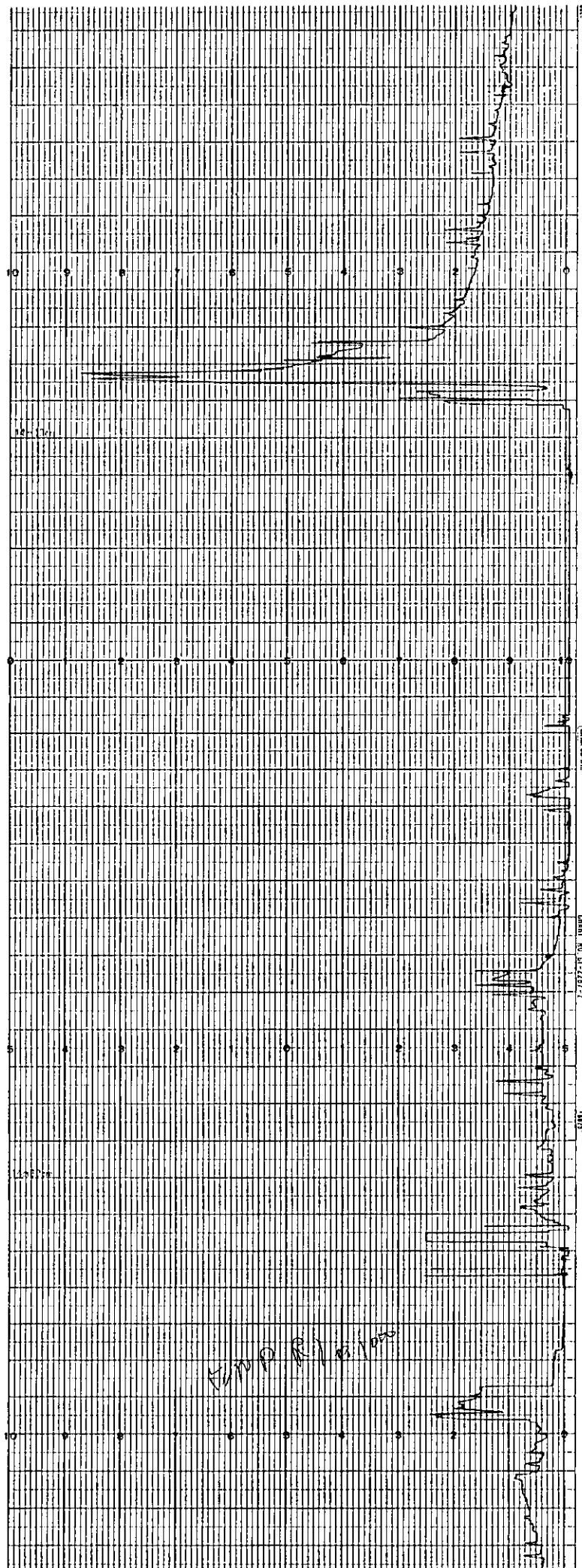
VOC TRACE



Overlaid

CHART 10 D-100-1

RTD

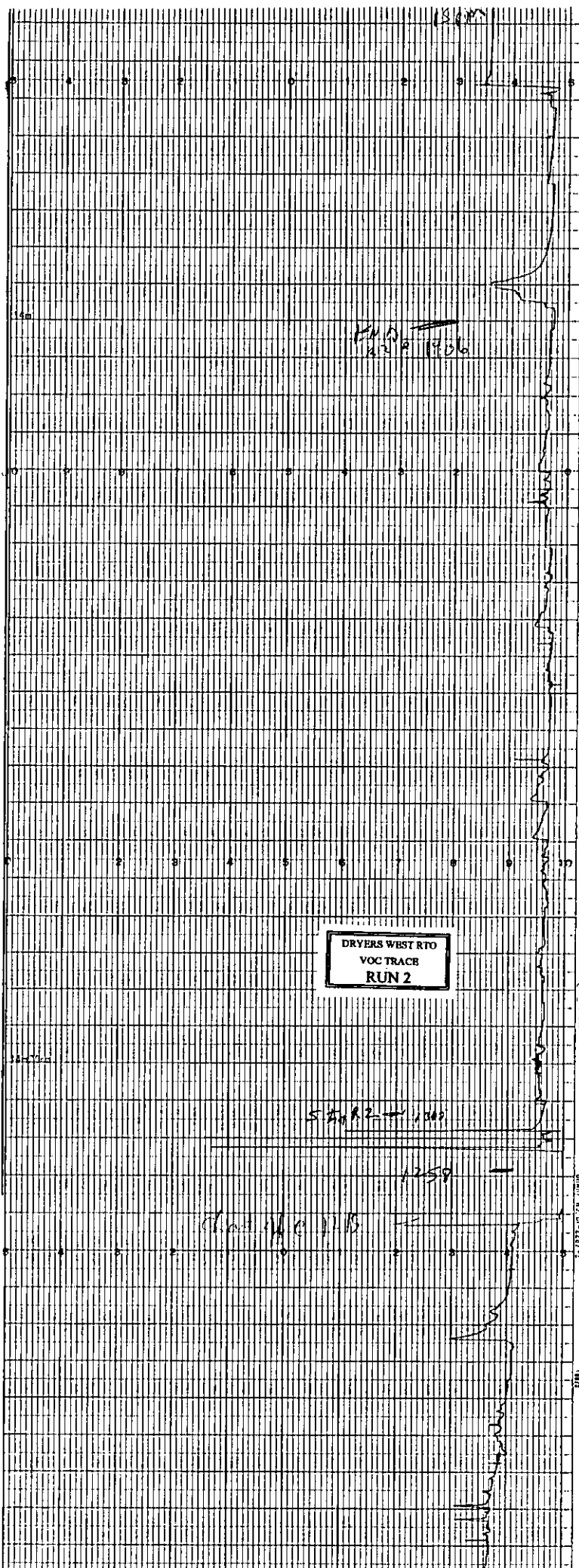


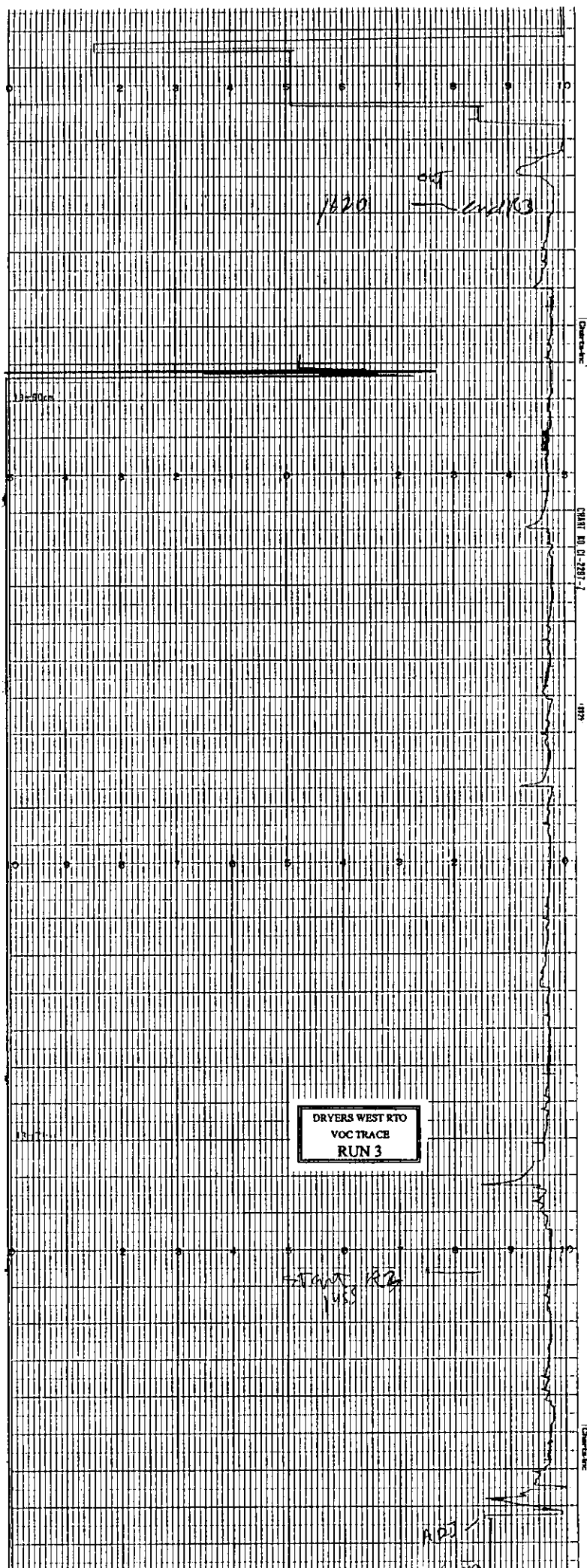
DRYERS WEST RTD
VOC TRACE
RUN 2

START 1200

1250

12:40 P.M.





DRYERS WEST RTO

NO_x/CO TRACE

END RUN 4 0418

0418

DRYERS WEST RTO
NO/CO TRACE
RUN 4

0012
0418

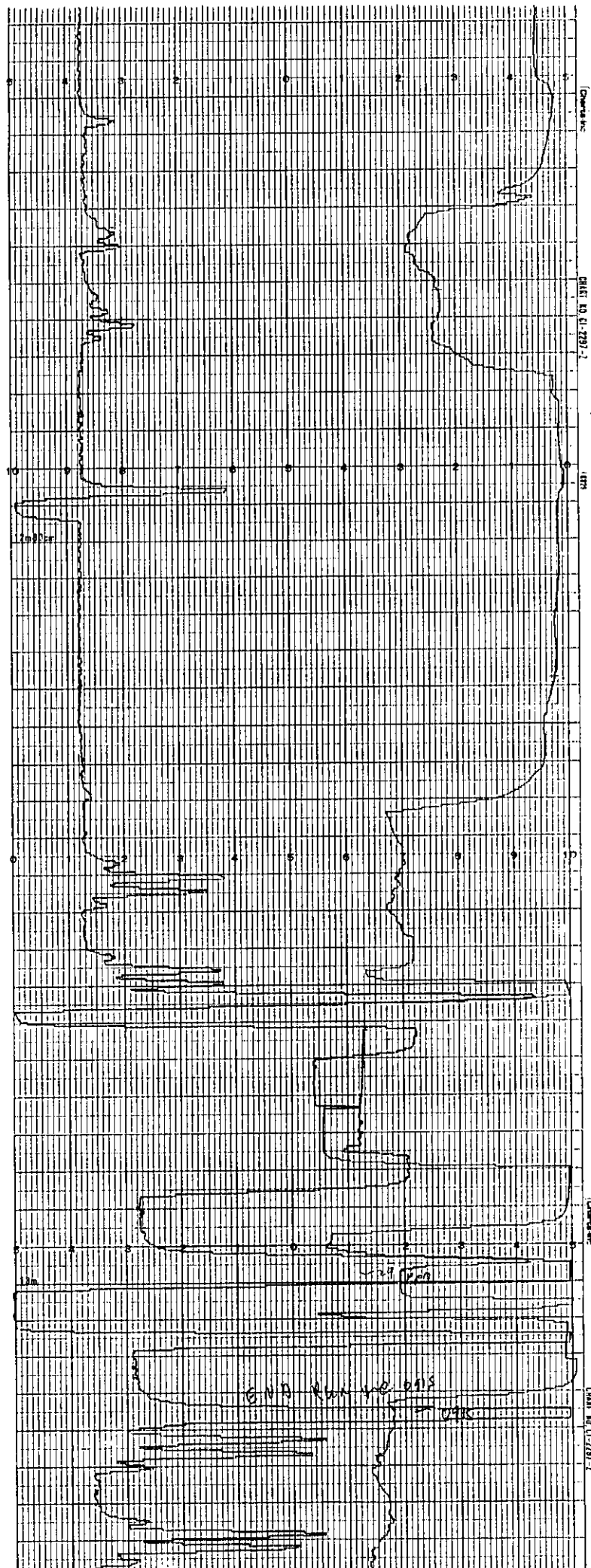
WEST RTO 4-17-71
R2 0-100
R1 0-100

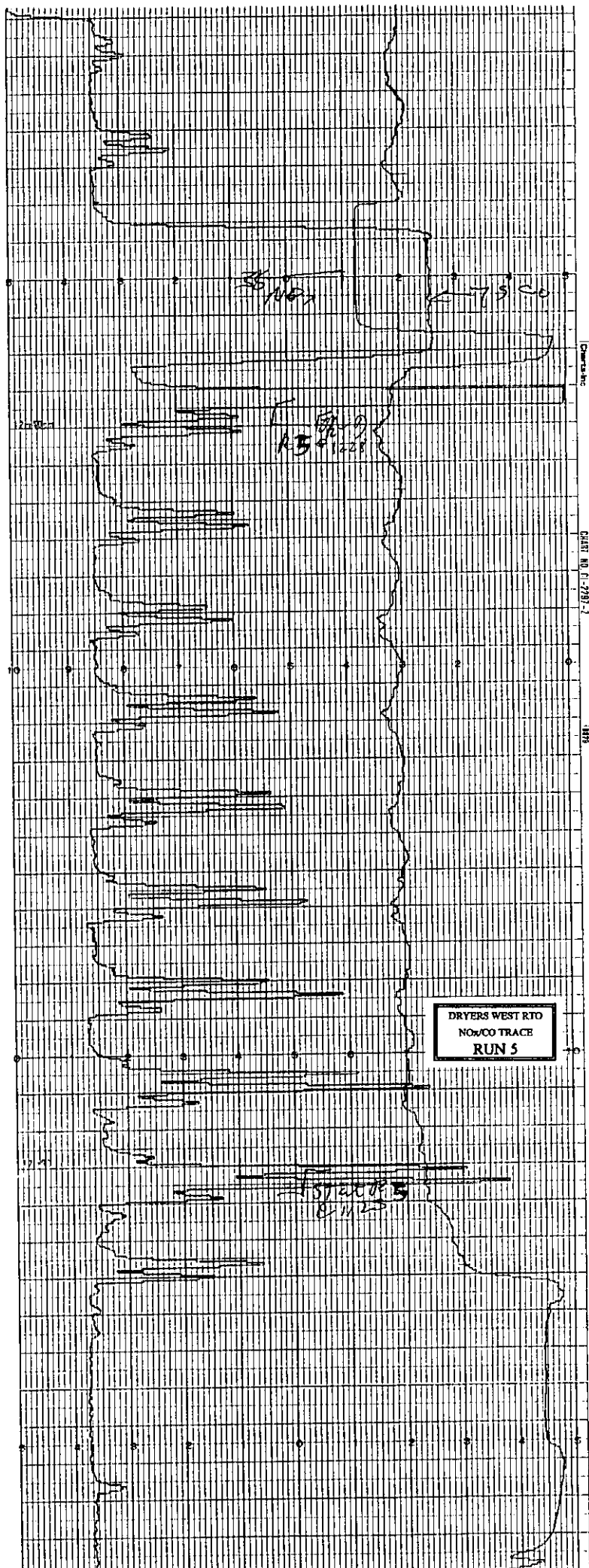
CHART NO. G-253-1

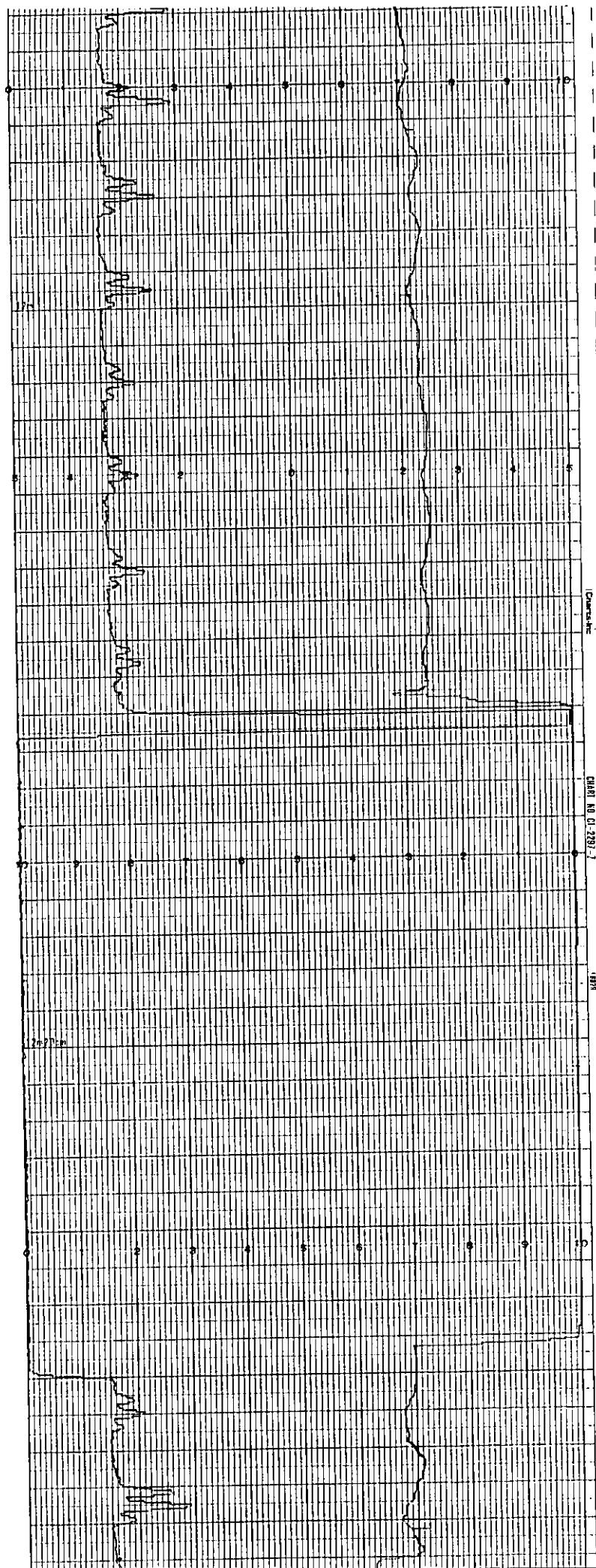
CHART NO. G-253-1

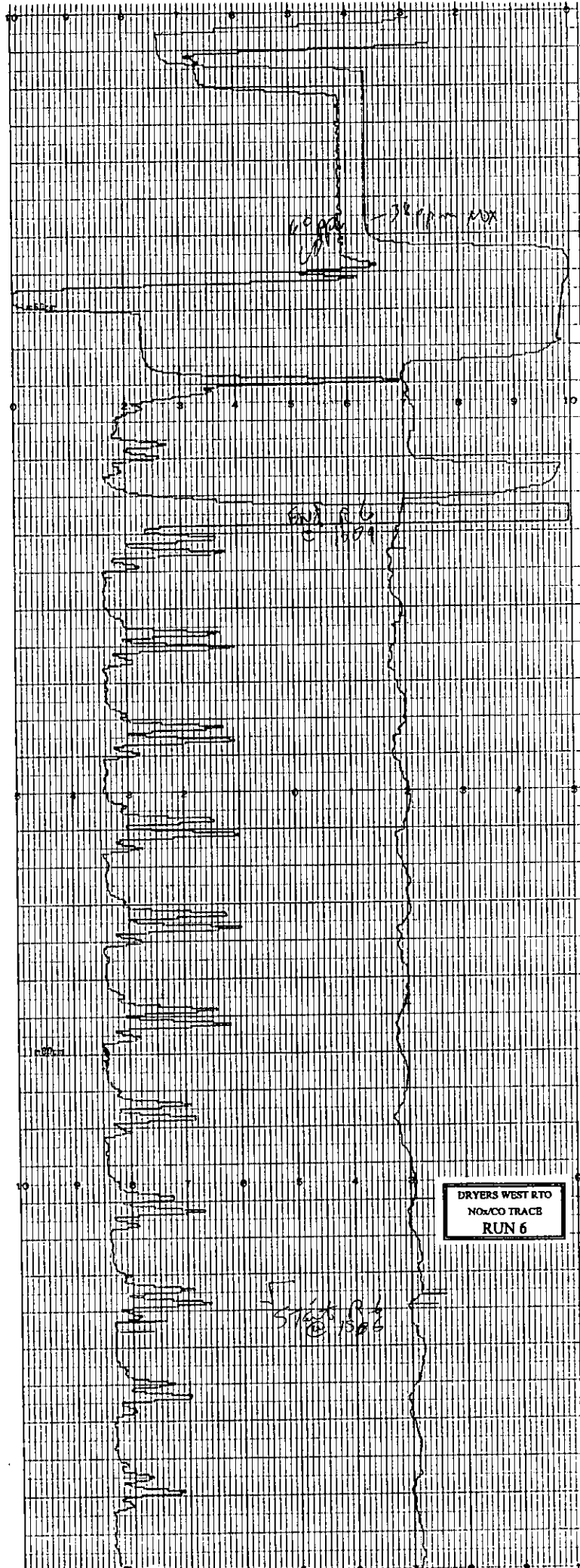
CHART NO. G-253-1

CHART NO. G-253-1





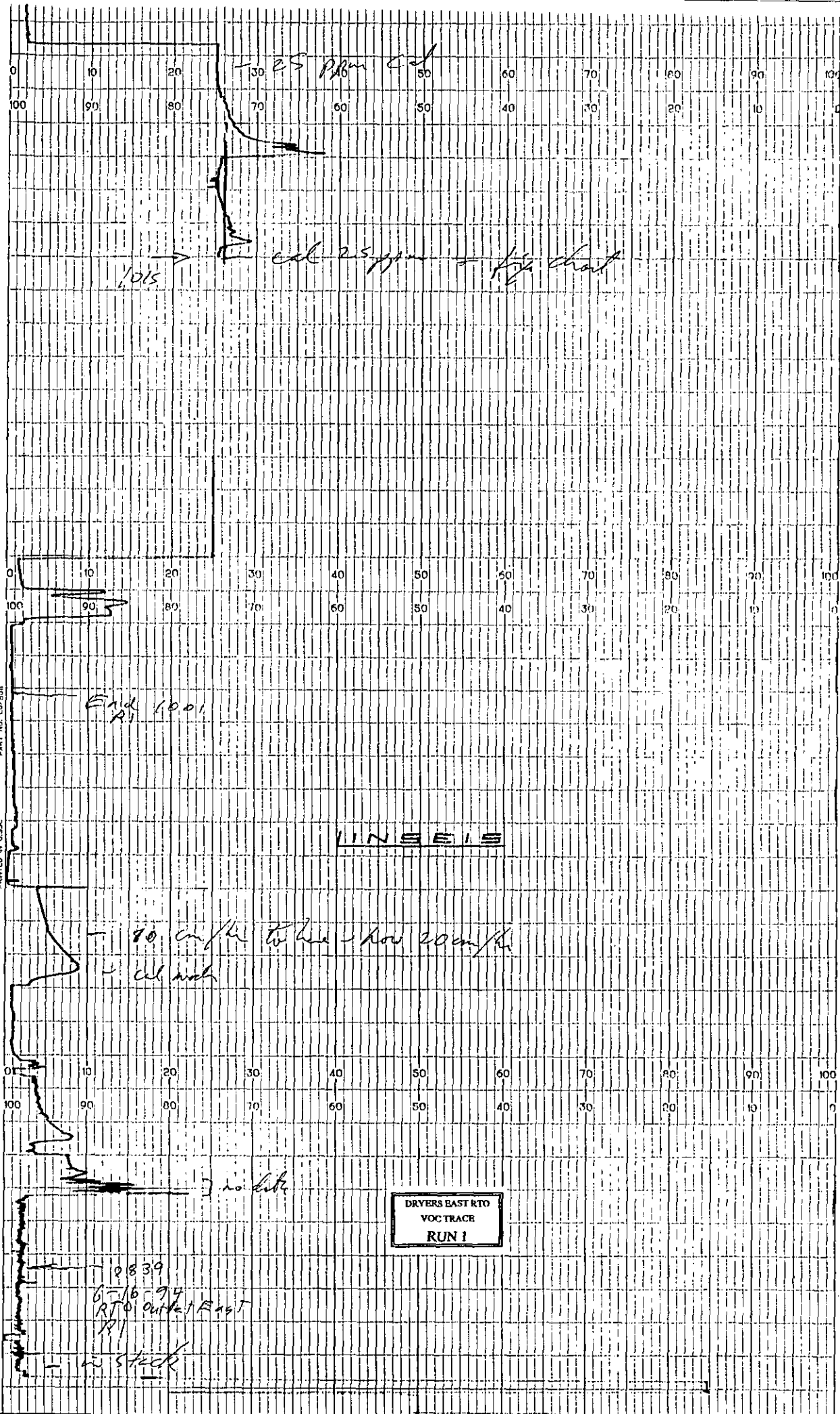




DRYERS WEST RTO
NONCO TRACE
RUN 6

DRYERS EAST RTO

VOC TRACE



25 ppm col

col 25 ppm

End 1001

INSELS

80 cm/hr to here - how 20 cm/hr
col wash

no data

0839
6-16-94
RTO Outlet East
R1

in stack

DRYERS EAST RTO
VOC TRACE
RUN 1

PART NO. 102/208
PRINTED IN U.S.A.

PRINTED IN U.S.A.

PART NO. 10/600

PRINTED IN U.S.A.

LINE IS

LINE IS

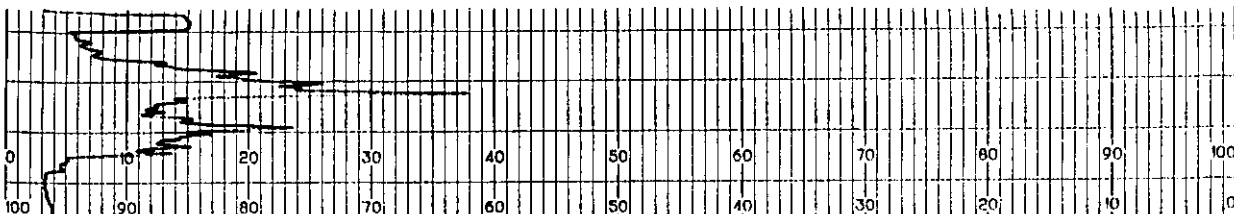
- 25 ppm cd

PART NO. LD/801

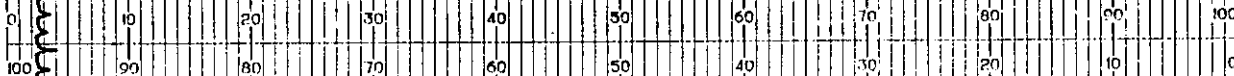
PRINTED IN U.S.A.

PART NO. LD/801

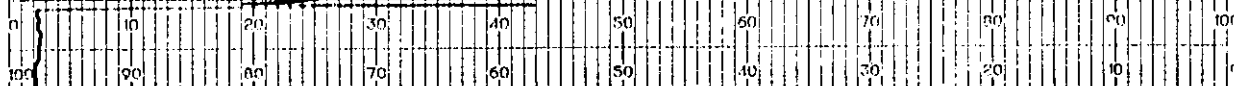
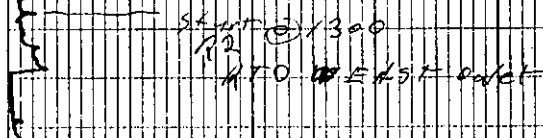
PRINTED IN U.S.A.



UNSEIS



DRYERS EAST RTO
VOC TRACE
RUN 2



UNSEIS

PRINTED IN U.S.A.

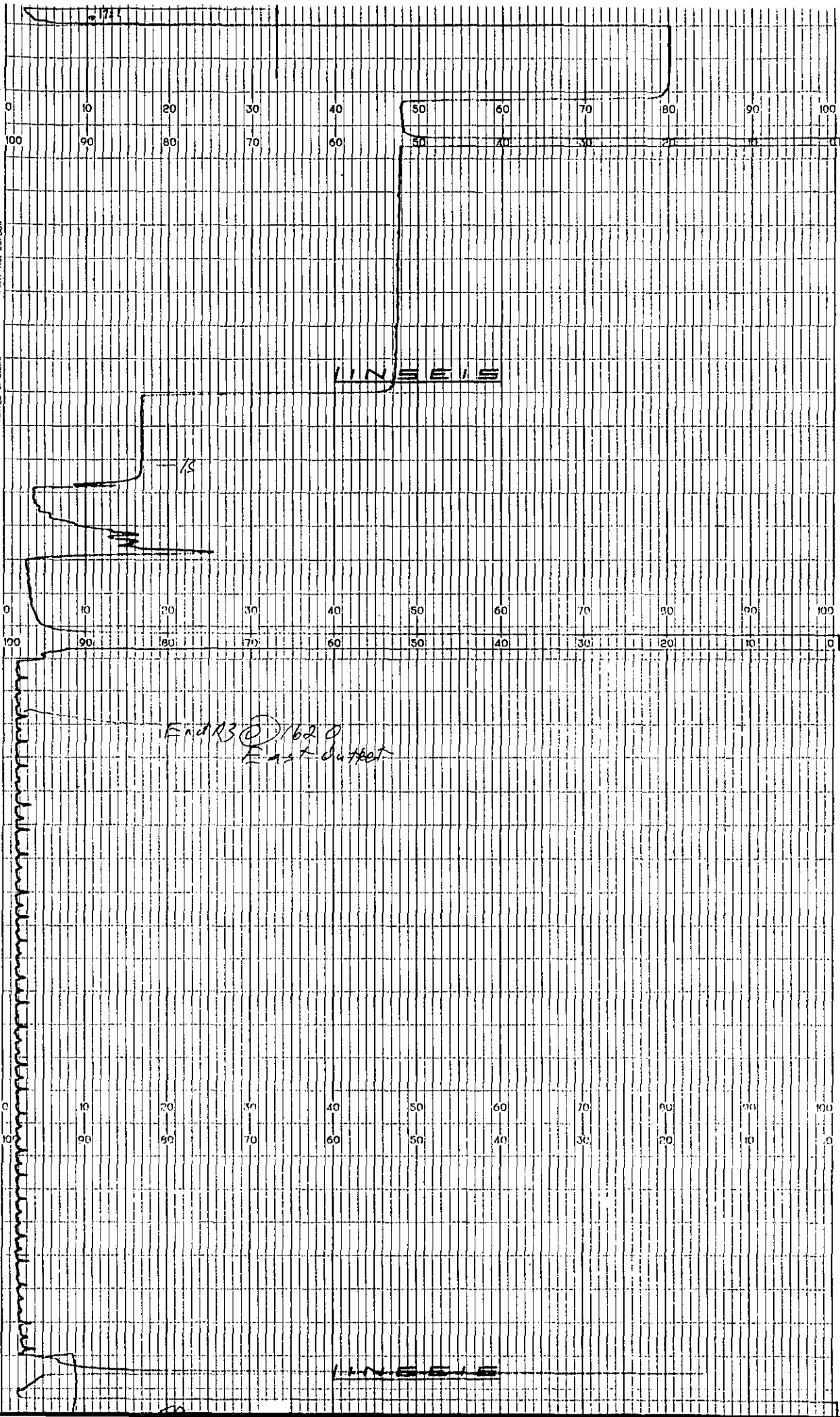
5K JAR @ 145-3
East Carlet

PART NO. LO/608

PRINTED IN U.S.A.

PART NO. LO/608

PRINTED IN U.S.A.



DRYERS EAST RTO

NO_x/CO TRACE

PART NO. 10/001

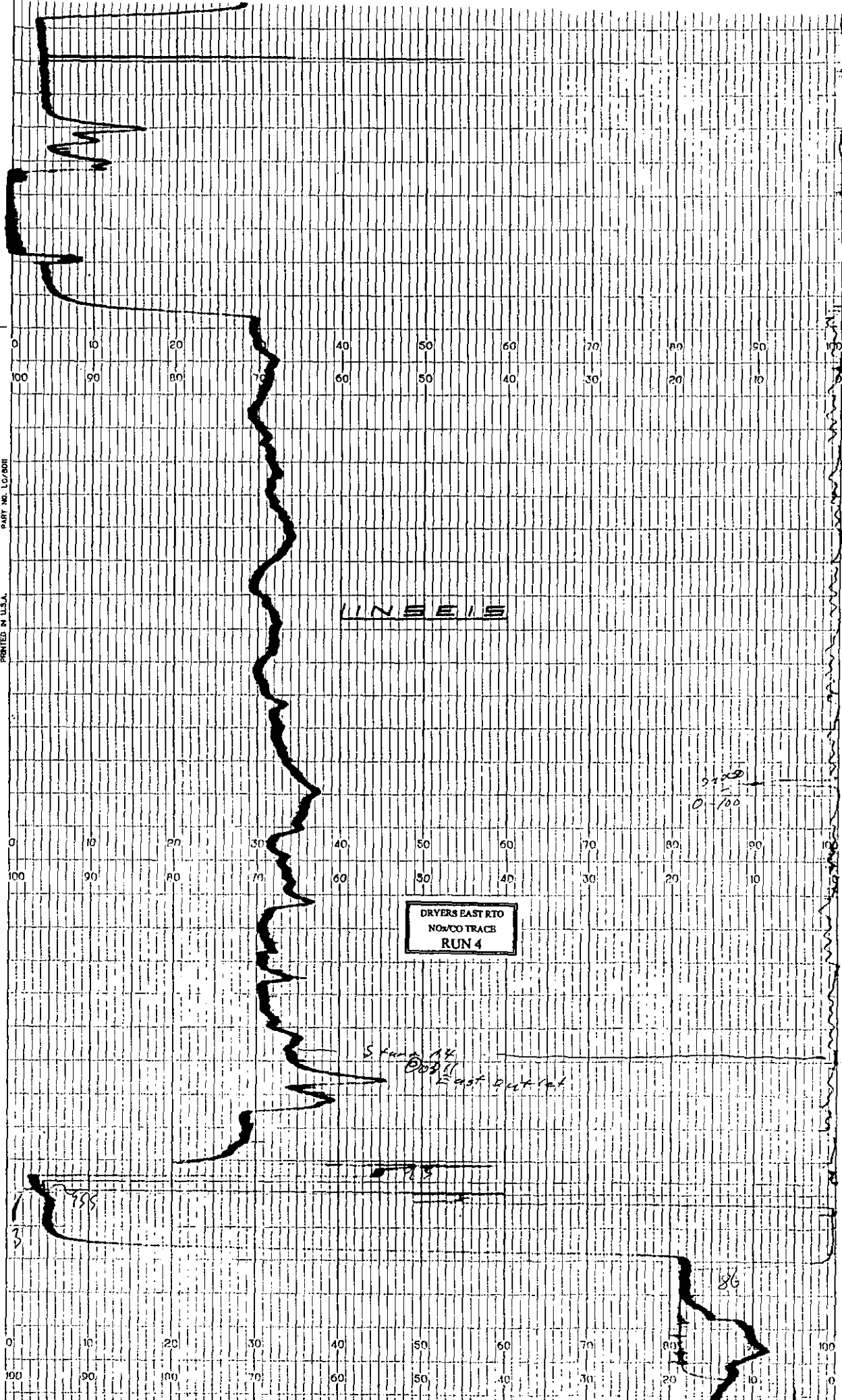
PRINTED IN U.S.A.

INSEIS

DRYERS EAST RTO
NO₂/CO TRACE
RUN 4

Start AK
00211
East Outlet

0-100



NOVACO TRACE
RUN 5

NOVACO TRACE
RUN 5

5/27/15 @ 1129
60 ≈ 0.55 120 40

LINEAS

PART NO. LU/6011

PRINTED IN U.S.A.

PRINTED IN U.S.A. PART NO. 1

LINSEIS

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

= adjust to
399.1

25.11

PRINTED IN U.S.A. PART NO. LU/801

LINSEIS

DRYERS EAST RTO
NOx/CO TRACE
RUN 5

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

3/2/77 15 @ 112.4
E 5.5 1170 20

dryers east rto
no_x/co trace
run 5

DRYERS EAST K10
NOV/CO TRACE
RUN 6

PART NO. L0/80H

PRINTED IN U.S.A.

0 10 20 30 40 50 60 70 80 90 100

0 10 20 30 40 50 60 70 80 90 100

PART NO. L0/80H

PRINTED IN U.S.A.



Run 6
Sketch of 1503773
1300K OUTLINE

LINE IS

LINE IS

PART NO. LD/80R

PRINTED IN U.S.A.

PART NO. LD/80R

PRINTED IN U.S.A.

LINE 115

Run 6
#1608

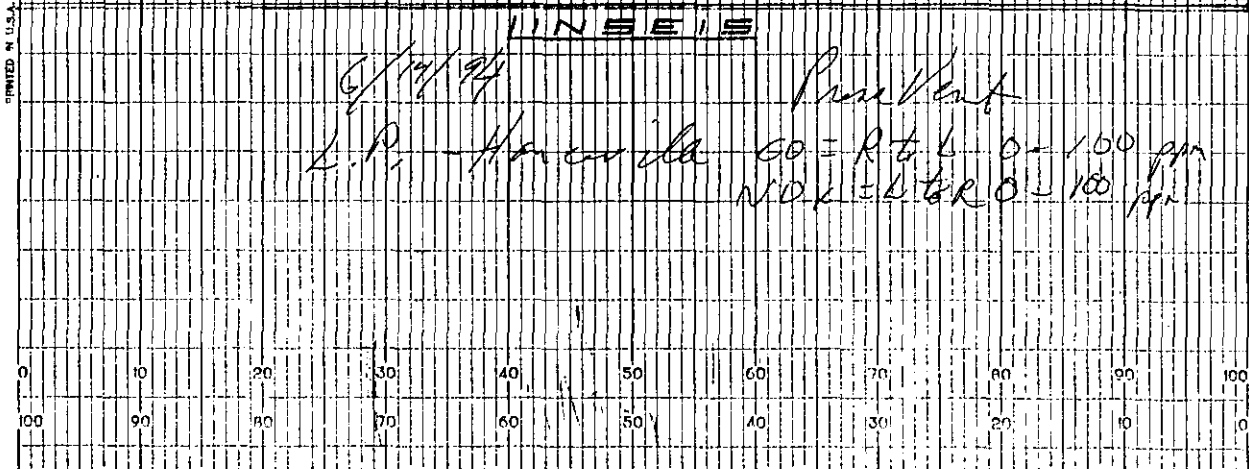
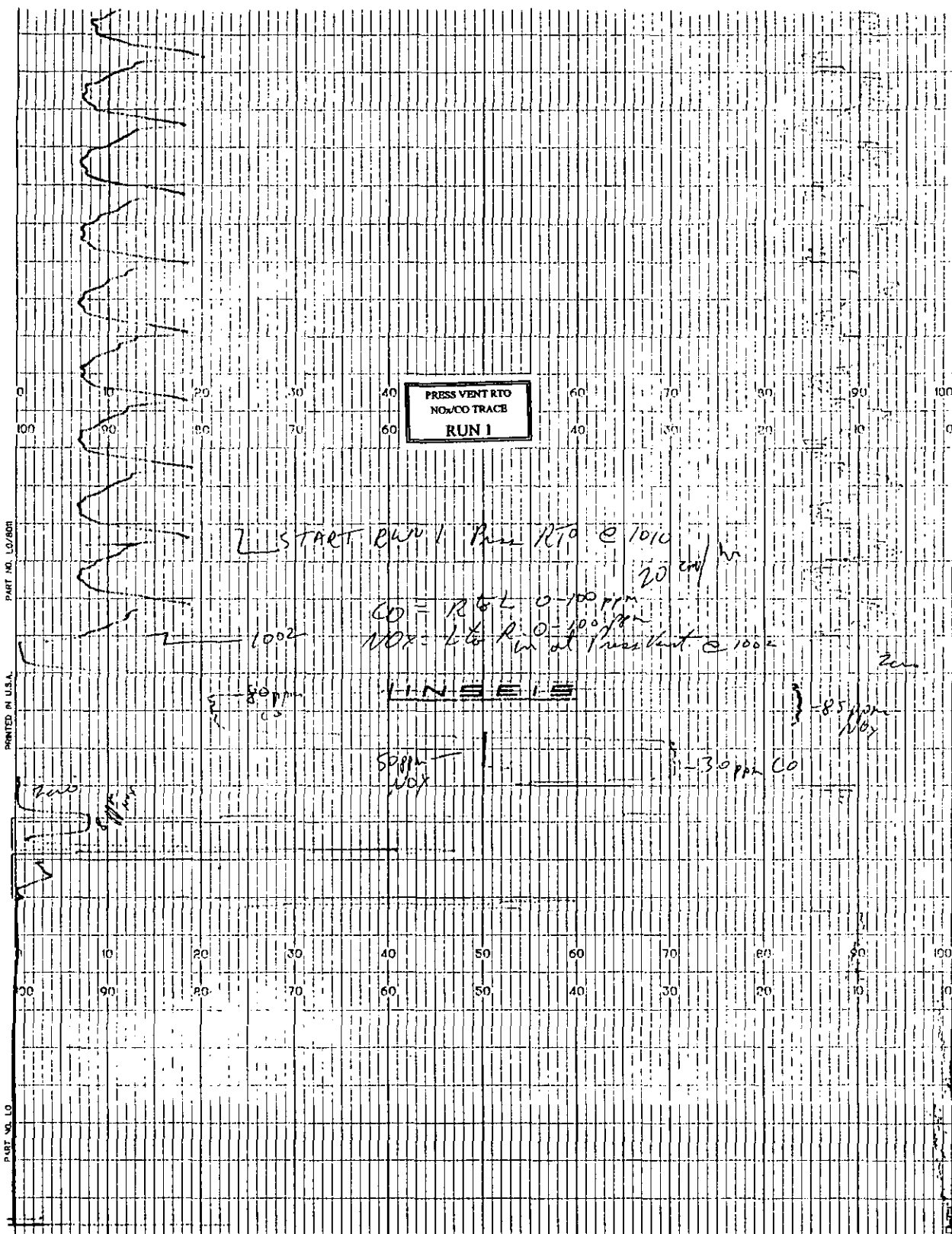
DRYERS EAST RTD
NORCO TRAC
RUN 6

Run 6
5K x 6 1505 R3
1347K 24716K

LINE 115

PRESS VENT RTO

NO_x/CO TRACE



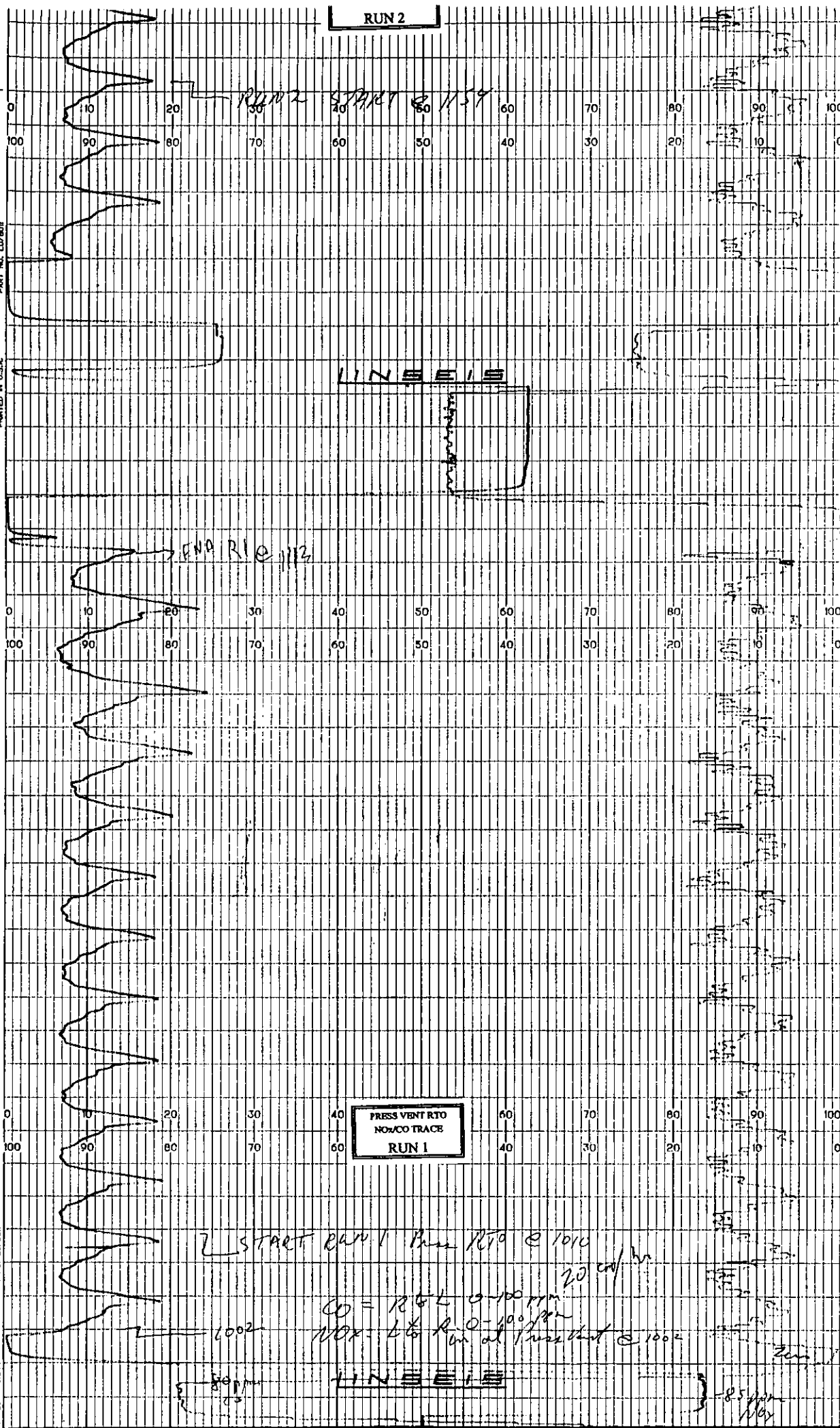
RUN 2

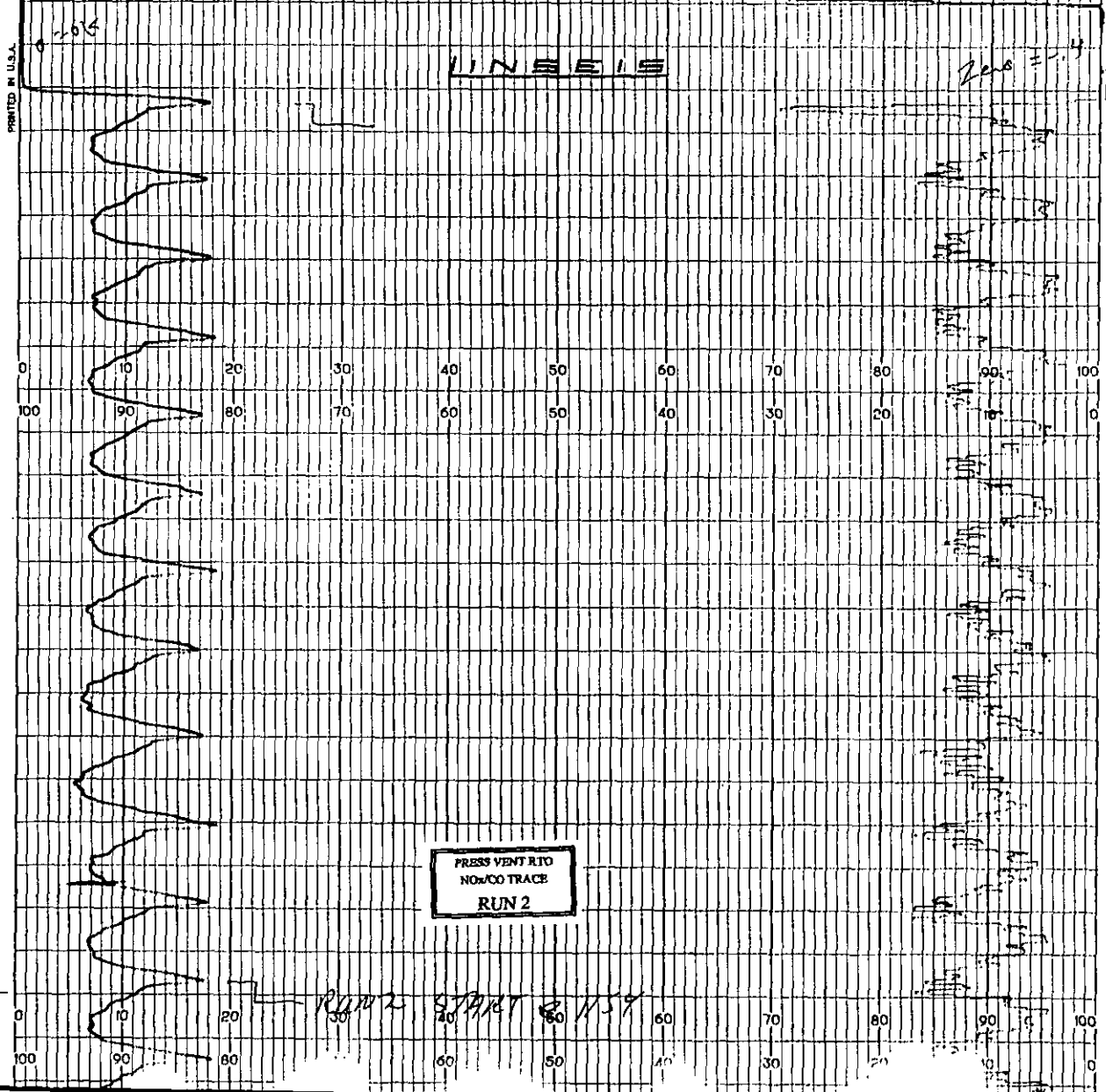
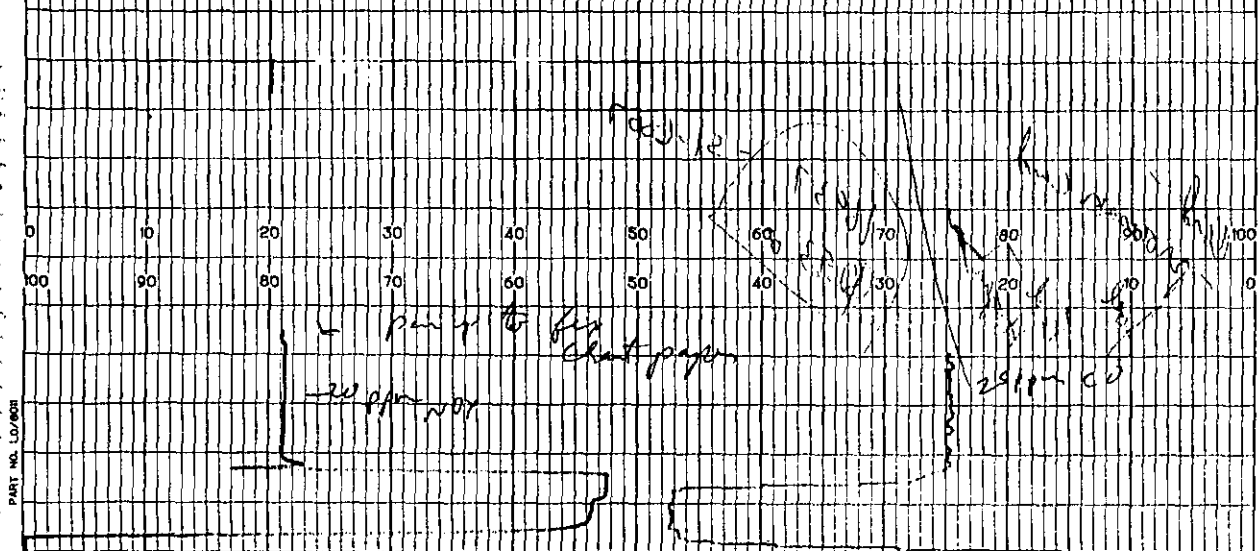
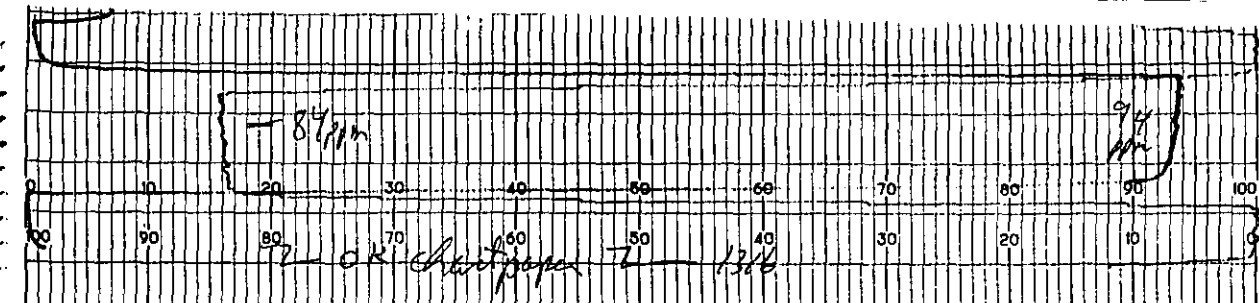
PART NO. LD/808

PRINTED IN U.S.A.

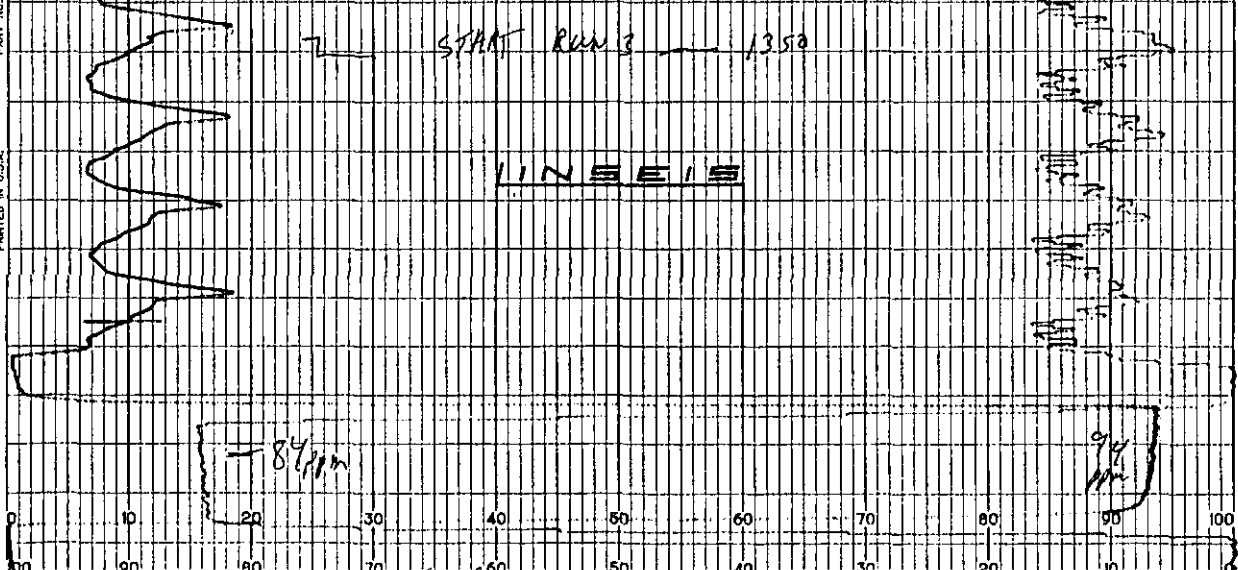
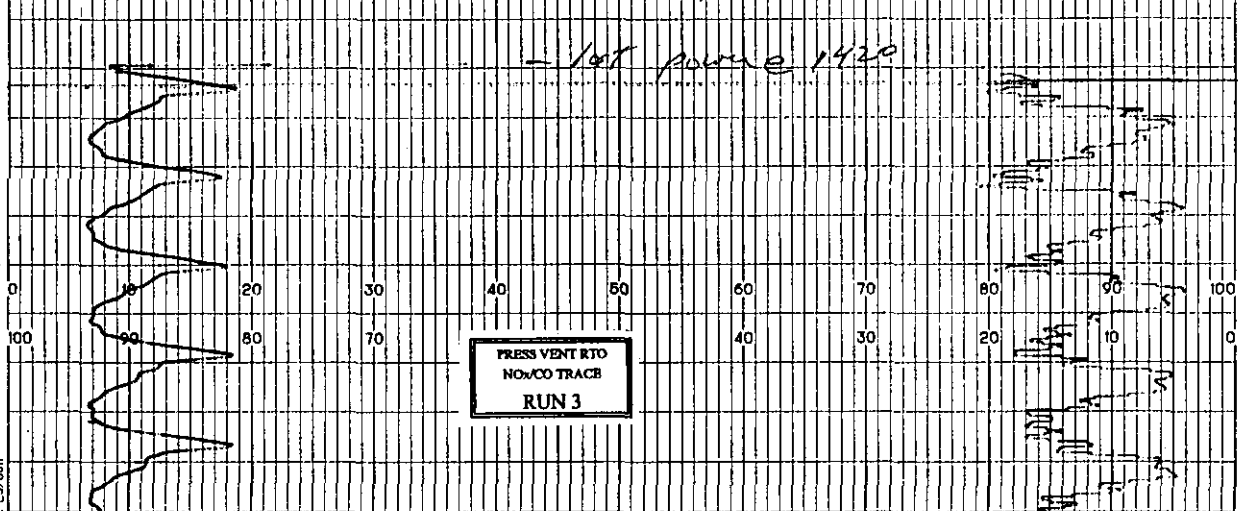
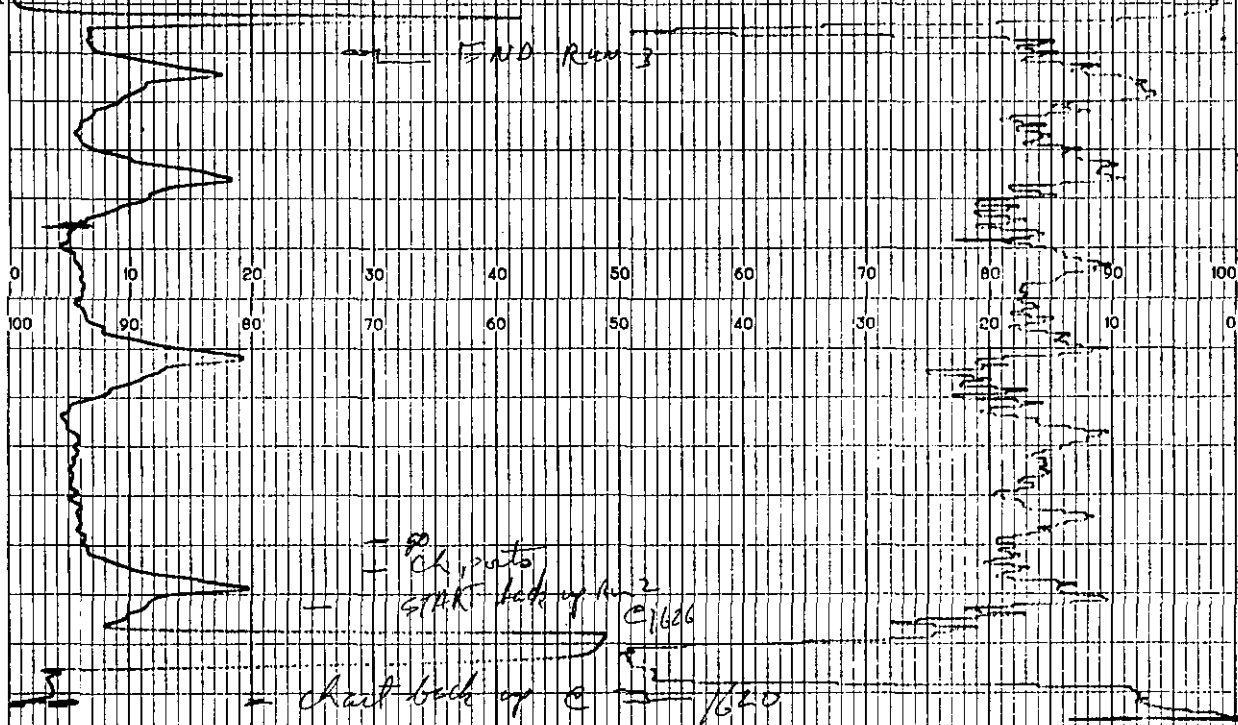
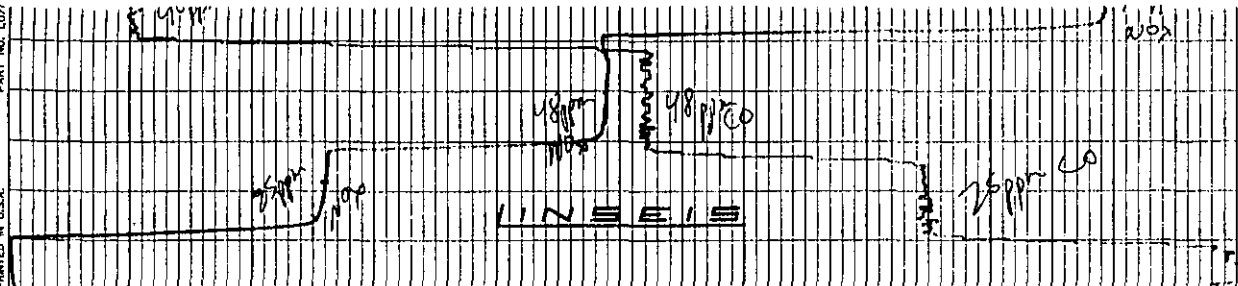
PART NO. LD/808

PRINTED IN U.S.A.

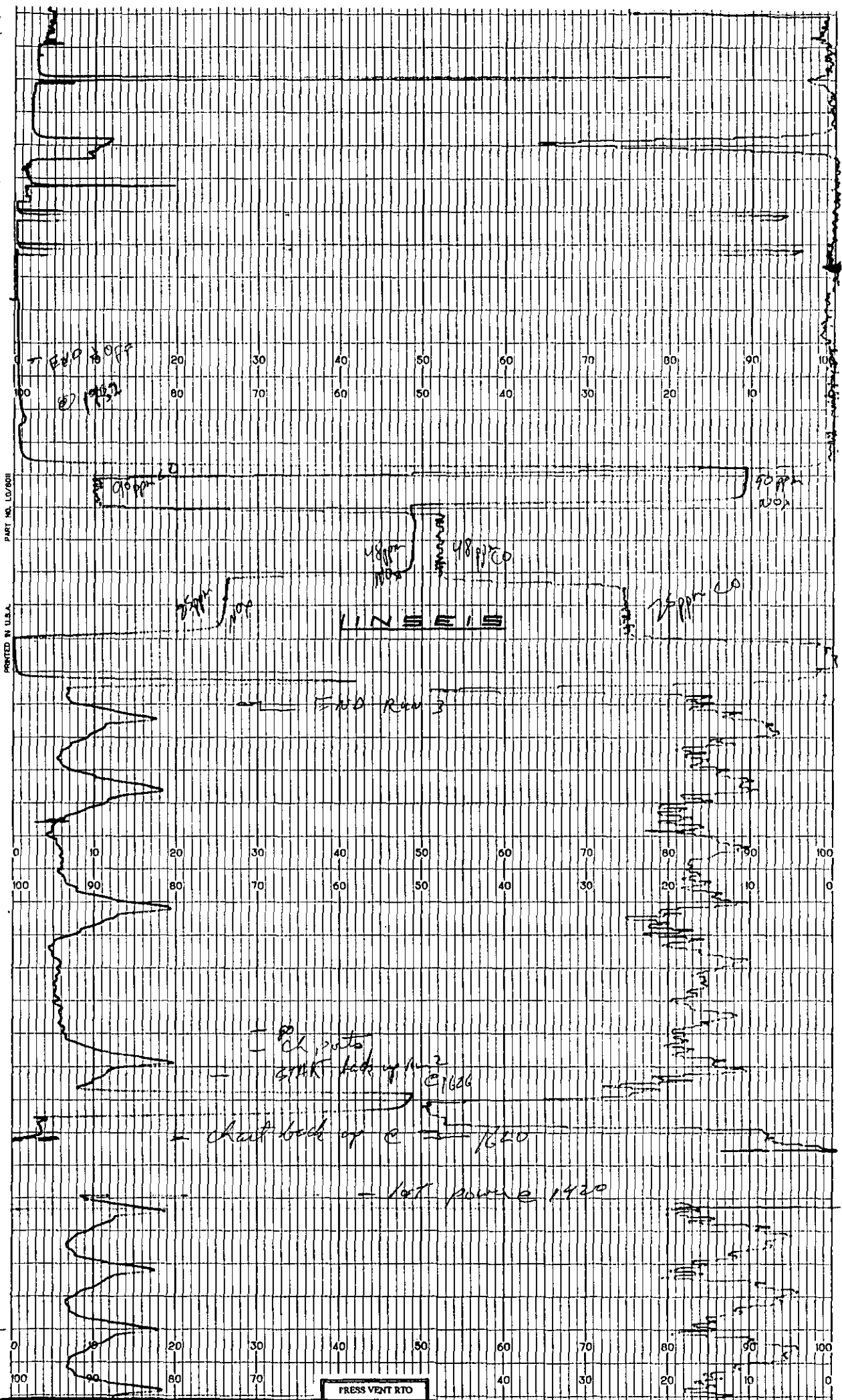




PRESS VENT RTO
NO/CO TRACE
RUN 2



PRINTED IN U.S.A. PART NO. 10/801



PRESS VENT RTO

VOC TRACE

1 - Cal 25 Apr

PRINTED IN U.S.A.

END RUN 5 @ 1500

Run Avg = 0.6 ppm

- large fire

LINE 15

PRESS VENT RTD
VOC TRACE
RUN 2

- start RS @ 1134

10 20 30 40 50 60 70 80 90 100
90 80 70 60 50 40 30 20 10 0

1129 - BACK in stack

- 50 ppm

LINE 15

Run Avg = 0.4 ppm for Run No. 4

6.0 ppm

- 1108

- end Run 4

find sky clear

10 20 30 40 50 60 70 80 90 100
90 80 70 60 50 40 30 20 10 0

END RUN 6 @ 1450

Aug = 0.7

Backlog 1420

LINE 15

- press down during post change

VOC = 0.7 ppm for last 30 min

PRESS VENT RTD
VOC TRACE
RUN 3

START RUN 6 @ 1334

100% 14

- 50 ppm

END RUN 5 @ 1500

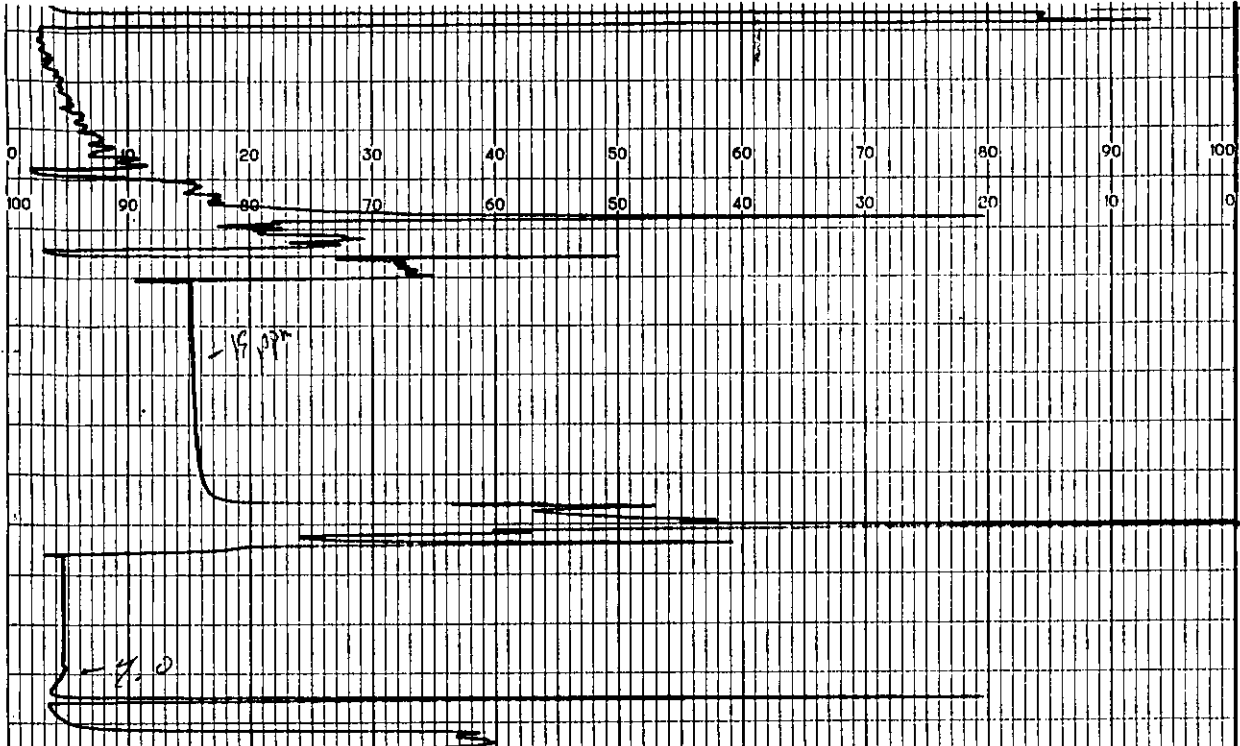
Run Avg = 0.6 ppm

- improve fire

LINE 15

Zero
2.1 ppm

[Handwritten signature]



END RUN 6 @ 1450

AVG = 0.7

Backlog 1420

UNSEIS

- press down during port change

VOC = 0.7 ppm for last 30 min.

PRESS VENT RTD
VOC TRACE
RUN 3

START RUN 6 @ 1334

PART NO. LD/8011

PRINTED IN U.S.A.



APPENDIX D.

HCOH ANALYSIS (OXFORD LABORATORIES)

OL # 9408284

SAMPLE SUBMISSION FORM
Oxford LaboratoryTIME RECEIVED
DATE EXTRACTED

P97172

Submitted By	Date Submitted 6-20-94	Date Requested
Company Name ENVIRONMENTAL THREATS	Attention DAWNEY RUSSELL	
Address	State	Zip Code
Telephone	Received By	
No. of Samples & Identification: Purchase Order# DR 061894		
1. LP-D1-R1	(7) LP-PVN-R1 North	
2. ↓ R2	(8) ↓ R2	↓ Louisiana Pacific
3. ↓ R3	(9) ↓ R3	
4. LP-D2-R1	(10) LP-PVN-R1 South	
5. ↓ 2	(11) ↓ R2	
6. ↓ 3	(12) ↓ R3	↓ Method 0011

Analyses Requested and Special Instructions:

TYPE OF SAMPLE:	TYPE OF FORM(S):	CALL: ☒ FAX: ☐
HW ☐ MW ☐ RW ☐	W2025 ☐ CUSTODY ☐	DATE:
SLUGGZ ☐ FOLL ☐	STATE ☐ P. TREAT ☐	COPY:
OTHER:	OTHER:	OTHER:

Results:

		(1)	(2)	(3)	(4)	(5)	(6)
Formaldehyde	T. UG	37,800	23,400	23,800	22,300	18,200	14,500

		(8)	(9)	(10)	(11)	(12)	(13)
HCHO	T. UG	6800	8120	8440	9800	8050	6400

OL # 94W8084

TIME RECEIVED
DATE EXTRACTED

Submitted By	Date Submitted	Date Requested
Company Name	Attention	
Address	State	Zip Code
Telephone	Received By	
No. of Samples & Identification: Purchase Order#		
(3) LP-PVENT-R1	(A) LP-East-R70-R1	
(4) ✓ R2	(20)	2
(5) ✓ R3	(21)	3
(6) LP-WEST-R70-R1	(22) blank	
(7) ✓ 2		
(8) ✓ 3		

Analyses Requested and Special Instructions:

TYPE OF SAMPLE:

TYPE OF FORM(S) :

CALL: FAX:

PW MW BW
 SLUDGE SOIL
 GROUND

42025 - 645-003
 42122 - 7, 74122
 07422:

১৯৭২ :
 ১৯৭৩ :
 ১৯৭৪ :

RESULTS:

HC Ho

T. U. 9

(13)
96.3

85.4

75
84.6

126
700

450

530

 HCHO

T. U. 9

770

20
520

21
590

(2)	34.2
-----	------

CHAIN OF CUSTODY AND REQUEST FOR ANALYSIS

PAGE 1 OF 3

ENVIRONMENTAL MONITORING LABORATORIES
POST OFFICE BOX 655
RIDGELAND, MISSISSIPPI 39158

PHONE: 601/856-3092
FAX: 601/853-2151

Attention:

Laboratory:

Oxford Laboratories

Attention:

Please return copy of chain of custody with analytical report

EML PO No. *DR061874*

Project:

Louisiana Pacific - Herculite, Alabama

Formaldehyde analysis testing by

Method 0011- DPH Sampling

Nearest playground by Oxford Laboratories

Rush ☐

Routine ☒

Fax Results ☒

ANALYSES REQUESTED

Formaldehyde as per BIF 0011

No. of containers	SAMPLE ID	Sample Matrix	REMARKS
2	LP-D1-R1	DPH/Middle	Contains the two
1	LP-D1-R2	Wetland	
2	LP-D1-R3		Contains the two
2	LP-D2-R1		Contains the two
2	LP-D2-R2		Contains the two
2	LP-D2-R3		Contains the two
1	LP-PVN-R1	Moist	
1	LP-PVN-R2	Moist	
1	LP-PVN-R3	Moist	

UNITS
<i>all samples</i>

Relinquished by: (print name; initial)

Date/Time

Received by: (print name; initial)

Relinquished by: (print name; initial)

Date/Time

Received by: (print name; initial)

Relinquished by: (print name; initial)

Date/Time

Received by: (print name; initial)

Relinquished by: (print name; initial)

Date/Time

Received by: (print name; initial)

COURIER

Date Shipped

Received for lab by:

Date/Time

See base

3

See base

3

See base

3

CHAIN OF CUSTODY AND REQUEST FOR ANALYSIS

ENVIRONMENTAL MONITORING LABORATORIES
POST OFFICE BOX 655
RIDGELAND, MISSISSIPPI 39158

PHONE: 601/856-3092
FAX: 601/853-2151
Attention:

Laboratory:

Please return copy of chain of custody with analytical report

Attention:

EML PO No.

Project: L.P. - Haverhill, Alabama

Rush ☐ Routine ☐ Fax Results ☐

ANALYSES REQUESTED

No. of containers	SAMPLE ID	Sample Matrix	REMARKS	UNITS
1	LP-PVN-South R1			
1	LP-PVN-South R2			
1	LP-PVN-South R3			
1	LP-PVENT-R1			
1	LP-PVENT-R2			
1	LP-PVENT-R3			
1	LP-WESTARTO R1			
1	LP-WESTARTO R2			
1	LP-WESTARTO R3			

Bottle labels

Run 4

LP

Relinquished by: (print name; initial)	Date/Time	Received by: (print name; initial)	Relinquished by: (print name; initial)	Date/Time	Received by: (print name; initial)
Relinquished by: (print name; initial)	Date/Time	Received by: (print name; initial)	Relinquished by: (print name; initial)	Date/Time	Received by: (print name; initial)
COURIER		Date Shipped	Received for lab by:		Date/Time

PAGE 3 OF 3

Federal Express
 6-18-94
 Alan Costello
 6/20/94 9:38

Oxford Laboratories, Inc.

Analytical and Consulting Chemists

1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 06-20-94
DATE REPORTED 07-20-94
94W8284

PAGE 1 OF 4

ENVIRONMENTAL MONITORING LABS INC.
P. O. BOX 655
RIDGELAND, MS 39158

P.O. # DR061894

ATTENTION: DANNY RUSSELL

SAMPLE DESCRIPTION: METHOD 0011

1. LP-D1-R1
2. LP-D1-R2
3. LP-D1-R3
4. LP-D2-R1
5. LP-D2-R2
6. LP-D2-R3

RESULTS

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Formaldehyde, as HCHO, Total ug	37800	23400	23800	22300	18200	14500

Oxford Laboratories, Inc.

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PAGE 2 OF 4

ENVIRONMENTAL MONITORING LABS INC.

P.O. # DR061894

P. O. BOX 655

RIDGELAND, MS 39158

ATTENTION: DANNY RUSSELL

SAMPLE DESCRIPTION: METHOD 0011

- 7. LP-PVN-R1 NORTH
- 8. LP-PVN-R2 NORTH
- 9. LP-PVN-R3 NORTH
- 10. LP-PVN-R1 SOUTH
- 11. LP-PVN-R2 SOUTH
- 12. LP-PVN-R3 SOUTH

RESULTS

	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
Formaldehyde, as HCHO, Total ug	6800	8120	8440	9800	8050	6400

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ENVIRONMENTAL MONITORING LABS INC.

P.O. # DR061894

P. O. BOX 655

RIDGELAND, MS 39158

ATTENTION: DANNY RUSSELL

SAMPLE DESCRIPTION: METHOD 0011

- 13. LP-PVENT-R1
- 14. LP-PVENT-R2
- 15. LP-PVENT-R3
- 16. LP-WEST-RTO-R1
- 17. LP-WEST-RTO-R2
- 18. LP-WEST-RTO-R3

RESULTS

	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>
Formaldehyde, as HCHO, Total ug	96.3	85.4	81.6	700	450	530

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PAGE 4 OF 4

ENVIRONMENTAL MONITORING LABS INC.
P. O. BOX 655
RIDGELAND, MS 39158

P.O. # DR061894

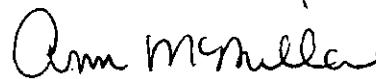
ATTENTION: DANNY RUSSELL

SAMPLE DESCRIPTION: METHOD 0011

- 19. LP-EAST-RTO-R1
- 20. LP-EAST-RTO-R2
- 21. LP-EAST-RTO-R3
- 22. BLANK

RESULTS

	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>
Formaldehyde, as HCHO, Total ug	770	520	590	34.2


ANN MCMILLAN, ANALYST

APPENDIX E.

ARMSTRONG ENVIRONMENTAL REPORT

Compliance Emission Sampling
Louisiana Pacific
Hanceville, LA
June 14-17, 1994
Armstrong Environmental, Inc.
Project W-1560-94

Report Prepared For:
Mr. Dan Russell
PO Box 655
Ridgeland, MS 39158

Report Prepared June 21, 1994 By:
Armstrong Environmental, Inc.
7715 Sovereign Row
Dallas, Texas 75247
(214) 631-0021

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III. Procedures

IV. Appendices

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B. Strip Chart Summaries

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D. Field Data Sheets

E. Gas Certifications

F. Equipment Calibrations

I. INTRODUCTION

A series of tests were performed on the two Press RTO Inlets (North and South) and Dryers #1, #2, #4 and #5 at the Louisiana Pacific facility located in Hanceville, AL on June 14-17, 1994.

The purpose of this test series was to determine the emission rates of NO_x as NO₂, CO, VOC as C₃H₈, Formaldehyde and Particulate in terms of lbs/hr.

Testing followed procedures detailed in Title 40: Code of Federal Regulations (40:CFR).

Sampling was performed by Larry Whicher, Scott Craig, Jeff Lovett, Cody Jefferson, Meyyappan Meyyappan and Jerry Salinas of Armstrong Environmental, Inc. using two Apex Method 5 Sampling Trains, two TECO NO_x analyzers, two Horiba Continuous CO analyzers and two Beckman 400A Hydrocarbon analyzers.

Testing was performed over a four day period, commencing on June 14 and ending on June 17, 1994.

Testing was witnessed by Mr. Scott Roberts of the ADEM.

Submitted by:
Armstrong Environmental, Inc.

Jill Smith
Environmental Coordinator

Larry Whicher
Project Manager

II. SUMMARY

A series of tests were conducted on the North and South RTO Inlets and Dryers #1, #2, #4 and #5 at the Louisiana Pacific facility located in Hanceville, AL on June 14-17, 1994.

Sampling was performed following procedures detailed in Title 40: Code of Federal Regulations.

Results of this test series are summarized in Table 1-6.

Results indicate the following emission rates:

Run #	1	2	3	Average
Press RTO Inlet North				
Particulate, lbs/hr	4.433	3.845	4.148	4.142
CO, lbs/hr	ND	ND	ND	ND
NOx as NO2, lbs/hr	ND	ND	ND	ND
VOC as C3H8, lbs/hr	64.86	97.07	97.00	86.31
Formaldehyde, lbs/hr	0.769	0.927	0.959	0.885
Press RTO Inlet South				
Particulate, lbs/hr	2.631	5.239	4.480	4.117
CO, lbs/hr	ND	ND	ND	ND
NOx as NO2, lbs/hr	ND	ND	ND	ND
VOC as C3H8, lbs/hr	49.42	70.33	63.37	61.04
Formaldehyde, lbs/hr	1.110	0.913	0.728	0.917
Dryer #1				
Formaldehyde, lbs/hr	2.086	1.454	1.512	1.684
VOC as C3H8, lbs/hr	79.19	62.72	58.56	66.82

Dryer #2

Formaldehyde, lbs/hr	1.192	1.128	0.927	1.082
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VOC as C3H8, lbs/hr	67.96	70.31	76.66	71.64
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Dryer #4

Particulate, lbs/hr	37.59	30.43	23.43	30.48
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CO, lbs/hr	5.277	5.973	5.136	5.462
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NOx as NO2, lbs/hr	5.025	3.473	5.075	4.524
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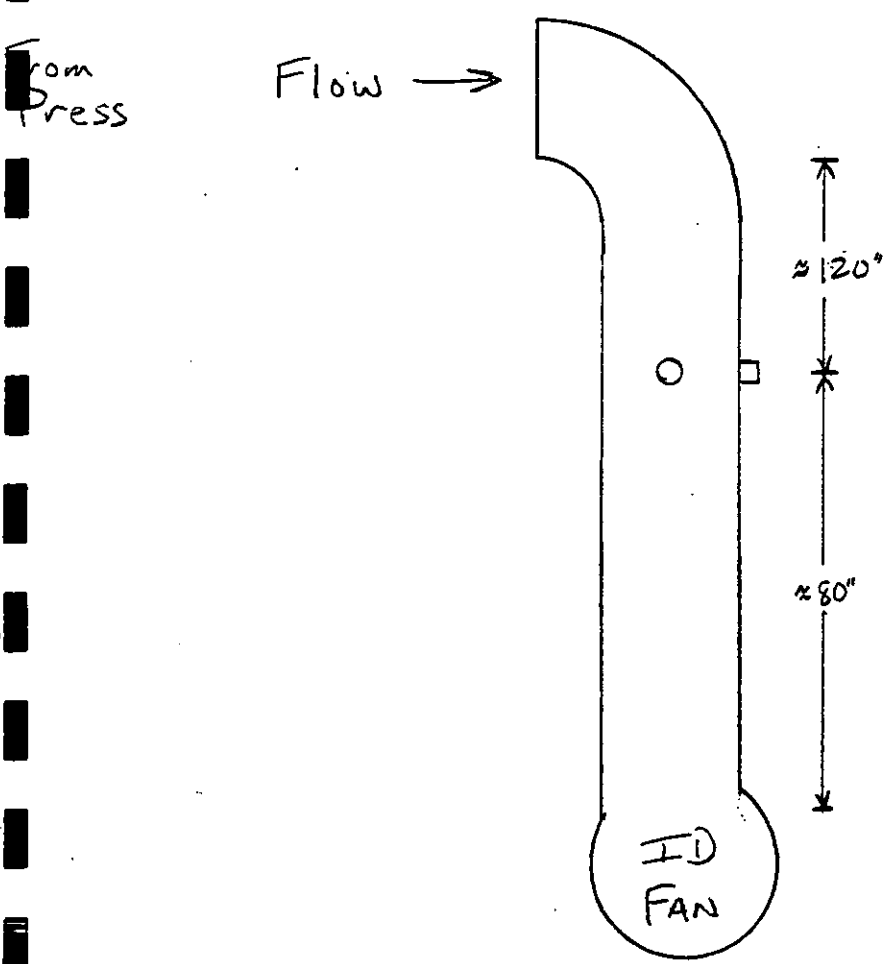
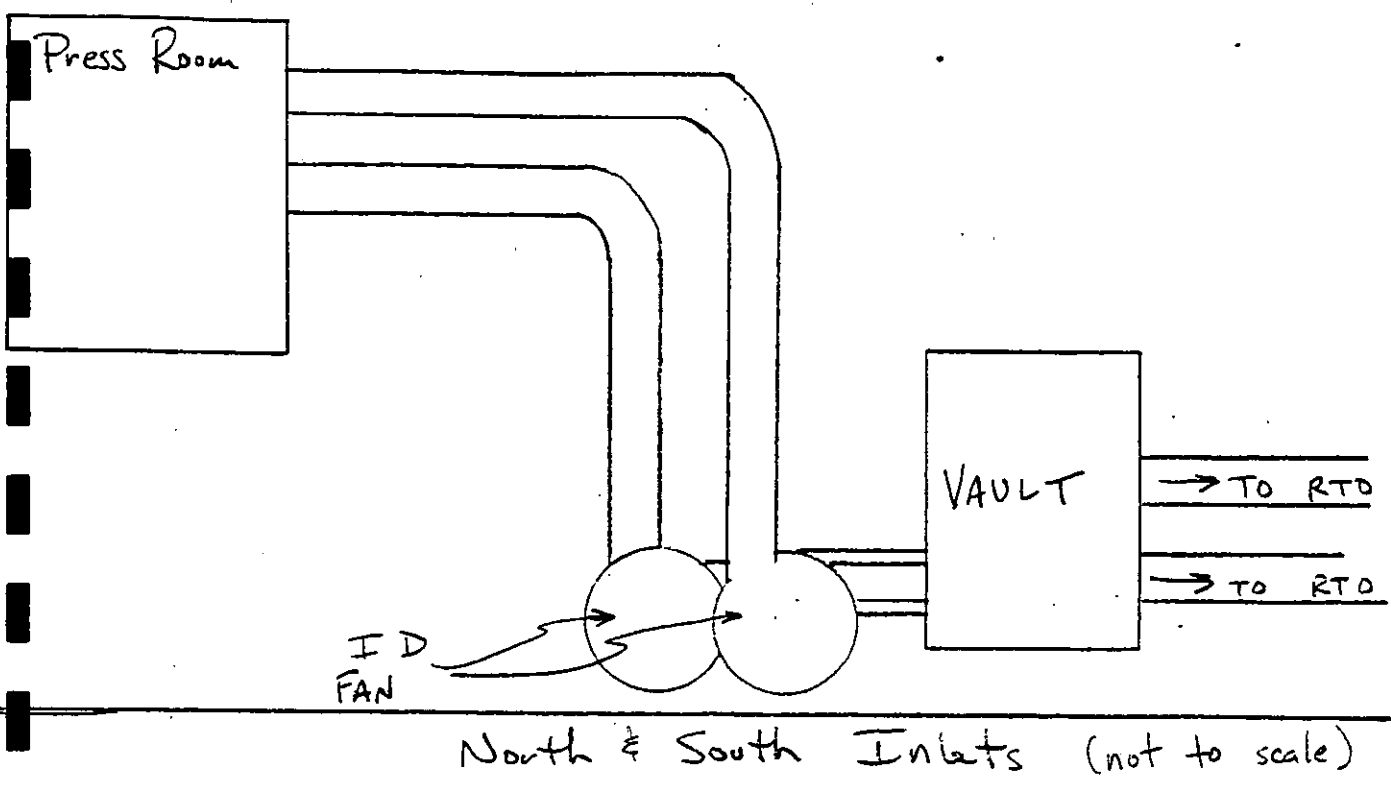
Dryer #5

Particulate, lbs/hr	22.79	25.94	15.33	21.35
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CO, lbs/hr	6.706	6.881	6.195	6.594
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NOx as NO2, lbs/hr	3.540	3.270	4.441	3.750
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L.P. PRESS RTO

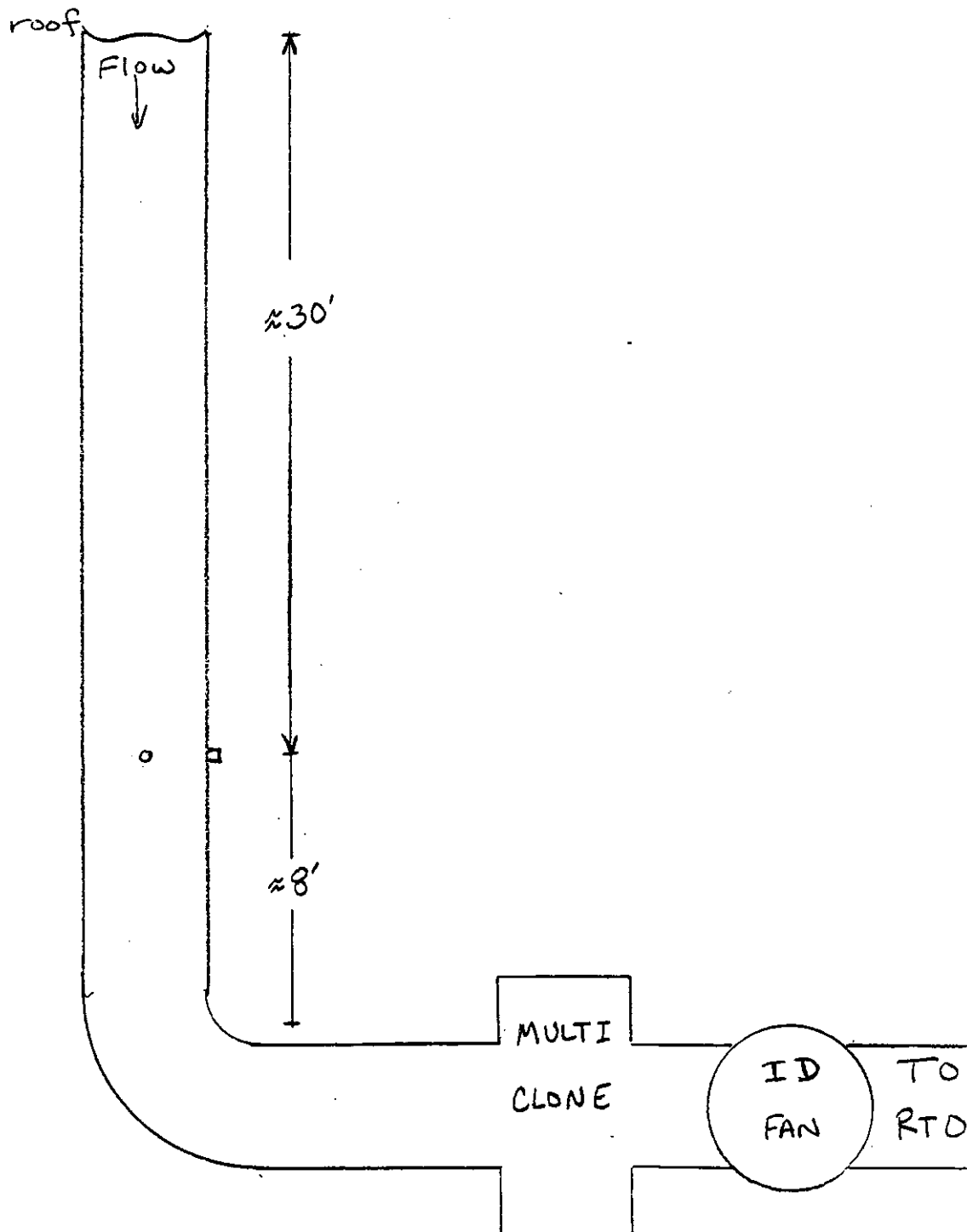
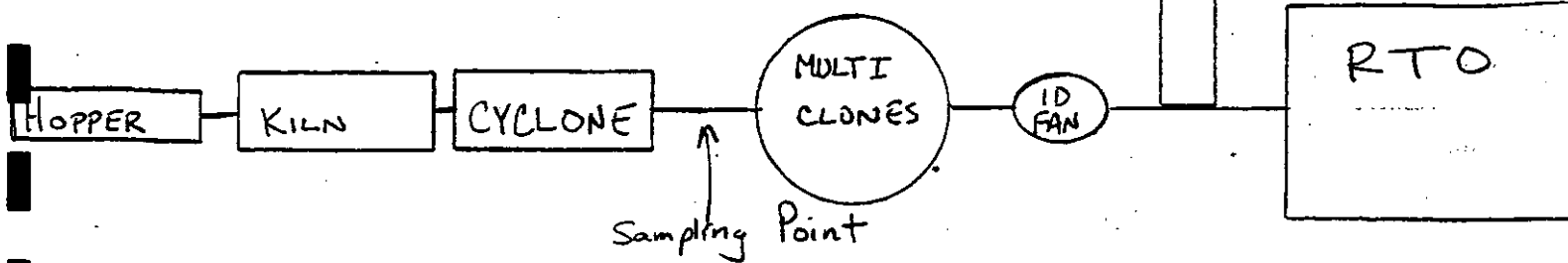


LP

KILN

DRYERS

DUMP
STACK



SUMMARY OF EMISSIONS TEST DATA

Table : 1

Plant : Louisiana Pacific, Hanceville, AL

Location : Press RTO Inlet North

Operator : J.Salinas

Test Date : 14-Jun-94

Repetition :

1

2

3

STACK GAS

Temperature, F	118.5	121.9	121.0
Velocity, fps	58.02	59.43	58.79
Volume Flow, acfm	59545.0	60993.8	60331.9
scfm	52003.7	52940.6	52707.3
scfh	3120221	3176435	3162437
Moisture, %	3.25%	3.03%	2.55%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00

SAMPLE

Start Time, hrs:min	10:10 AM	11:55 AM	1:50 PM
Finish Time, hrs:min	11:20 AM	1:02 PM	5:00 PM
Sample Volume, scf	54.569	56.465	60.350
Isokinetic Ratio, %	93.70686	95.24675	102.2507

PARTICULATE

Front Half

Sample Weight, mg	17.91	18.35	26.05
Concentration, gr/scf	0.005064	0.005014	0.00666 — 0.00558
Emissions, lbs/hr	2.258094	2.276164	3.009945 — 2.5147

Back Half (Organics)

Sample Weight, mg	17.25	12.65	9.85
Concentration, gr/scf	0.004878	0.003457	0.002518 — 0.00362
Emissions, lbs/hr	2.174882	1.569127	1.138117 — 1.6274

Total Particulate, lbs/hr	4.432976	3.845291	4.148062
---------------------------	----------	----------	----------

CARBON MONOXIDE

Concentration, ppm	ND	ND	ND
Emissions, lbs/hr	ND	ND	ND

NITROGEN OXIDE AS NO2

Concentration, ppm	ND	ND	ND
Emissions, lbs/hr	ND	ND	ND

SUMMARY OF EMISSIONS TEST DATA

Table : 2

Plant : Louisiana Pacific, Hanceville, AL

Location : Press RTO Inlet South

Operator : M. Meyyappan

Test Date : 14-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	117.8	121.5	122.1
Velocity, fps	55.45	55.80	54.66
Volume Flow, acfm	56908.4	57264.9	56090.5
scfm	49814.3	49599.3	48367.1
scfh	2988860	2975955	2902029
Moisture, %	2.96%	3.36%	3.68%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00

SAMPLE

Start Time, hrs:min	10:10 AM	11:55 AM	1:50 PM
Finish Time, hrs:min	11:15 AM	1:10 PM	4:55 PM
Sample Volume, scf	49.451	49.414	46.761
Isokinetic Ratio, %	102.5514	102.9201	99.87477

PARTICULATE

Front Half

Sample Weight, mg	11.79	29.60	25.94
Concentration, gr/scf	0.003679	0.009243	0.00856 - 0.00716
Emissions, lbs/hr	1.571286	3.930746	3.549753 - 3.0173

Back Half (Organics)

Sample Weight, mg	7.95	9.85	6.80
Concentration, gr/scf	0.002481	0.003076	0.002244 - 0.00260
Emissions, lbs/hr	1.059519	1.308035	0.930544 - 1.0994

Total Particulate, lbs/hr	2.630805	5.238781	4.480298
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CARBON MONOXIDE

Concentration, ppm	ND	ND	ND
Emissions, lbs/hr	ND	ND	ND

NITROGEN OXIDE AS NO2

Concentration, ppm	ND	ND	ND
Emissions, lbs/hr	ND	ND	ND

SUMMARY OF EMISSIONS TEST DATA

Table : 3

Plant : Louisiana Pacific, Hanceville, AL

Location : Press RTO Inlet North

Operator : J. Salinas

Test Date : 15-Jun-94

Repetition :

1

2

3

STACK GAS

Temperature, F	122.5	124.1	126.8
Velocity, fps	59.79	59.39	58.61
Volume Flow, acfm	61358.0	60946.9	60145.6
scfm	54110.4	53405.2	52494.7
scfh	3246623	3204314	3149681
Moisture, %	2.71%	3.02%	3.00%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00

SAMPLE

Start Time, hrs:min	10:00 AM	11:53 AM	1:33 PM
Finish Time, hrs:min	11:08 AM	12:59 PM	2:51 PM
Sample Volume, scf	63.277	61.900	61.098
Isokinetic Ratio, %	103.5721	102.6555	103.0836

VOC AS C3H8

Concentration, ppm	174.9	265.2	269.6
Emissions, lbs/hr	64.86166	97.06775	96.99578

FORMALDEHYDE

Sample Weight, mg	6.80	8.12	8.44
Concentration, ppm	3.042528	3.713981	3.910994
Emissions, lbs/hr	0.76931	0.926851	0.959376

SUMMARY OF EMISSIONS TEST DATA

Table : 4

Plant : Louisiana Pacific, Hanceville, AL

Location : Press RTO Inlet South

Operator : M. Meyyappan, C. Jefferson

Test Date : 15-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	123.1	125.2	127.4
Velocity, fps	55.30	55.55	54.71
Volume Flow, acfm	56750.5	57012.8	56144.9
scfm	50106.1	49718.3	48845.1
scfh	3006363	2983101	2930707
Moisture, %	2.51%	3.36%	3.23%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00
SAMPLE			
Start Time, hrs:min	10:00 AM	11:52 AM	1:32 PM
Finish Time, hrs:min	11:05 AM	12:55 PM	2:51 PM
Sample Volume, scf	58.536	58.005	56.832
Isokinetic Ratio, %	103.4688	103.3302	103.0498
VOC AS C3H8			
Concentration, ppm	143.9	206.4	189.3
Emissions, lbs/hr	49.41612	70.33055	63.37082
FORMALDEHYDE			
Sample Weight, mg	9.80	8.05	6.40
Concentration, ppm	4.739967	3.929179	3.188316
Emissions, lbs/hr	1.109818	0.912861	0.727727

SUMMARY OF EMISSIONS TEST DATA

Table : 5

Plant : Louisiana Pacific, Hanceville, LA

Location : Dryer #1

Operator : J. Salinas, S. Craig

Test Date : 16-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	182.9	185.9	188.8
Velocity, fps	74.54	79.34	78.96
Volume Flow, acfm	43028.4	45799.2	45578.5
scfm	26621.9	27220.2	27787.3
scfh	1597315	1633215	1667235
Moisture, %	22.49%	25.46%	23.13%
CO ₂ , %	2.50	3.50	4.00
O ₂ , %	19.50	18.50	18.00
SAMPLE			
Start Time, hrs:min	8:40 AM	1:02 PM	2:54 PM
Finish Time, hrs:min	10:02 AM	2:09 PM	4:22 PM
Sample Volume, scf	63.817	57.956	57.886
Isokinetic Ratio, %	105.9476	94.10184	92.07015
FORMALDEHYDE			
Sample Weight, mg	37.80	23.40	23.80
Concentration, ppm	16.76975	11.43126	11.64068
Emissions, lbs/hr	2.086181	1.454027	1.511508
VOC AS C₃H₈			
Concentration, ppm	434	336.2	307.5
Emissions, lbs/hr	79.18569	62.7202	58.56098

SUMMARY OF EMISSIONS TEST DATA

Table : 6

Plant : Louisiana Pacific, Hanceville, LA

Location : Dryer #2

Operator : C.Jefferson, M. Meyyappan

Test Date : 16-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	193.8	192.2	195.2
Velocity, fps	77.52	77.43	81.25
Volume Flow, acfm	44747.1	44695.7	46904.1
scfm	26038.1	25996.6	28210.4
scfh	1562288	1559799	1692622
Moisture, %	25.83%	26.25%	23.38%
CO2, %	1.50	1.50	2.00
O2, %	20.00	20.00	19.00

SAMPLE

Start Time, hrs:min	8:37 AM	1:00 PM	2:52 PM
Finish Time, hrs:min	10:05 AM	2:10 PM	4:15 PM
Sample Volume, scf	64.452	55.511	58.372
Isokinetic Ratio, %	109.4015	94.37501	91.45167

FORMALDEHYDE

Sample Weight, mg	22.30	18.20	14.50
Concentration, ppm	9.795816	9.282526	7.032889
Emissions, lbs/hr	1.191891	1.127638	0.927105

VOC AS C3H8

Concentration, ppm	380.8	394.6	396.5
Emissions, lbs/hr	67.95546	70.30595	76.66015

SUMMARY OF EMISSIONS TEST DATA

Table : 7

Plant : Louisiana Pacific, Hanceville, AL

Location : Dryer #4

Operator : C. Jefferson, L. Whicher

Test Date : 17-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	187.7	189.0	189.5
Velocity, fps	80.09	81.39	79.72
Volume Flow, acfm	46233.4	46985.4	46018.5
scfm	28534.7	29110.1	28791.9
scfh	1712082	1746607	1727514
Moisture, %	22.45%	21.81%	21.00%
CO2, %	3.50	3.00	3.00
O2, %	19.00	18.50	20.00

SAMPLE

Start Time, hrs:min	8:12 AM	11:25 AM	3:07 PM
Finish Time, hrs:min	9:30 AM	12:35 PM	4:12 PM
Sample Volume, scf	51.586	51.983	50.735
Isokinetic Ratio, %	93.89328	92.74591	91.52015

PARTICULATE

Front Half			
Sample Weight, mg	472.85	335.37	282.28
Concentration, gr/scf	0.141436	0.099547	0.085849 - 0.1089
Emissions, lbs/hr	34.60396	24.84653	21.19331 - 26.8813

Back Half (Organics)

Sample Weight, mg	40.85	75.30	29.85
Concentration, gr/scf	0.012219	0.022351	0.009078 - 0.0145
Emissions, lbs/hr	2.989472	5.578745	2.24111 - 3.6031

Total Particulate, lbs/hr	37.59344	30.42528	23.43442
---------------------------	----------	----------	----------

CARBON MONOXIDE

Concentration, ppm	42.4	47.05	40.9
Emissions, lbs/hr	5.276697	5.97347	5.135901

NITROGEN OXIDE AS NO2

Concentration, ppm	24.58	16.65	24.6
Emissions, lbs/hr	5.025485	3.47281	5.074908

SUMMARY OF EMISSIONS TEST DATA

Table : 8

Plant : Louisiana Pacific, Hanceville, AL

Location : Dryer #5

Operator : S.Craig, M.Meyyappan

Test Date : 17-Jun-94

Repetition :	1	2	3
STACK GAS			
Temperature, F	181.8	185.7	185.9
Velocity, fps	77.43	77.40	76.14
Volume Flow, acfm	44700.0	44678.0	43954.2
scfm	27328.1	27707.9	26750.5
scfh	1639686	1662474	1605029
Moisture, %	24.08%	22.42%	23.84%
CO2, %	4.50	3.50	3.50
O2, %	18.50	19.00	19.00

SAMPLE

Start Time, hrs:min	8:15 AM	11:25 AM	3:07 PM
Finish Time, hrs:min	9:25 AM	12:30 PM	4:12 PM
Sample Volume, scf	49.074	48.421	47.268
Isokinetic Ratio, %	97.31139	94.70055	95.75393

PARTICULATE

Front Half

Sample Weight, mg	272.56	299.33	167.22
Concentration, gr/scf	0.085699	0.095385	0.054587 - 0.0786
Emissions, lbs/hr	20.08072	22.66088	12.52022 - 18.4206

Back Half (Organics)

Sample Weight, mg	36.75	43.30	37.55
Concentration, gr/scf	0.011555	0.013798	0.012258 - 0.0125
Emissions, lbs/hr	2.707537	3.278041	2.811472 - 2.9324

Total Particulate, lbs/hr	22.78825	25.93892	15.3317
---------------------------	----------	----------	---------

CARBON MONOXIDE

Concentration, ppm	56.26	56.94	53.1
Emissions, lbs/hr	6.705516	6.88088	6.195112

NITROGEN OXIDE AS NO2

Concentration, ppm	18.08	16.47	23.17
Emissions, lbs/hr	3.540223	3.26979	4.440997

III. PROCEDURES

The procedure for emissions sampling followed USEPA test methods as detailed in Title 40: Code of Federal Regulations. The following methods were used:

Method	Title
1	Sample and Velocity Traverses for Stationary Sources
2	Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
3	Gas Analysis for CO ₂ , O ₂ , Excess Air and Dry Molecular Weight
4	Determination of Moisture Content in Stack Gases
5	Determination of Particulate Emissions from Stationary Sources
7E	Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
10	Determination of Carbon Monoxide Emission from Stationary Sources
25A	Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

O₂ and CO₂ were determined using Fyrite Analyzers.

Particulate sampling was performed using an Apex Method 5 Sampling Train with 100 mls H₂O in the first and second impingers, third empty and 200 grams Silica Gel in the fourth impinger. Sampling was performed at 24 points, 2.5 minutes per point, making a total run duration of 60 minutes. The Press RTO Inlet North was tested using a 6 foot stainless steel probe with a 0.242 inch nozzle. The Press RTO Inlet South was tested using a 6 foot stainless steel probe with a 0.225 inch nozzle.

CO was determined using a Fuji NDIR Continuous CO analyzer calibrated with 400 ppm, 100 ppm and 50 ppm Certified CO gas standards.

NO_x as NO₂ was determined using a ThermoEnvironmental Continuous NO_x analyzer calibrated with 402.4 ppm, 254 ppm, 98.2 ppm and 29.7 ppm Certified NO_x gas standards.

VOC as C₃H₈ was determined using a Beckman 400A Continuous FID analyzer calibrated with 200 ppm, 31.9 ppm and 4.95 ppm on the Press RTO Inlet North; 200 ppm, 85.31 ppm and 29.98 ppm on the Press RTO Inlet South; 909 ppm, 816 ppm, 200 ppm 85.31 ppm and 31.9 ppm on the Dryers all are Certified Propane gas standards.

Formaldehyde sampling was performed using an Apex Method 5 Sampling train with a glass lined probe and a 0.243 glass nozzle. Sampling was performed isokinetically at 24 points for 60 minutes. Formaldehyde train contained 100 mls of DNPH reagent in each of the first and second impingers, third empty and 200 grams silica gel in the fourth impinger. Formaldehyde analysis was provided by Mr. Dan Russell, to whom formaldehyde samples were delivered onsite.

APPENDIX A

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 14-Jun-94
PLACE : Press RTO Inlet North
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	39
NOZZLE DIAMETER (INCH.) :	0.242	PARTICULATE WEIGHT (Front half mg)	17.91
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	17.25
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	58.989	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.76	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	56	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00032	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	54.5692
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.8357
FRACTIONAL MOISTURE CONTENT (%):	0.0325
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4872
STACK PRESSURE (inch Hg):	29.5909
STACK GAS VELOCITY (ft/sec.):	58.0217
ACTUAL STACK GAS FLOW RATE (ACFM):	59545.0133
STANDARD STACK GAS FLOW RATE (SCFH):	3120220.82

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0051
PARTICULATE CONCENTRATION (LBS/SCF):	7.24E-07
PARTICULATE EMISSION (LBS/HR):	2.2581

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0049
PARTICULATE CONCENTRATION (LBS/SCF):	6.97E-07
PARTICULATE EMISSION (LBS/HR):	2.1749

ISOKINETIC RATIO (%): 93.7069

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	117	0.89	0.9434	2.60	96	96	
2	118	0.87	0.93274	2.60	98	96	
3	118	0.91	0.95394	2.70	101	96	
4	119	0.82	0.90554	2.40	102	96	
5	122	0.80	0.89443	2.40	103	97	
6	119	0.74	0.86023	2.20	104	97	
7	118	1.00	1	3.00	106	98	
8	118	1.20	1.09545	3.60	108	99	
9	117	1.30	1.14018	3.90	110	101	
10	119	1.20	1.09545	3.60	111	102	
11	115	0.96	0.9798	2.80	112	103	
12	109	0.53	0.72801	1.59	113	104	
13	115	1.00	1	3.00	107	107	
14	123	1.10	1.04881	3.30	110	107	
15	119	0.98	0.98995	2.90	111	107	
16	122	1.00	1	3.00	112	107	
17	122	0.95	0.97468	2.80	113	108	
18	120	0.88	0.93808	2.60	113	108	
19	123	1.20	1.09545	3.60	113	108	
20	121	1.20	1.09545	3.60	113	108	
21	120	1.20	1.09545	3.60	112	108	
22	125	1.10	1.04881	3.30	112	108	
23	118	0.85	0.92195	2.50	113	108	METER T.
24	106	0.45	0.67082	1.30	112	108	AVERAGE
	118.4583		0.9754	2.8704	108.5417	103.2083	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 14-Jun-94
PLACE : Press RTO Inlet North
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	37.5
NOZZLE DIAMETER (INCH.) :	0.242	PARTICULATE WEIGHT (Front half mg)	18.35
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	12.65
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL.(Cu.Ft.) :	61.577	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.7	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	56	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.00032	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	56.4652
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7651
FRACTIONAL MOISTURE CONTENT (%):	0.0303
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5114
STACK PRESSURE (inch Hg):	29.5162
STACK GAS VELOCITY (ft/sec.):	59.4334
ACTUAL STACK GAS FLOW RATE (ACFM):	60993.7538
STANDARD STACK GAS FLOW RATE (SCFH):	3176434.54

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0050
PARTICULATE CONCENTRATION (LBS/SCF):	7.17E-07
PARTICULATE EMISSION (LBS/HR):	2.2762

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0035
PARTICULATE CONCENTRATION (LBS/SCF):	4.94E-07
PARTICULATE EMISSION (LBS/HR):	1.5691

ISOKINETIC RATIO (%):	95.2467
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POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	123	1.20	1.09545	3.60	104	104	
2	121	1.10	1.04881	3.30	107	104	
3	126	1.15	1.07238	3.40	109	104	
4	121	1.20	1.09545	3.60	112	105	
5	123	1.00	1	3.00	113	105	
6	122	0.95	0.97468	2.80	114	106	
7	121	1.10	1.04881	3.30	114	107	
8	128	1.30	1.14018	3.90	113	107	
9	122	1.20	1.09545	3.60	113	108	
10	126	1.20	1.09545	3.60	114	107	
11	121	0.96	0.9798	2.80	114	108	
12	115	0.45	0.67082	1.30	114	108	
13	122	0.94	0.96954	2.80	108	107	
14	123	0.89	0.9434	2.60	110	108	
15	122	0.90	0.94868	2.70	112	108	
16	121	0.85	0.92195	2.50	113	108	
17	121	0.82	0.90554	2.40	114	108	
18	121	0.75	0.86603	2.20	114	108	
19	124	1.00	1	3.50	115	109	
20	122	1.20	1.09545	4.20	116	109	
21	125	1.10	1.04881	3.90	116	110	
22	122	1.10	1.04881	3.90	116	110	
23	122	0.88	0.93808	3.10	115	110	METER T.
24	112	0.78	0.88318	2.70	115	110	AVERAGE
	121.9167		0.9953	3.1125	112.7083	107.4167	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 14-Jun-94
PLACE : Press RTO Inlet North
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	33.5
NOZZLE DIAMETER (INCH.) :	0.242	PARTICULATE WEIGHT (Front half mg)	26.05
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	9.85
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL. (Cu.Ft.) :	65.084	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.7	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inchs) :
NOZZLE AREA (feet):	0.00032	STACK WIDTH(inchs) :
		STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	60.3503
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.5768
FRACTIONAL MOISTURE CONTENT (%):	0.0255
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5640
STACK PRESSURE (inch Hg):	29.5162
STACK GAS VELOCITY (ft/sec.):	58.7885
ACTUAL STACK GAS FLOW RATE (ACFM):	60331.9151
STANDARD STACK GAS FLOW RATE (SCFH):	3162437.11

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0067
PARTICULATE CONCENTRATION (LBS/SCF):	9.52E-07
PARTICULATE EMISSION (LBS/HR):	3.0099

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0025
PARTICULATE CONCENTRATION (LBS/SCF):	3.60E-07
PARTICULATE EMISSION (LBS/HR):	1.1381

ISOKINETIC RATIO (%): 102.2507

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	125	1.20	1.09545	4.20	101	101	
2	123	1.10	1.04881	3.90	103	102	
3	125	1.20	1.09545	4.20	106	102	
4	124	1.10	1.04881	3.90	108	102	
5	126	1.00	1	3.50	108	103	
6	124	0.96	0.9798	3.40	109	104	
7	126	0.92	0.95917	3.20	109	104	
8	124	1.20	1.09545	4.20	109	105	
9	126	1.10	1.04881	3.90	110	105	
10	125	1.00	1	3.50	110	105	
11	124	0.68	0.82462	2.40	110	105	
12	99	0.47	0.68557	1.60	111	105	
13	121	0.92	0.95917	3.20	97	97	
14	123	0.89	0.9434	3.10	99	97	
15	121	0.97	0.98489	3.40	102	97	
16	119	0.86	0.92736	3.00	103	98	
17	120	0.78	0.88318	2.70	105	99	
18	122	0.71	0.84261	2.50	106	100	
19	121	1.20	1.09545	4.20	107	100	
20	121	1.30	1.14018	4.60	108	101	
21	120	1.20	1.09545	4.20	109	102	
22	123	1.20	1.09545	4.20	110	102	
23	118	0.94	0.96954	3.30	110	103	METER T.
24	105	0.72	0.84853	2.50	110	103	AVERAGE
	121.0417		0.9861	3.4500	106.6667	101.7500	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 14-Jun-94
PLACE : Press RTO Inlet South
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	32
NOZZLE DIAMETER (INCH.) :	0.225	PARTICULATE WEIGHT (Front half mg)	11.79
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	7.95
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	52.27	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.7	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK	
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inchs) :	
NOZZLE AREA (feet):	0.00028	STACK WIDTH(inchs) :	
		STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	49.4507
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.5062
FRACTIONAL MOISTURE CONTENT (%):	0.0296
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5196
STACK PRESSURE (inch Hg):	29.5309
STACK GAS VELOCITY (ft/sec.):	55.4526
ACTUAL STACK GAS FLOW RATE (ACFM):	56908.4058
STANDARD STACK GAS FLOW RATE (SCFH):	2988860.06

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0037
PARTICULATE CONCENTRATION (LBS/SCF):	5.26E-07
PARTICULATE EMISSION (LBS/HR):	1.5713

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0025
PARTICULATE CONCENTRATION (LBS/SCF):	3.54E-07
PARTICULATE EMISSION (LBS/HR):	1.0595

ISOKINETIC RATIO (%): 102.5514

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	115	0.86	0.92736	0.84	82	82	
2	118	0.92	0.95917	0.90	85	82	
3	119	0.90	0.94868	0.89	87	82	
4	119	0.79	0.88882	0.77	88	83	
5	120	0.72	0.84853	0.70	89	83	
6	119	0.66	0.8124	0.65	91	83	
7	120	0.87	0.93274	0.85	92	84	
8	120	1.00	1	0.98	93	84	
9	118	1.10	1.04881	1.08	89	85	
10	119	1.00	1	0.98	89	85	
11	90	0.90	0.94868	0.88	88	85	
12	90	0.72	0.84853	0.70	87	86	
13	119	0.80	0.89443	0.78	87	86	
14	121	0.87	0.93274	0.85	88	88	
15	121	0.90	0.94868	0.88	88	88	
16	121	0.81	0.9	0.79	89	88	
17	122	0.76	0.87178	0.74	89	88	
18	123	0.72	0.84853	0.70	89	88	
19	121	0.86	0.92736	0.84	89	88	
20	121	1.10	1.04881	1.08	89	88	
21	123	1.20	1.09545	1.17	89	88	
22	121	1.10	1.04881	1.08	89	88	
23	123	0.86	0.92736	0.84	89	88	METER T.
24	123	0.59	0.76811	0.58	89	88	AVERAGE
	117.75		0.9323	0.8563	88.5000	85.7500	87.1250

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 14-Jun-94
PLACE : Press RTO Inlet South
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	36.5
NOZZLE DIAMETER (INCH.) :	0.225	PARTICULATE WEIGHT (Front half mg)	29.6
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	9.85
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H ₂ O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	52.924	PERCENT CO ₂ :	0
BAROMETRIC PRESSURE :	29.7	PERCENT O ₂ :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inches) :
NOZZLE AREA (feet):	0.00028	STACK WIDTH(inches) :
		STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	49.4142
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7181
FRACTIONAL MOISTURE CONTENT (%):	0.0336
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4758
STACK PRESSURE (inch Hg):	29.5309
STACK GAS VELOCITY (ft/sec.):	55.7999
ACTUAL STACK GAS FLOW RATE (ACFM):	57264.8524
STANDARD STACK GAS FLOW RATE (SCFH):	2975955.1

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0092
PARTICULATE CONCENTRATION (LBS/SCF):	1.32E-06
PARTICULATE EMISSION (LBS/HR):	3.9307

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0031
PARTICULATE CONCENTRATION (LBS/SCF):	4.40E-07
PARTICULATE EMISSION (LBS/HR):	1.3080

ISOKINETIC RATIO (%): 102.9201

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	122	0.88	0.93808	1.04	88	88	
2	122	0.94	0.96954	1.11	91	88	
3	122	0.88	0.93808	1.04	95	89	
4	122	0.80	0.89443	0.95	97	89	
5	123	0.79	0.88882	0.89	98	90	
6	123	0.69	0.83066	0.82	97	91	
7	123	0.99	0.99499	1.17	97	91	
8	123	0.99	0.99499	1.17	98	92	
9	123	1.00	1	1.18	98	92	
10	123	1.10	1.04881	1.30	98	92	
11	123	1.10	1.04881	1.30	98	92	
12	123	0.72	0.84853	0.85	98	92	
13	122	0.89	0.9434	0.90	99	92	
14	124	0.92	0.95917	1.00	99	92	
15	122	0.87	0.93274	0.91	99	92	
16	123	0.81	0.9	0.92	99	92	
17	123	0.74	0.86023	0.81	99	92	
18	122	0.64	0.8	0.80	99	92	
19	121	0.91	0.95394	0.99	100	90	
20	122	0.94	0.96954	1.01	100	90	
21	124	0.93	0.96437	0.99	100	92	
22	122	1.00	1	1.18	100	94	
23	121	0.91	0.95394	1.03	100	94	METER T.
24	97	0.63	0.79373	0.75	101	94	AVERAGE
	121.4583		0.9344	1.0046	97.8333	91.3333	94.5833

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
 DATE : 14-Jun-94
 PLACE : Press RTO Inlet South
 RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	38
NOZZLE DIAMETER (INCH.) :	0.225	PARTICULATE WEIGHT (Front half mg)	25.94
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	6.8
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	50.465	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.7	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	56	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00028	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	46.7608
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7887
FRACTIONAL MOISTURE CONTENT (%):	0.0368
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4406
STACK PRESSURE (inch Hg):	29.5309
STACK GAS VELOCITY (ft/sec.):	54.6556
ACTUAL STACK GAS FLOW RATE (ACFM):	56090.5025
STANDARD STACK GAS FLOW RATE (SCFH):	2902028.73

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0086
PARTICULATE CONCENTRATION (LBS/SCF):	1.22E-06
PARTICULATE EMISSION (LBS/HR):	3.5498

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0022
PARTICULATE CONCENTRATION (LBS/SCF):	3.21E-07
PARTICULATE EMISSION (LBS/HR):	0.9305

ISOKINETIC RATIO (%):	99.8748
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POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	125	0.79	0.88882	0.61	96	96	
2	125	0.87	0.93274	0.67	97	96	
3	125	0.90	0.94868	0.69	97	96	
4	125	0.78	0.88318	0.60	98	96	
5	125	0.69	0.83066	0.53	98	96	
6	125	0.66	0.8124	0.51	98	96	
7	124	0.89	0.9434	0.69	100	96	
8	125	0.99	0.99499	0.76	101	97	
9	124	1.10	1.04881	0.85	100	97	
10	126	0.99	0.99499	0.76	100	97	
11	125	0.87	0.93274	0.67	101	98	
12	123	0.56	0.74833	0.43	100	98	
13	116	0.72	0.84853	0.55	98	98	
14	120	0.86	0.92736	0.66	100	98	
15	120	0.85	0.92195	0.65	100	98	
16	120	0.80	0.89443	0.62	100	98	
17	119	0.71	0.84261	0.55	100	98	
18	119	0.74	0.86023	0.57	100	98	
19	120	0.94	0.96954	0.72	101	98	
20	122	1.10	1.04881	0.85	100	98	
21	122	1.00	1	0.77	100	98	
22	122	1.10	1.04881	0.85	100	98	
23	122	0.90	0.94868	0.69	100	98	METER T.
24	111	0.45	0.67082	0.35	100	98	AVERAGE
	122.0833		0.9142	0.6500	99.3750	97.2917	98.3333

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 15-Jun-94
PLACE : Press RTO Inlet North
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	37.5
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	66.539	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	56	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00032	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	63.2773
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7651
FRACTIONAL MOISTURE CONTENT (%):	0.0271
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5458
STACK PRESSURE (inch Hg):	29.9235
STACK GAS VELOCITY (ft/sec.):	59.7883
ACTUAL STACK GAS FLOW RATE (ACFM):	61358.0037
STANDARD STACK GAS FLOW RATE (SCFH):	3246622.86

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 103.5721

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	119	1.00	1	3.50	88	89	
2	120	1.20	1.09545	4.20	91	89	
3	121	1.20	1.09545	4.20	92	90	
4	127	1.20	1.09545	4.20	93	90	
5	121	1.10	1.04881	3.90	96	91	
6	122	1.00	1	3.50	97	92	
7	122	1.00	1	3.50	98	92	
8	124	1.20	1.09545	4.20	99	93	
9	122	1.20	1.09545	4.20	100	93	
10	123	1.10	1.04881	3.90	100	94	
11	123	1.00	1	3.50	101	94	
12	117	0.78	0.88318	2.70	102	95	
13	123	0.95	0.97468	3.40	97	95	
14	125	1.00	1	3.50	99	96	
15	126	0.89	0.9434	3.10	100	97	
16	123	0.84	0.91652	3.00	103	97	
17	125	0.78	0.88318	2.70	104	98	
18	122	0.75	0.86603	2.60	104	98	
19	122	0.97	0.98489	3.40	105	99	
20	123	1.20	1.09545	4.20	106	100	
21	122	1.20	1.09545	4.20	106	100	
22	126	1.20	1.09545	4.20	107	101	
23	122	1.00	1	3.50	107	101	METER T.
24	121	0.78	0.88318	2.70	107	102	AVERAGE
	122.5417		1.0082	3.5833	100.0833	95.2500	97.6667

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 15-Jun-94
PLACE : Press RTO Inlet North
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	41
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.6
GAS METER VOL.(Cu.Ft.) :	65.949	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	56	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.00032	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	61.8999
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.9299
FRACTIONAL MOISTURE CONTENT (%):	0.0302
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5123
STACK PRESSURE (inch Hg):	29.9088
STACK GAS VELOCITY (ft/sec.):	59.3877
ACTUAL STACK GAS FLOW RATE (ACFM):	60946.8514
STANDARD STACK GAS FLOW RATE (SCFH):	3204313.96

PARTICULATE

FRONT HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%):	102.6555
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POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	124	0.94	0.96954	3.30	98	98	
2	125	1.20	1.09545	4.20	100	99	
3	123	1.20	1.09545	4.20	103	100	
4	125	1.20	1.09545	4.20	104	100	
5	123	1.10	1.04881	3.90	105	101	
6	125	0.92	0.95917	3.20	105	101	
7	124	1.20	1.09545	4.20	106	102	
8	127	1.20	1.09545	4.20	107	102	
9	125	1.20	1.09545	4.20	108	102	
10	124	1.20	1.09545	4.20	108	103	
11	124	0.98	0.98995	3.50	108	104	
12	101	0.68	0.82462	2.40	108	104	
13	126	0.98	0.98995	3.50	105	105	
14	125	0.92	0.95917	3.20	105	104	
15	127	0.94	0.96954	3.30	106	104	
16	125	0.91	0.95394	3.20	107	104	
17	127	0.84	0.91652	3.00	108	105	
18	125	0.77	0.8775	2.70	109	105	
19	126	0.74	0.86023	2.60	110	105	
20	125	0.74	0.86023	2.60	110	105	
21	128	1.20	1.09545	4.20	110	106	
22	125	1.10	1.04881	3.90	110	106	
23	122	1.00	1	3.50	110	106	METER T.
24	128	0.98	0.98995	3.50	111	106	AVERAGE
	124.125		0.9992	3.5375	106.7083	103.2083	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 15-Jun-94
PLACE : Press RTO Inlet North
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	40.1
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL. (Cu.Ft.) :	64.947	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK	
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inchs) :	
NOZZLE AREA (feet):	0.00032	STACK WIDTH(inchs) :	
		STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	61.0983
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.8875
FRACTIONAL MOISTURE CONTENT (%):	0.0300
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5152
STACK PRESSURE (inch Hg):	29.9162
STACK GAS VELOCITY (ft/sec.):	58.6069
ACTUAL STACK GAS FLOW RATE (ACFM):	60145.5584
STANDARD STACK GAS FLOW RATE (SCFH):	3149680.9

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 103.0836

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	128	1.00	1	3.50	102	102	
2	126	1.20	1.09545	4.20	101	102	
3	125	1.20	1.09545	4.20	102	101	
4	130	1.20	1.09545	4.20	104	101	
5	126	1.10	1.04881	3.90	104	101	
6	128	1.00	1	3.50	104	101	
7	126	1.20	1.09545	4.20	104	101	
8	129	1.20	1.09545	4.20	104	101	
9	130	1.20	1.09545	4.20	104	101	
10	126	1.10	1.04881	3.90	105	101	
11	126	0.95	0.97468	3.40	105	101	
12	109	0.17	0.41231	0.60	105	102	
13	128	0.98	0.98995	3.50	103	103	
14	130	0.92	0.95917	3.20	101	102	
15	127	0.93	0.96437	3.30	103	102	
16	132	0.84	0.91652	3.00	105	102	
17	127	0.78	0.88318	2.70	106	102	
18	130	0.74	0.86023	2.60	107	103	
19	127	1.00	1	3.50	108	103	
20	127	1.10	1.04881	3.90	108	104	
21	128	1.20	1.09545	4.20	108	104	
22	127	1.00	1	3.50	108	105	
23	128	0.92	0.95917	3.20	108	105	METER T.
24	122	0.78	0.88318	2.70	108	105	AVERAGE
	126.75		0.9841	3.4708	104.8750	102.2917	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL.
DATE : 15-Jun-94
PLACE : Press RTO Inlet South
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	32
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	61.538	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inchs) :
NOZZLE AREA (feet):	0.00032	STACK WIDTH(inchs) :
		STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	58.5362
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.5062
FRACTIONAL MOISTURE CONTENT (%):	0.0251
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5681
STACK PRESSURE (inch Hg):	29.9235
STACK GAS VELOCITY (ft/sec.):	55.2987
ACTUAL STACK GAS FLOW RATE (ACFM):	56750.4752
STANDARD STACK GAS FLOW RATE (SCFH):	3006363.32

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 103.4688

POINTS	STACK T. deg. F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	119	0.84	0.91652	3.00	89	89	
2	123	1.00	1	3.58	89	88	
3	123	1.00	1	3.58	92	88	
4	122	0.91	0.95394	3.26	94	89	
5	123	0.83	0.91104	2.97	96	89	
6	122	0.72	0.84853	2.58	98	89	
7	123	0.96	0.9798	3.44	99	90	
8	123	1.10	1.04881	3.94	100	90	
9	123	1.20	1.09545	4.30	101	91	
10	123	1.00	1	3.58	101	92	
11	124	0.86	0.92736	3.08	103	92	
12	123	0.67	0.81854	2.40	104	93	
13	123	0.66	0.8124	2.36	95	93	
14	124	0.78	0.88318	2.79	95	93	
15	124	0.80	0.89443	2.87	95	93	
16	123	0.74	0.86023	2.65	95	94	
17	124	0.72	0.84853	2.58	96	94	
18	123	0.68	0.82462	2.44	97	94	
19	125	0.83	0.91104	2.97	97	94	
20	125	0.99	0.99499	3.55	97	94	
21	123	1.10	1.04881	3.94	96	94	
22	123	1.10	1.04881	3.94	97	94	
23	123	0.94	0.96954	3.37	101	95	METER T.
24	123	0.61	0.78102	2.18	104	95	AVERAGE
	123.0833		0.9324	3.1396	97.1250	91.9583	94.5417

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 15-Jun-94
PLACE : Press RTO Inlet South
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	42.9
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	61.612	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	56	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	17.1042	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.00032	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	58.0053
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.0193
FRACTIONAL MOISTURE CONTENT (%):	0.0336
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4753
STACK PRESSURE (inch Hg):	29.9235
STACK GAS VELOCITY (ft/sec.):	55.5543
ACTUAL STACK GAS FLOW RATE (ACFM):	57012.8449
STANDARD STACK GAS FLOW RATE (SCFH):	2983100.69

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 103.3302

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	120	0.77	0.8775	2.76	93	93	
2	126	0.96	0.9798	3.44	95	93	
3	125	0.94	0.96954	3.37	99	93	
4	126	0.87	0.93274	3.12	101	93	
5	125	0.80	0.89443	2.87	101	94	
6	126	0.67	0.81854	2.40	102	94	
7	126	0.89	0.9434	3.19	101	95	
8	126	0.99	0.99499	3.55	101	95	
9	126	1.00	1	3.58	101	96	
10	125	1.00	1	3.58	101	96	
11	125	0.87	0.93274	3.12	103	97	
12	115	0.63	0.79373	2.26	104	97	
13	126	0.79	0.88882	2.83	99	98	
14	126	0.81	0.9	2.90	104	97	
15	126	0.85	0.92195	3.04	104	97	
16	127	0.87	0.93274	3.12	106	98	
17	126	0.80	0.89443	2.87	107	98	
18	127	0.76	0.87178	2.72	108	99	
19	126	0.97	0.98489	3.47	108	100	
20	127	1.20	1.09545	4.30	109	100	
21	127	1.10	1.04881	3.94	109	101	
22	127	0.97	0.98489	3.47	109	101	
23	124	0.89	0.9434	3.19	110	102	METER T.
24	124	0.64	0.8	2.29	110	102	AVERAGE
	125.1667		0.9335	3.1408	103.5417	97.0417	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 15-Jun-94
PLACE : Press RTO Inlet South
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	40.3
NOZZLE DIAMETER (INCH.) :	0.243	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	60.575	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	30.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	56	FOR RECTANGULAR STACK
STACK AREA (Sq.Ft.) :	17.1042	STACK LENGTH(inchs) :
NOZZLE AREA (feet):	0.00032	STACK WIDTH(inchs) :
		STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 17.1042

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	56.8319
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.8969
FRACTIONAL MOISTURE CONTENT (%):	0.0323
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4899
STACK PRESSURE (inch Hg):	29.9235
STACK GAS VELOCITY (ft/sec.):	54.7086
ACTUAL STACK GAS FLOW RATE (ACFM):	56144.9253
STANDARD STACK GAS FLOW RATE (SCFH):	2930706.62

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 103.0498

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	128	0.72	0.84853	2.58	98	99	
2	128	0.89	0.9434	3.19	99	99	
3	127	0.96	0.9798	3.44	101	99	
4	126	0.88	0.93808	3.15	103	99	
5	125	0.76	0.87178	2.72	104	99	
6	126	0.69	0.83066	2.47	104	100	
7	126	0.88	0.93808	3.15	105	100	
8	126	1.00	1	3.58	107	100	
9	128	1.10	1.04881	3.94	108	100	
10	126	1.00	1	3.58	110	101	
11	128	0.77	0.8775	2.76	109	101	
12	124	0.65	0.80623	2.34	108	102	
13	129	0.74	0.86023	2.65	102	101	
14	129	0.77	0.8775	2.75	101	101	
15	128	0.78	0.88318	2.80	101	101	
16	129	0.77	0.8775	2.75	102	101	
17	128	0.75	0.86603	2.70	102	101	
18	129	0.69	0.83066	2.50	102	102	
19	128	0.68	0.82462	2.43	103	100	
20	129	1.10	1.04881	3.44	104	100	
21	129	1.10	1.04881	3.44	105	100	
22	128	1.10	1.04881	3.94	104	100	
23	126	0.91	0.95394	3.25	105	100	METER T.
24	127	0.68	0.82462	2.43	105	100	AVERAGE
	127.375		0.9178	2.9992	103.8333	100.2500	#####

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
DATE : 16-Jun-94
PLACE : Dryer #1
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	393.3
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-9.8
GAS METER VOL. (Cu.Ft.) :	66.549	PERCENT CO2 :	2.5
BAROMETRIC PRESSURE :	29.8	PERCENT O2 :	19.5
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	42	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00036	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	63.8174
VOLUME OF WATER VAPOR (STD. CU.FT.):	18.5126
FRACTIONAL MOISTURE CONTENT (%):	0.2249
DRY BASE:	78.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.1800
MOLECULAR WT. OF STACK GAS (WET BASE):	26.6661
STACK PRESSURE (inch Hg):	29.0794
STACK GAS VELOCITY (ft/sec.):	74.5381
ACTUAL STACK GAS FLOW RATE (ACFM):	43028.4086
STANDARD STACK GAS FLOW RATE (SCFH):	1597315.07

PARTICULATE

FRONT HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%):	105.9476
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POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	184	0.92	0.95917	2.50	80	80	
2	191	1.20	1.09545	3.30	83	81	
3	193	1.50	1.22474	4.20	85	81	
4	194	1.70	1.30384	4.70	87	82	
5	194	1.70	1.30384	4.70	89	83	
6	194	1.50	1.22474	4.20	91	83	
7	193	1.50	1.22474	4.20	92	84	
8	190	1.50	1.22474	4.20	93	84	
9	187	1.45	1.20416	4.00	93	85	
10	180	1.20	1.09545	3.30	93	86	
11	176	1.00	1	2.80	93	86	
12	107	0.75	0.86603	2.10	94	87	
13	185	0.89	0.9434	2.50	88	87	
14	191	1.00	1	2.80	87	86	
15	192	1.50	1.22474	4.20	89	86	
16	191	1.50	1.22474	4.20	90	86	
17	191	1.60	1.26491	4.40	91	87	
18	191	1.70	1.30384	4.70	91	87	
19	190	1.70	1.30384	4.70	92	87	
20	189	1.60	1.26491	4.40	92	88	
21	186	1.50	1.22474	4.20	92	88	
22	179	1.10	1.04881	3.00	91	88	
23	177	0.82	0.90554	2.20	91	88	METER T.
24	145	0.85	0.92195	2.30	92	89	AVERAGE
	182.9167		1.1399	3.6583	89.9583	85.3750	87.6667

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
 DATE : 16-Jun-94
 PLACE : Dryer #1
 RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	420.5
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-9.5
GAS METER VOL.(Cu.Ft.) :	60.84	PERCENT CO2 :	3.5
BAROMETRIC PRESSURE :	29.88	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch): 42
 STACK AREA (Sq.Ft.) : 9.62113
 NOZZLE AREA (feet): 0.00036

FOR RECTANGULAR STACK

STACK LENGTH(inches) :
 STACK WIDTH(inches) :
 STACK AREA (Sq.Ft.) : 0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	57.9556
VOLUME OF WATER VAPOR (STD. CU.FT.):	19.7929
FRACTIONAL MOISTURE CONTENT (%):	0.2546
DRY BASE:	78.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.3000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.4233
STACK PRESSURE (inch Hg):	29.1815
STACK GAS VELOCITY (ft/sec.):	79.3379
ACTUAL STACK GAS FLOW RATE (ACFM):	45799.1944
STANDARD STACK GAS FLOW RATE (SCFH):	1633214.86

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 94.1018

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	190	1.20	1.09545	2.50	87	87	
2	194	1.60	1.26491	3.34	88	87	
3	193	1.80	1.34164	3.75	90	87	
4	193	1.80	1.34164	3.75	91	87	
5	191	1.80	1.34164	3.75	93	87	
6	191	1.70	1.30384	3.55	95	88	
7	191	1.70	1.30384	3.55	96	88	
8	189	1.60	1.26491	3.34	96	89	
9	183	1.50	1.22474	3.13	96	89	
10	180	1.30	1.14018	2.71	97	89	
11	172	1.10	1.04881	2.29	96	90	
12	117	0.68	0.82462	1.42	96	90	
13	186	0.92	0.95917	1.92	92	91	
14	192	1.30	1.14018	2.71	93	90	
15	194	1.50	1.22474	3.13	94	90	
16	195	1.60	1.26491	3.34	96	91	
17	194	1.80	1.34164	3.75	96	91	
18	194	1.80	1.34164	3.75	96	91	
19	193	1.80	1.34164	3.75	96	91	
20	191	1.70	1.30384	3.55	96	92	
21	190	1.70	1.30384	3.55	96	92	
22	188	1.60	1.26491	3.34	96	92	
23	180	1.30	1.14018	2.71	96	92	METER T.
24	180	0.72	0.84853	1.50	96	92	AVERAGE
	185.875		1.2071	3.0867	94.3333	89.7083	92.0208

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
DATE : 16-Jun-94
PLACE : Dryer #1
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	370.1
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-9.8
GAS METER VOL.(Cu.Ft.) :	60.739	PERCENT CO2 :	4
BAROMETRIC PRESSURE :	29.88	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	42	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00036	STACK AREA (Sq.Ft.) :	0.

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	57.8858
VOLUME OF WATER VAPOR (STD. CU.FT.):	17.4206
FRACTIONAL MOISTURE CONTENT (%):	0.2313
DRY BASE:	78.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.3600
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7321
STACK PRESSURE (inch Hg):	29.1594
STACK GAS VELOCITY (ft/sec.):	78.9555
ACTUAL STACK GAS FLOW RATE (ACFM):	45578.4581
STANDARD STACK GAS FLOW RATE (SCFH):	1667235.03

PARTICULATE

FRONT HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%):	92.0701
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POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	186	1.00	1	2.00	89	89	
2	190	1.50	1.22474	3.10	89	88	
3	192	1.70	1.30384	3.50	89	88	
4	192	1.50	1.22474	3.10	90	88	
5	191	1.80	1.34164	3.70	89	88	
6	194	1.70	1.30384	3.50	89	88	
7	196	1.60	1.26491	3.30	89	89	
8	191	1.80	1.34164	3.70	90	89	
9	191	1.70	1.30384	3.50	90	89	
10	190	1.60	1.26491	3.30	92	89	
11	185	1.10	1.04881	2.20	94	89	
12	148	0.49	0.7	1.00	95	89	
13	193	1.20	1.09545	2.50	90	90	
14	194	1.50	1.22474	3.10	92	90	
15	193	1.60	1.26491	3.30	95	90	
16	193	1.60	1.26491	3.30	96	90	
17	192	1.80	1.34164	3.70	97	91	
18	192	1.70	1.30384	3.50	98	91	
19	192	1.80	1.34164	3.70	98	92	
20	191	1.90	1.3784	3.90	99	92	
21	191	1.70	1.30384	3.50	99	92	
22	188	1.60	1.26491	3.30	98	92	
23	180	0.85	0.92195	1.70	98	93	METER T.
24	186	0.80	0.89443	1.60	98	93	AVERAGE
	188.7917		1.2051	3.0417	93.4583	89.9583	91.7083

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
DATE : 16-Jun-94
PLACE : Dryer #2
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	476.9
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-10
GAS METER VOL.(Cu.Ft.) :	67.997	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.8	PERCENT O2 :	20
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	42	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00036	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	64.4522
VOLUME OF WATER VAPOR (STD. CU.FT.):	22.4477
FRACTIONAL MOISTURE CONTENT (%):	0.2583
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0400
MOLECULAR WT. OF STACK GAS (WET BASE):	26.1882
STACK PRESSURE (inch Hg):	29.0647
STACK GAS VELOCITY (ft/sec.):	77.5153
ACTUAL STACK GAS FLOW RATE (ACFM):	44747.0736
STANDARD STACK GAS FLOW RATE (SCFH):	1562287.78

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 109.4015

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	195	0.99	0.99499	2.89	86	85	
2	196	1.30	1.14018	3.79	87	85	
3	194	1.40	1.18322	4.08	87	85	
4	197	1.60	1.26491	4.67	90	85	
5	195	1.60	1.26491	4.67	90	85	
6	195	1.60	1.26491	4.67	89	86	
7	194	1.70	1.30384	4.96	89	86	
8	194	1.60	1.26491	4.67	89	86	
9	186	1.60	1.26491	4.67	89	86	
10	182	1.50	1.22474	4.37	88	87	
11	198	1.50	1.22474	4.37	90	87	
12	197	0.40	0.63246	1.17	90	87	
13	191	1.00	1	2.92	99	90	
14	194	1.60	1.26491	4.67	100	90	
15	196	1.70	1.30384	4.96	100	91	
16	196	1.80	1.34164	5.25	102	91	
17	195	1.70	1.30384	4.96	102	92	
18	192	1.80	1.34164	5.25	102	92	
19	191	1.50	1.22474	4.37	102	93	
20	193	1.20	1.09545	3.50	103	93	
21	194	1.60	1.26491	4.67	103	93	
22	196	1.10	1.04881	3.21	103	94	
23	195	1.00	1	2.92	104	95	METER T.
24	194	0.54	0.73485	1.57	104	95	AVERAGE
	193.75		1.1647	4.0513	95.3333	89.1250	92.2292

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
DATE : 16-Jun-94
PLACE : Dryer #2
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	419.7
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-10
GAS METER VOL.(Cu.Ft.) :	58.735	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.88	PERCENT O2 :	20
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	42	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.00036	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	55.5110
VOLUME OF WATER VAPOR (STD. CU.FT.):	19.7553
FRACTIONAL MOISTURE CONTENT (%):	0.2625
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0400
MOLECULAR WT. OF STACK GAS (WET BASE):	26.1423
STACK PRESSURE (inch Hg):	29.1447
STACK GAS VELOCITY (ft/sec.):	77.4262
ACTUAL STACK GAS FLOW RATE (ACFM):	44695.6648
STANDARD STACK GAS FLOW RATE (SCFH):	1559798.92

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 94.3750

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	194	1.20	1.09545	2.61	90	90	
2	189	1.60	1.26491	3.48	90	90	
3	189	1.70	1.30384	3.69	90	90	
4	190	1.70	1.30384	3.69	91	90	
5	189	1.80	1.34164	3.91	91	90	
6	190	1.70	1.30384	3.69	91	90	
7	190	1.50	1.22474	3.26	91	90	
8	194	1.60	1.26491	3.48	95	91	
9	195	1.20	1.09545	2.61	98	91	
10	193	1.00	1	2.17	100	91	
11	186	1.10	1.04881	2.39	101	92	
12	182	0.64	0.8	1.39	102	93	
13	192	0.95	0.97468	2.06	93	93	
14	193	1.40	1.18322	3.04	95	93	
15	194	1.60	1.26491	3.48	96	93	
16	194	1.70	1.30384	3.68	97	93	
17	194	1.80	1.34164	3.91	97	93	
18	195	1.70	1.30384	3.69	97	93	
19	195	1.60	1.26491	3.48	98	93	
20	196	1.60	1.26491	3.48	98	93	
21	197	1.30	1.14018	2.83	99	94	
22	193	1.10	1.04881	2.39	99	94	
23	193	1.00	1	2.17	99	94	METER T.
24	195	0.69	0.83066	1.50	100	95	AVERAGE
	192.1667		1.1654	3.0033	95.7500	92.0417	93.8958

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, LA
 DATE : 16-Jun-94
 PLACE : Dryer #2
 RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	378.4
NOZZLE DIAMETER (INCH.) :	0.258	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-10
GAS METER VOL.(Cu.Ft.) :	61.901	PERCENT CO2 :	2
BAROMETRIC PRESSURE :	29.88	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):
 STACK AREA (Sq.Ft.) :
 NOZZLE AREA (feet):

42
 9.62113
 0.00036

FOR RECTANGULAR STACK

STACK LENGTH(inchs) :
 STACK WIDTH(inchs) :
 STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	58.3724
VOLUME OF WATER VAPOR (STD. CU.FT.):	17.8113
FRACTIONAL MOISTURE CONTENT (%):	0.2338
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0800
MOLECULAR WT. OF STACK GAS (WET BASE):	26.4896
STACK PRESSURE (inch Hg):	29.1447
STACK GAS VELOCITY (ft/sec.):	81.2519
ACTUAL STACK GAS FLOW RATE (ACFM):	46904.0776
STANDARD STACK GAS FLOW RATE (SCFH):	1692622.39

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0000
PARTICULATE CONCENTRATION (LBS/SCF):	0.00E+00
PARTICULATE EMISSION (LBS/HR):	0.0000

ISOKINETIC RATIO (%): 91.4517

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	196	1.10	1.04881	2.39	92	91	
2	197	1.70	1.30384	3.69	93	91	
3	197	1.80	1.34164	3.91	93	91	
4	196	1.90	1.3784	4.13	94	91	
5	195	1.70	1.30384	3.69	95	91	
6	196	1.60	1.26491	3.48	96	91	
7	196	1.70	1.30384	3.69	96	92	
8	197	1.80	1.34164	3.91	96	93	
9	198	1.60	1.26491	3.48	96	93	
10	197	1.40	1.18322	3.04	96	93	
11	196	1.30	1.14018	2.83	97	93	
12	195	0.95	0.97468	2.06	97	93	
13	193	1.00	1	2.17	96	93	
14	194	1.30	1.14018	2.83	98	93	
15	195	1.60	1.26491	3.48	100	93	
16	196	1.80	1.34164	3.92	100	93	
17	195	1.90	1.3784	4.13	101	93	
18	196	1.80	1.34164	3.91	102	93	
19	195	1.40	1.18322	3.04	102	94	
20	196	1.50	1.22474	3.26	103	94	
21	193	1.70	1.30384	3.69	104	94	
22	194	1.60	1.26491	3.68	104	95	
23	192	1.40	1.18322	3.04	103	96	METER T.
24	190	1.00	1	2.17	103	96	AVERAGE
	195.2083		1.2282	3.3175	98.2083	92.9167	95.5625

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 17-Jun-94
PLACE : Dryer #4
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	317.3
NOZZLE DIAMETER (INCH.) :	0.238	PARTICULATE WEIGHT (Front half mg)	472.85
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	40.85
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H ₂ O) :	-9.5
GAS METER VOL.(Cu.Ft.) :	54.455	PERCENT CO ₂ :	3.5
BAROMETRIC PRESSURE :	29.91	PERCENT O ₂ :	19
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):
STACK AREA (Sq.Ft.) :
NOZZLE AREA (feet):

42
9.62113
0.00031

FOR RECTANGULAR STACK

STACK LENGTH(inchs) :
STACK WIDTH(inchs) :
STACK AREA (Sq.Ft.) :

0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	51.5859
VOLUME OF WATER VAPOR (STD. CU.FT.):	14.9353
FRACTIONAL MOISTURE CONTENT (%):	0.2245
DRY BASE:	77.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.3200
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7784

STACK PRESSURE (inch Hg):	29.2115
STACK GAS VELOCITY (ft/sec.):	80.0901
ACTUAL STACK GAS FLOW RATE (ACFM):	46233.4404
STANDARD STACK GAS FLOW RATE (SCFH):	1712081.82

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.1414
PARTICULATE CONCENTRATION (LBS/SCF):	2.02E-05
PARTICULATE EMISSION (LBS/HR):	34.6040

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0122
PARTICULATE CONCENTRATION (LBS/SCF):	1.75E-06
PARTICULATE EMISSION (LBS/HR):	2.9895

ISOKINETIC RATIO (%): 93.8933

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	187	1.20	1.09545	2.00	86	86	
2	188	1.60	1.26491	2.70	88	86	
3	189	1.80	1.34164	3.00	91	87	
4	189	1.90	1.3784	3.20	94	87	
5	189	1.80	1.34164	3.00	94	87	
6	188	1.90	1.3784	3.20	95	87	
7	190	1.80	1.34164	3.00	96	87	
8	189	1.70	1.30384	2.90	97	89	
9	188	1.40	1.18322	2.40	98	89	
10	189	1.40	1.18322	2.40	98	89	
11	186	1.20	1.09545	2.00	98	89	
12	175	0.81	0.9	1.40	97	90	
13	188	1.10	1.04881	1.90	90	90	
14	191	1.40	1.18322	2.40	92	90	
15	188	1.60	1.26491	2.70	93	90	
16	191	1.70	1.30384	2.90	97	90	
17	190	1.80	1.34164	3.00	98	91	
18	190	1.80	1.34164	3.00	100	91	
19	191	1.80	1.34164	3.00	100	91	
20	190	1.70	1.30384	2.90	100	91	
21	189	1.50	1.22474	2.50	100	91	
22	187	1.40	1.18322	2.40	100	92	
23	186	1.20	1.09545	2.00	98	92	METER T.
24	177	0.95	0.97468	1.60	99	92	AVERAGE
	187.7083		1.2256	2.5625	95.7917	89.3333	92.5625

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
 DATE : 17-Jun-94
 PLACE : Dryer #4
 RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	308
NOZZLE DIAMETER (INCH.) :	0.238	PARTICULATE WEIGHT (Front half mg)	335.37
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	75.3
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-10.5
GAS METER VOL.(Cu.Ft.) :	55.212	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.91	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch): 42
 STACK AREA (Sq.Ft.) : 9.62113
 NOZZLE AREA (feet): 0.00031

FOR RECTANGULAR STACK

STACK LENGTH(inches) :
 STACK WIDTH(inches) :
 STACK AREA (Sq.Ft.) : 0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	51.9831
VOLUME OF WATER VAPOR (STD. CU.FT.):	14.4976
FRACTIONAL MOISTURE CONTENT (%):	0.2181
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2200
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7732
STACK PRESSURE (inch Hg):	29.1379
STACK GAS VELOCITY (ft/sec.):	81.3927
ACTUAL STACK GAS FLOW RATE (ACFM):	46985.3814
STANDARD STACK GAS FLOW RATE (SCFH):	1746607.31

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0995
PARTICULATE CONCENTRATION (LBS/SCF):	1.42E-05
PARTICULATE EMISSION (LBS/HR):	24.8465

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0224
PARTICULATE CONCENTRATION (LBS/SCF):	3.19E-06
PARTICULATE EMISSION (LBS/HR):	5.5787

ISOKINETIC RATIO (%): 92.7459

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	190	1.20	1.09545	2.00	93	93	
2	191	1.70	1.30384	2.90	93	92	
3	191	1.80	1.34164	3.00	94	92	
4	192	1.90	1.3784	3.20	95	92	
5	191	1.80	1.34164	3.00	98	93	
6	190	1.80	1.34164	3.00	99	93	
7	191	1.80	1.34164	3.00	99	94	
8	190	1.80	1.34164	3.00	99	94	
9	189	1.70	1.30384	2.90	98	94	
10	186	1.30	1.14018	2.20	97	94	
11	187	1.20	1.09545	2.00	96	94	
12	178	0.89	0.9434	1.50	97	94	
13	187	1.40	1.18322	2.40	95	95	
14	193	1.50	1.22474	2.50	95	95	
15	194	1.60	1.26491	2.70	96	95	
16	192	1.70	1.30384	2.90	97	95	
17	192	1.80	1.34164	3.00	98	95	
18	192	1.80	1.34164	3.00	99	95	
19	192	1.80	1.34164	3.00	100	95	
20	193	1.80	1.34164	3.00	101	95	
21	187	1.50	1.22474	2.50	102	96	
22	187	1.40	1.18322	2.40	102	96	
23	181	1.30	1.14018	2.20	102	96	METER T.
24	179	0.93	0.96437	1.60	102	96	AVERAGE
	188.9583		1.2427	2.6208	97.7917	94.2917	96.0417

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 17-Jun-94
PLACE : Dryer #4
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	286.5
NOZZLE DIAMETER (INCH.) :	0.238	PARTICULATE WEIGHT (Front half mg)	282.28
METER COEFFICIENT (Y) :	0.9859	PARTICULATE WEIGHT (Back half mg)	29.85
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-10.2
GAS METER VOL.(Cu.Ft.) :	54.202	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.9	PERCENT O2 :	20
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	42	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.00031	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	50.7354
VOLUME OF WATER VAPOR (STD. CU.FT.):	13.4856
FRACTIONAL MOISTURE CONTENT (%):	0.2100
DRY BASE:	77.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2800
MOLECULAR WT. OF STACK GAS (WET BASE):	26.9113
STACK PRESSURE (inch Hg):	29.1500
STACK GAS VELOCITY (ft/sec.):	79.7177
ACTUAL STACK GAS FLOW RATE (ACFM):	46018.4551
STANDARD STACK GAS FLOW RATE (SCFH):	1727513.9

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0858
PARTICULATE CONCENTRATION (LBS/SCF):	1.23E-05
PARTICULATE EMISSION (LBS/HR):	21.1933

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0091
PARTICULATE CONCENTRATION (LBS/SCF):	1.30E-06
PARTICULATE EMISSION (LBS/HR):	2.2411

ISOKINETIC RATIO (%): 91.5201

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	185	1.30	1.14018	2.20	94	95	
2	187	1.40	1.18322	2.40	96	95	
3	188	1.80	1.34164	3.00	97	95	
4	188	1.90	1.3784	3.20	98	95	
5	190	1.90	1.3784	3.20	99	95	
6	191	1.80	1.34164	3.00	101	96	
7	192	1.80	1.34164	3.00	101	96	
8	190	1.70	1.30384	2.90	101	96	
9	189	1.50	1.22474	2.50	101	96	
10	188	1.30	1.14018	2.20	101	96	
11	183	1.10	1.04881	1.90	102	97	
12	179	0.85	0.92195	1.40	102	97	
13	191	1.10	1.04881	1.90	98	98	
14	192	1.30	1.14018	2.20	98	97	
15	190	1.60	1.26491	2.70	99	97	
16	192	1.70	1.30384	2.90	101	98	
17	194	1.70	1.30384	2.90	102	98	
18	196	1.70	1.30384	2.90	103	98	
19	195	1.80	1.34164	3.00	104	98	
20	197	1.70	1.30384	2.90	105	99	
21	195	1.60	1.26491	2.70	106	99	
22	194	1.40	1.18322	2.40	105	99	
23	187	1.20	1.09545	2.00	105	99	METER T.
24	176	0.96	0.9798	1.60	105	99	AVERAGE
	189.5417		1.2200	2.5417	101.0000	97.0000	99.0000

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 17-Jun-94
PLACE : Dryer #5
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	330.7
NOZZLE DIAMETER (INCH.) :	0.233	PARTICULATE WEIGHT (Front half mg)	272.56
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	36.75
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-8.5
GAS METER VOL.(Cu.Ft.) :	51.418	PERCENT CO2 :	4.5
BAROMETRIC PRESSURE :	29.91	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch): 42
STACK AREA (Sq.Ft.) : 9.62113
NOZZLE AREA (feet): 0.0003

FOR RECTANGULAR STACK

STACK LENGTH(inchs) :
STACK WIDTH(inchs) :
STACK AREA (Sq.Ft.) : 0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	49.0741
VOLUME OF WATER VAPOR (STD. CU.FT.):	15.5660
FRACTIONAL MOISTURE CONTENT (%):	0.2408
DRY BASE:	77.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.4600
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7003
STACK PRESSURE (inch Hg):	29.2850
STACK GAS VELOCITY (ft/sec.):	77.4338
ACTUAL STACK GAS FLOW RATE (ACFM):	44700.0278
STANDARD STACK GAS FLOW RATE (SCFH):	1639686.02

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0857
PARTICULATE CONCENTRATION (LBS/SCF):	1.22E-05
PARTICULATE EMISSION (LBS/HR):	20.0807

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0116
PARTICULATE CONCENTRATION (LBS/SCF):	1.65E-06
PARTICULATE EMISSION (LBS/HR):	2.7075

ISOKINETIC RATIO (%): 97.3114

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	176	1.10	1.04881	1.69	86	85	
2	178	1.00	1	1.53	86	85	
3	177	1.60	1.26491	2.46	87	85	
4	175	1.70	1.30384	2.61	88	85	
5	178	1.70	1.30384	2.61	88	85	
6	179	1.80	1.34164	2.76	90	86	
7	183	1.70	1.30384	2.61	90	87	
8	180	1.70	1.30384	2.61	90	87	
9	180	1.70	1.30384	2.61	90	87	
10	180	1.50	1.22474	2.30	90	88	
11	180	1.30	1.14018	1.99	90	88	
12	179	0.99	0.99499	1.52	90	88	
13	186	1.70	1.30384	2.61	91	90	
14	186	1.70	1.30384	2.61	92	90	
15	184	1.70	1.30384	2.61	94	90	
16	181	1.80	1.34164	2.76	95	90	
17	182	1.70	1.30384	2.61	96	90	
18	184	1.80	1.34164	2.76	96	91	
19	185	1.70	1.30384	2.61	96	91	
20	186	1.60	1.26491	2.46	96	91	
21	188	1.50	1.22474	2.30	97	92	
22	184	1.10	1.04881	1.69	97	92	
23	185	0.75	0.86603	1.15	98	92	METER T.
24	186	0.18	0.42426	0.28	98	92	AVERAGE
	181.75		1.1902	2.2396	92.1250	88.6250	90.3750

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 17-Jun-94
PLACE : Dryer #5
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	297.3
NOZZLE DIAMETER (INCH.) :	0.233	PARTICULATE WEIGHT (Front half mg)	299.33
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	43.3
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-9
GAS METER VOL.(Cu.Ft.) :	51.283	PERCENT CO2 :	3.5
BAROMETRIC PRESSURE :	29.91	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch):	42	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.62113	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.0003	STACK AREA (Sq.Ft.) :	0

FOR RECTANGULAR STACK

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	48.4213
VOLUME OF WATER VAPOR (STD. CU.FT.):	13.9939
FRACTIONAL MOISTURE CONTENT (%):	0.2242
DRY BASE:	77.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.3200
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7820
STACK PRESSURE (inch Hg):	29.2482
STACK GAS VELOCITY (ft/sec.):	77.3957
ACTUAL STACK GAS FLOW RATE (ACFM):	44678.0071
STANDARD STACK GAS FLOW RATE (SCFH):	1662473.66

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0954
PARTICULATE CONCENTRATION (LBS/SCF):	1.36E-05
PARTICULATE EMISSION (LBS/HR):	22.6609

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0138
PARTICULATE CONCENTRATION (LBS/SCF):	1.97E-06
PARTICULATE EMISSION (LBS/HR):	3.2780

ISOKINETIC RATIO (%): 94.7006

POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	185	1.10	1.04881	1.69	92	92	
2	186	1.50	1.22474	2.30	93	92	
3	187	1.70	1.30384	2.61	94	92	
4	185	1.70	1.30384	2.61	96	93	
5	186	1.70	1.30384	2.61	97	94	
6	186	1.70	1.30384	2.61	99	96	
7	185	1.70	1.30384	2.61	99	96	
8	185	1.70	1.30384	2.61	100	97	
9	186	1.60	1.26491	2.46	100	97	
10	184	1.40	1.18322	2.15	99	98	
11	187	1.00	1	1.53	98	98	
12	185	0.81	0.9	1.24	98	98	
13	186	0.95	0.97468	1.45	95	94	
14	185	1.00	1	1.53	96	95	
15	186	1.50	1.22474	2.30	96	95	
16	186	1.60	1.26491	2.46	96	95	
17	186	1.70	1.30384	2.61	96	95	
18	187	1.70	1.30384	2.61	97	95	
19	185	1.70	1.30384	2.61	97	95	
20	186	1.70	1.30384	2.61	98	96	
21	183	1.70	1.30384	2.61	98	96	
22	184	1.50	1.22474	2.30	98	96	
23	186	0.90	0.94868	1.38	100	97	METER T.
24	189	0.79	0.88882	1.21	100	97	AVERAGE
	185.6667		1.1871	2.1963	97.1667	95.3750	96.2708

EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Hanceville, AL
DATE : 17-Jun-94
PLACE : Dryer #5
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	314.4
NOZZLE DIAMETER (INCH.) :	0.233	PARTICULATE WEIGHT (Front half mg)	167.22
METER COEFFICIENT (Y) :	0.99014	PARTICULATE WEIGHT (Back half mg)	37.55
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-9
GAS METER VOL.(Cu.Ft.) :	50.292	PERCENT CO2 :	3.5
BAROMETRIC PRESSURE :	29.91	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch): 42
STACK AREA (Sq.Ft.) : 9.62113
NOZZLE AREA (feet): 0.0003

FOR RECTANGULAR STACK

STACK LENGTH(inchs) :
STACK WIDTH(inchs) :
STACK AREA (Sq.Ft.) : 0

ENTER THE STACK AREA SHOWN ABOVE: 9.62113

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	47.2680
VOLUME OF WATER VAPOR (STD. CU.FT.):	14.7988
FRACTIONAL MOISTURE CONTENT (%):	0.2384
DRY BASE:	77.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.3200
MOLECULAR WT. OF STACK GAS (WET BASE):	26.6209
STACK PRESSURE (inch Hg):	29.2482
STACK GAS VELOCITY (ft/sec.):	76.1418
ACTUAL STACK GAS FLOW RATE (ACFM):	43954.1848
STANDARD STACK GAS FLOW RATE (SCFH):	1605029.14

PARTICULATE

FRONT HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0546
PARTICULATE CONCENTRATION (LBS/SCF):	7.80E-06
PARTICULATE EMISSION (LBS/HR):	12.5202

BACK HALF

PARTICULATE CONCENTRATION (GR./SCF):	0.0123
PARTICULATE CONCENTRATION (LBS/SCF):	1.75E-06
PARTICULATE EMISSION (LBS/HR):	2.8115

ISOKINETIC RATIO (%): 95.7539

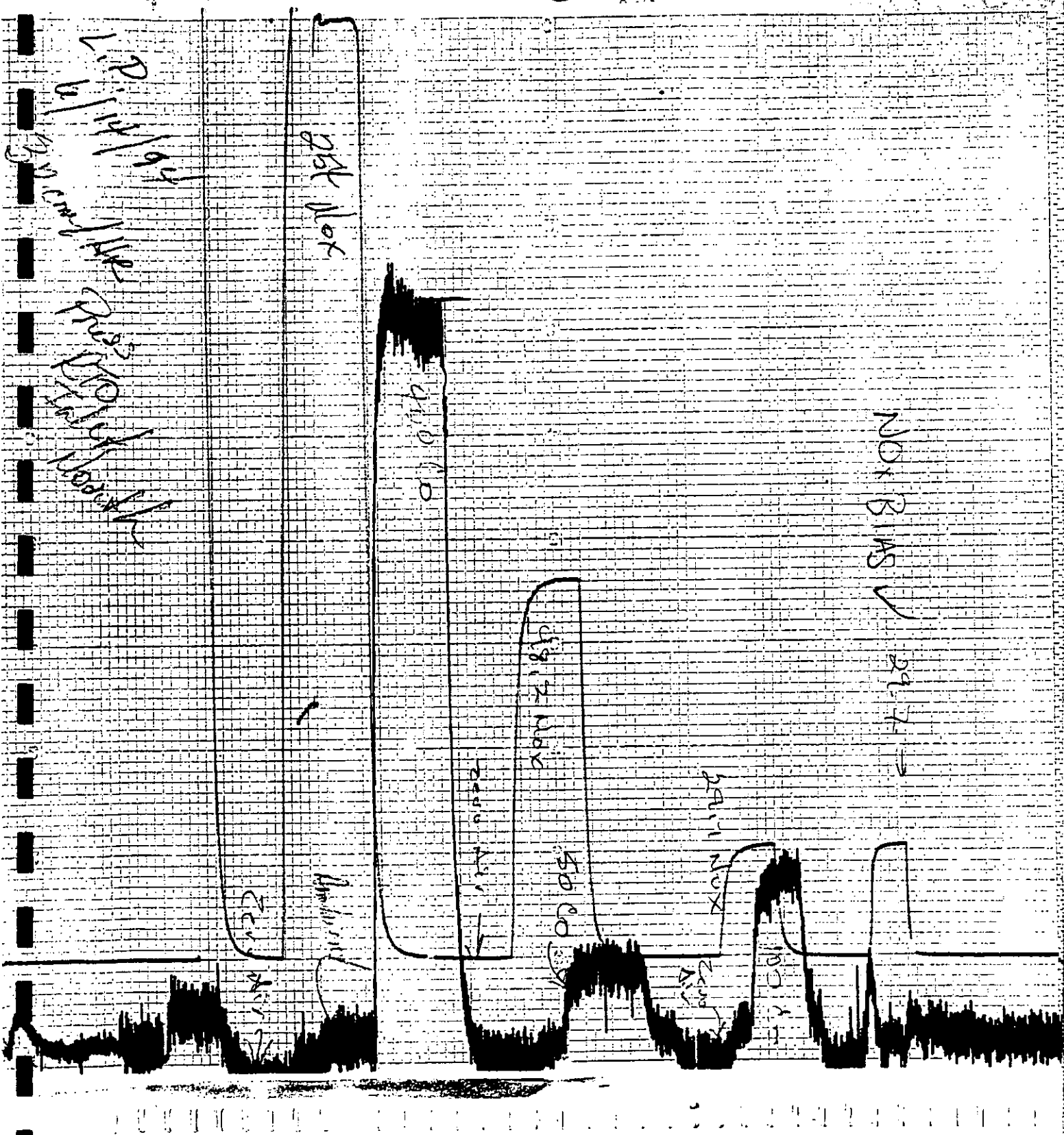
POINTS	STACK T. deg F	DELTA P	SQUAR D.P	DELTA H	METER T. INLET	METER T. OUTLET	
1	186	0.95	0.97468	1.46	97	96	
2	184	1.30	1.14018	1.99	97	97	
3	185	1.50	1.22474	2.30	97	97	
4	185	1.60	1.26491	2.46	98	97	
5	185	1.60	1.26491	2.46	98	97	
6	185	1.60	1.26491	2.46	98	97	
7	185	1.40	1.18322	2.15	98	97	
8	186	1.70	1.30384	2.61	98	97	
9	186	1.60	1.26491	2.45	98	97	
10	186	1.50	1.22474	2.30	98	97	
11	185	1.00	1	1.53	99	98	
12	187	0.54	0.73485	0.83	99	98	
13	185	1.10	1.04881	1.69	100	98	
14	186	1.40	1.18322	2.15	100	98	
15	187	1.70	1.30384	2.61	100	98	
16	188	1.70	1.30384	2.61	101	98	
17	189	1.70	1.30384	2.61	101	98	
18	188	1.70	1.30384	2.61	101	98	
19	187	1.70	1.30384	2.61	102	98	
20	186	1.70	1.30384	2.61	102	98	
21	185	1.40	1.18322	2.15	102	99	
22	184	1.30	1.14018	1.99	103	99	
23	185	0.85	0.92195	1.30	103	99	METER T.
24	186	0.63	0.79373	0.97	104	99	AVERAGE
	185.875		1.1642	2.1213	99.7500	97.7083	98.7292

APPENDIX B

EP
Press RTD North In

Run #1	Run #2	Run #3
NOx 2.74ppm CO	NOx CO	NOx CO
ND < 2.0	ND 420	ND 42.0

①



Chad
Sped
20 cm/hr

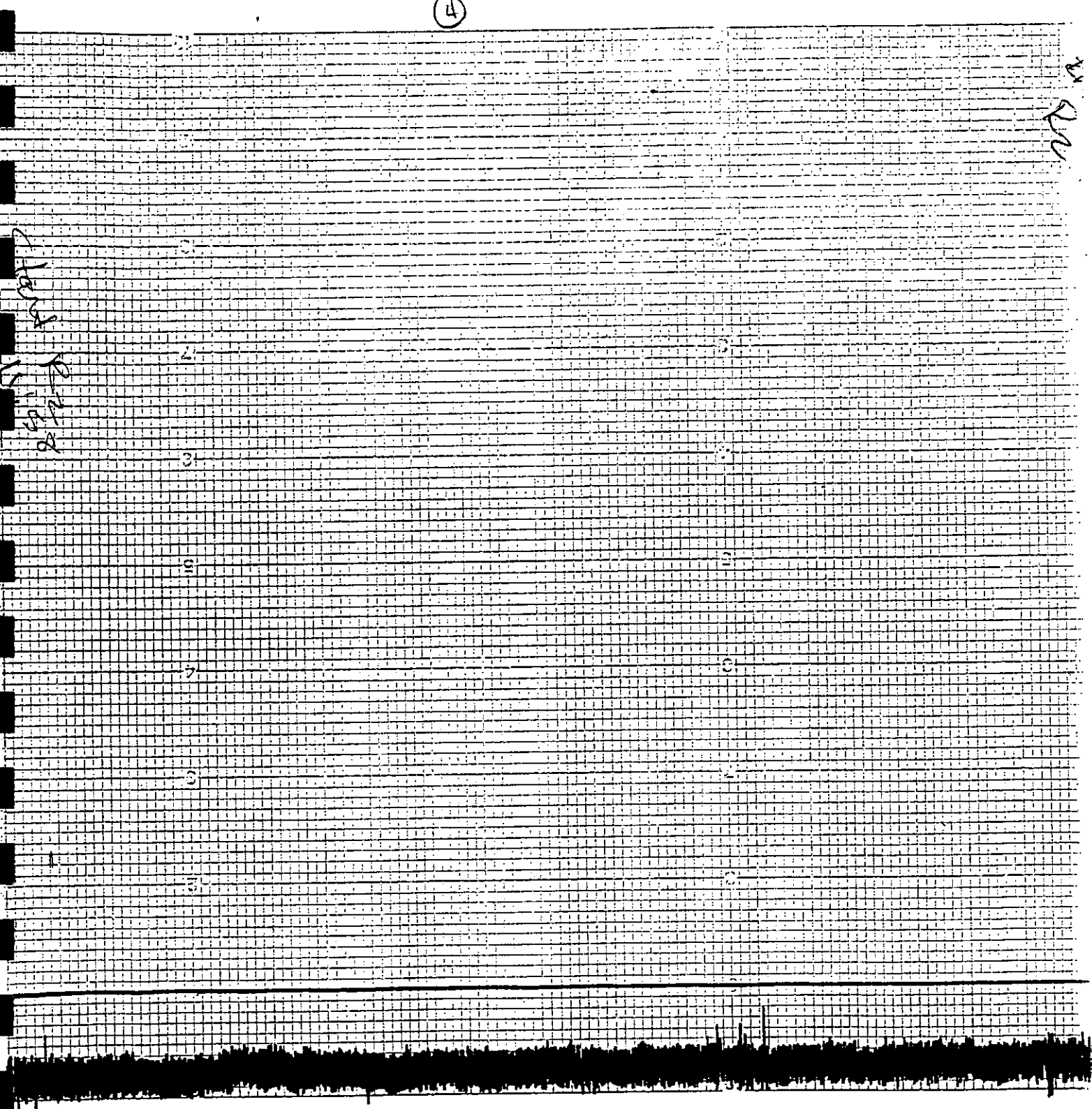
40:07 K1 Jact

100

(4)

22

Hand
written
15
10
8



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

12

XOVI

29.11.2010

35

ND

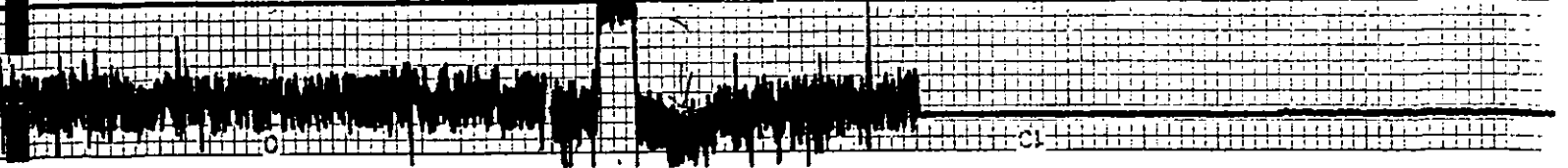
2.80 power
loss

6.6 dB

20.1 NDX

2.5 dB

1.5 dB



⑦

THE RECORD

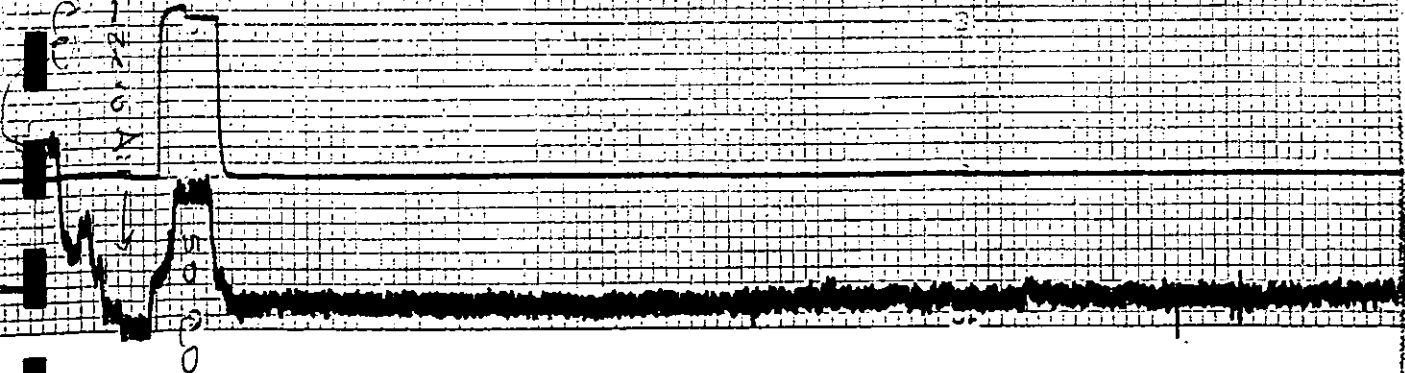
3:45

Start R3 4:35

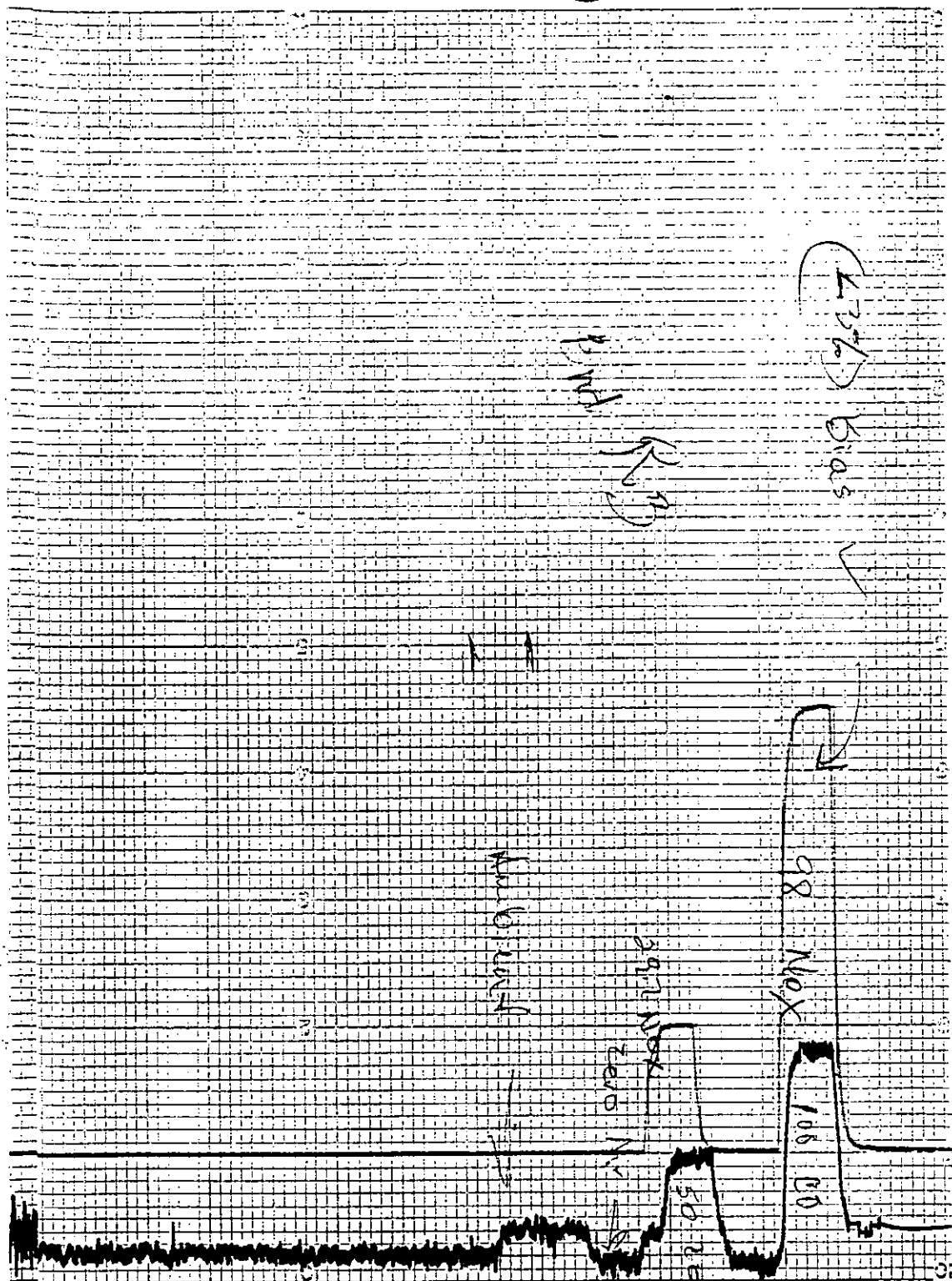
2000

Adjustment

500
200
0



(5)



LOUISIANA PACIFIC 6-14-94

HANCEVILLE, AL

PRESS RTO SOUTH INLET - NO_x, CO

Run 1

10:10 - 11:20

Run 2

11:53 - 12:53

Run 3

1:50 - 5:00

CO
ND NO_x
ND

CO
ND NO_x
ND

CO
5.682 NO_x
ND

LOUISIANA PACIFIC 6-15-94
PRESS RTO SOUTH INLET - CO, ~~150~~
Run 3 CO

Run

10:00 - 11:00

Run 3 (CO)

CO

1

1

1

1

1

1

1

1

1

1

1

1

5 PPM
UNIT

= 5 PPM

2 1

2 1

2 1

2 1

2 1

2 1

2 1

2 1.40

1.5 4.55

1.5 6.36

1.5 6.36

1

1

1

1

1

1

PPM 5.682

①

NO₂ Bas ✓854 ppm NO₂254 ppm NO₂99 NO₂

100 CO

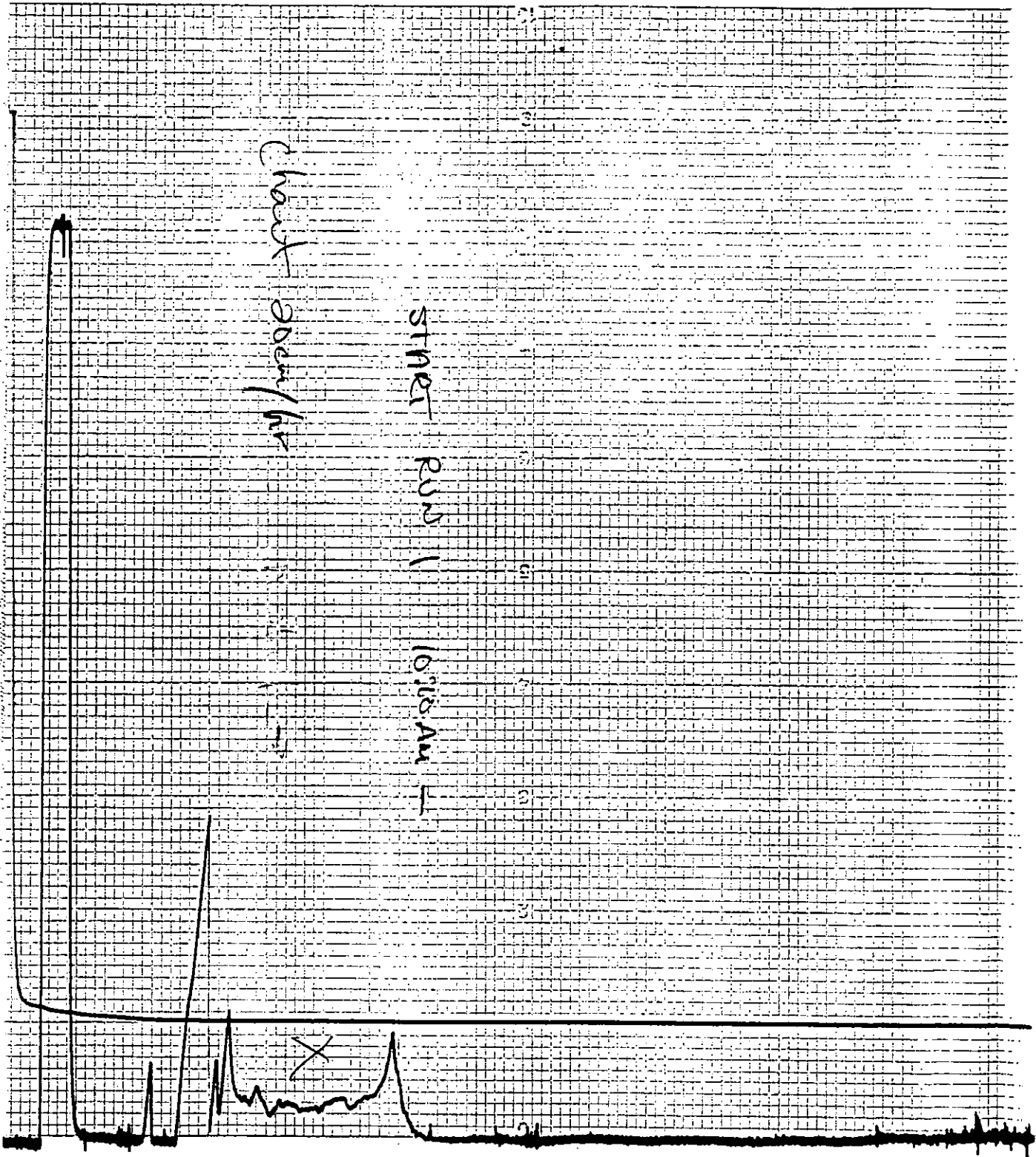
50 CO

402 ppm CO

402.4 ppm NO₂

6-14-94 Hanceville, AL L.P. Pass RTO South 100

②



3

CHARB6

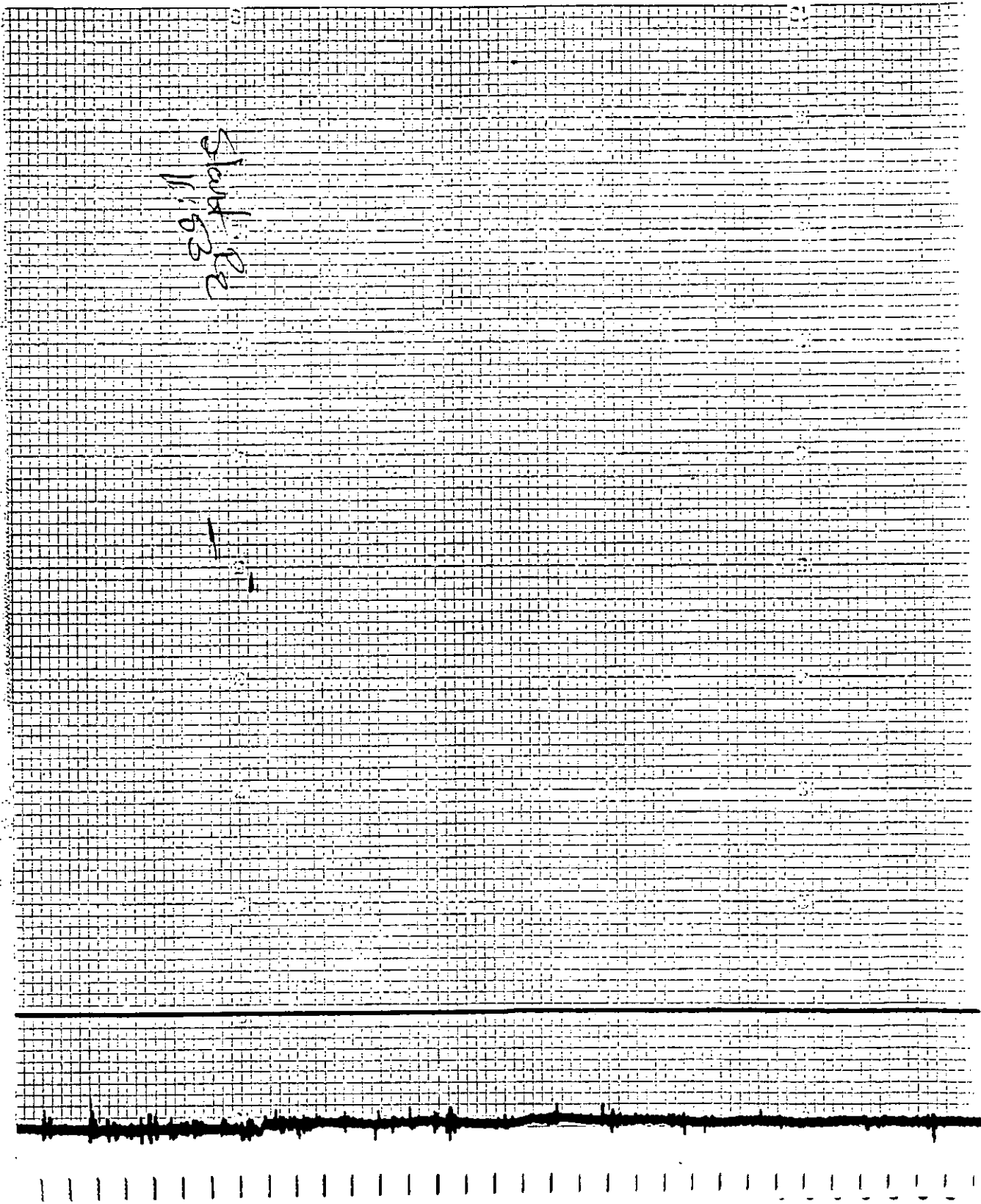
Good Run

1.0220

98. Mpx

50.0

Start
11:53
22



5

THE RECORDER Co. P.O. BOX 3, San Marcos, Tx 738

END RUN 2

98 NOV

recreo

50000

①

IN LOT 16 P10
LADY'S
DRESS

3

Start Run

Lost Power 110

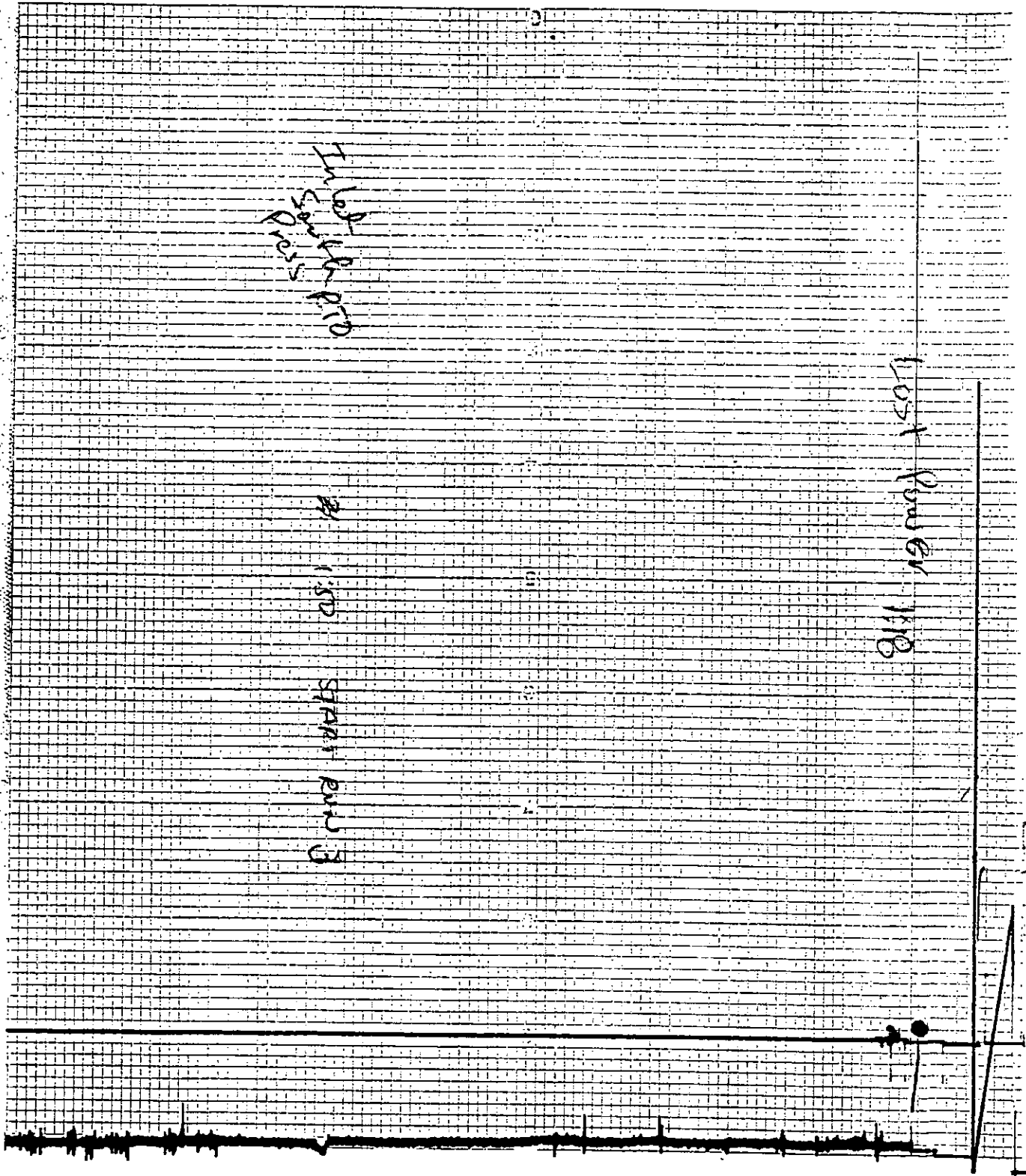
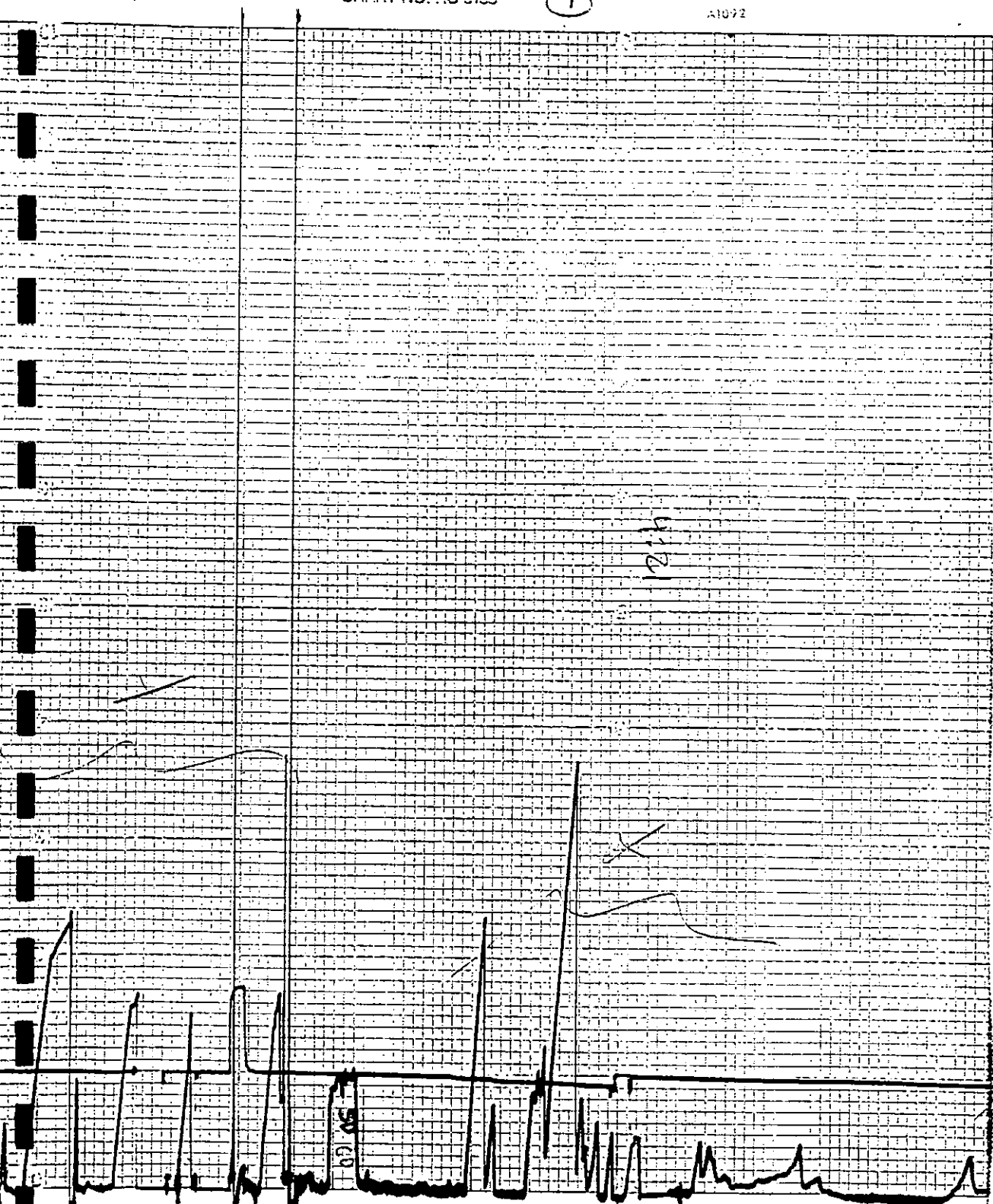


CHART NO. RC-3135

7

A1092



Handwritten notes and markings at the bottom of the page, including a series of vertical lines and some illegible text.

⑧

402.00

BIAS LEAK ✓

98.2.00

98.2.00

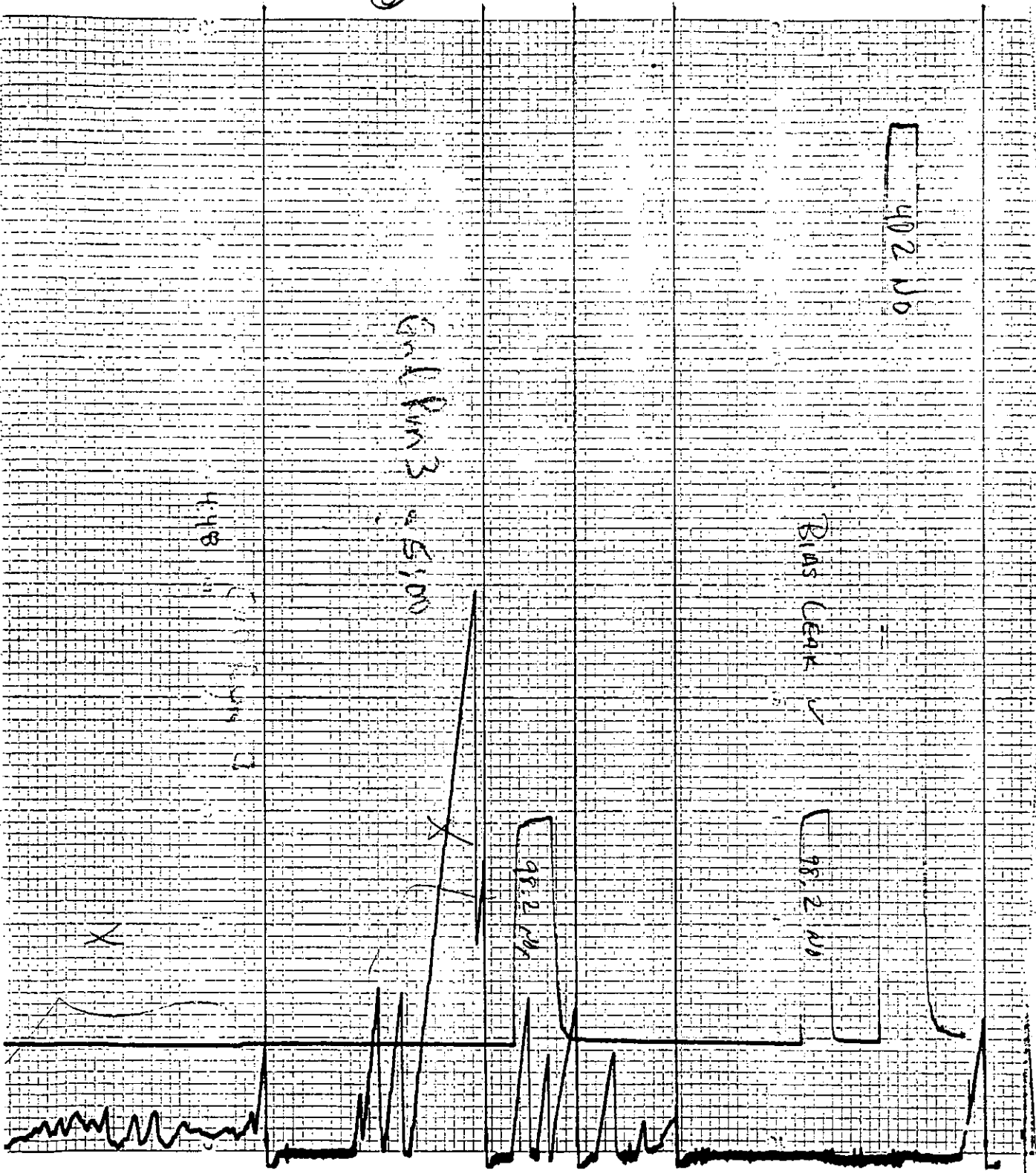
End Run 3 4.5.00

4.48

4.49

X

X



From K.T.D. - 1) North Inlet 1000: as C₃H₈

Run #1
Avg 174.90 ppm

Run #2
Avg 265.2 ppm

Run #3
Avg = 269.64 ppm

VOCs as C₃H₈

VOCs as C₃H₈

VOCs as C₃H₈

43 54
15 57
34 49
20 26
22 23
36 27
51 55
47 61
23 48
22 25
29 26
40 46
65 62
29 70
24 34
24 24
45 25
52 52
42 66
23 63
23 28
38 26
49 29
64 59
27 62
24 49
28 39.98
49 -5.00
57 34.98
42
24 174.90 ppm
24
45
52
27
24
25

48 54
17 23
21 20
40 21
50 39
31 47
18 40
18 22
22 21
50 30
41 47
19 55
19 23
22 22
39 23
48 40
29 52
19 37
18 22
34 21
46 33
40 52
19 50
19 29
25 32.00
40 -5.00
59 27.00
25 -1.00
20 26.00
21 x 10.2
35 = 265.2 ppm
44
40
20
20
29
44

18 37
31 22
44 33
45 59
21 25
20 19
23 18
35 27
66 35
29 45
22 23
19 18
31 18
39 25
45 41
19 40
19 22
20 19
35 20
50 32
37 64
48 50
42 32
42 12
22 50.20
22 -5.00
49 25.20
21 x 10.7
24 269.64 ppm
39
30
21
20
20
32
46

①

200 Cells

Baseline 5

2000 MHz

4.4567142
2000 MHz
3011.3748

V.P. PHS North

400 CO

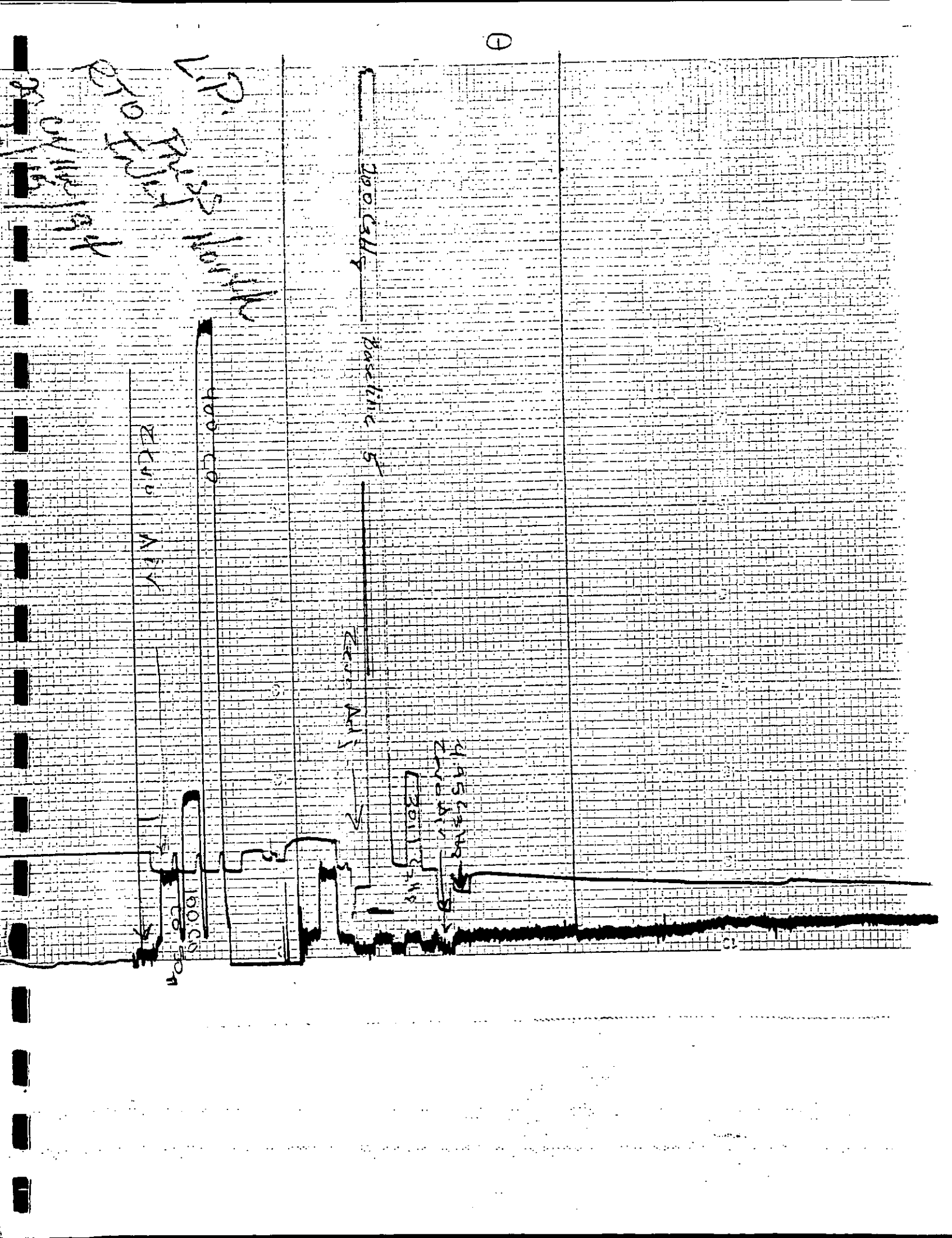
2000 MHz

160.00

2000 MHz

010 11/15/94

010 11/15/94



②

Chart
20 cm/hr

Range 100-100

5000

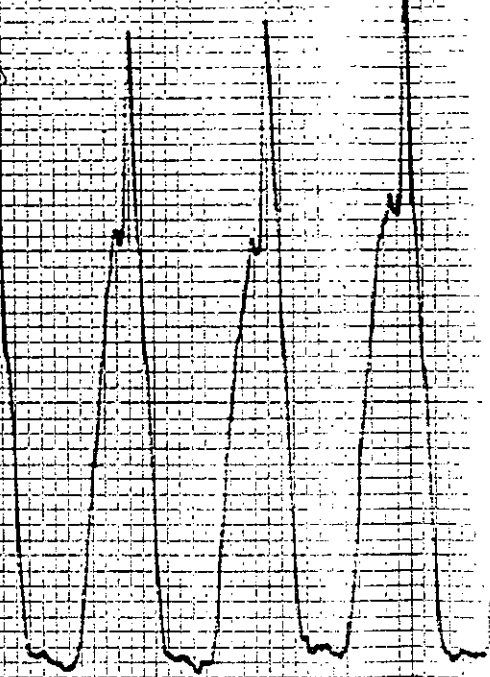
2000

2000

Start R1
10:00

Range 100-100

2000



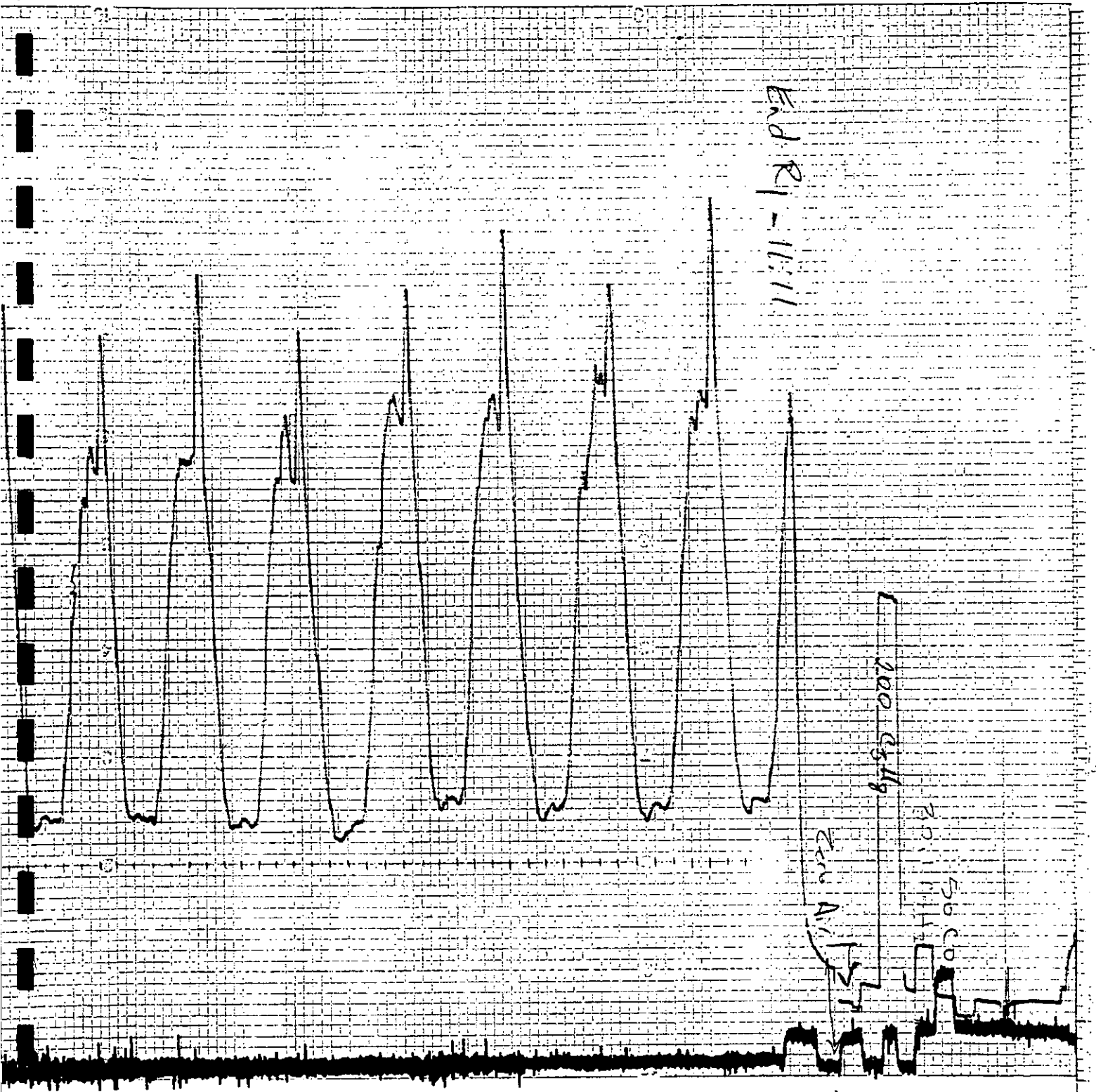
End R1 - 11:11

200.834g

20.11114

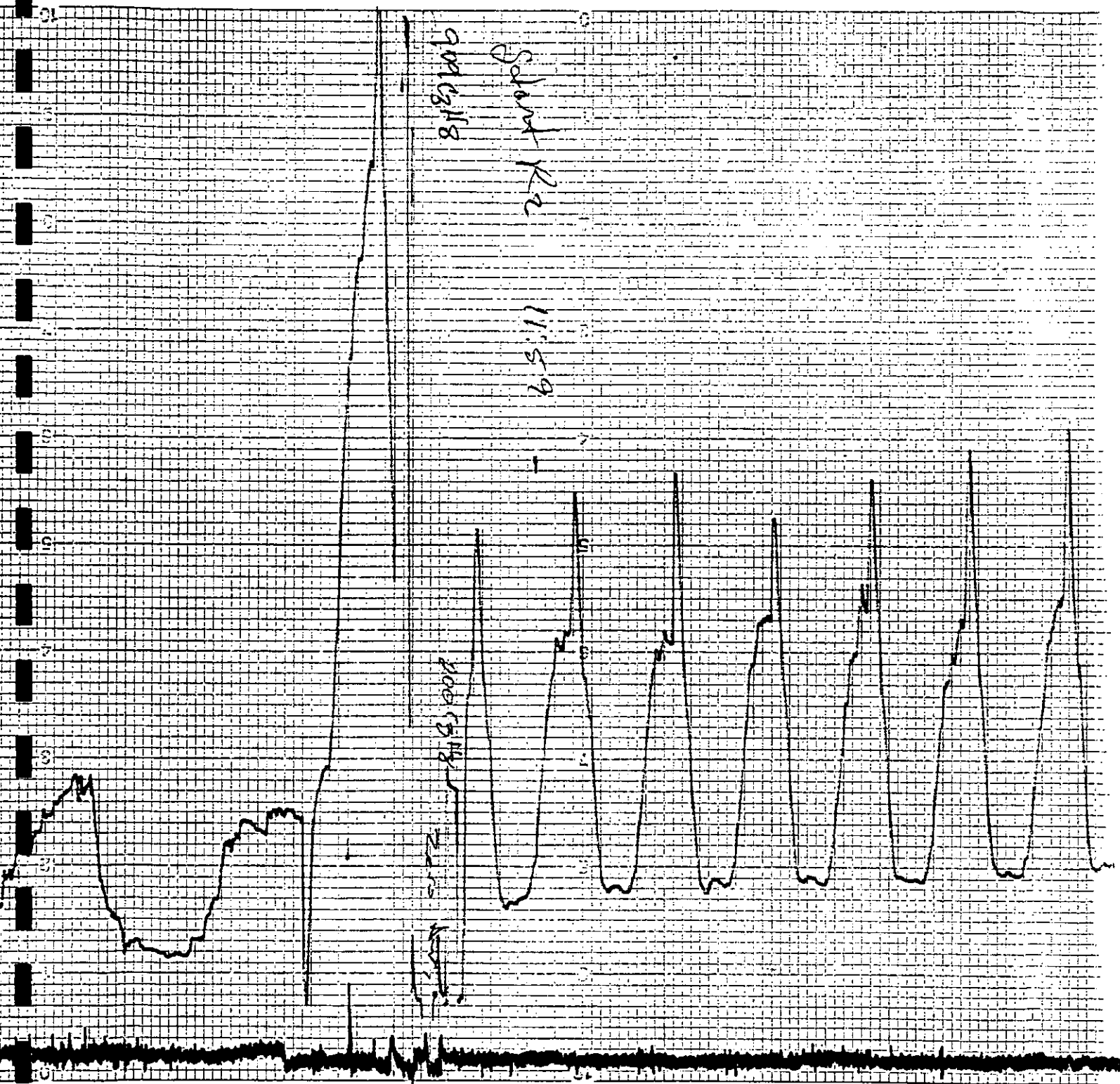
50 CO

Zen A1



④

THE RECORDER Co. P.O. BOX 8, San Mar.



⑤

07

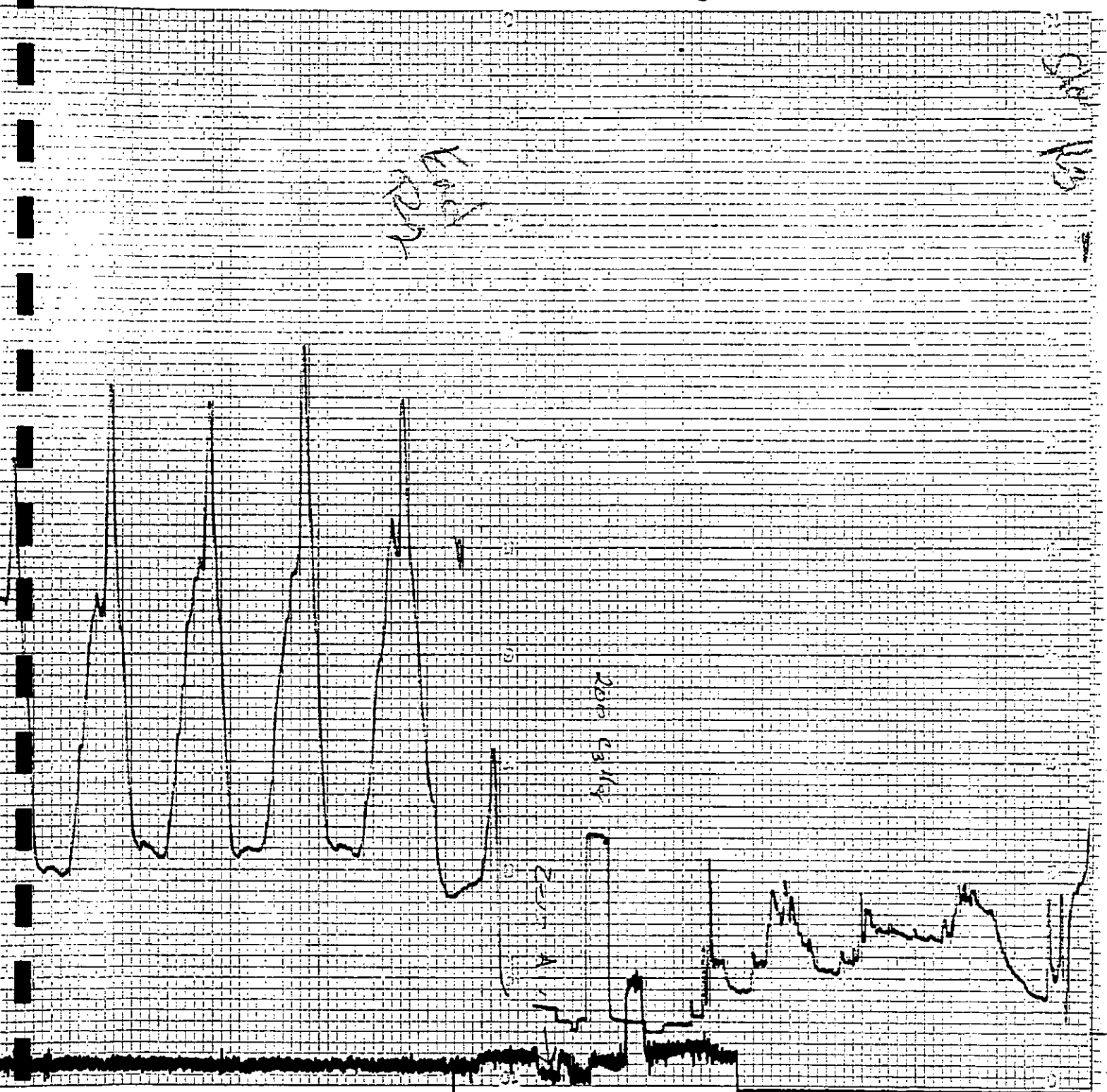
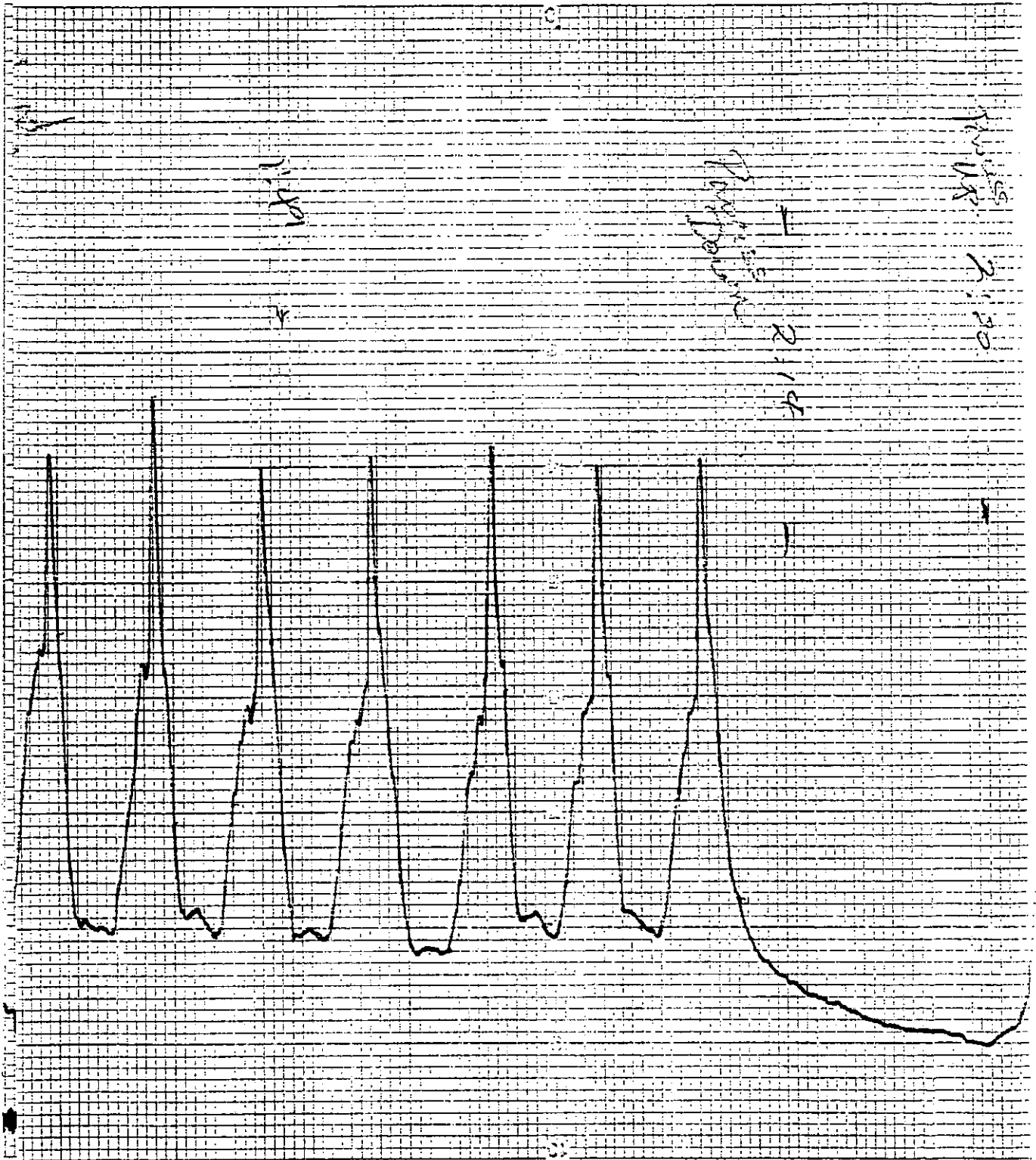


CHART NO. RC-3135

(b)

A1072



⑦

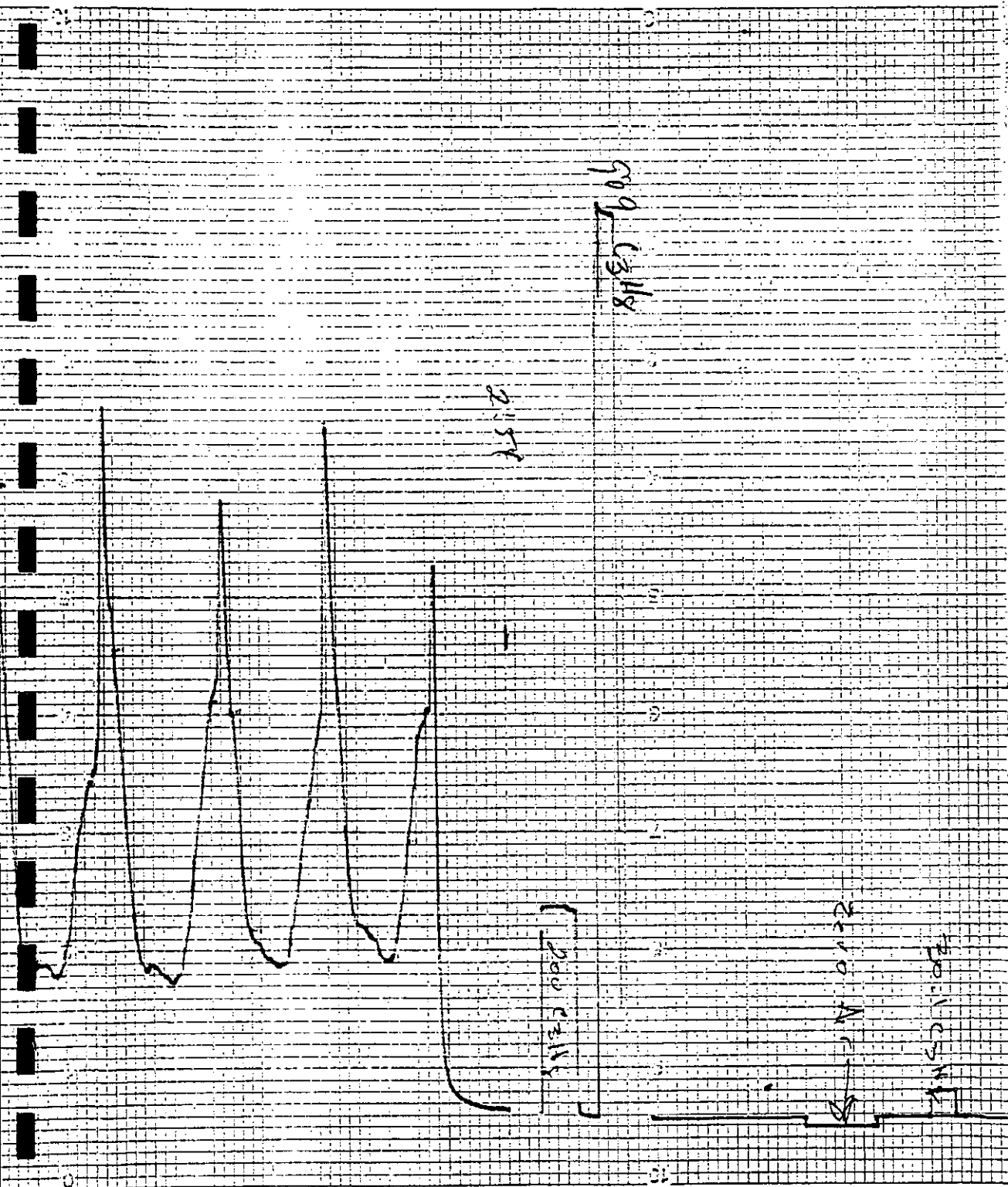
909 6348

2.57

200 6348

2010 A.C.

2010 A.C.



LP 6-15-94
Press Rto South Inlet (VOC's as C₈H₈)

Run #1		Run #2		Run #3	
AVE = 143.89		AVE = 206.37 ppm		AVE = 189.34 ppm	
125	237.5	16	13	44	41
125	200	12	14	20	23
125	75	20	31	14	12
162.5	78.1	37	42	13	11
181.5	93.8	38	27	30	17
170	218.8	16	15	40	31
142.5	225	12	13	28	38
162.5	162.5	14	28	10	17
81.5	81.3	30	38	14	11
42.5	81.3	36	37	22	11
101.5	162.5	25	17	35	20
220.5	250	12	13	35	32
217.5	231.3	12	20	14	29
91.0	106.3	28	37	12	13
75.0	81.3	38	44	13	12
81.5	87.5	31	20	25	14
187.5	231.3	14	26	42	28
210.0	250	12	26	29	40
137.5	181.3	18	35	23	17
81.0	93.8	34	47	22	12
97.5	75	40	30	41	13
175	175	17	17	12	AVE HT
210		13	11	27	22.54
217.5		14	AVE HT	40	X 8.4 ppm/unit
75		30	24.57	26	189.34 ppm
75		38	X 8.4 ppm/unit	14	
175		26	206.37 ppm	13	
237.5		13		20	
61.5		13		31	
87.5		26		34	
71		37		16	
90		34		13	
215		14		16	
210		13		30	
150		19		42	
80		37		25	
80		40		15	
191.5		19		22	

①

LP 6-15-94

Press R10 South INJ

2nd floor

200 pm C14

400 Co

Arclane
in strand

ambient

NBE 1200

29.98

50 Co

100 Co

27.7

100 Co

85.31 pm C3 H 6

②

30cm/hr
START 10:00 - RUN
Chart 98cm/hr

10:02

9:58

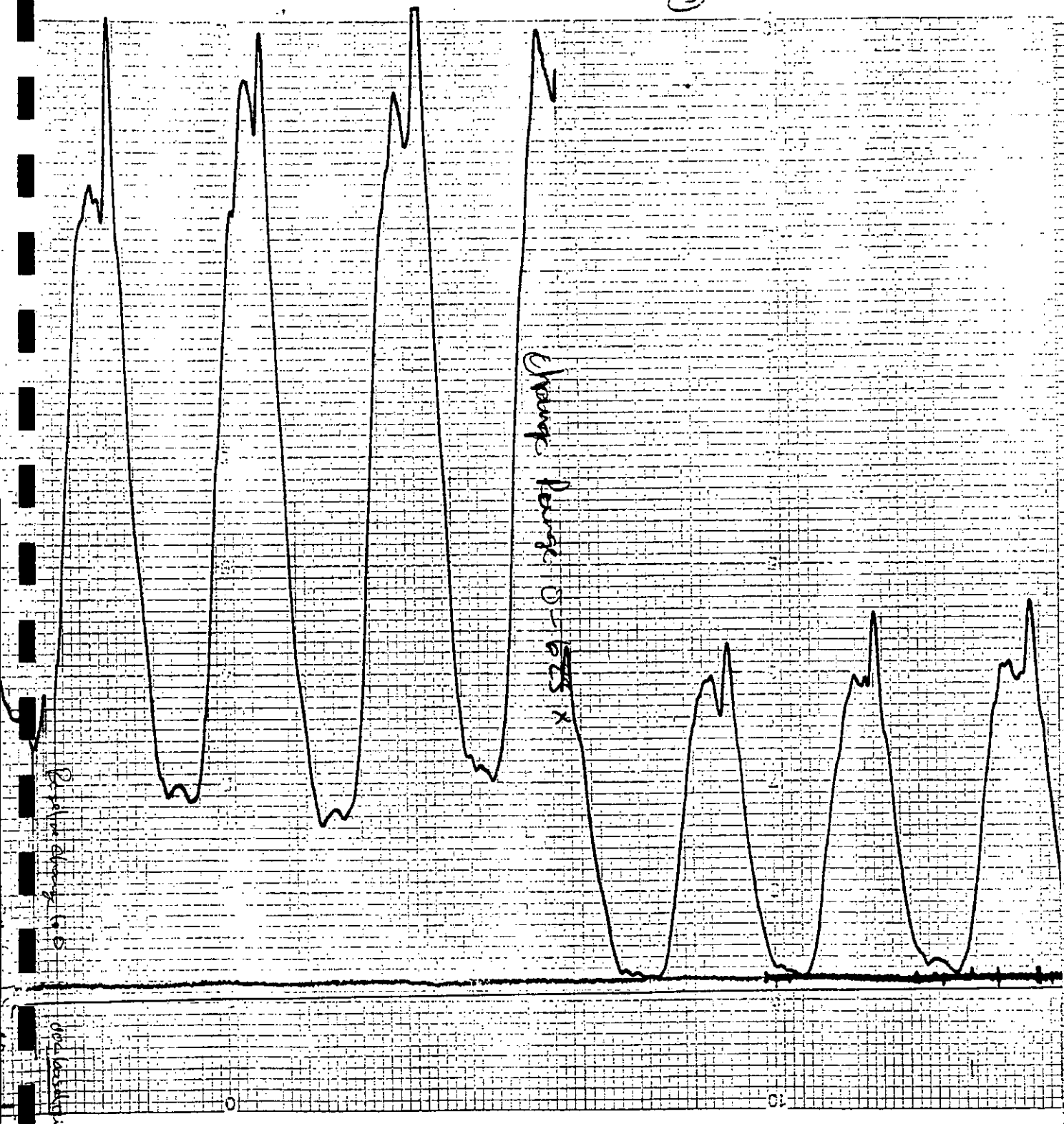
in stack

Chart transfer to 50cm/hr off on 10:19

85/31 23/16

50cm/hr

3



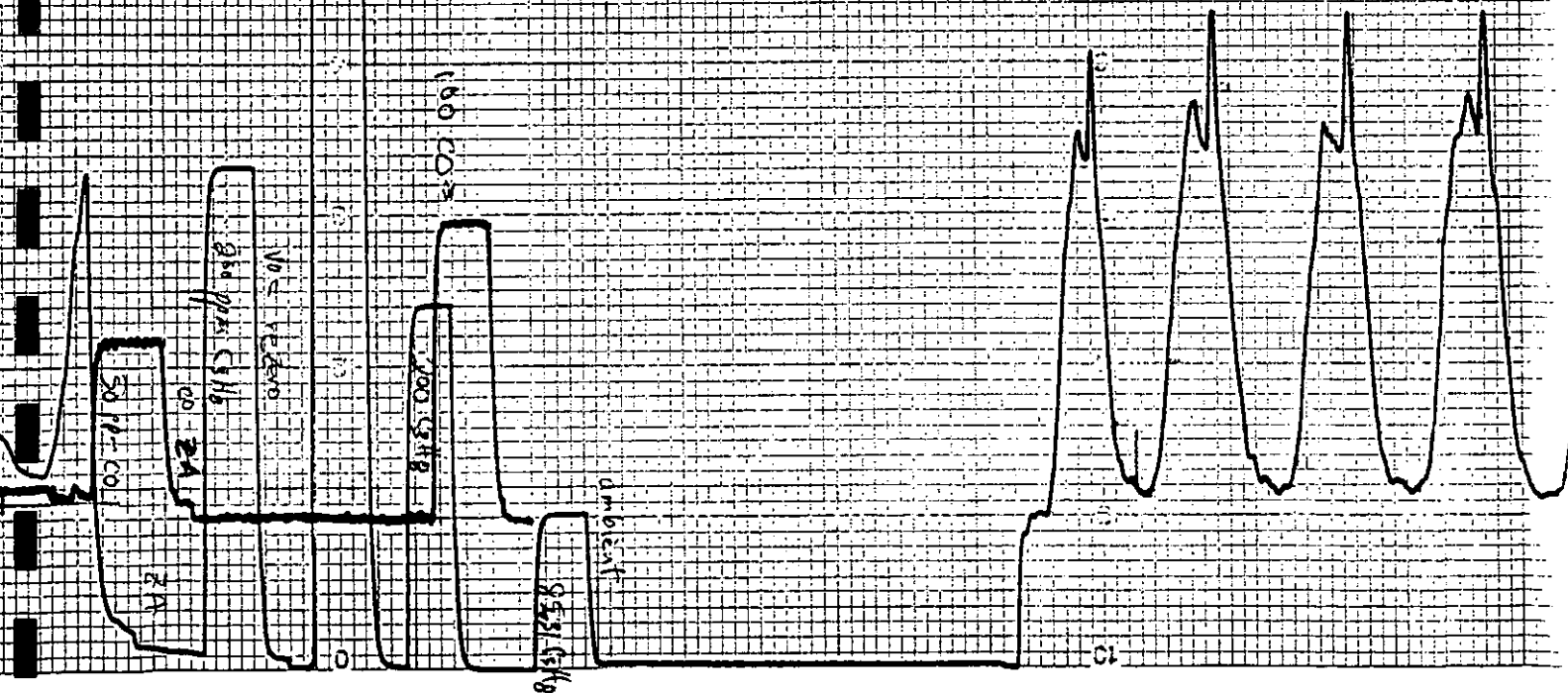
②

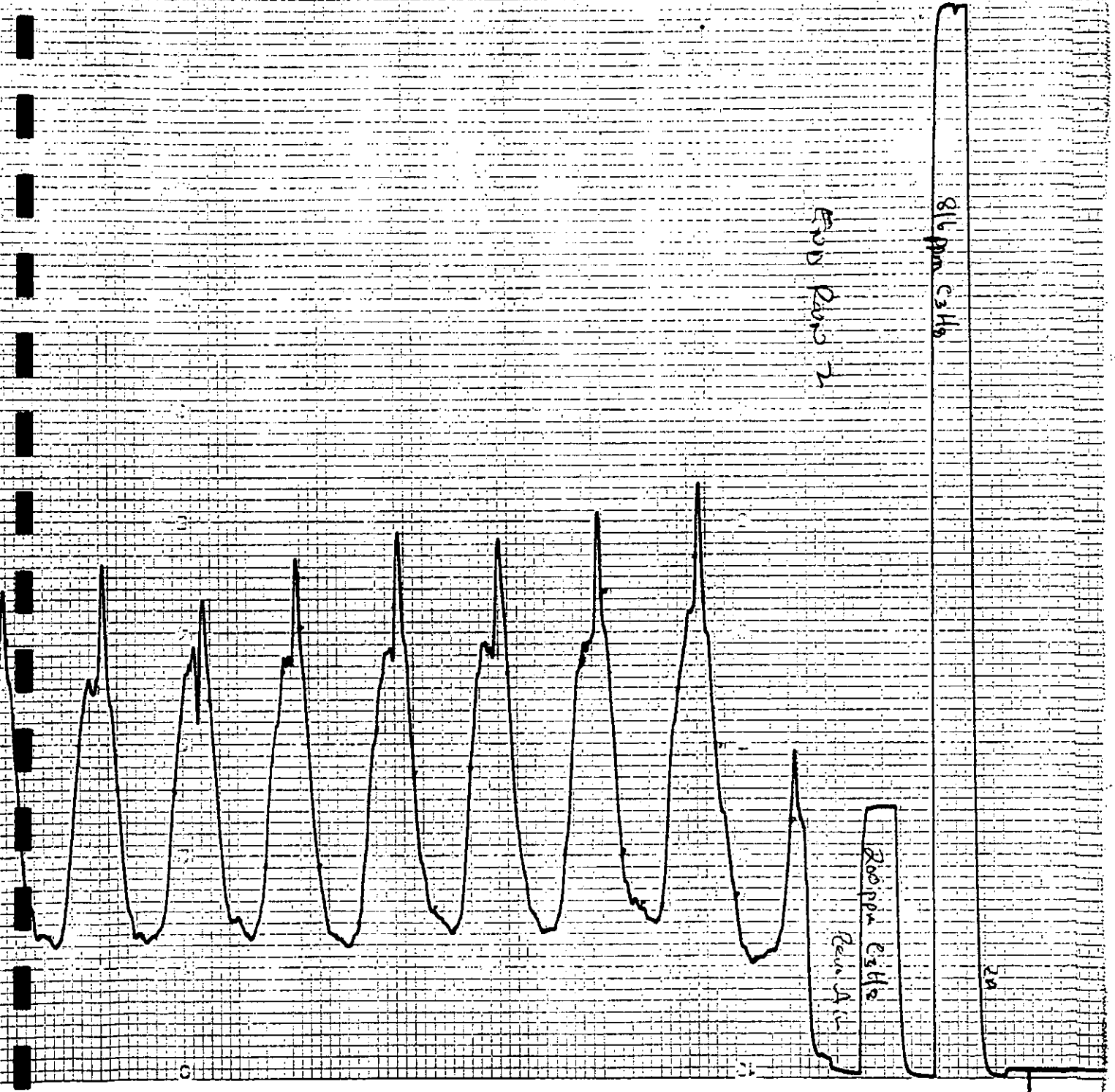
direct from
2000/1/1

11:59
start for 2

Change Range VDC response 0.850

End Run 1

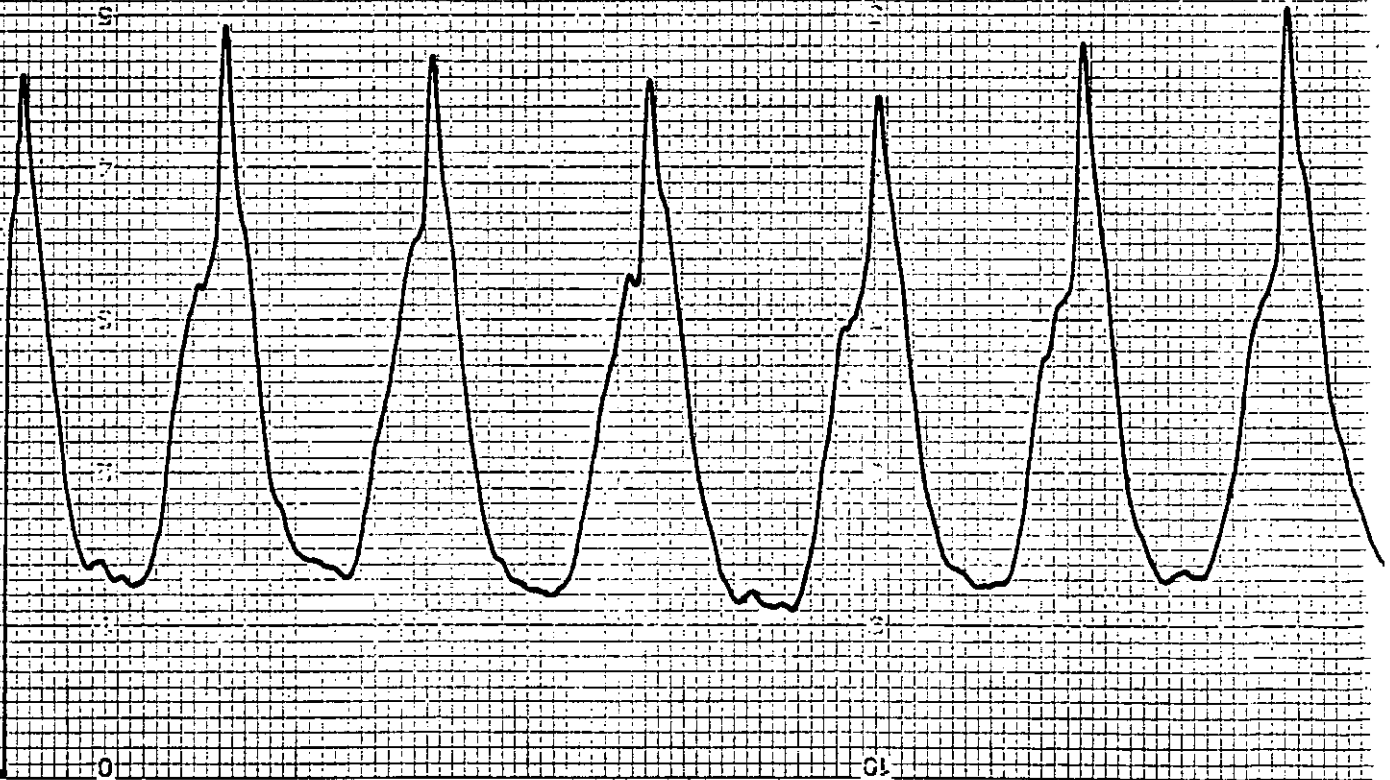




⑥

THE RECORD

about 30 m/sec at station 3

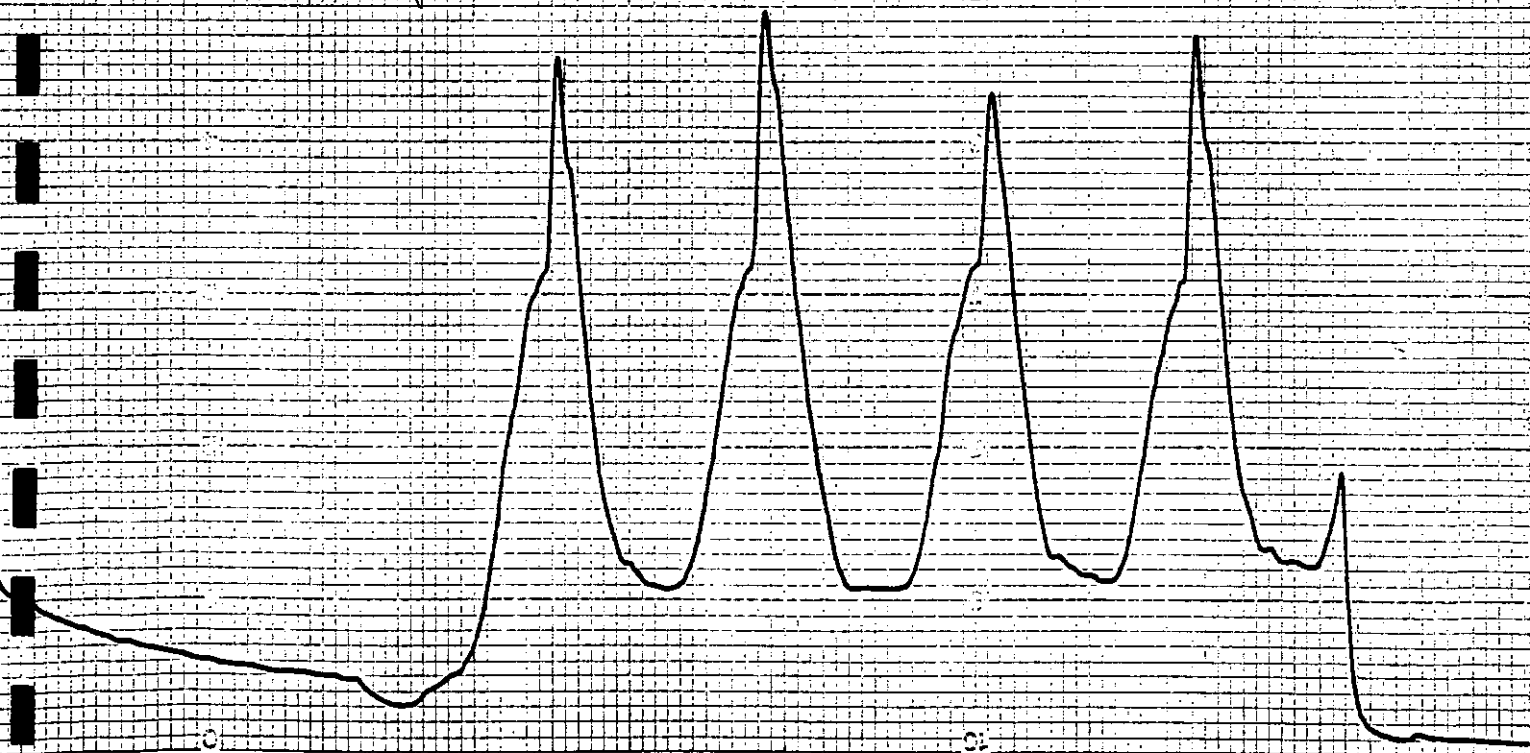


⑦

End Run

W

press down



3

816 2340

2000 0348

20

#1 Dryer Exhaust VOC's as C₃H₈

62 ft 16.67 ppm/min

Run #1 AVE 434.00 ppm

Run #2 AVE = 336.2 ppm

Run #3 AVE 307.50 ppm

35 48
37 48.5
37 11
39 50
39 50
40 52
40 52
39 51.5
39 51
39 51
39 50
39 49
39 48
38 46
38 45
39 44
40 42
40 41
41 41.5
42 41
43 41
44 41
45 41
45 42
45 43.90
46 -.50 baseline drift
46 43.40
46
47
48 434.00 ppm
47
47
47
47
48
47
48

38
30
34
31
31
30
31
32
32
32
32
34
34
34
32
31
32
34
34.5
35
34
34
40
36
36
35
35
32
AVE HT
33.62

29 15
30 15
21 15
22 16
22 16
22 16
22 16
23 16
22 16
21 16
20 16
20 16
19 15.5
18 15.5
18 15.5
17.5 15
17.5 14.5
17.5 15
18 14.5
18 15
18 15
19 12
19 25
19 31
19 29
19 AVE 18.45
19
20
19
19
19
18
17
16
15
15
15

①

30 cm/sec

4-11-68
11-10-68

Start K1 - 2.150

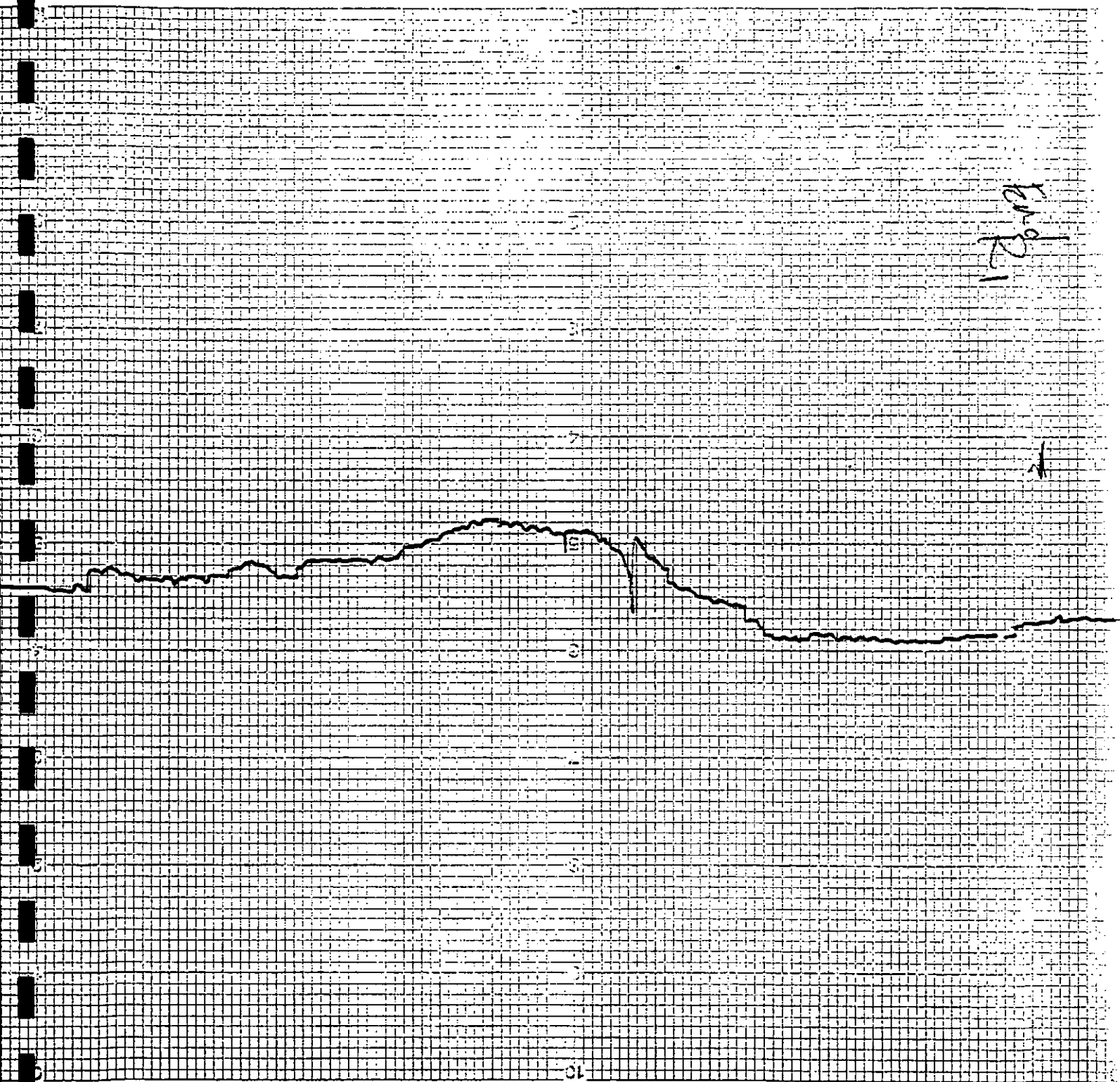
909

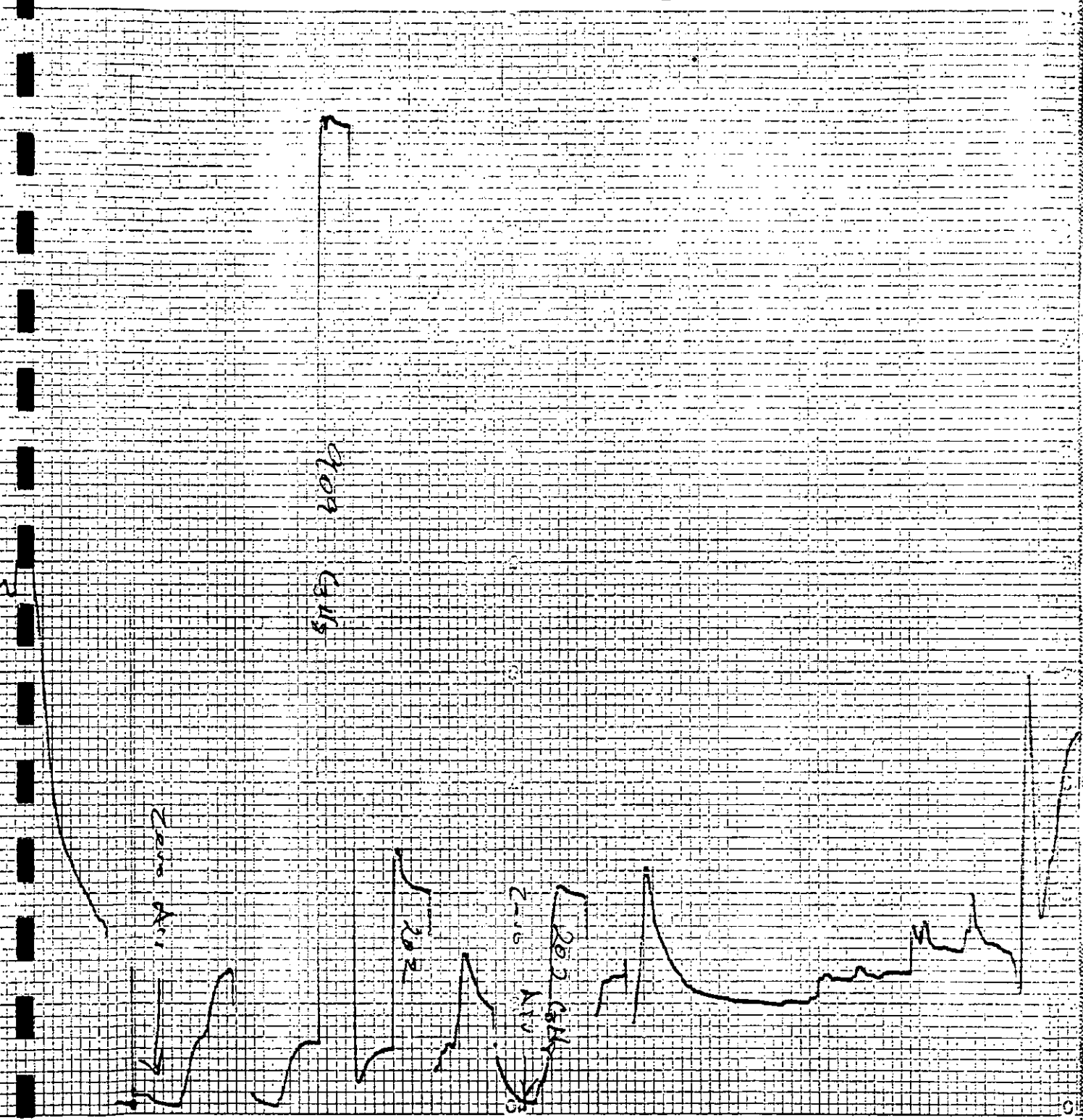
63442

3011 (3.15)
900 (3.14)

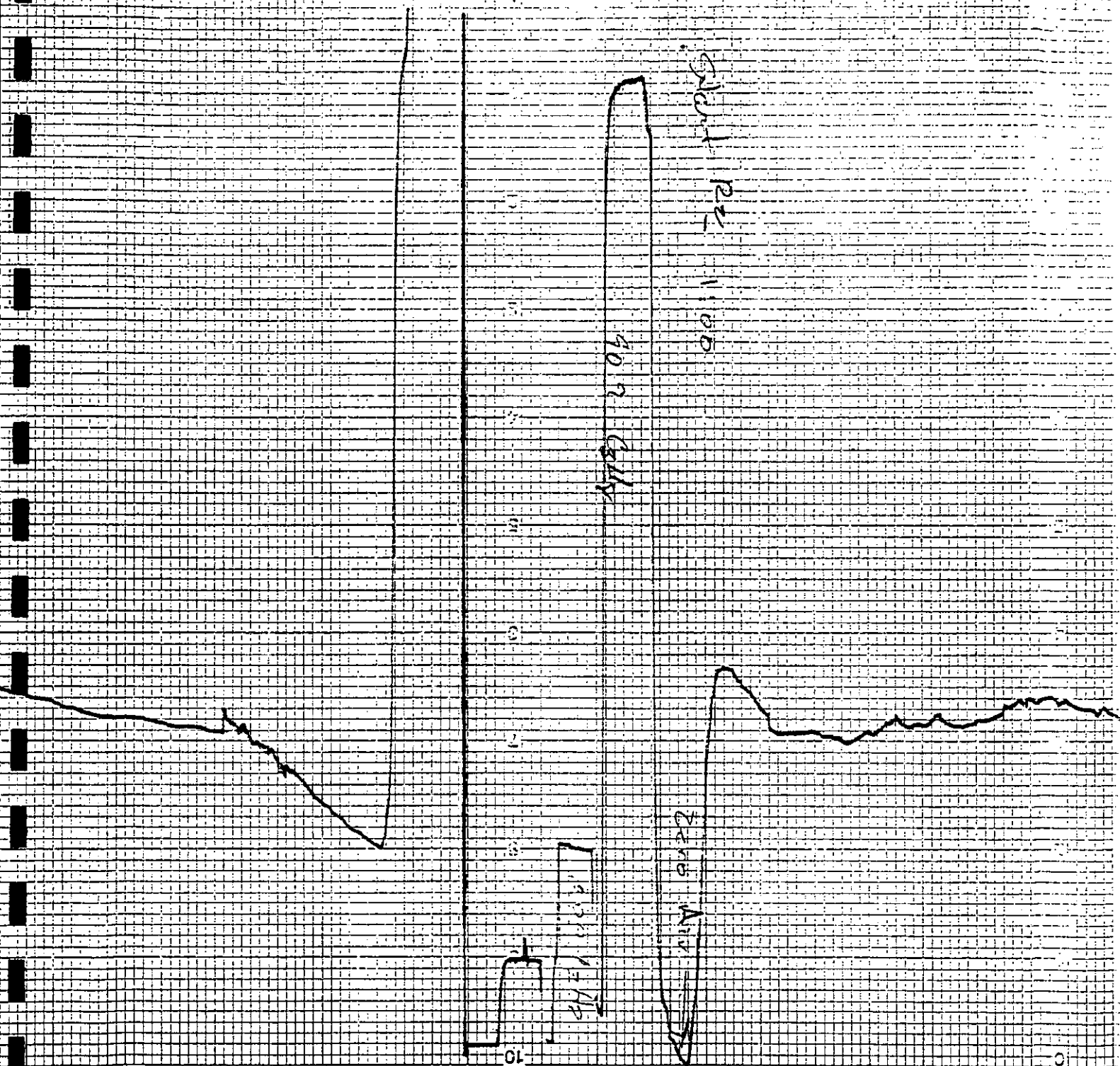


⑦

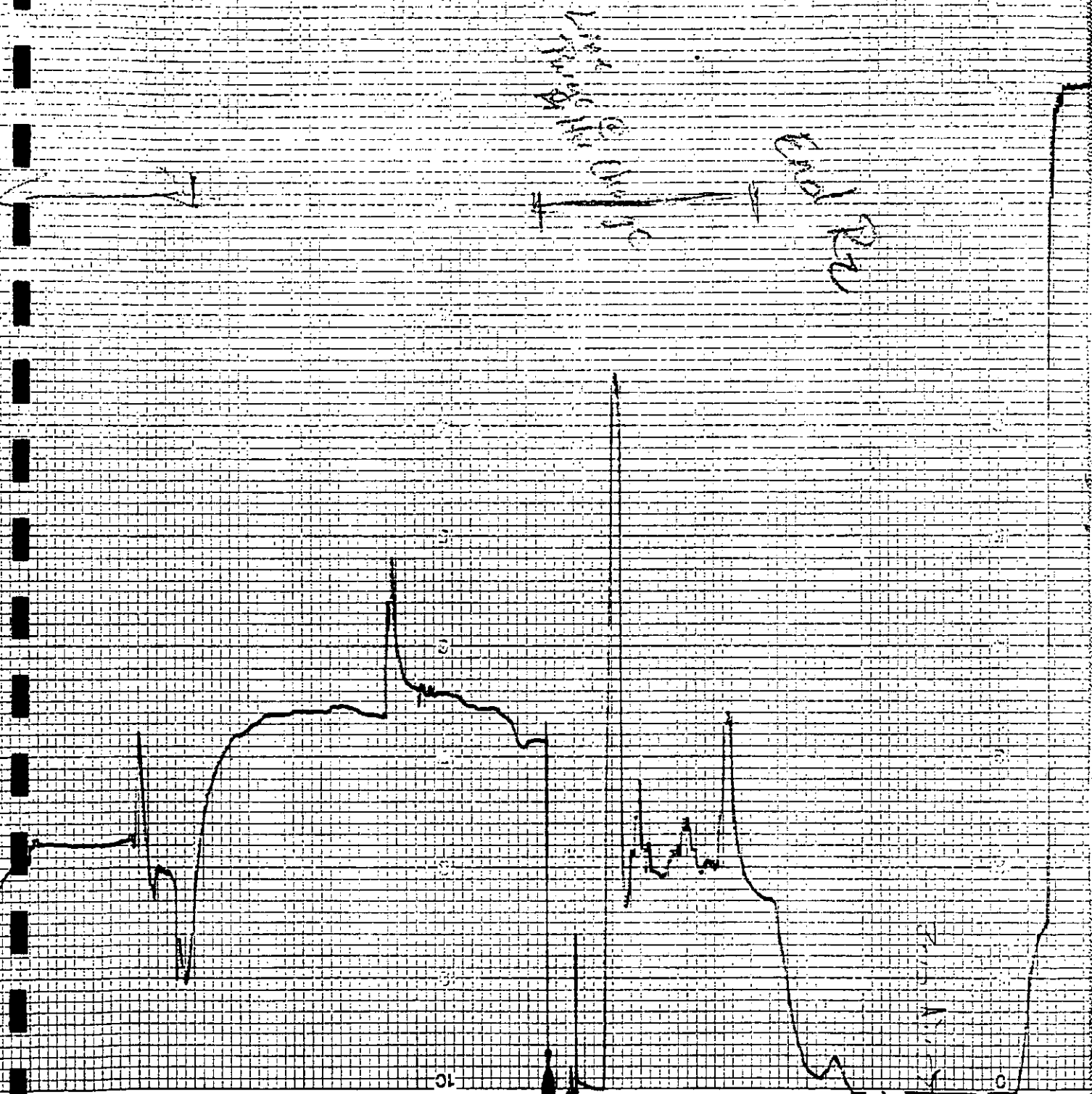


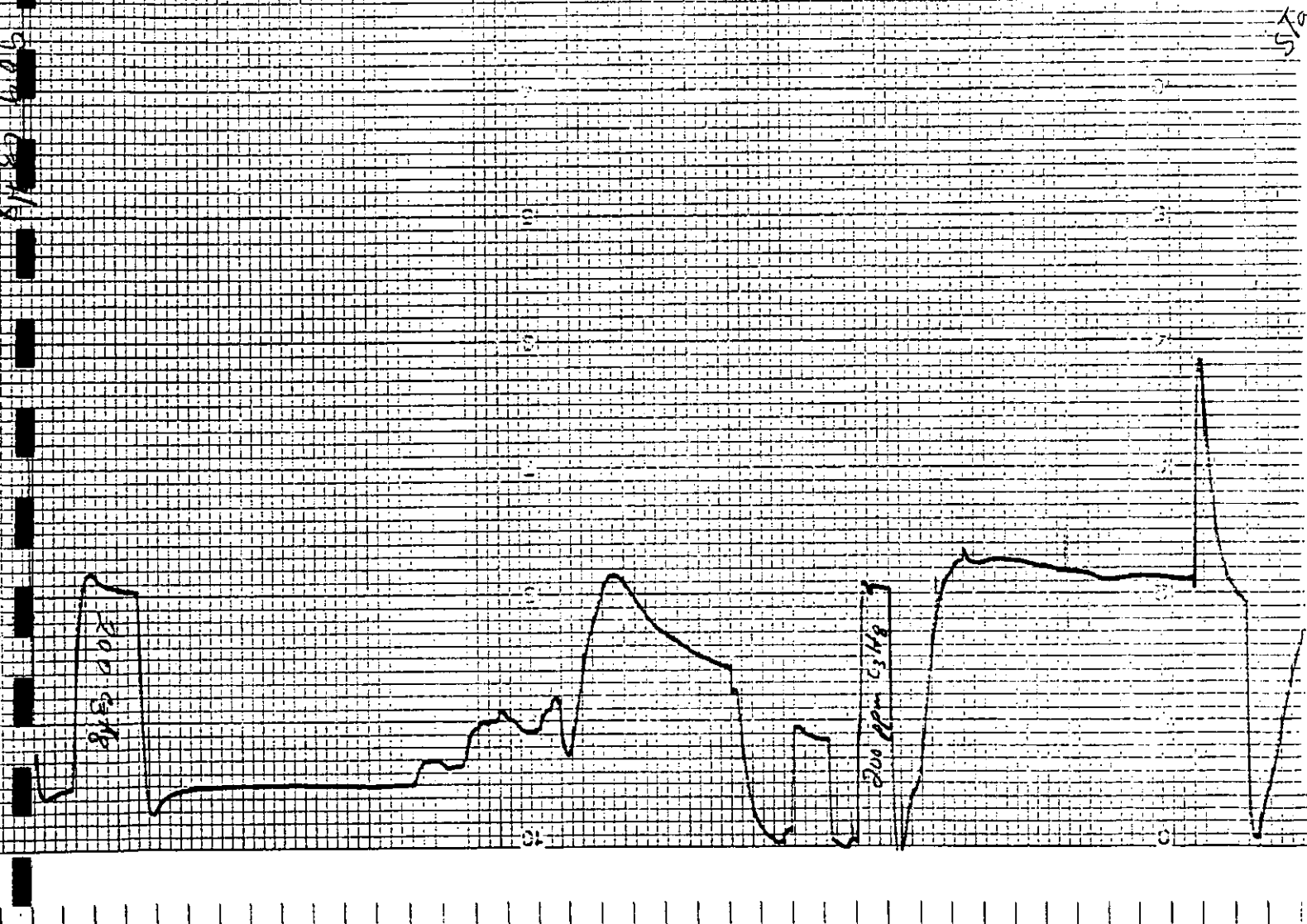


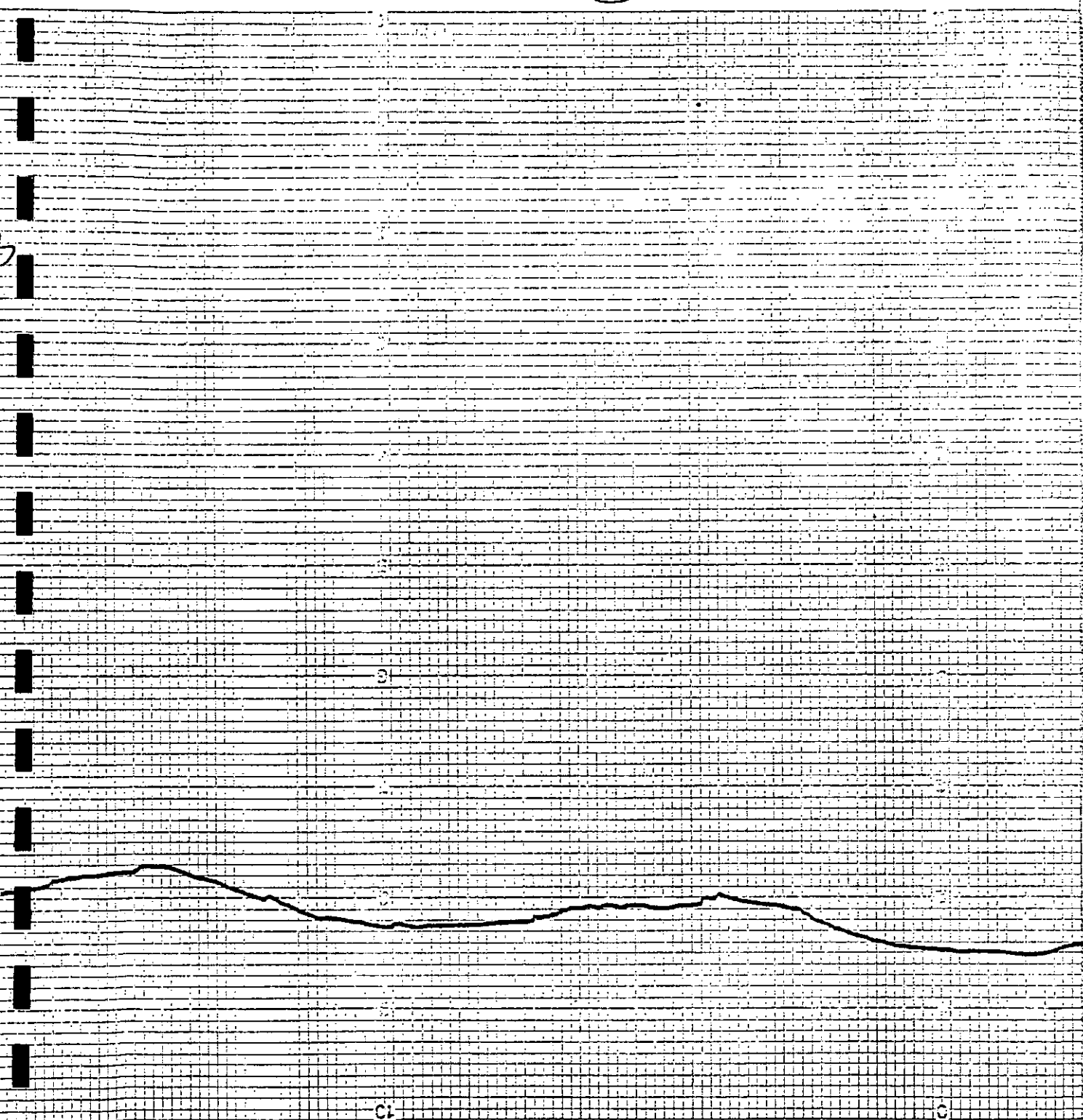
④



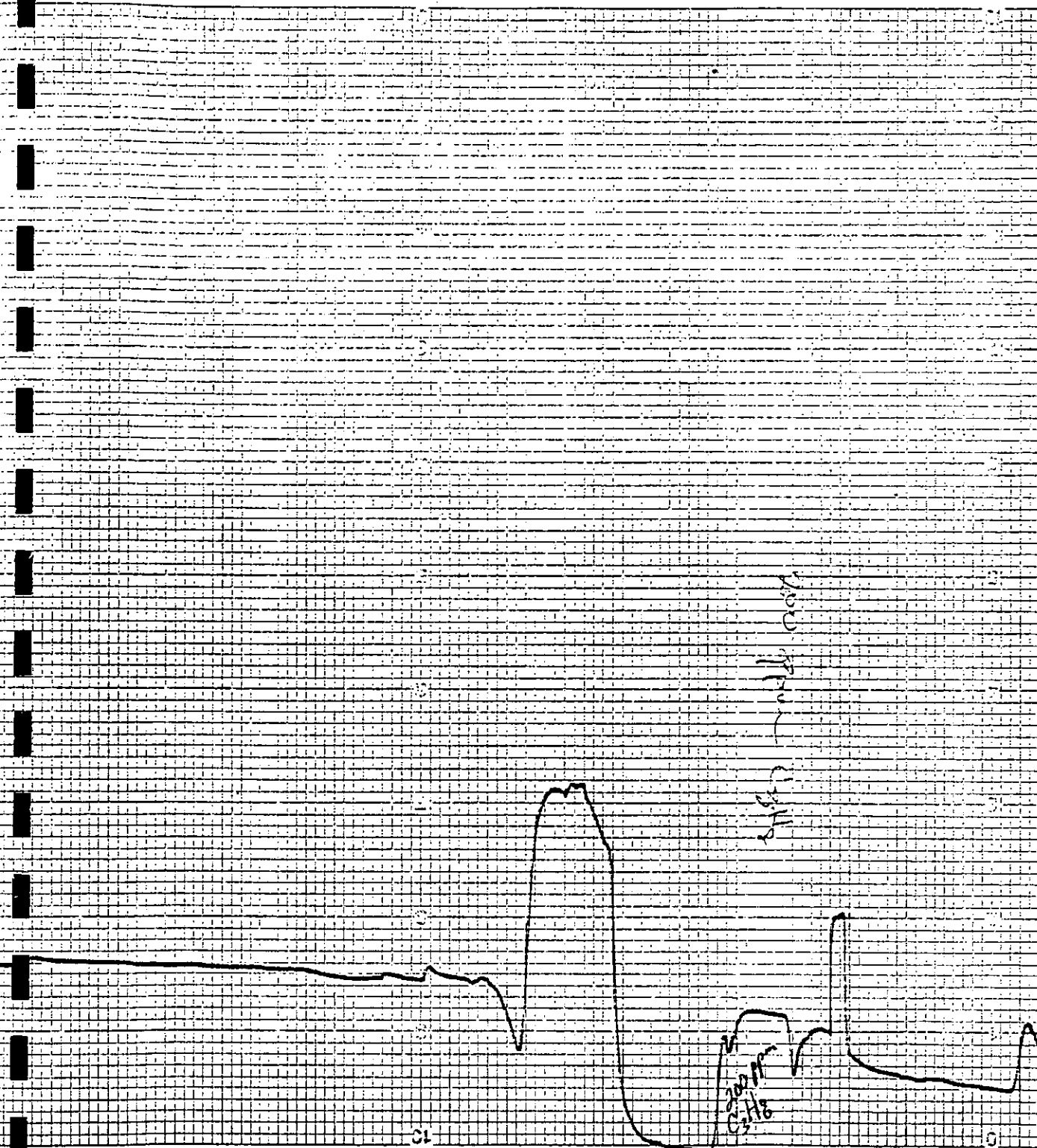
③







②



#2 Kiln Exhaust VOC's as C3H8

3 pts

8.5 ppm/min

69

8.5 ppm/min

68 min

Run #1 AVE: 380.8 ppm

Run #2 AVE: 394.57 ppm

Run #3

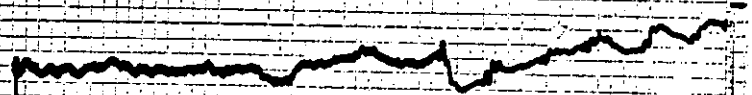
40	45	36	48	41	47
40	45	37	48	42	47
40	46	36	48	43	46
42	45	41	49	43	45
42	45	42	49	43	45
41	46	43	49	44	46
41	47	43	49	44	46
41	48	43	49	44	47
41.5	48	44	48	45	47
40	49	44	48	45	47
40	49	43	49	45	48
40	49	43	49	44	48
40	48	42	49	44	49
40	49	42	49	44	49
40	49	41	49	43	49
40	50	41	49	44	49
40	51	40	50	43	50
40	51	39	51	42	50
42	50	38	52	42	50
42	50	43	53	43	49
42.5	49	43	53	45	48
43	50	43	54	47	48
43	49	43	55	48	48
43	48	44	55	49	48
44	49	44	55	49	47
44	AVE HT	44	55	49	47
45	44.81	44	AVE HT	49	47
45	x 8.50 ppm/min	45	46.42	50	48
46	380.8 ppm	47	x 8.50	50	49
46		48	394.57 ppm	50	49
45		49		49	AVE HT
45		49		49	46.65
46		49		48	x 8.50
46		49		48	396.53 ppm
46		49		48	
45		50		48	
45		49		47	

LP 6-16-94 Kiln Exhaust #2 000's

816 ppm 0348

chart
200mg/hr

in stack



ambient

200 ppm 0348

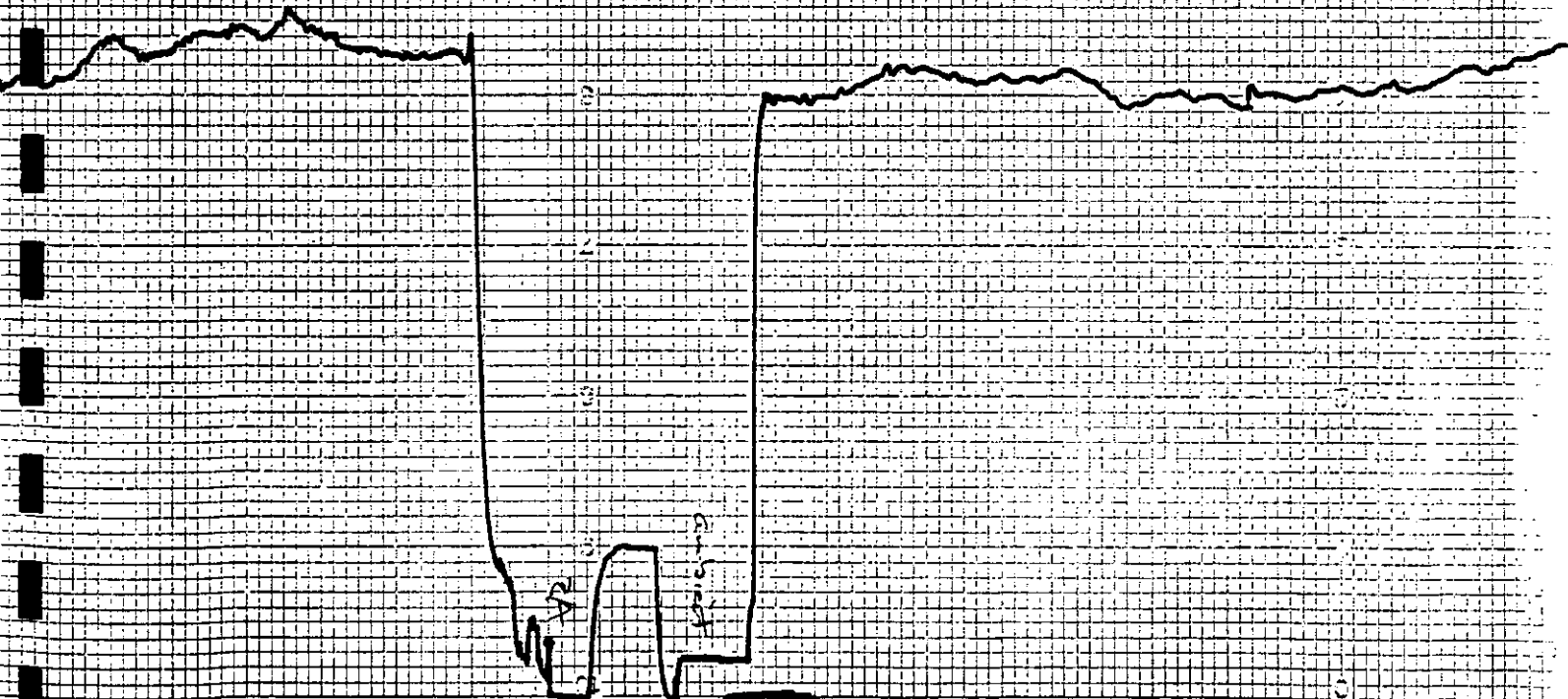
85171 5418

24

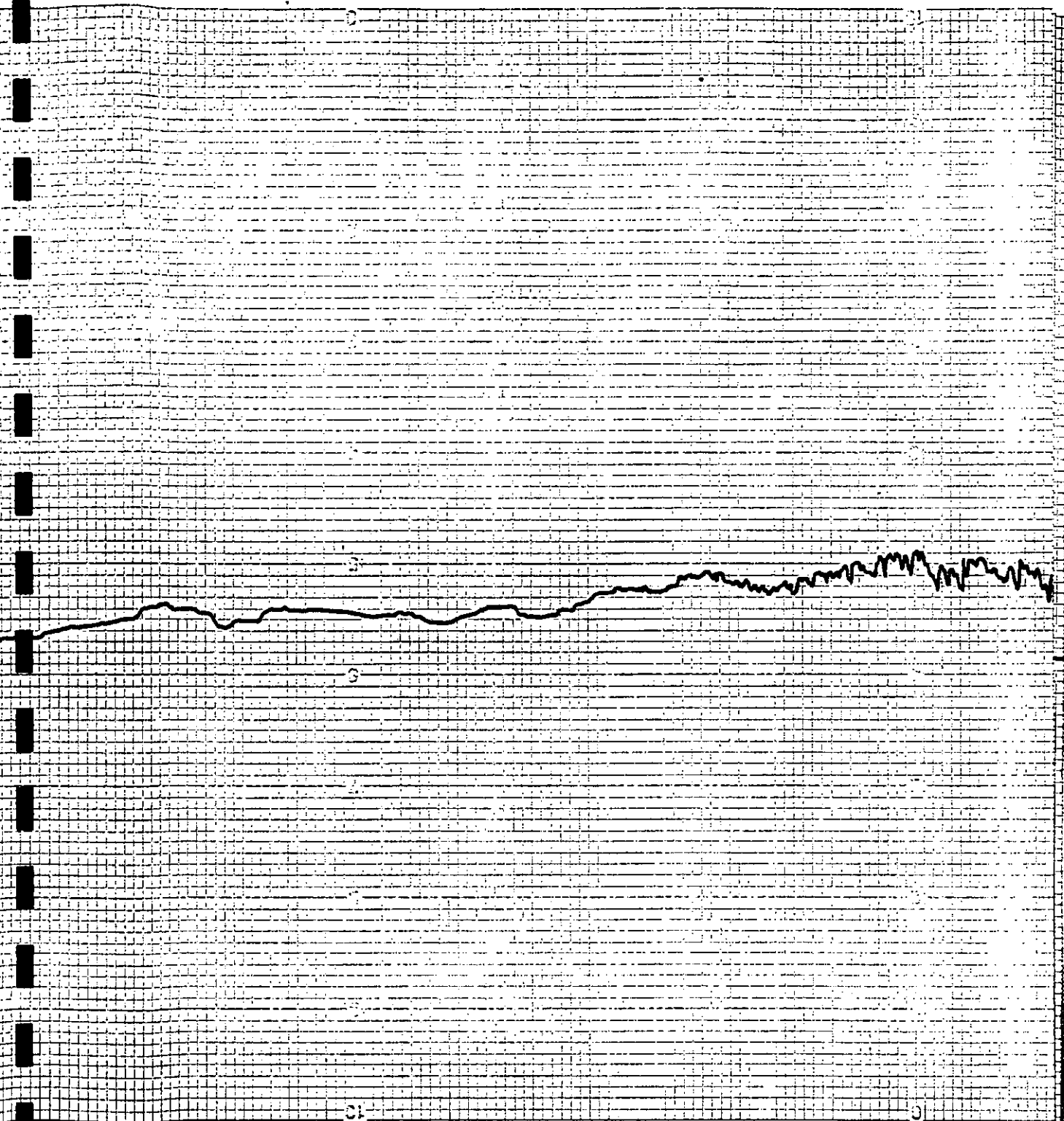
(2)

6-16-94 STREET RUN 1 8:40 AM
KILL #2

dist. 5/16 out of stock

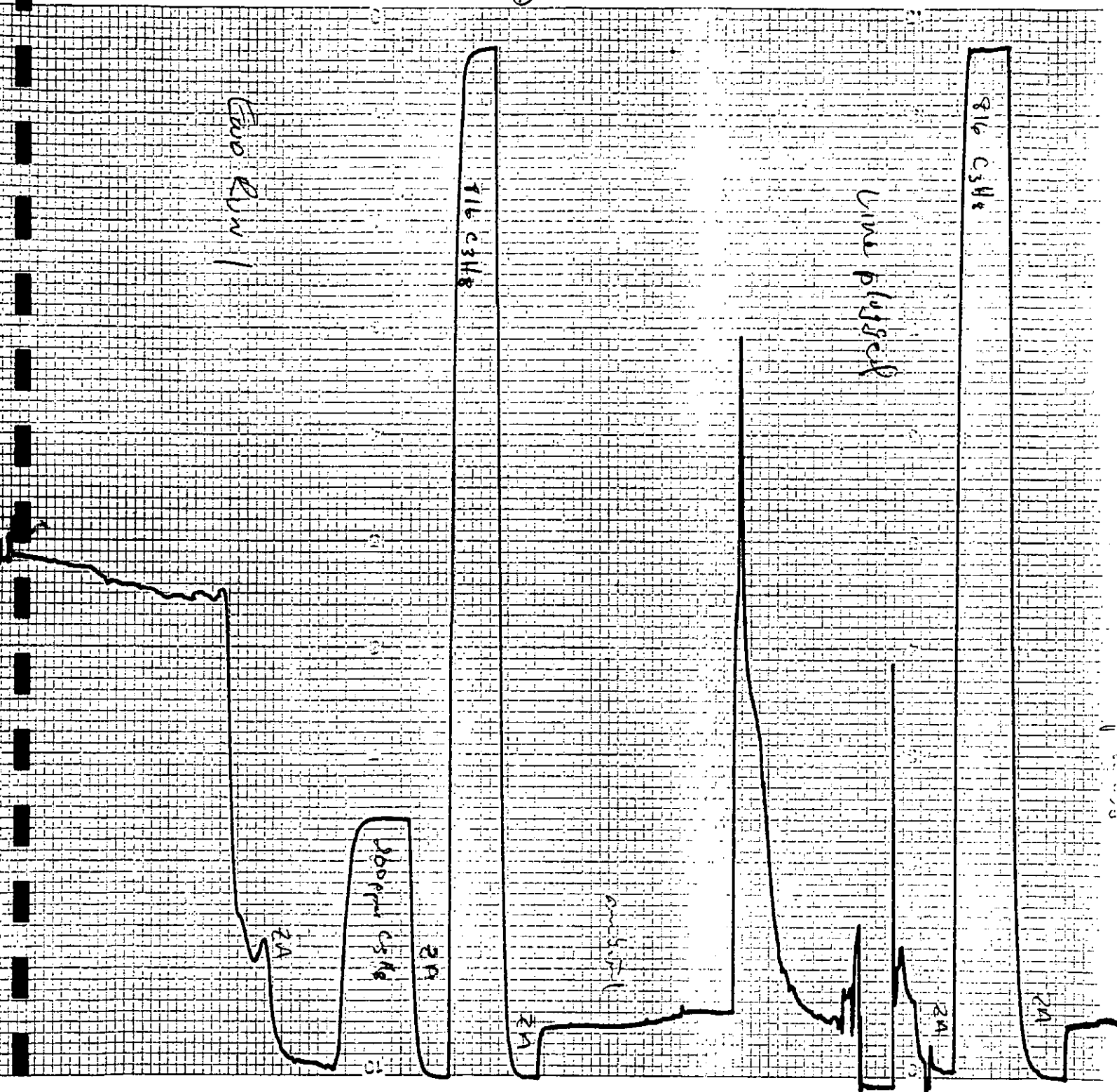


③



242

④



5

THE RECORDER Co. P.O. BOX 3, San Marcos, Tx 78667 Tel. 512-21

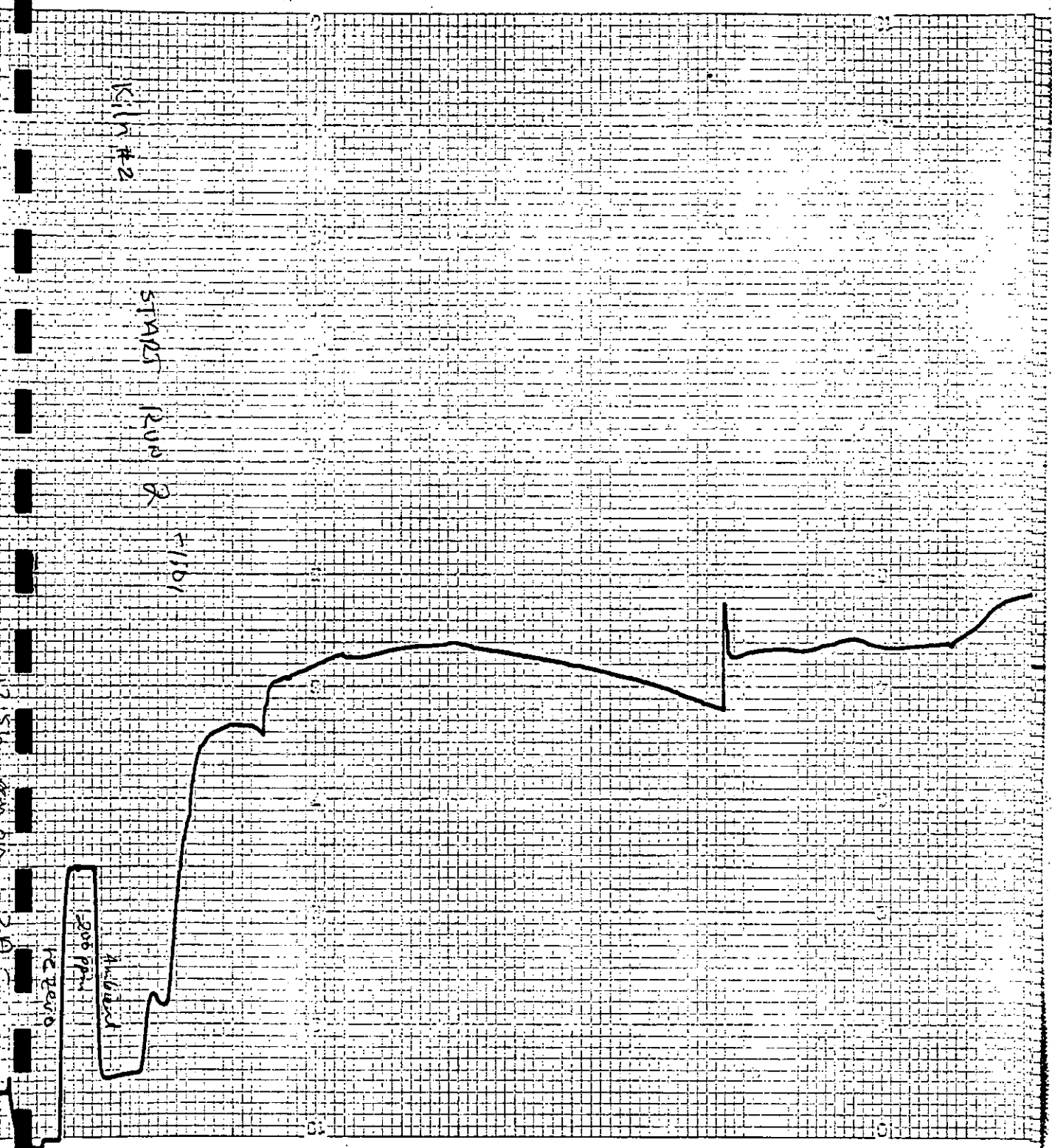
Kiln #2

STAMP 1200 &

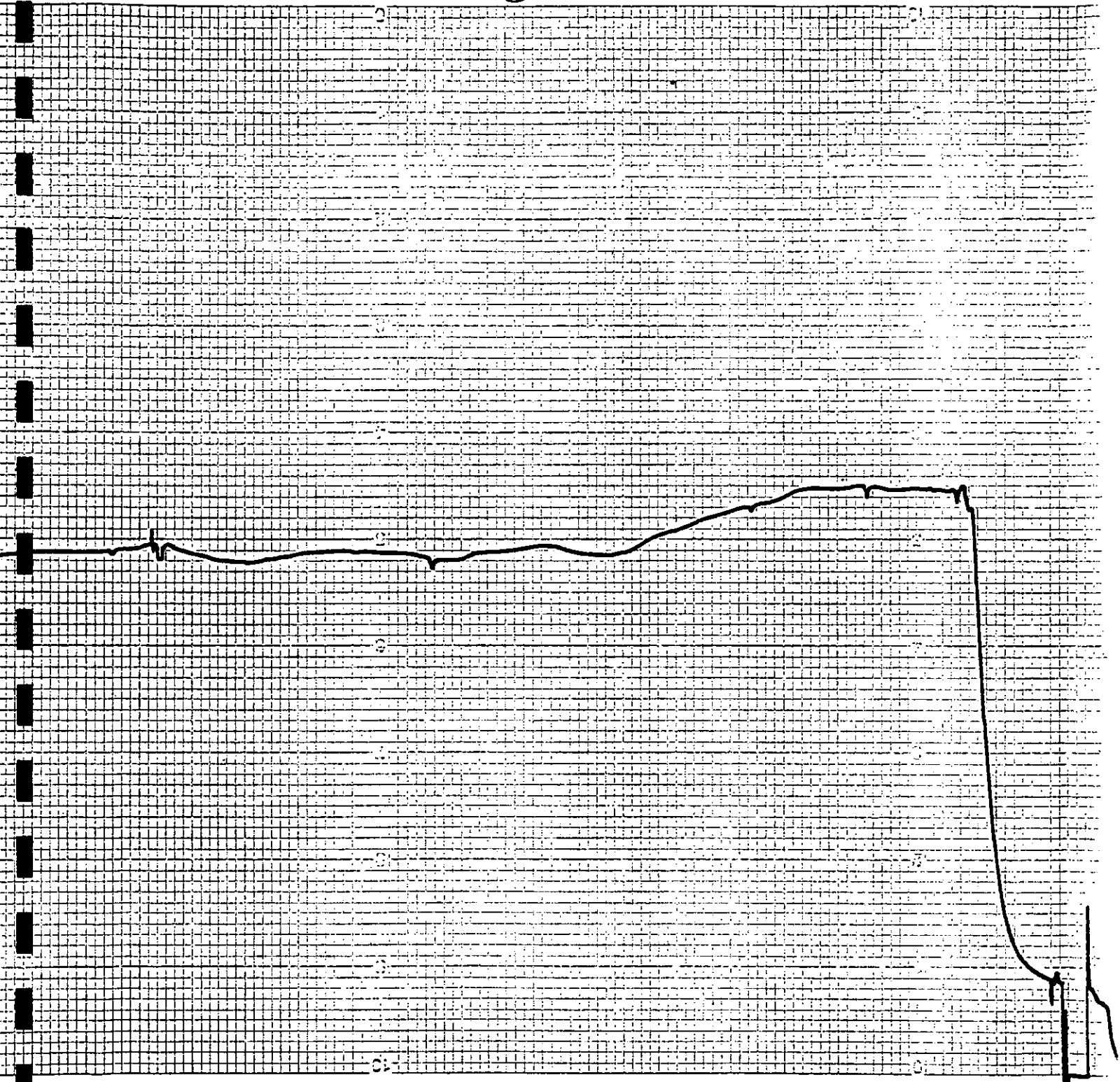
2/15/61

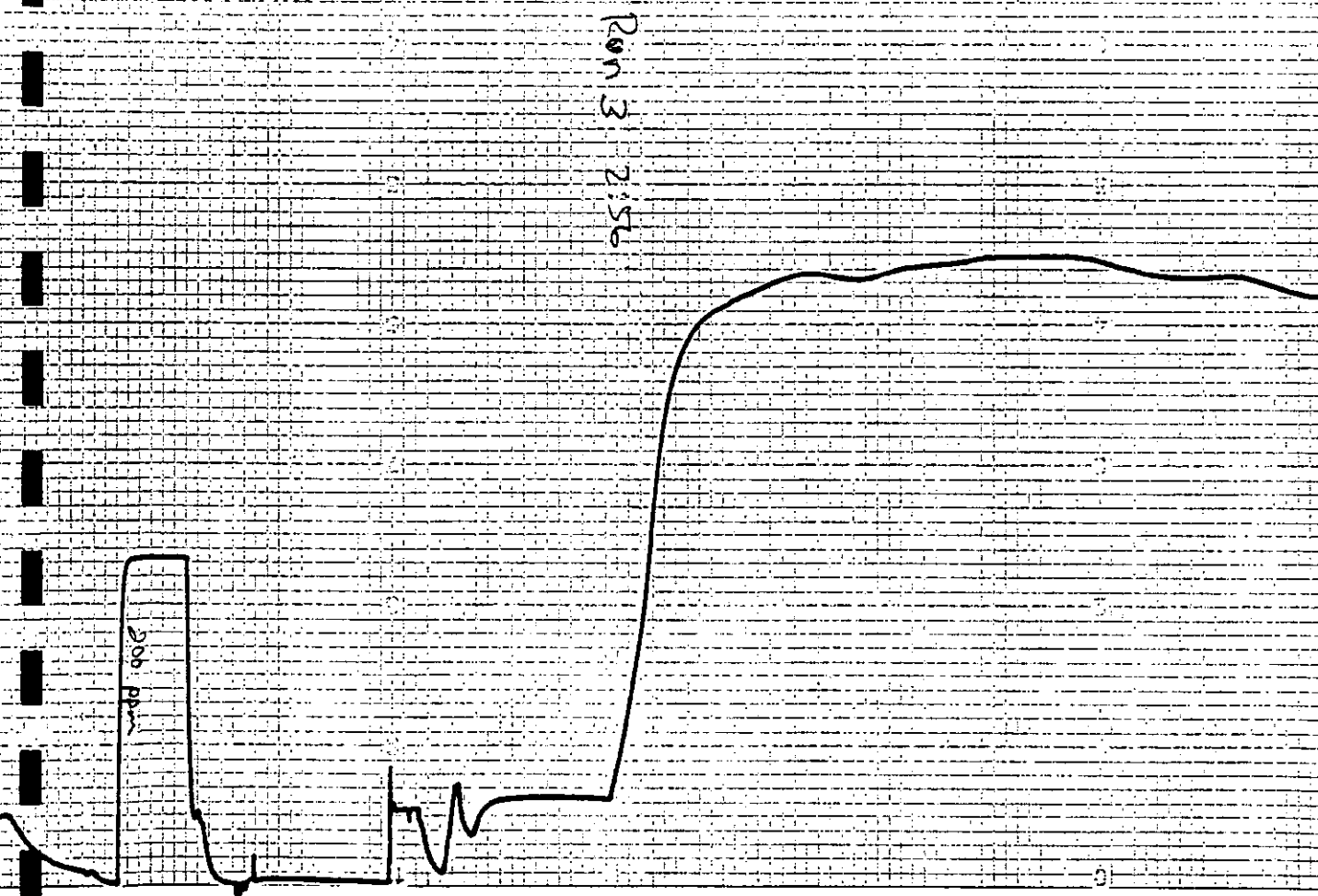
200 ppm
4-6-61

12000



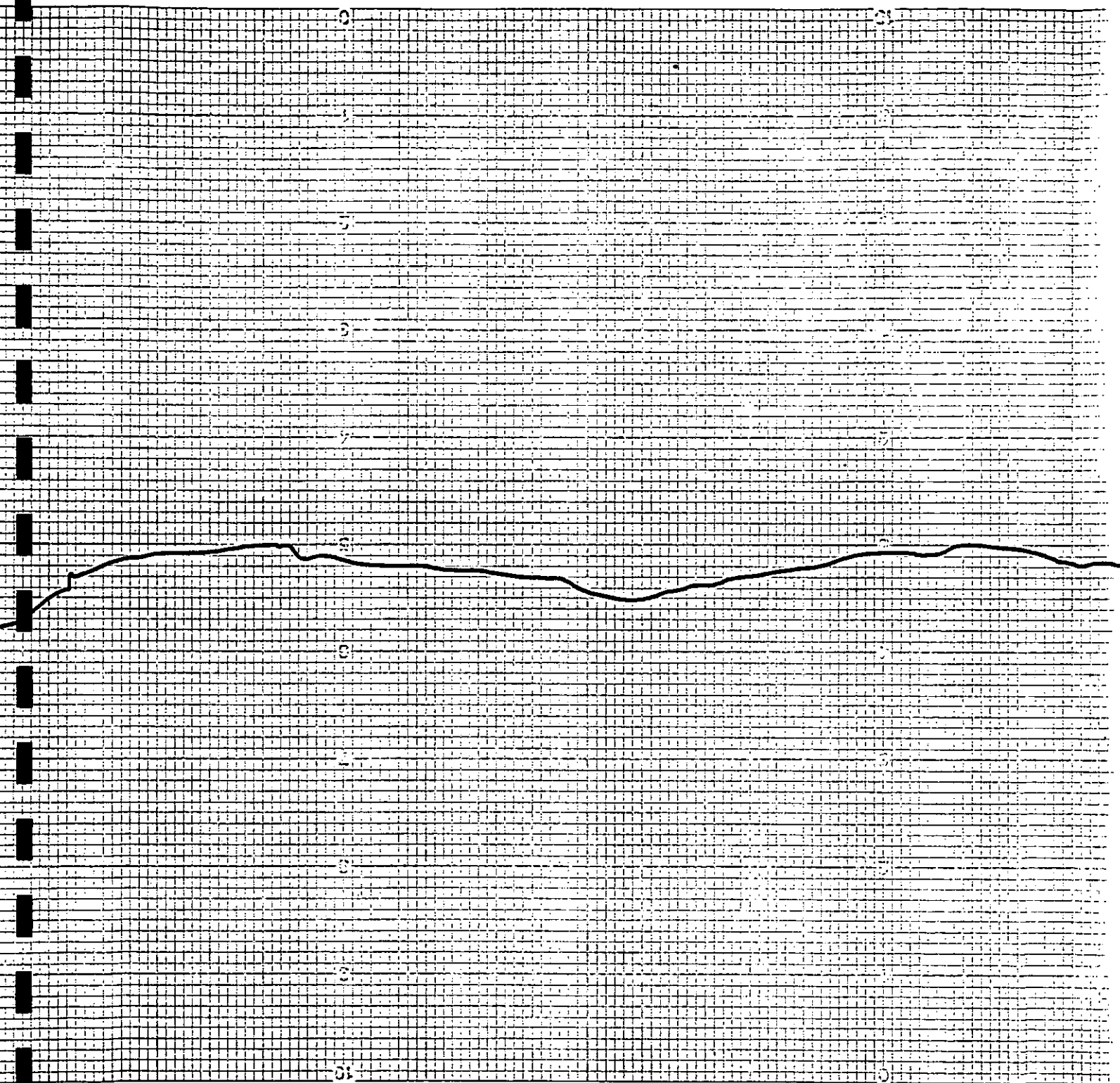
(6)





6

THE RECORDER Co. P.O. BOX 8, San Marcos, Tx 78657 Tel. 512-6291400



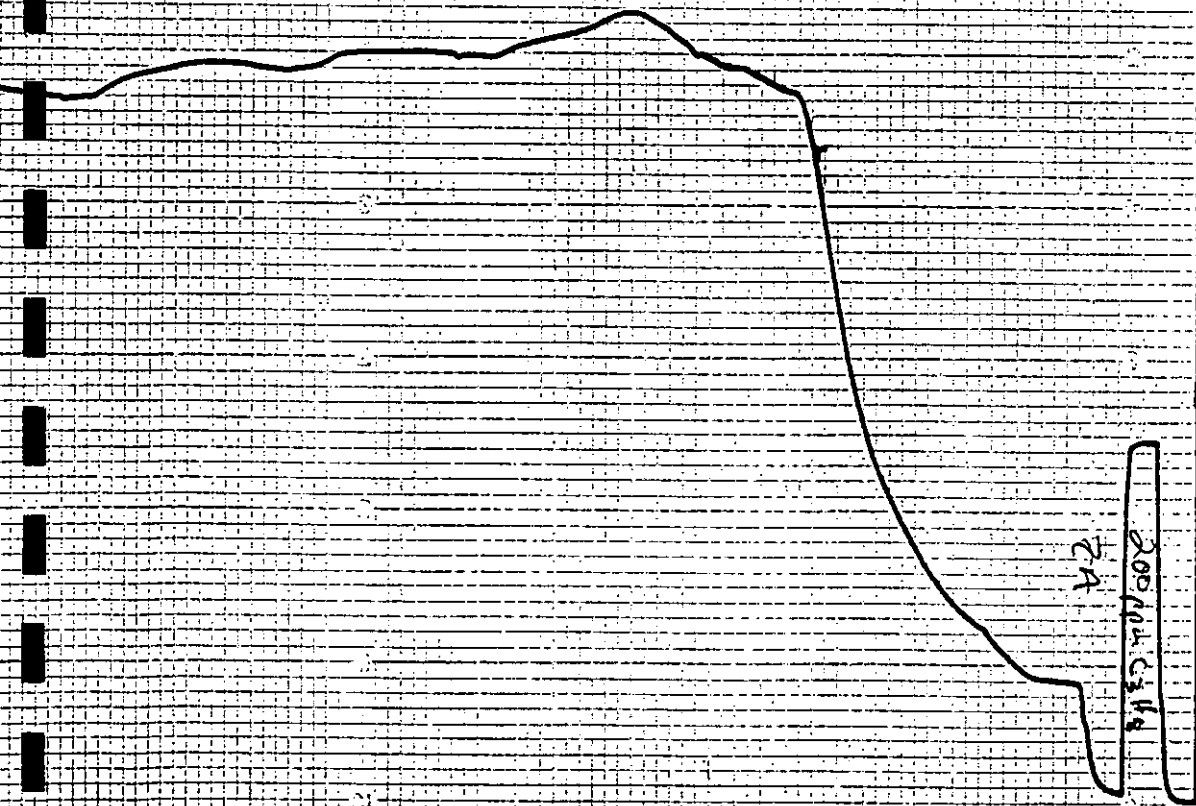
9

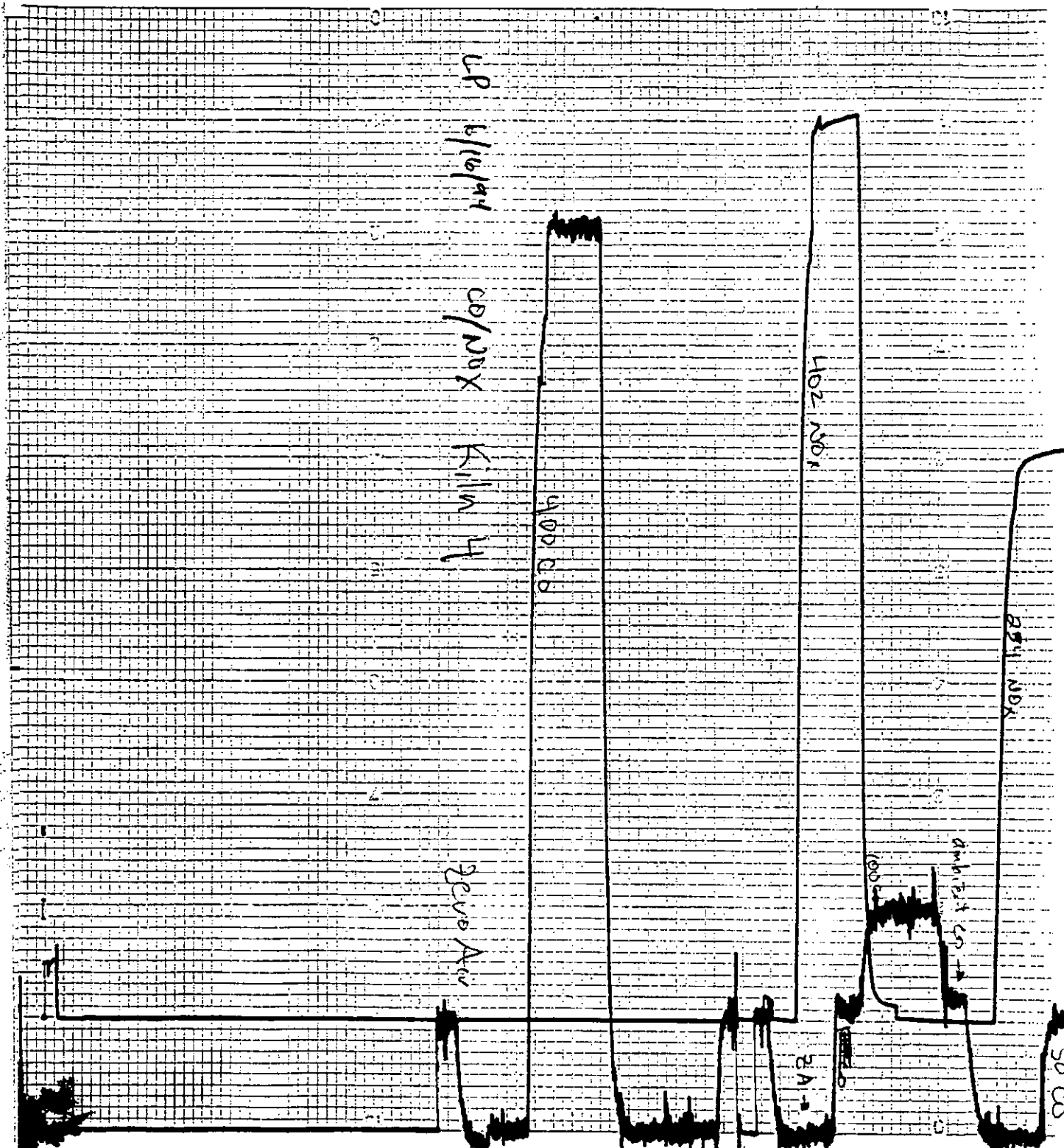
816 C3H8

Gas 2.03

200 p.u. C3H8

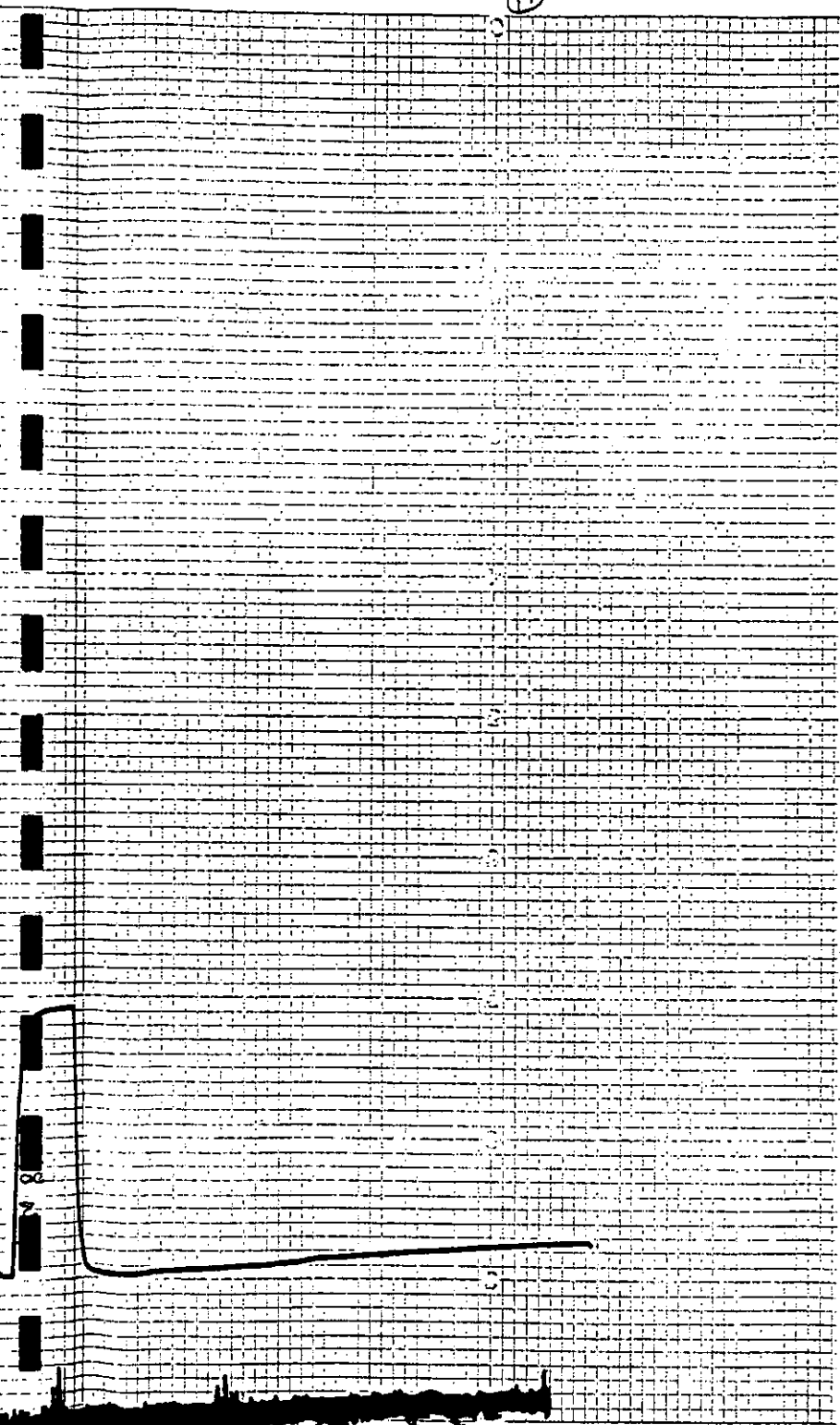
2A





THE

①



... ..

... ..

... ..

$$CO, \pm NO_x$$

Run #1 $NO_x = 24.58$
 $CO = 42.40$

$$N_{\mathcal{X}} \leq 5/\alpha \cdot t$$

100-44267

Nil 5.0 unit.

Discussion

65

Run #2

$N_{O_2} = 16.65$
 $C_O = 47.05$

Run #3

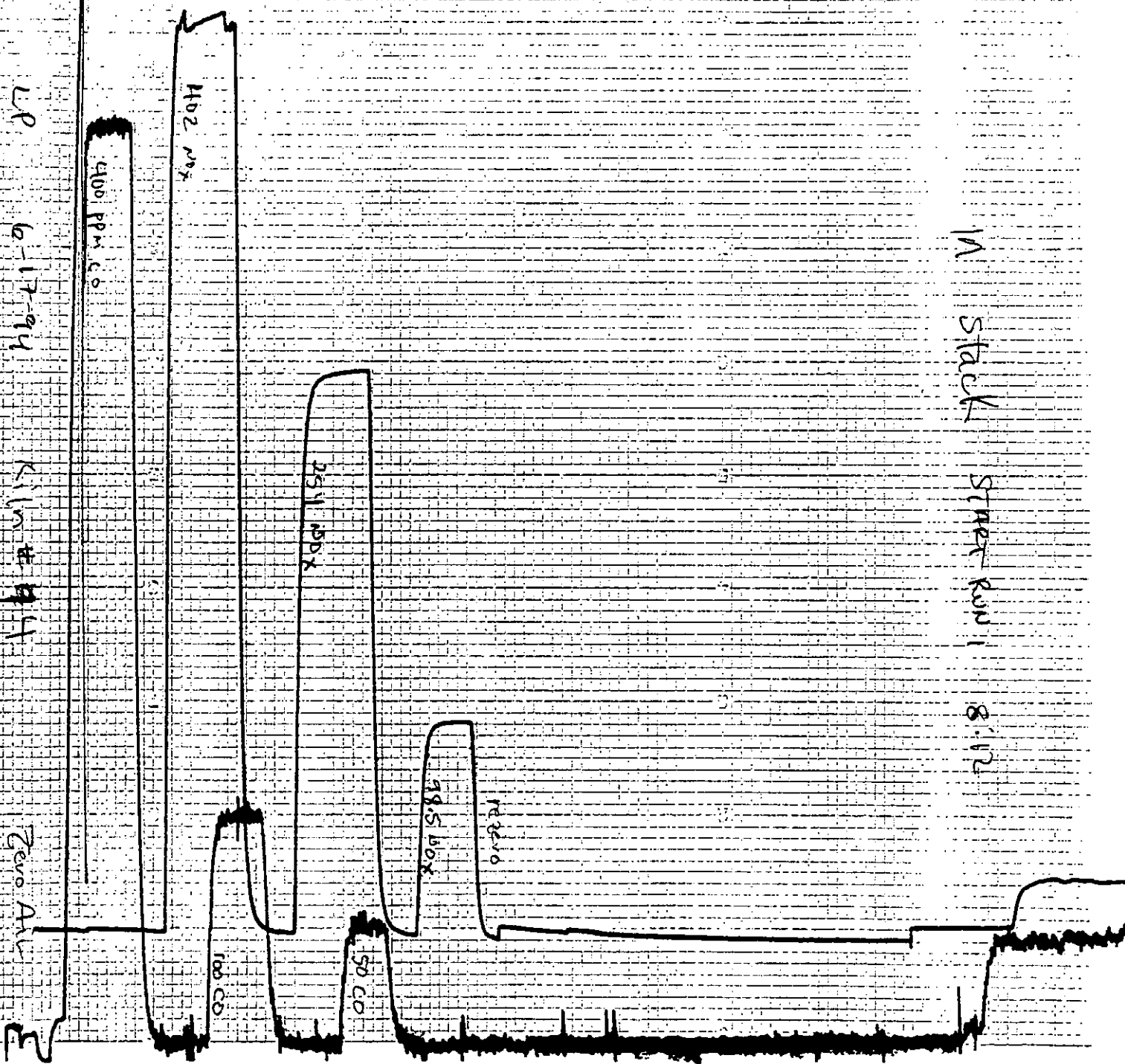
NO₂ = 29,60
CO = 40,90

2

[illegible][illegible]

NO.	CD	NO.	CD
6	7	7	5
5.5	7.5	7	5
"	7.5	8	5
"	7.5	8	5
"	7.0	8.5	4
"	7.0	9	5
5	7.0	9.5	6
5	7.0	10	5
5.5	7.0	10	5.5
5	8	1.5	6
"	7.5	12	6
"	7	13	5.5
"	7	12	7
"	6.5	10	7
4.5	6.5	11	8
5	6.5	12	7
"	6	10	8
"	6	10.5	7
"	6	11	7
"	6	11.5	10
"	6	11	10
"	6	10	11.5
"	6	10.5	11
6	6	9	10.5
5.5	Average	9	Average
"	5.92	9.5	8.52
5	-1.0 drift	9	8.28
5	4.9244	9	40.90
5	x 5.0	9	CD
5	24.6011m	8	
6	NOX	9	
6		8	
"		8	
"		7	
"		7	
6.5		6	
7.5		5	

IN Stack Street Run 1 8:12



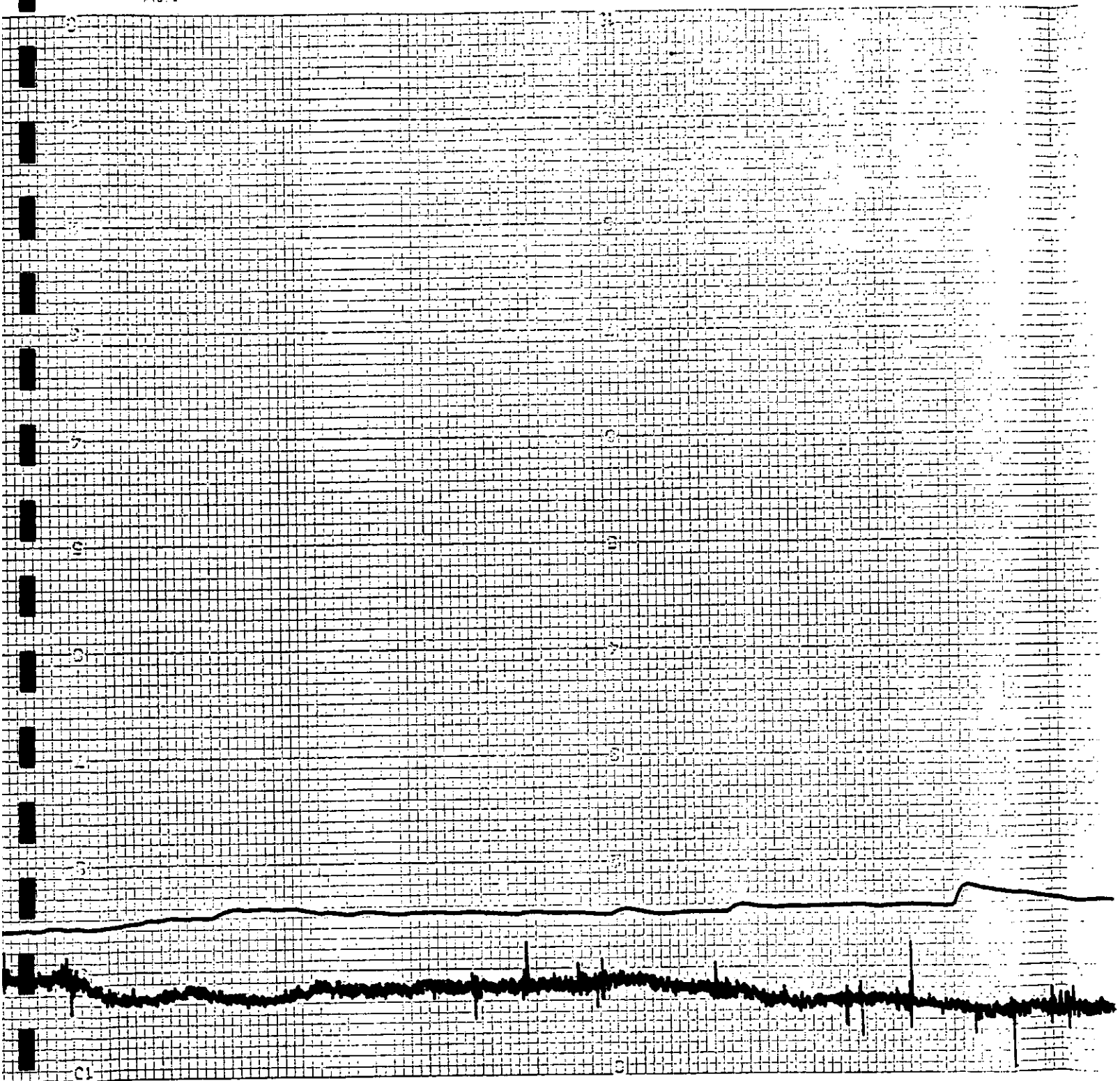
LR 6-17-94

Kiln # 44

Zero Air

AL-2

②



3

END RUN

2A

99.5 NOX

800

④

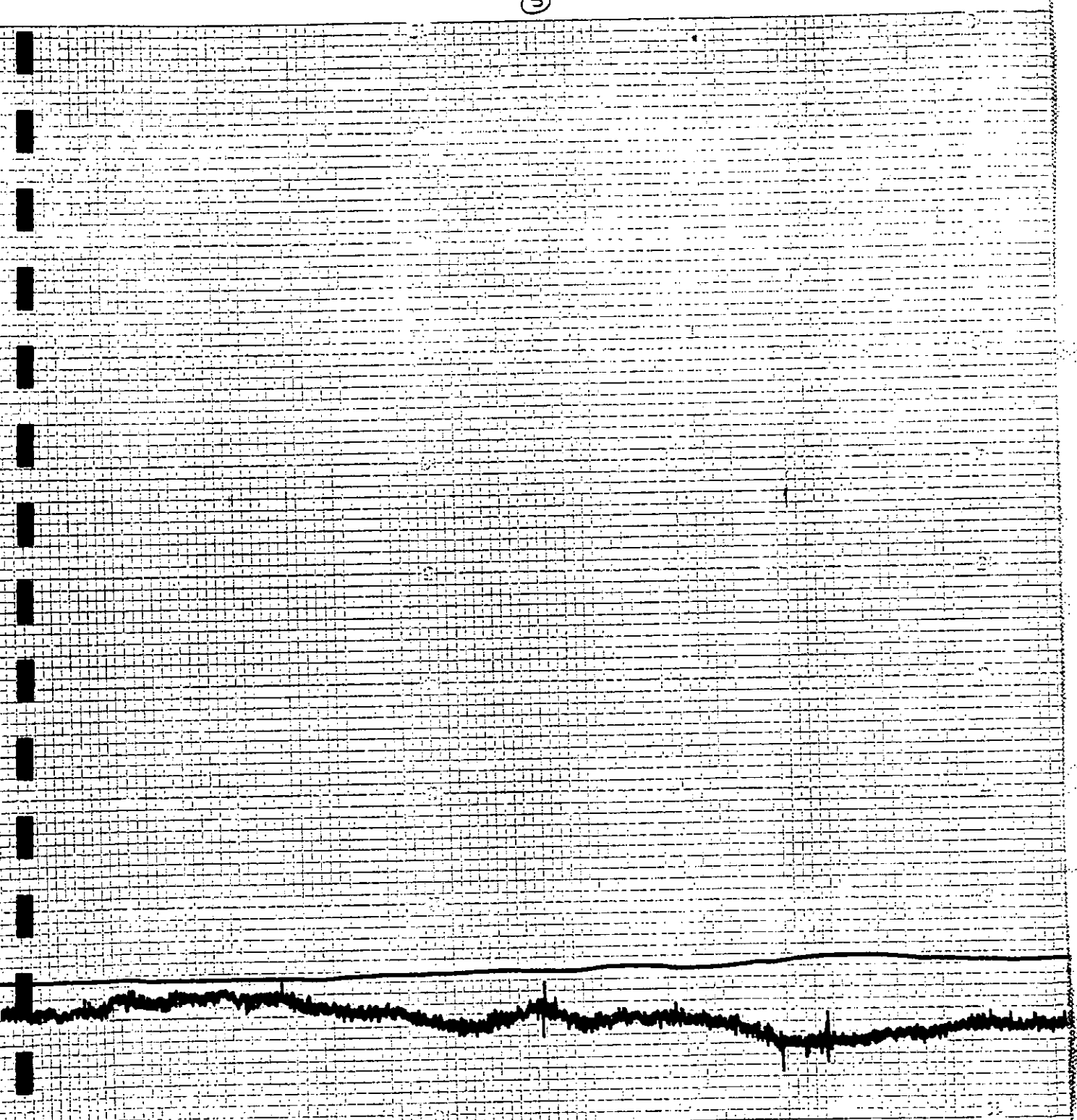
CHART NO. RC-3105

START
RUN
2
1

48.5 ps

50 CO

⑤



End Run 2

BIAS

98.5 NOX

24
12000

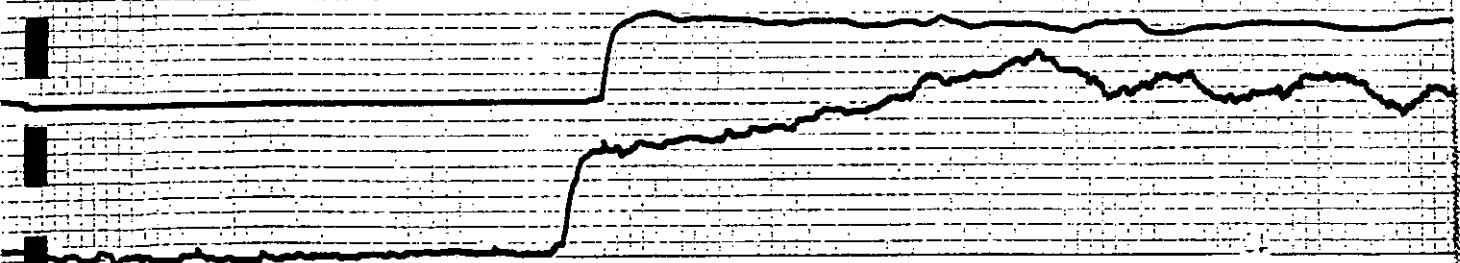
98.5 NOX

24

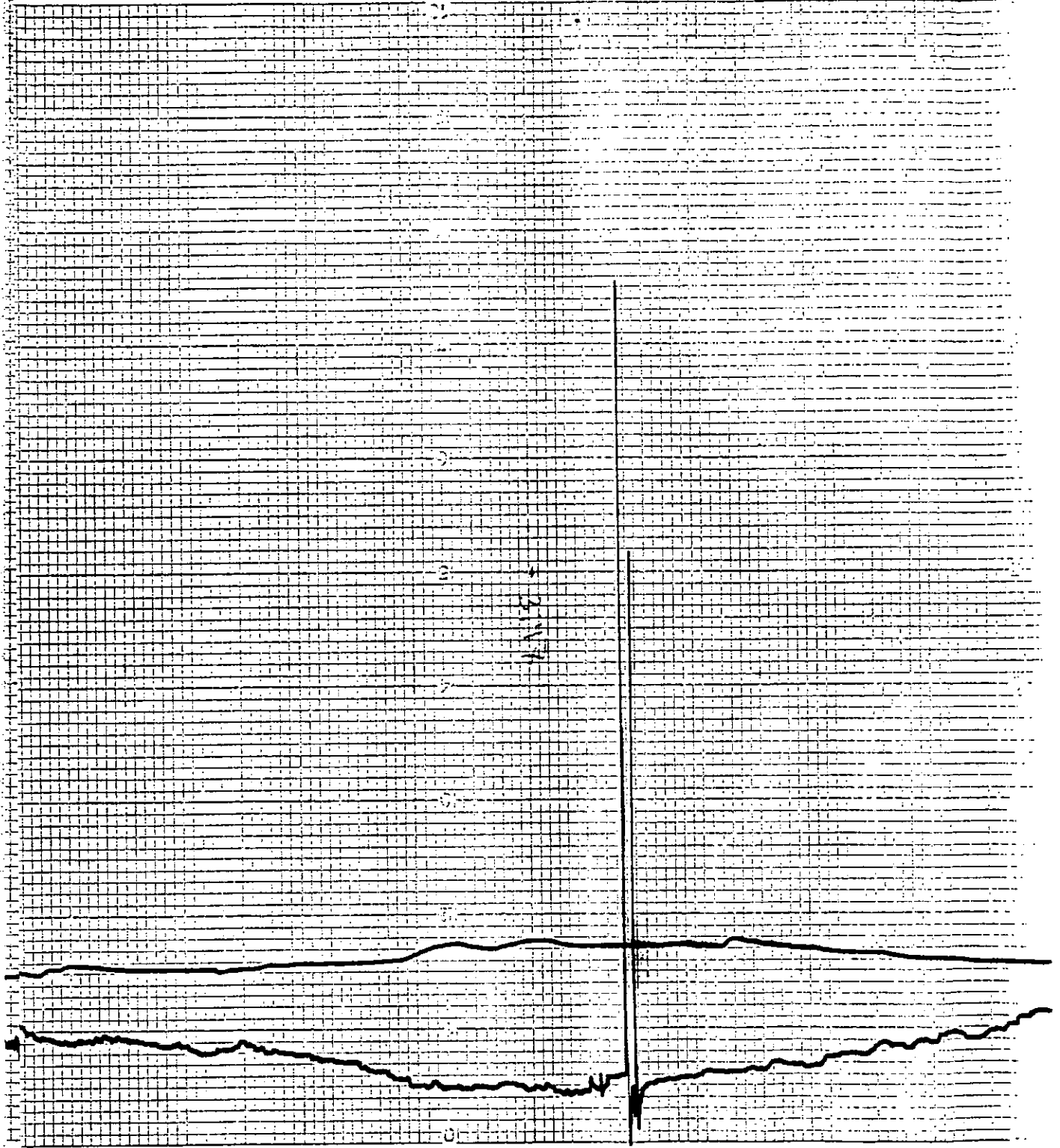
30 CO

STRAAT 8010-13

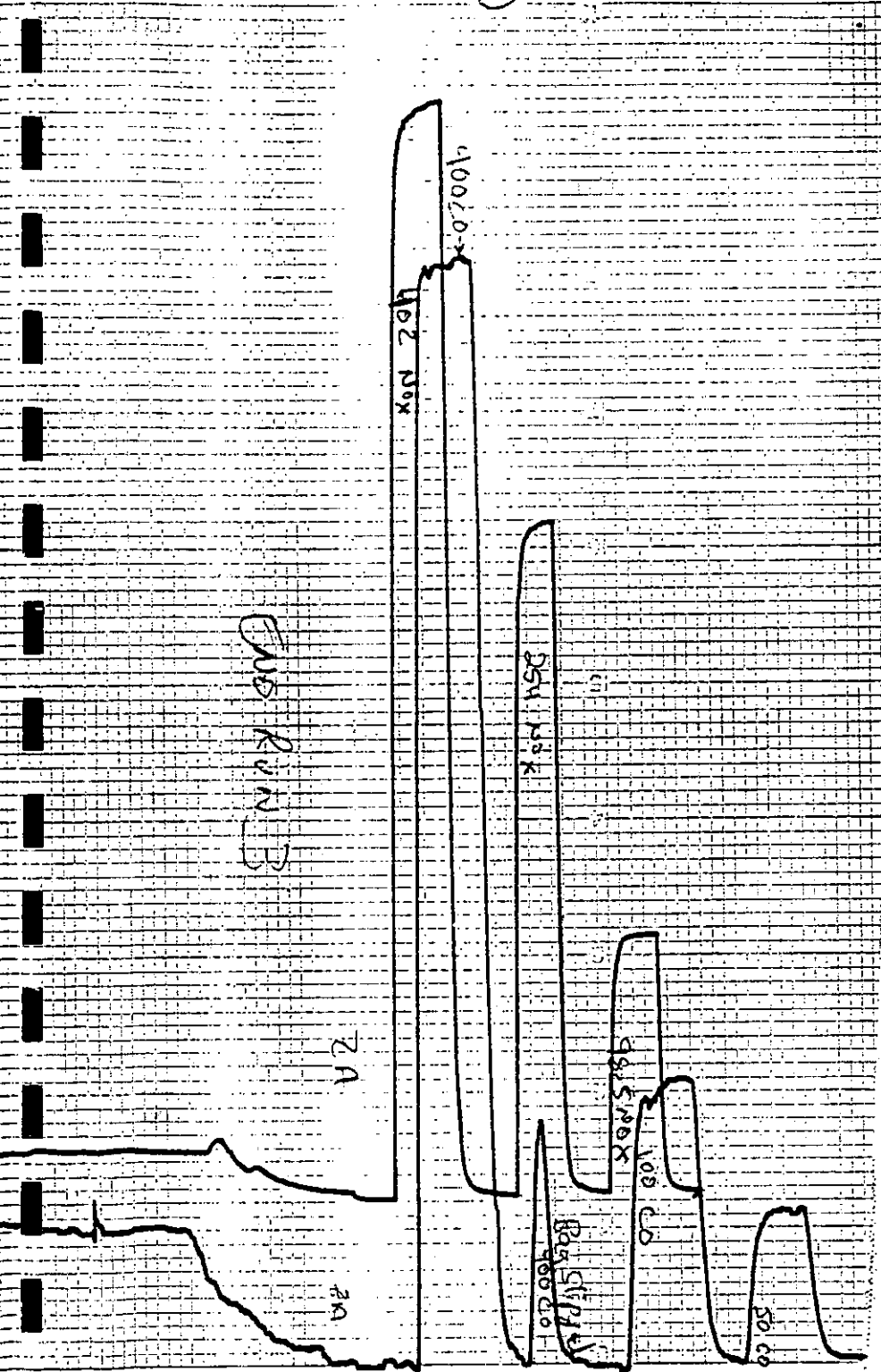
810-1



⑧



9



#5 Dryer Ex NO_x & CO

NO_x = 18.08 ppm

CO = 56.26 ppm

NO _x	CO	5.2	5.9
4.5	11	15	
5.0	11	14	
4.0	9	15	
4.0	10	14	
4.5	11	13	
4.5	11	10	
4.5	11.5	9	
4.0	11.5	8	
4.5	12	9	
5.0	11	8	
4.5	12	8	
5.0	11	9	
4.5	10	8	
4.5	11	8	
4.5	10.5	9	
4.0	10	9	
4.0	10	9	
4.0	10	9	
4.0	10	10	
4.0	9	11	
4.5	9	10	
4.5	10	9	
4.5	10	9	
4.5	9	9	
4.5	10	9	
AVE HT	10	8	
5.65	10	AVE HT	
x 3.2 ppm/unit	10	10.82	
18.08 ppm	12	x 5.2	
	13	56.26	
	12		
	16		
	16		
	15		
	16		
	16		
	16		

NO_x = 16.47 ppm

Run #2 CO = 56.94 ppm

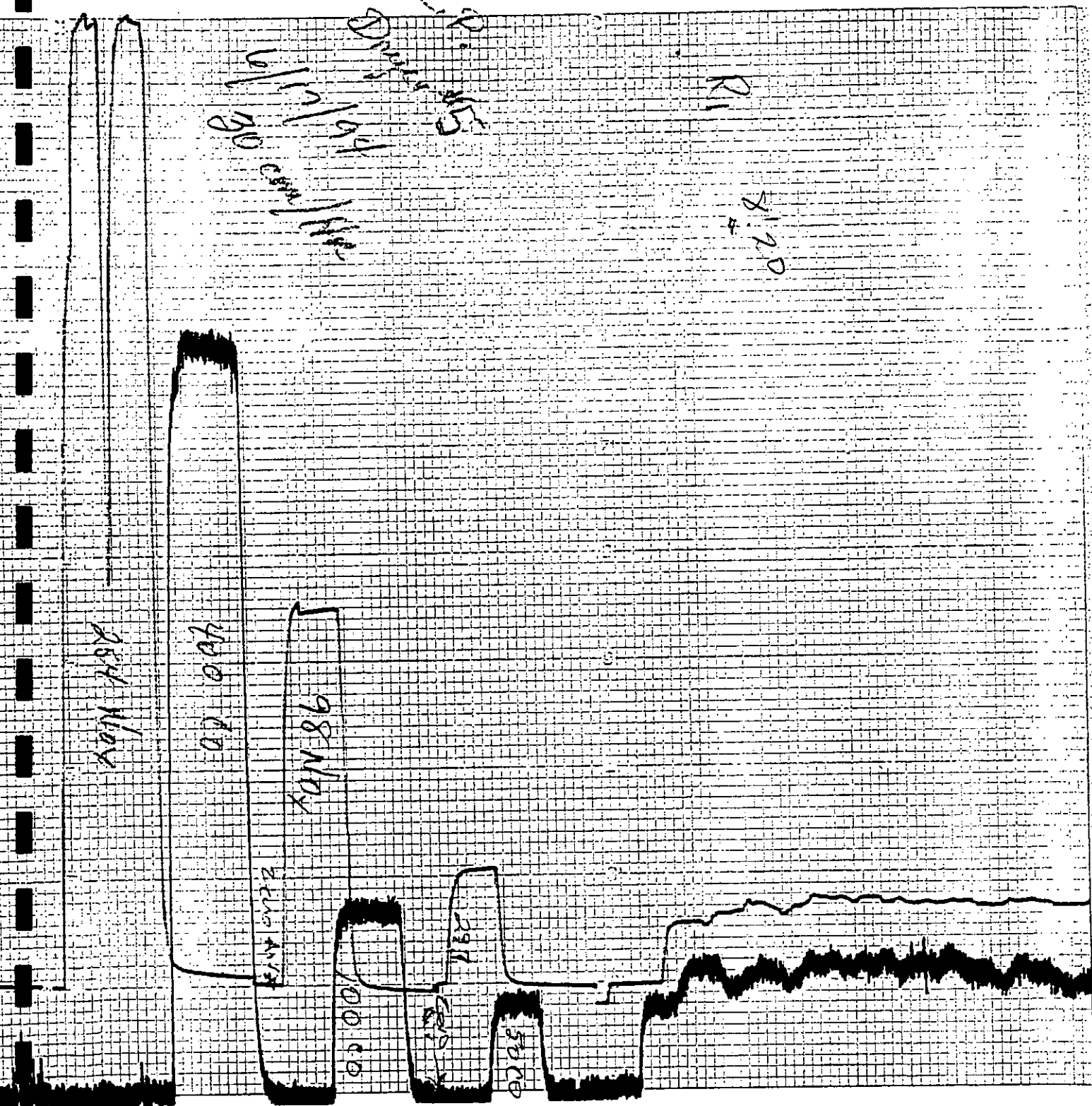
NO _x	CO	5.2	5.9
5	6.0	15	11
5	"	13	11
5	"	12	11
5	"	11	11
5.5	"	12	10
5.5	6.5	12	9
6.0	6.5	11	9
6.0	6.5	11	10
6.5	6.5	10	10
6.0	6.5	11.5	10
6.0	6.5	11	10
6.0	6.5	11	10
6.0	6.5	10	11
6.5	6.5	10	11
6.5	6.0	10	11
6.0	6.0	10	11
6.5	6.5	11	11
6.0	"	10	11
6.0	"	9	11
7.0	"	11	11.5
6.0	"	10	11
7.0	"	11	11.5
6.0	"	12	12
6.0	AVE HT	12	AVE HT
6.5	6.10	13	10.99
6.0	x 2.7 ppm	10	-1.50 offset
5.5	= 16.47 ppm	12	9.49
5.0		12	5.0
6.0		12	56.94 ppm
6.0		11	
6.0		12	
6.0		12	
6.0		12	
6.0		11	
"		10	
"		10	
"		11	

NO_x = 23.17 ppm

Run #3 CO = 53.10 ppm

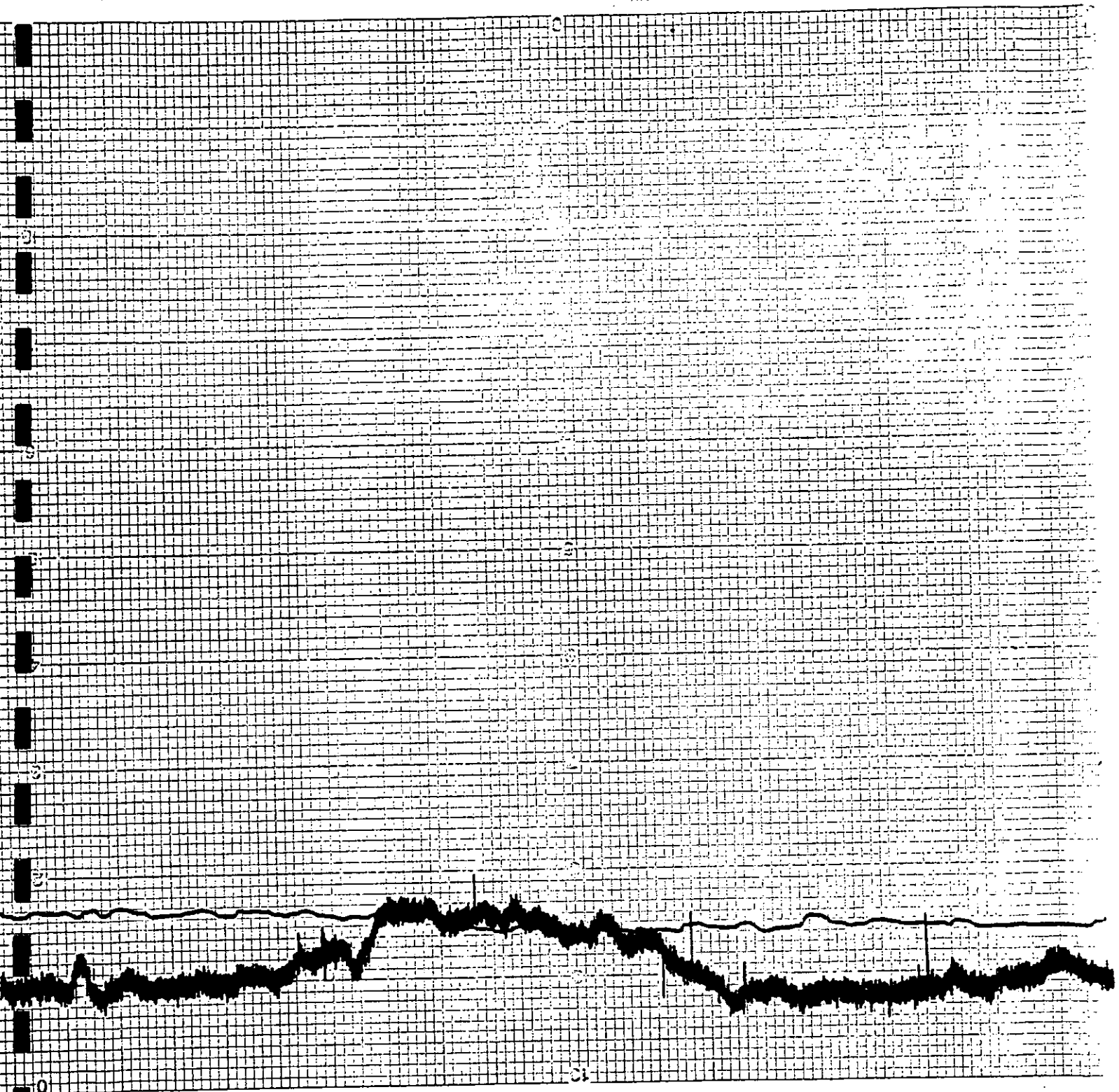
NO _x	CO	5.2	5.9
8	9	5	11
9	9	6	11.5
8	9	6	13
9	9	5	14
8	8.5	6	14
9	8.5	6	13
10	8.5	6	14
8	8.5	6	15
8	9.0	6	16
8	9.0	6.5	17
8	9.0	7	17
8	9.0	7	13
8	9.0	6	12
8	9.0	6	11
8.5	9.0	7	HT 9
9	10.0	6	x 5.9
9	9.0	6.5	53.10 ppm
8.5	9.0	7	
8	9.0	6.5	
9	9.0	7	
9	9.0	6.5	
8.5	8.5	6.5	
9	8.0	7	
8	8.5	7	
9	7	7	
7	HT	8.5	
7	8.58	8	
8	x 2.7	9	
8	23.17	9.5	
8.5		8.5	
8.5		8.5	
8.5		9	
9		10	
9		10.5	
8.5		10.5	
9		11	

①



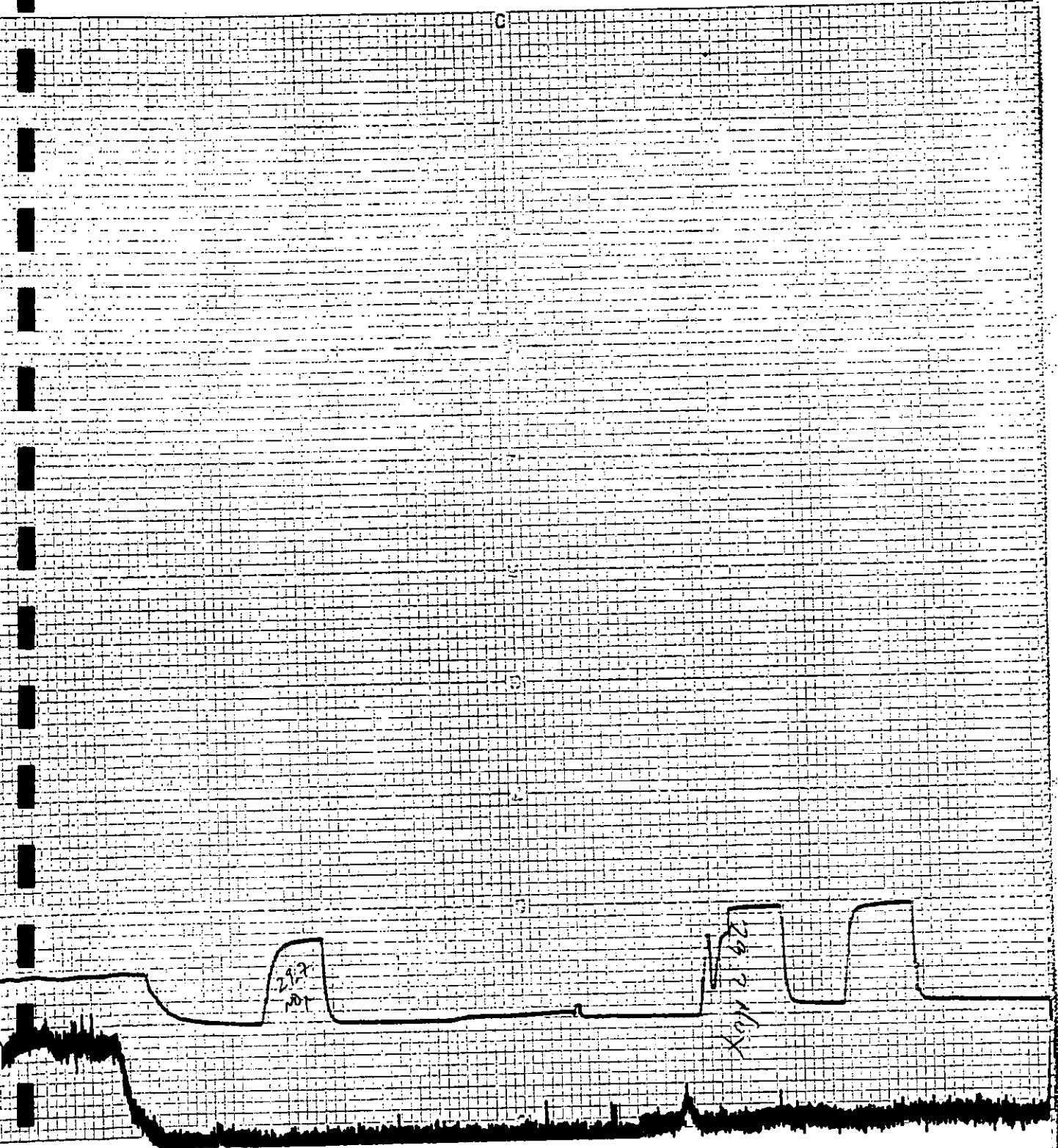
22-2

②

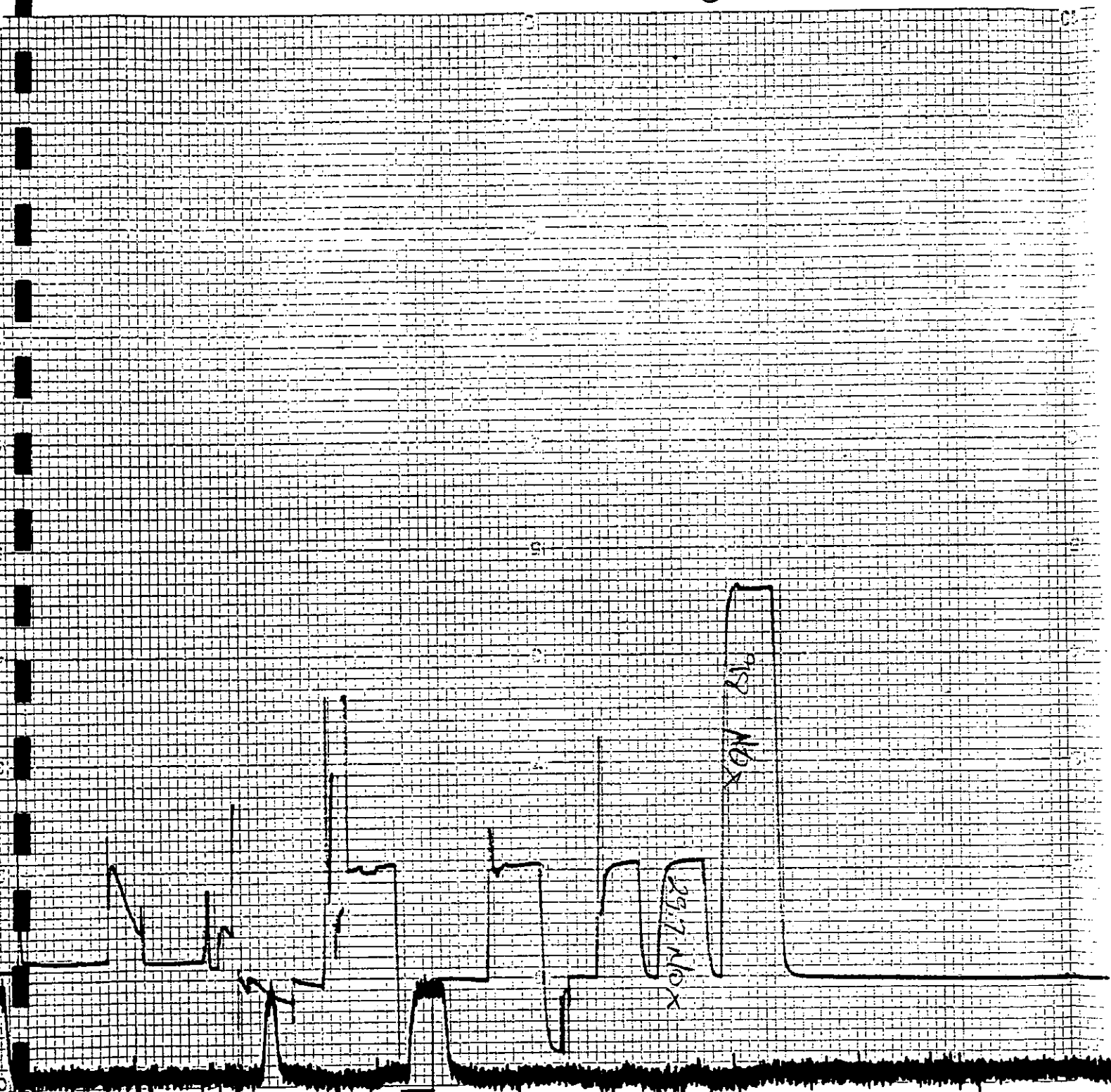


5

THE RECORDER Co. P.O. BOX 3, San Ma



(4)

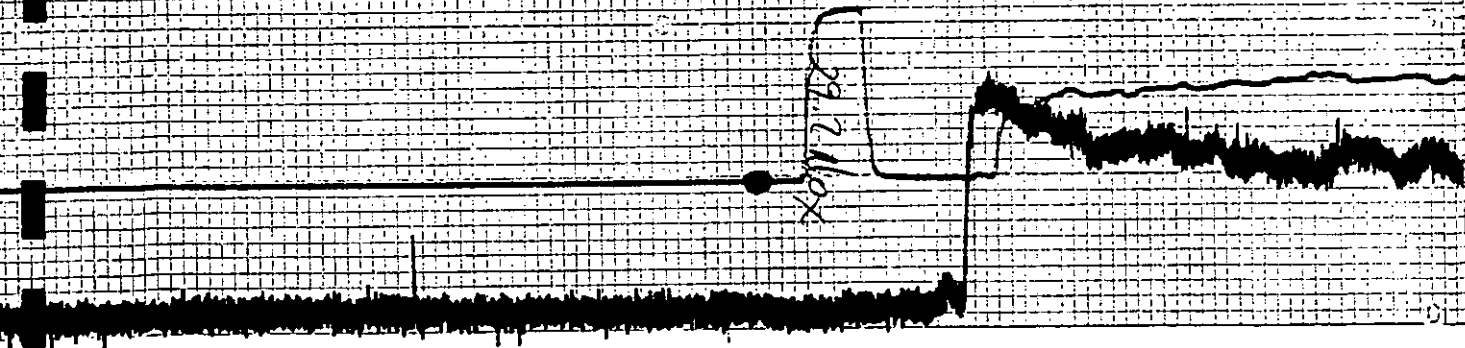


RM

2

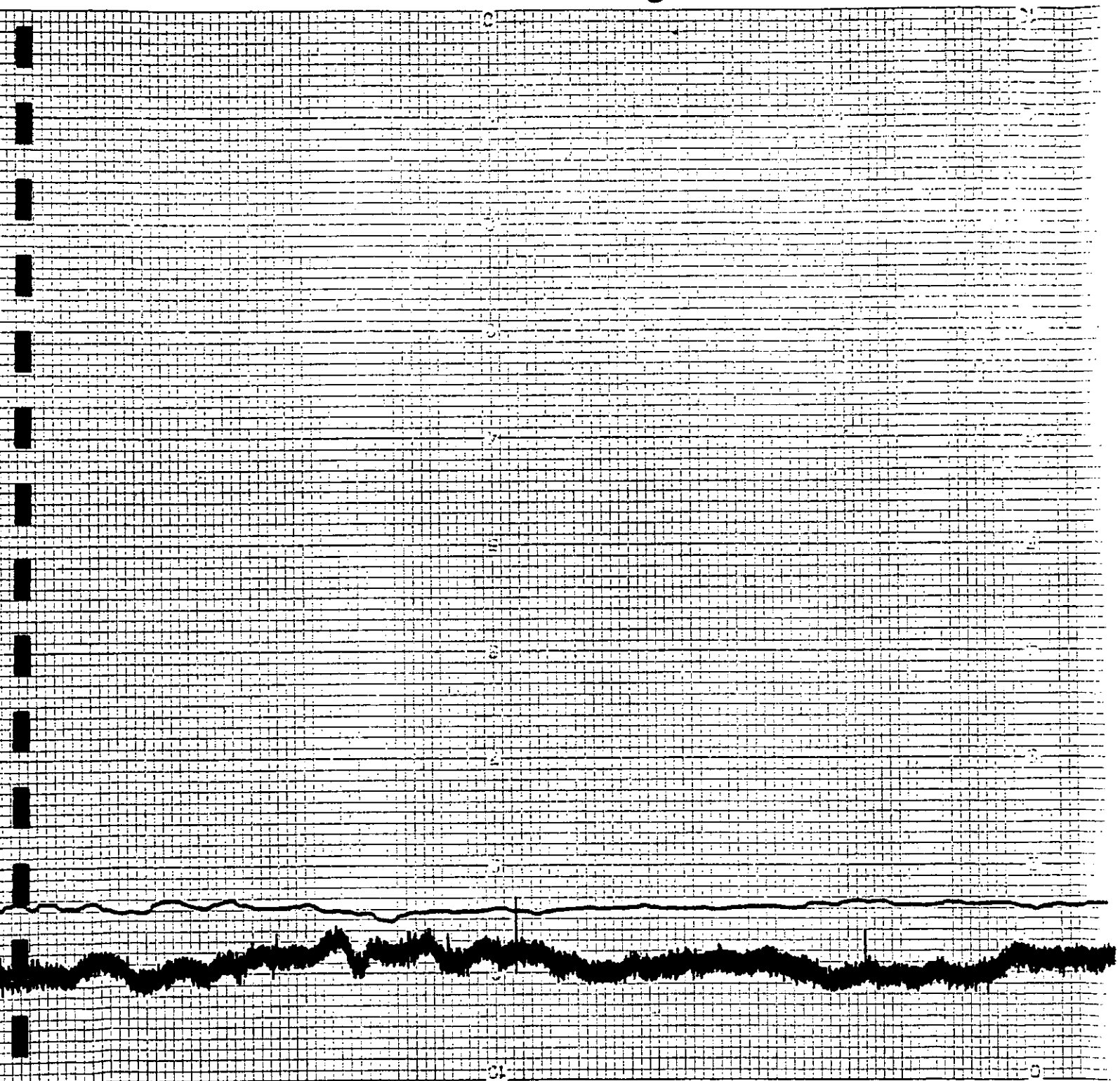
11.28

29.2 11.0X



②

THE RECORDER Co. P.O. BOX 3, San Marcos, Tx 78657



⑦

Red 12.28

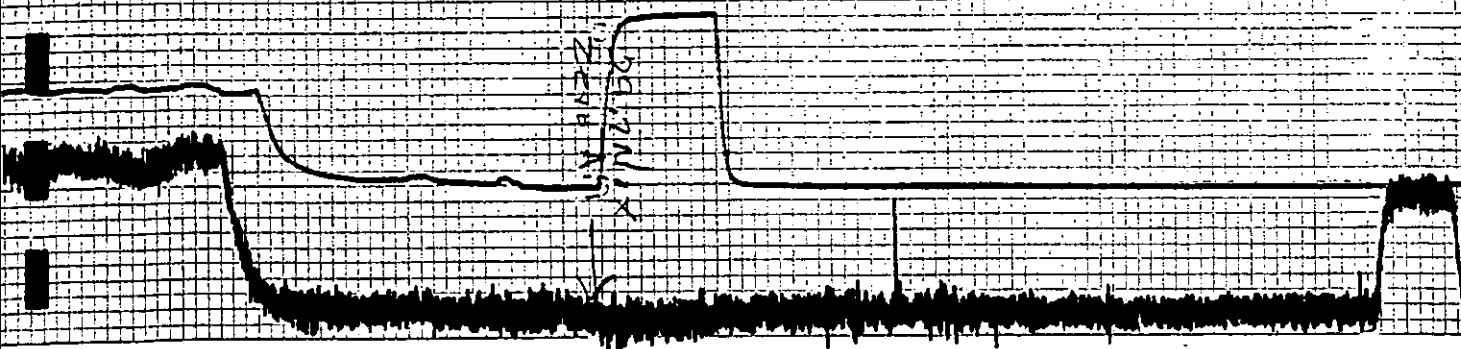
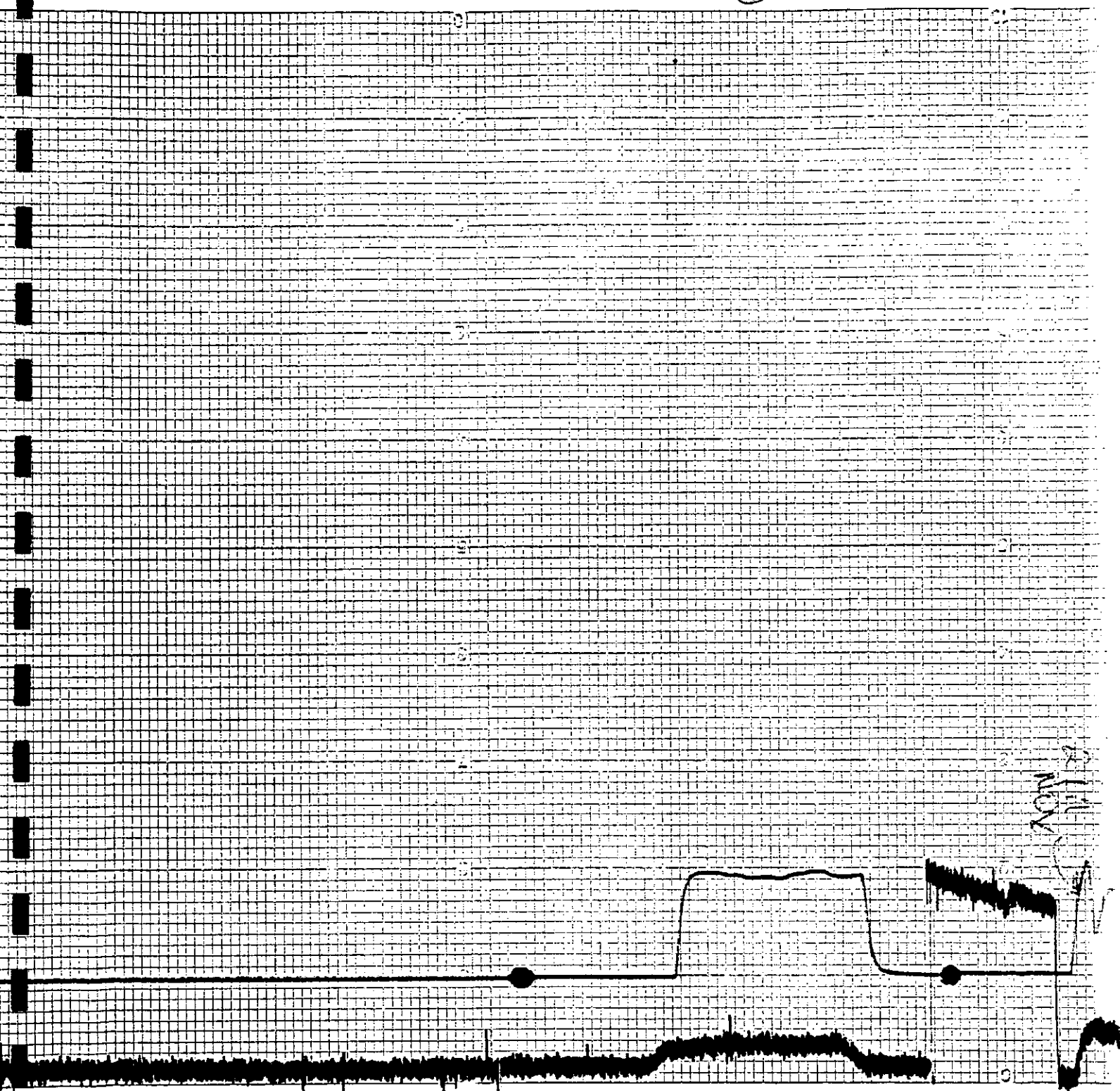


CHART NO. RC-3135

A1592

(5)



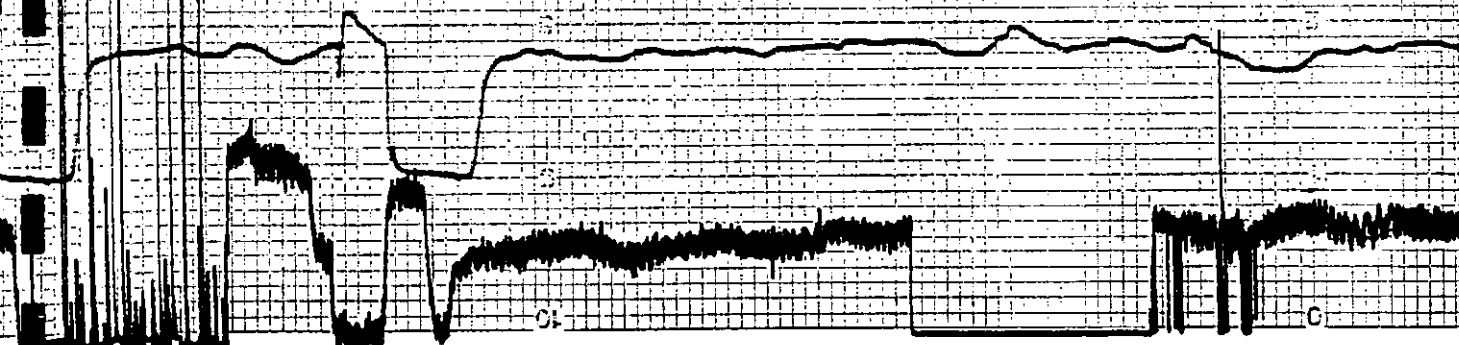
⑨

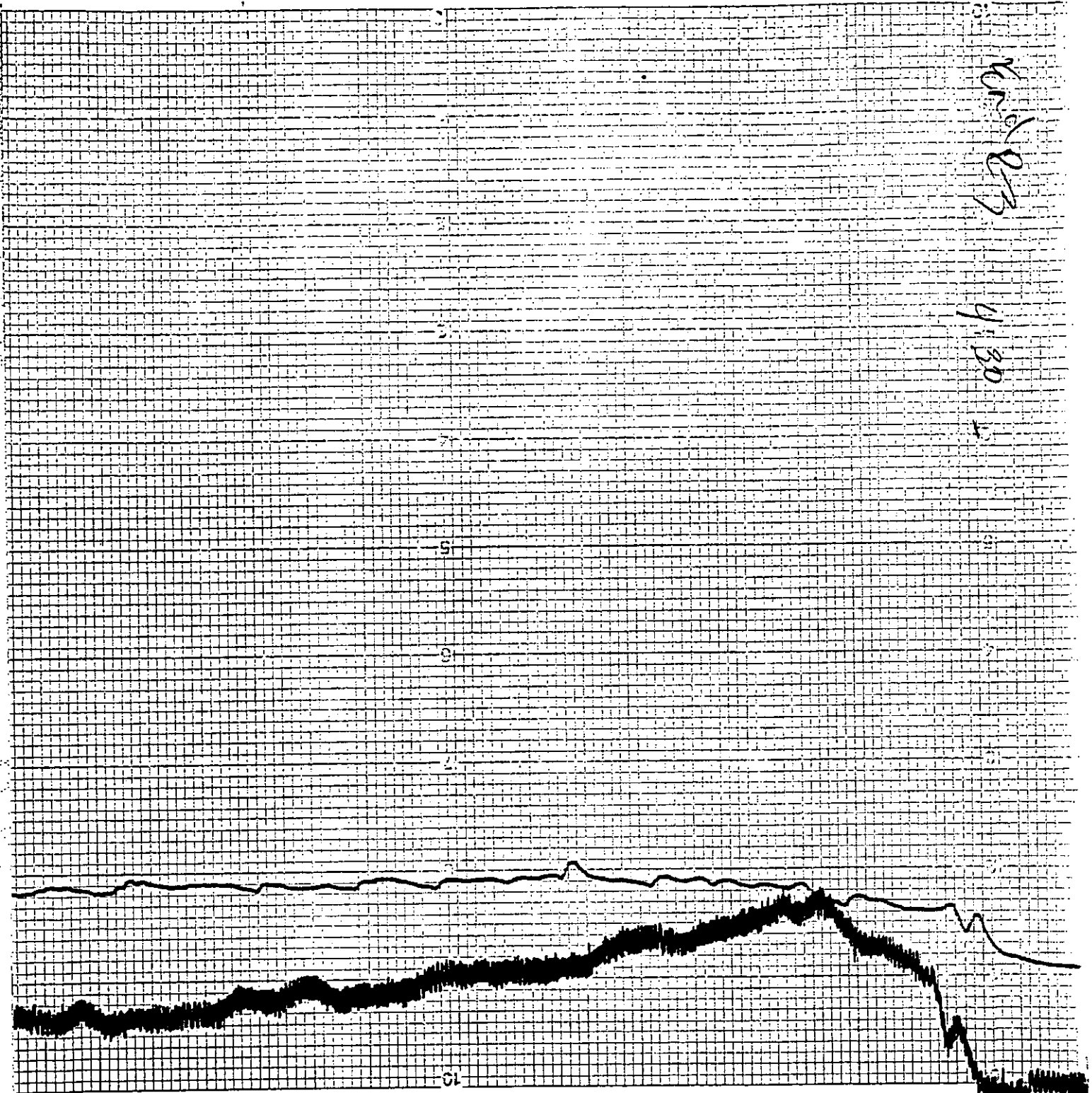
3116

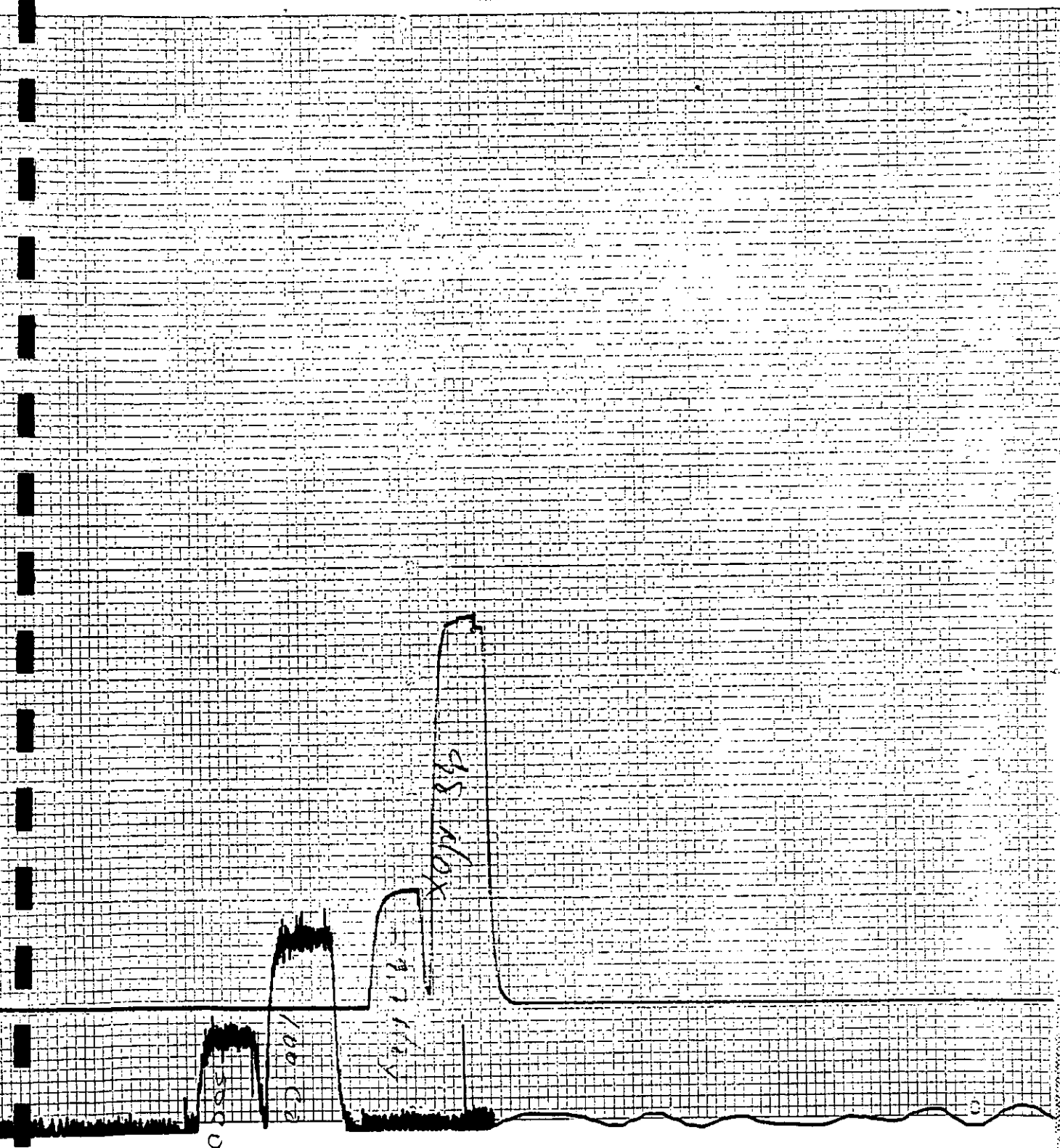
— Stand R3

— 3123

3146







APPENDIX C

ENVIRONMENTAL MONITORING LABORATORIES, INC.

P.O. Box 655 • 606 - B Highway 51 North
Ridgeland, Mississippi 39158

phone: 601/856-3092

fax : 601/853-2151

!!! FAX MESSAGE !!!

TO: Jill Smith

DATE: June 26, 1994

FROM: Danny Russell

FAX NO.: 214/905-0634

PAGES: 1

RE: LP - Hanceville

Here are the formaldehyde results in total micrograms.:

LP-PVN-NORTH-R1	6,800
R2	8,120
R3	8,440

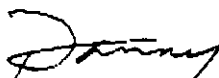
LP-PVN-SOUTH-R1	9,800
R2	8,050
R3	6,400

LP-D1-	R1	37,800
	R2	23,400
	R3	23,800

LP-D2-	R1	22,300
	R2	18,200
	R3	14,500

Call me if you have any questions:

ENVIRONMENTAL MONITORING LABORATORIES


Daniel G. Russell

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: 21 PW+Filter
Location: North Tru-Flex (T) Density(Pa): 0.7851
Date: 6/14/94
Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) 133 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 95.8073

Date of Weighing 6-21-94 Gross Wt. 95.8072

Average Gross Wt. 95.80725

Less Blank Residue(Wa) 0.0

Tare Wt. 95.79165

Weight of Particulate in Rinse 0.01565 15.65

Date of Weighing 6/22/94 Gross Filter Wt. 0.38958

Date of Weighing " Gross Filter Wt. 0.38960

Average Gross Wt. 0.38959

Filter Tare Wt. 0.38733

Weight of Particulate on Filter 0.00226 2.66

Total Weight of Particulate 17.91 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R1 Imps 142 Organic
Location: Press RTO Inlet North Density(Pa.) 1.3255
Date: 6-14-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(V_{rw}) _____

Residue in Rinse(W_a) = $C_a \times V_{rw} \times P_a$ _____

Date of Weighing 6/22/94 Gross Wt. 104.5728

Date of Weighing " Gross Wt. 104.5729

Average Gross Wt. 104.57285

Less Blank Residue(W_a) 0.0

Tare Wt. 104.5556

Weight of Particulate in Rinse 0.01725 17.25 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 PW*Filter
Location: North Inlet Mass RTD Density (Pa.) 0.7851
Date: 6/14/94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (Vaw) 176 ml

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 107.1821

Date of Weighing " Gross Wt. 107.1822

Average Gross Wt. 107.18215

Less Blank Residue (Wa) 0.0

Tare Wt. 107.1715 g

Weight of Particulate in Rinse 0.01065 10.65

Date of Weighing 6/22/94 Gross Filter Wt. 0.46333

Date of Weighing " Gross Filter Wt. 0.46335

Average Gross Wt. 0.46334

Filter Tare Wt. 0.45564

Weight of Particulate on Filter 0.00770 7.70

Total Weight of Particulate 18.35 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 Inps 142 Organ.
Location: Press RTO Inlet North Density(Pa.) 1.3255
Date: 6-14-94

Liquid Level Marked?

Blank Concentration(Ca)

Rinse Volume(Vaw)

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$

Date of Weighing 6/22/94 Gross Wt. 103.1902

Date of Weighing Gross Wt. 103.1903

Average Gross Wt. 103.19025

Less Blank Residue(Wa) 0.0

Tare Wt. 103.1776

Weight of Particulate in Rinse 0.01265 12.65%

Date of Weighing Gross Filter Wt.

Date of Weighing Gross Filter Wt.

Average Gross Wt.

Filter Tare Wt.

Weight of Particulate on Filter

Total Weight of Particulate

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 PW & Filter
Location: North Inlet Press RTO Density (Pa.) 0.7851
Date: 6/14/94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (Vaw) 200 ml

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 105.4999

Date of Weighing " Gross Wt. 105.4998

Average Gross Wt. 105.49985

Less Blank Residue (Wa) 0.0

Tare Wt. 105.4787g

Weight of Particulate in Rinse 0.02115 21.15 mg

Date of Weighing 6/22/94 Gross Filter Wt. 0.38314

Date of Weighing " Gross Filter Wt. 0.38316

Average Gross Wt. 0.38315

Filter Tare Wt. 0.37825

Weight of Particulate on Filter 0.0049 4.9 mg

Total Weight of Particulate 26.05 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 Imps 142 Organ.
Location: Prem RTO Inlet North Density(Pa.) 1.3255
Date: 6-14-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 108.7246

Date of Weighing " Gross Wt. 108.7247

Average Gross Wt. 108.72465

Less Blank Residue(Wa) 0.0

Tare Wt. 108.7148

Weight of Particulate in Rinse 0.00985 9.85 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: 21 PW & Filter

Location: South Inlet Pore RCD Density(Pa.) 0.7851

Date: 6/14/94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) 110 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 100.8233

Date of Weighing " Gross Wt. 100.8232

Average Gross Wt. 100.82325

Less Blank Residue(Wa) 0.0

Tare Wt. 100.81189

Weight of Particulate in Rinse 0.01145 0 11.45%

Date of Weighing 6/22/94 Gross Filter Wt. 0.45310

Date of Weighing " Gross Filter Wt. 0.45308

Average Gross Wt. 0.45309

Filter Tare Wt. 0.45275

Weight of Particulate on Filter 0.00034 0.34%

Total Weight of Particulate 11.79 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R1 Inps 142 Organic
Location: Pers RTO Inlet South Density (Pa.): 1.3255
Date: 6-14-94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (V_{rw}) _____

Residue in Rinse (W_a) = $Ca \times V_{rw} \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 99.4889

Date of Weighing " Gross Wt. 99.4888

Average Gross Wt. 99.48885

Less Blank Residue (W_a) 0.0

Tare Wt. 99.4809

Weight of Particulate in Rinse 0.00795 7.25 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 PW + Filter
Location: South Inlet Press Rd Density (Pa.) 0.7851
Date: 6/14/94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (Vaw) 147 ml

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 112.8870

Date of Weighing " Gross Wt. 112.8871

Average Gross Wt. 112.88705

Less Blank Residue (Wa) 0.0

Tare Wt. 112.8583g

Weight of Particulate in Rinse 0.02875 28.75

Date of Weighing 6/22/94 Gross Filter Wt. 0.45233

Date of Weighing " Gross Filter Wt. 0.45235

Average Gross Wt. 0.45234

Filter Tare Wt. 0.45149

Weight of Particulate on Filter 0.00085 0.85

Total Weight of Particulate 29.60 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 Imps 142 Organic

Location: Pers RTO Inlet South Density(Pa.) 1.3255

Date: 6-14-94

Liquid Level Marked?

Blank Concentration(Ca)

Rinse Volume(Vaw)

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$

Date of Weighing 6/22/94 Gross Wt. 99.0781

Date of Weighing " Gross Wt. 99.0780

Average Gross Wt. 99.07805

Less Blank Residue(Wa) 0.0

Tare Wt. 99.0682

Weight of Particulate in Rinse 0.00985 9.85 mg

Date of Weighing Gross Filter Wt.

Date of Weighing Gross Filter Wt.

Average Gross Wt.

Filter Tare Wt.

Weight of Particulate on Filter

Total Weight of Particulate

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 FW & Filter
Location: South Inlet Pass RTD Density(Pa.) 0.7851
Date: 6/14/94

Liquid Level Marked?

Blank Concentration(Ca)

Rinse Volume(Vaw) 151 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$

Date of Weighing 6-21-94 Gross Wt. 96.5299

Date of Weighing " Gross Wt. 96.5300

Average Gross Wt. 96.52995

Less Blank Residue(Wa) 0.0

Tare Wt. 96.5051 g

Weight of Particulate in Rinse 0.02485 24.85%

Date of Weighing 6/22/94 Gross Filter Wt. 0.46063

Date of Weighing " Gross Filter Wt. 0.46061

Average Gross Wt. 0.46062

Filter Tare Wt. 0.45953

Weight of Particulate on Filter 0.00109 1.09 mg

Total Weight of Particulate 25.94 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 Inps 142 Organic

Location: Pass RTO Inlet South Density(Pa.) 1.3255

Date: 6-14-94

Liquid Level Marked?

Blank Concentration(Ca)

Rinse Volume(Vaw)

Residue in Rinse(Wa)=Ca*Vaw*Pa

Date of Weighing 6/22/94 Gross Wt. 106.7309

Date of Weighing " Gross Wt. 106.7309

Average Gross Wt. 106.7309

Less Blank Residue(Wa) 0.0

Tare Wt. 106.7241

Weight of Particulate in Rinse 0.0068 6.8 mg

Date of Weighing Gross Filter Wt.

Date of Weighing Gross Filter Wt.

Average Gross Wt.

Filter Tare Wt.

Weight of Particulate on Filter

Total Weight of Particulate

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R1 PW & filter
Location: Dryer Kiln #4 Density(Pa.) 0.7851
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) 208 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 95.1709

Date of Weighing " Gross Wt. 95.1710

Average Gross Wt. 95.17095

Less Blank Residue(Wa) 0.0

Tare Wt. 95.1309

Weight of Particulate in Rinse 0.04005 40.05

Date of Weighing 6/22/94 Gross Filter Wt. 0.65509 0.62227

Date of Weighing " Gross Filter Wt. 0.65515 0.62223

Average Gross Wt. 0.65512 0.62225

Filter Tare Wt. 0.45742 0.38715

Weight of Particulate on Filter 0.19770 0.23510

Total Weight of Particulate 472.85 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R1 Imps 142 Organic
Location: Dryer Kiln 4 Density(Pa.) 1.3255
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 102.6782

Date of Weighing " Gross Wt. 102.6783

Average Gross Wt. 102.67825

Less Blank Residue(Wa) 0.0

Tare Wt. 102.6374

Weight of Particulate in Rinse 0.04085 40.85 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 PW & filter
Location: Dryer Kiln #4 Density(Pa.) 0.7851
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) 145 ml

Residue in Rinse(Wa)=Ca*Vaw*Pa _____

Date of Weighing 6-21-94 Gross Wt. 106.0597

Date of Weighing 6-21-94 Gross Wt. 106.0597

Average Gross Wt. 106.0597

Less Blank Residue(Wa) 0.0

Tare Wt. 106.0405

Weight of Particulate in Rinse 0.0192 19.2 mg

Date of Weighing 6/22/94 Gross Filter Wt. 0.61197 0.56012

Date of Weighing _____ Gross Filter Wt. 0.61195 0.56016

Average Gross Wt. 0.61196 0.56014

Filter Tare Wt. 0.39160 0.46433

Weight of Particulate on Filter 0.22036 0.09581

Total Weight of Particulate 335.37 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 Imps 142 Org...

Location: Dryer Kiln 4 Density(Pa.) 1.3255

Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa)=Ca*Vaw*Pa _____

Date of Weighing 6/22/94 Gross Wt. 107.9704

Date of Weighing " Gross Wt. 107.9702

Average Gross Wt. 107.9703

Less Blank Residue(Wa) 0.0

Tare Wt. 107.8950

Weight of Particulate in Rinse 0.0753 75.3 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 PW & filter

Location: Dryer Kln 4 Density(Pa.) 0.7851

Date: 6-16-94

Liquid Level Marked?

Blank Concentration(Ca)

Rinse Volume(Vaw) 153 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$

Date of Weighing 6-21-94 Gross Wt. 103.6508

Date of Weighing " Gross Wt. 103.6508

Average Gross Wt. 103.6508

Less Blank Residue(Wa) 0.0

Tare Wt. 103.6303

Weight of Particulate in Rinse 0.0205 20.5 mg

Date of Weighing Gross Filter Wt. 0.55613 0.48004

Date of Weighing Gross Filter Wt. 0.55623 0.48010

Average Gross Wt. 0.55618 0.48007

Filter Tare Wt. 0.38566 0.38881

Weight of Particulate on Filter 0.17052 0.09126

Total Weight of Particulate 282.28 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 Imps 142 Agam

Location: Dryer Kiln 4 Density (Pa.) 1.3255

Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (Vaw) _____

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 107.7009

Date of Weighing " Gross Wt. 107.7010

Average Gross Wt. 107.70095

Less Blank Residue (Wa) 0.0

Tare Wt. 107.6711

Weight of Particulate in Rinse 0.02985 29.85 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: 21 PW + Filter
Location: Drier Kilo #5 Density(Pa.) 0.7851
Date: 6/17/94
Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) 127 ml

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 100.0636

Date of Weighing 6-21-94 Gross Wt. 100.0637

Average Gross Wt. 100.06365

Less Blank Residue(Wa) 0.0

Tare Wt. 99.9972 g

Weight of Particulate in Rinse 0.06635 66.35%

Date of Weighing 6/22/94 Gross Filter Wt. 0.61025 0.51192

Date of Weighing _____ Gross Filter Wt. 0.61021 0.51197

Average Gross Wt. 0.61023 0.511945

Filter Tare Wt. 0.45886 0.45711

Weight of Particulate on Filter 0.15137 0.054835

Total Weight of Particulate 272.56 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R1 Imps 142 Organic
Location: Dryer Kiln 5 Density(Pa.) 1.3255
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 108.6564

Date of Weighing " Gross Wt. 108.6565

Average Gross Wt. 108.65645

Less Blank Residue(Wa) 0.0

Tare Wt. 108.6197

Weight of Particulate in Rinse 0.03675 36.75 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 PW & Filter
 Location: Driver Kiln #5 Density (Pa.) 0.7851
 Date: 6/14/94

Liquid Level Marked? _____

Blank Concentration (Ca) _____

Rinse Volume (Vaw) 181 ml

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6-21-94 Gross Wt. 112.9456

Date of Weighing 6-21-94 Gross Wt. 112.9454

Average Gross Wt. 112.9455

Less Blank Residue (Wa) 0.0

Tare Wt. 112.9130 g

Weight of Particulate in Rinse 0.0325 32.5 mg

Date of Weighing 6/22/94 Gross Filter Wt. 0.47747 0.63552

Date of Weighing " Gross Filter Wt. 0.47745 0.63550

Average Gross Wt. 0.47746 0.63551

Filter Tare Wt. 0.39310 0.45304

Weight of Particulate on Filter 0.08436 0.18247

Total Weight of Particulate 299.33 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R2 Inps 142 Organic
Location: Dryer Kiln 5 Density(Pa.) 1.3255
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 105.8860

Date of Weighing " Gross Wt. 105.8860

Average Gross Wt. 105.8860

Less Blank Residue(Wa) 0.0

Tare Wt. 105.8427

Weight of Particulate in Rinse 0.0433 43.3 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: 25 PD+Filter

Location: Dryas Km 5 Density (Pa.) 0.7851

Date: 1/7/94

Liquid Level Marked?

Blank Concentration (Ca)

Rinse Volume (Vaw) 174 ml

Residue in Rinse (Wa) = $Ca \times Vaw \times Pa$

Date of Weighing 6-21-94 Gross Wt. 113.3157

Date of Weighing " Gross Wt. 113.3158

Average Gross Wt. 113.31575

Less Blank Residue (Wa) 0.0

Tare Wt. 113.2875g

Weight of Particulate in Rinse 0.02825 28.25 mg

Date of Weighing 6/22/94 Gross Filter Wt. 0.47169 0.43579

Date of Weighing " Gross Filter Wt. 0.47165 0.43581

Average Gross Wt. 0.47167 0.43580

Filter Tare Wt. 0.39264 0.37586

Weight of Particulate on Filter 0.07903 0.05994

Total Weight of Particulate 167.22 mg

PARTICULATE ANALYTICAL DATA FORM

Company: LP Run Number: R3 Imps 142 Organic
Location: Dryer kiln 5 Density(Pa.) 1.3255
Date: 6-17-94

Liquid Level Marked? _____

Blank Concentration(Ca) _____

Rinse Volume(Vaw) _____

Residue in Rinse(Wa) = $Ca \times Vaw \times Pa$ _____

Date of Weighing 6/22/94 Gross Wt. 111.2499

Date of Weighing " Gross Wt. 111.2498

Average Gross Wt. 111.24985

Less Blank Residue(Wa) 0.0

Tare Wt. 111.2123

Weight of Particulate in Rinse 0.03755 37.55 mg

Date of Weighing _____ Gross Filter Wt. _____

Date of Weighing _____ Gross Filter Wt. _____

Average Gross Wt. _____

Filter Tare Wt. _____

Weight of Particulate on Filter _____

Total Weight of Particulate _____

ACETONE BLANK ANALYTICAL DATA FORM

PLANT: LP

SAMPLE LOCATION: Dryer Kilns 445; North & South Free RD 1.1

LIQUID LEVEL MARKED?

BLANK VOLUME (Pa): 50 ml

DATE OF WEIGHING 6-21-94

GROSS WEIGHT 106.5505

DATE OF WEIGHING 6-21-94

GROSS WEIGHT 106.5505

AVERAGE GROSS WEIGHT 106.5505

TARE WEIGHT 106.5503 g

WEIGHT OF BLANK (ma) 0.0002 g

$$Ca = \frac{ma}{Va Pa} = \underline{0.005} \text{ mg/g}$$

Note: In no case should a blank residue greater than 0.01 mg/g or 0.001% of the blank weight be subtracted from the sample weight.

MeCl₂

ACETONE BLANK ANALYTICAL DATA FORM

PLANT: LP

SAMPLE LOCATION: Press RTo Inlet North & South; Dryer Kilns 4 & 5

LIQUID LEVEL MARKED? ☒

BLANK VOLUME (Pa): 100 ml

DATE OF WEIGHING 6/22/94 GROSS WEIGHT 109.9934

DATE OF WEIGHING " GROSS WEIGHT 109.9936

AVERAGE GROSS WEIGHT 109.9935

TARE WEIGHT 109.9914

WEIGHT OF BLANK (ma) 0.0021 2.1 mg

$$Ca = \frac{ma}{Va Pa} = \frac{0.021}{100} \text{ mg/g}$$

Note: In no case should a blank residue greater than 0.01 mg/g or 0.001% of the blank weight be subtracted from the sample weight.

APPENDIX D

PARTICULATE FIELD DATA

PLANT: L.P.
DATE: 6-14-94
REPETITION: 1

STO 0 = 1.008
1 = 2.96
2 = 2.5

TS = 580
Tm = 550
PS = 29.59
M2 = 28.84
MS = 27.76
msps = 821.30

LOCATION: Press RTA Inlet North

OPERATOR: JS

STACK #: North Inlet

SAMPLE BOX #: 10

METER BOX #: 9

AMBIENT TEMPERATURE: 77°

BAROMETRIC PRESSURE: 29.76

ASSUMED MOISTURE: 10%

PROBE LENGTH: 6'

NOZZLE DIAMETER: .242, .242, .242 .000319

STACK DIAMETER: 56.0

METER H: 1.670072

C FACTOR: .84

METER CO-EFFICIENT: .9901391

IMPINGERS

	Initial	Final
#1: 100		117
#2: 100		113
#3: —		
#4: 200		209.
#5:		39

COMMENTS:

CO₂ 0%
O₂ 21%

FILTER TARE: .38733

PRE-TEST LEAK CHECK

Meter: 0.005 Cu. ft. 15 in. HG
Pitots: 3.2 in. H2O
3.8 Probe

POST-TEST LEAK CHECK

Meter: 0.005 Cu. ft. 5 in. HG
Pitots: 7 in. H2O

	⊖	STATIC PRES.	TS °F	ΔP	Temp. TEMP	ΔH	VM FT.3	TM INLET	TM OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A1	10:00	-2.3	117	.89	140	2.6	561.150	96	96	271	71	3
2			118	.87	139	2.6	63.5	98	96	261	71	3
3			118	.91	149	2.7	65.8	101	96	267	71	3
4			119	.82	145	2.4	68.2	102	96	262	71	3
5			122	.80	143	2.4	70.5	103	97	263	71	3
6			119	.74	147	2.2	72.8	104	97	265	71	3
7			118	1.0	158	3.0	74.9	106	98	258	71	2
8			118	1.2	154	3.6	77.5	108	99	258	71	4
9			117	1.3	159	3.9	80.2	110	101	260	71	4
10			119	1.2	162	3.6	83.1	111	102	258	71	4
11			115	.96	160	2.8	85.8	112	103	262	71	3
12			109	.53	158	1.59	88.3	113	104	263	71	2
B1	10:40		115	1.0	137	3.0	590.203	107	107	265	71	3.5
2			123	1.1	138	3.3	92.7	110	107	260	71	4
3			119	.98	140	2.9	95.3	111	107	257	71	3
4			122	1.0	139	3.0	97.8	112	107	265	71	3
5			122	.95	149	2.8	100.3	113	108	259	71	3
6			120	.88	153	2.6	102.8	113	108	260	71	3
7			123	1.2	151	3.6	105.2	113	108	257	71	4
8			121	1.2	148	3.6	107.9	113	108	253	72	4
9			120	1.2	153	3.6	110.7	112	108	257	72	4
10			125	1.1	150	3.3	113.4	112	108	260	71	4
11			118	.85	151	2.5	116.1	113	108	254	71	3
12			106	.45	145	1.3	118.4	112	108	251	71	2
	11:21						620.139					
AV		7.23	119.3	.96375		2.870	58.989					

PARTICULATE FIELD DATA

SR

PLANT: L.P.
DATE: 6-14-94
REPETITION: 2

LOCATION: Press RT₀ Inlet North
OPERATOR: JS
STACK #:
SAMPLE BOX #: 9
METER BOX #: 9
AMBIENT TEMPERATURE: 89°
BAROMETRIC PRESSURE: 29.7
ASSUMED MOISTURE: 10%
PROBE LENGTH: 6'
NOZZLE DIAMETER: .242"
STACK DIAMETER: 56"
METER H: 1,670072
C FACTOR: .84
METER CO-EFFICIENT: .9901391

IMPINGERS

	Initial	Final
#1: 100°	} m/s H ₂ O	116
#2: 100°		112
#3: -		209.5
#4: 200 grams S.C		37.5
#5: -		

COMMENTS:

CO₂ O₂
0% 21%

FILTER TARE: .45564
PRE-TEST LEAK CHECK

Meter: 0.005 Cu. ft. / s in. HG
Pitots: ✓ in. H₂O

POST-TEST LEAK CHECK

Meter: 0.005 Cu. ft. / s in. HG
Pitots: ✓ in. H₂O

	⊖	STATIC PRES.	Ts °F	ΔP	Probe V ₀	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
B1	11:53		123	1.2	139	3.6	621.209	104	104	238	69	2
2			121	1.1	143	3.3	23.9	107	104	251	70	2
3			126	1.15	144	3.4	26.6	109	104	255	70	2
4			121	1.2	147	3.6	29.3	112	105	253	70	2
5			123	1.0	151	3.0	32.0	113	105	259	70	2
6			122	.95	153	2.8	34.5	114	106	258	70	2
7			121	1.1	160	3.3	37.0	114	107	265	70	2
8		-2.5	128	1.3	163	3.9	39.6	113	107	265	70	3
9			122	1.2	166	3.6	42.5	113	108	255	71	3
10			126	1.2	169	3.6	45.3	114	107	253	71	3
11			121	.96	165	2.8	48.0	114	108	259	71	3
12			115	.45	168	1.3	50.5	114	108	256	70	2
A1	12:28		122	.94	165	2.8	652.249	108	107	261	70	2
2			123	.89	132	2.6	54.6	110	108	255	70	2
3			122	.90	126	2.7	57.0	112	108	253	70	2
4			121	.85	125	2.5	59.4	113	108	262	70	2
5			121	.82	140	2.4	61.7	114	108	257	70	2
6			121	.75	147	2.2	64.0	114	108	260	70	2
7			124	1.0	156	3.5	66.2	115	109	266	71	2
8			122	1.2	162	4.2	68.9	116	109	269	71	3
9			125	1.1	164	3.9	72.0	116	110	259	71	3
10			122	1.1	166	3.9	74.8	116	110	266	71	3
11			122	.88	167	3.1	77.7	115	110	269	71	2
12			112	.78	160	2.7	80.3	115	110	267	71	2
	1:02						682.786					
AV			122.3	1.00083		3.1125	61.577					

PLANT: L.P
 DATE: 6-14-94
 REPETITION: 3

LOCATION: Press Rto Inlet North
 OPERATOR: JS
 STACK #: Inlet
 SAMPLE BOX #: 10
 METER BOX #: 4
 AMBIENT TEMPERATURE: 91°
 BAROMETRIC PRESSURE: 29.7
 ASSUMED MOISTURE: 3%
 PROBE LENGTH: 6'
 NOZZLE DIAMETER: .242"
 STACK DIAMETER: 56"
 METER H: 1.670072
 C FACTOR: .84
 METER CO-EFFICIENT: .9901391

IMPINGERS

	Initial	Final
#1: 100	114	109
#2: 100		
#3: -		
#4: 200	210.5	
#5: -	33.5	

COMMENTS:

CO₂ 0%
 O₂ 21%

FILTER TARE: PRE-TEST LEAK CHECK

Meter: .007 Cu. ft. 70 in. HG
 Pitots: 3.2 in. H2O
 3.4

POST-TEST LEAK CHECK

Meter: 0.005 Cu. ft. 70 in. HG
 Pitots: 3.2 in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	Probe V _{avg}	ΔH	V _m FT.3	T _m INLET	T _m OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN. Hg)
B1	1:50		125	1.2	128	4.2	687.1491	101	101	249	70	3
2			123	1.1	140	3.9	87.1	103	102	258	70	3
3			125	1.2	138	4.2	90.0	106	102	265	70	3
4			124	1.1	141	3.9	93.0	108	102	257	70	3
5			126	1.0	138	3.5	95.9	108	103	260	70	3
6		-2.5	124	.96	145	3.4	98.6	109	104	260	70	3
7			126	.92	148	3.2	701.3	109	104	260	70	3
8			124	1.2	148	4.2	704.0	109	105	259	70	3
9			126	1.1	155	3.9	707.0	110	105	261	70	3
10			125	1.0	157	3.5	709.9	110	105	261	70	3
11			124	.68	158	2.4	712.6	110	105	266	70	3
12	2:19		99	.47	159	1.6	714.9	111	105	261	70	2
A1	Start: 4:30		121	.92	165	3.2	716.824	97	97	254	70	3
2			123	.89	158	3.1	19.4	99	97	263	70	3
3			121	.97	160	3.4	22.0	102	97	267	70	3
4			119	.86	161	3.0	24.7	103	98	267	71	3
5			120	.78	163	2.7	27.3	105	99	257	71	3
6			122	.71	161	2.5	29.7	106	100	271	71	2
7			121	1.2	158	4.2	32.0	107	100	260	71	3.5
8			121	1.3	157	4.6	35.0	108	101	260	70	4
9			120	1.2	161	4.2	38.2	109	102	260	70	3.5
10			123	1.2	159	4.2	41.2	110	102	270	70	3.5
11			118	.94	160	3.3	44.2	110	103	264	70	3
12			105	.72	157	2.5	46.9	110	103	257	70	3
S:00							749.2331					
AV		-2.5	121.0	1.98417		13.450	65.0841					

PARTICULATE FIELD DATA

Sta = 56396
 St 1 = 3.0730
 St 2 = 2.5
 St. 3 =

PLANT: LP
 DATE: 6-14-94
 REPETITION: 1
 Particulate Train
 LOCATION: Press RTO Inlet South
 OPERATOR: MMY
 STACK #: South Inlet
 SAMPLE BOX #: 12
 METER BOX #: 12
 AMBIENT TEMPERATURE: 77
 BAROMETRIC PRESSURE: 29.7
 ASSUMED MOISTURE: 2%
 PROBE LENGTH: 6'
 NOZZLE DIAMETER: .25" .000225
 STACK DIAMETER: 3" nipple 56
 METER H: 1.738411
 C FACTOR: 0.84
 METER CO-EFFICIENT: 0.9858981

IMPINGERS

	Initial	Final
#1: 100 ml H ₂ O		120
#2: 100 ml H ₂ O		102
#3:		210
#4: 200g SG		32
#5:		

COMMENTS:

O₂ CO₂
 21% 0%

FILTER TARE: 0.45275
 PRE-TEST LEAK CHECK

Meter: 0.013 Cu. ft. 17 in. HG
 Pitots: 3.5 in. H₂O

POST-TEST LEAK CHECK

Meter: 0.004 Cu. ft. 3.0 in. HG
 Pitots: 3.9 in. H₂O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A 1	10:10	-2.3	115	0.86		.84	581.290	82	82	248	71	1.0
2			118	0.92		.90	583.4	85	82	247	70	1.0
3	10:15		119	0.90		.89	585.7	87	82	248	70	1.0
4			119	0.79		.77	587.9	88	83	250	70	1.0
5	10:20		120	0.72		.70	590.0	89	83	250	70	1.0
6			119	0.66		.65	591.9	91	83	249	70	1.0
7	10:25		120	0.87		.85	593.7	92	84	254	70	1.0
8			120	1.0		.98	595.9	93	84	256	71	1.0
9	0:30		118	1.1		1.08	598.3	89	85	252	71	1.0
10			119	1.0		.98	600.9	89	85	251	71	1.0
11	10:35		90	0.90		.88	603.3	88	85	251	70	1.0
12			90	0.72		0.70	605.5	87	86	252	70	1.0
B 1	10:50		119	0.80		0.78	607.4	87	86	253	70	1.0
2			121	0.87		0.85	609.4	88	88	248	70	1.0
3	10:55		121	0.90		0.88	611.6	88	88	249	70	1.0
4			121	0.81		0.79	613.8	89	88	247	70	1.5
5	11:00		122	0.76		0.74	615.9	89	88	246	70	2.0
6			123	0.72		0.70	617.9	89	88	245	70	2.5
7	11:05		121	0.86		0.84	619.8	89	88	247	70	2.5
8			121	1.1		1.08	621.9	89	88	245	71	2.5
9	11:10		123	1.2		1.17	624.5	89	88	243	71	2.5
10			121	1.1		1.08	627.2	89	88	244	71	2.5
11	11:15		123	0.86		0.84	629.9	89	88	245	71	2.5
12			123	0.59		0.58	631.9	89	88	244	70	2.5
							633.560					
AV				.87542		1.85625	52.270					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-14-94
REPETITION: 2

Part Train

LOCATION: Press RTO Inlet South

OPERATOR: MM

STACK #:

SAMPLE BOX #: 12

METER BOX #: 12

AMBIENT TEMPERATURE: 87

BAROMETRIC PRESSURE: 29.7

ASSUMED MOISTURE: 10%

PROBE LENGTH: 6"

NOZZLE DIAMETER: .225"

STACK DIAMETER:

METER H: 1.738411

C FACTOR: 0.84

METER CO-EFFICIENT: 0.9858981

IMPINGERS

	Initial	Final
#1: 100 ml H ₂ O		122
#2: 100 ml H ₂ O		110
#3:		204.5
#4: 200g SG		365
#5: -		

COMMENTS:

O₂ CO₂
21% 0%

FILTER TARE: 0.45149

PRE-TEST LEAK CHECK

Meter: 0.010 Cu. ft. / 3 in. HG

Pitots: 4.2 in. H₂O
S. 8

POST-TEST LEAK CHECK

Meter: 0.009 Cu. ft. / 4 in. HG
Pitots: 4 in. H₂O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
1	11 55	-2.3	122	0.88		1.04	634.01	88	88	236	70	1.0
2			122	0.94		1.11	635.2	91	88	240	70	1.0
3	12 00		122	0.88		1.04	638.41	95	87	252	70	1.5
4			122	0.80		0.95	640.61	97	89	256	70	2.0
5	12 05		123	0.75		0.89	642.8	98	90	256	70	3.0
6			123	0.69		0.82	645.01	97	91	245	70	1.0
7	12 10		123	0.99		1.17	647.21	97	91	246	70	1.0
8			123	0.99		1.17	649.4	98	92	247	70	1.0
9	12 15		123	1.0		1.18	651.6	98	92	248	70	1.0
10			123	1.1		1.30	653.8	98	92	250	70	1.0
11	12 20		123	1.1		1.30	656.0	98	92	251	70	1.0
12			123	0.72		0.85	658.2	98	92	252	70	1.0
1	12 45		122	0.89		0.9	660.4	99	92	251	70	1.0
2			124	0.92		1.0	662.61	99	92	250	70	1.0
3	12 50		122	0.87		0.91	664.81	99	92	249	70	1.0
4			123	0.81		0.92	667.0	99	92	250	70	1.0
5	12 55		123	0.74		0.81	669.21	99	92	250	70	1.0
6			122	0.64		0.8	671.4	99	92	251	70	1.0
7	1:00		121	0.91		0.99	672.3	100	90	251	70	1.0
8			122	0.94		1.01	673.41	100	90	252	70	1.0
9	1:05		124	0.93		0.99	675.61	100	92	252	70	1.0
10			122	1.0		1.18	677.8	100	94	253	70	1.0
11	1:10		121	0.91		1.03	679.2	100	94	250	70	1.0
12			97	0.63		0.75	681.4	101	94	249	70	1.0
							686.934					
AV			121.5	0.87625		1.004	52.924					

PARTICULATE FIELD DATA

PLANT: L P

DATE: 6-14-94

REPETITION: 3

Particulate Train

LOCATION: Penn RTO Inlet South

OPERATOR: MM

STACK #: Inlet South

SAMPLE BOX #: 12

METER BOX #: 12

AMBIENT TEMPERATURE: 95

BAROMETRIC PRESSURE: 29.7

ASSUMED MOISTURE: 10%

PROBE LENGTH: 6'

NOZZLE DIAMETER: .225"

STACK DIAMETER: 56"

METER H: 1.738411

C FACTOR: 0.84

METER CO-EFFICIENT: 0.9858981

IMPINGERS

	Initial	Final
#1: 100 ml H ₂ O		115
#2: 100 ml H ₂ O		107
#3: -		216
#4: 200g SG		38
#5: -		

COMMENTS:

O₂ 21.0% CO 0.0% Process shut down at 2.23 pm and 709.754 ft³
Restarted at 4.20 pm

FILTER TARE:

PRE-TEST LEAK CHECK

Meter: 0.012 Cu. ft. 15 in. HG
Pitots: ✓ in. H2O

POST-TEST LEAK CHECK

Meter: 0.009 Cu. ft. 3.0 in. HG
Pitots: ✓ in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP OUTLET TEMP.	VACUUM (IN Hg)
1	150	-2.3	125	0.79		0.61	687.1291	96	96	241	70	1.0
2			125	0.87		0.67	689.1731	97	96	250	70	1.0
3	155		125	0.90		0.69	691.3191	97	96	241	70	1.0
4			125	0.78		0.60	693.5011	99	96	251	70	1.0
5	200		125	0.69		0.53	695.5321	98	96	232	70	1.0
6			125	0.66		0.51	697.4421	99	96	252	70	1.0
7	205		124	0.89		0.69	699.3111	100	96	254	70	1.0
8			125	0.99		0.76	701.4811	101	97	250	70	1.0
9	210		124	1.1		0.85	703.7691	100	97	247	70	1.0
10			126	0.99		0.76	706.1811	100	97	248	70	1.0
11	215		125	0.87		0.67	708.4701	101	98	251	70	1.0
12			123	0.56		0.43	710.6151	100	98	252	70	1.0
1	430		116	0.72		0.55	712.3361	98	98	250	70	2.0
2			120	0.86		0.66	714.2881	100	98	245	70	2.0
3	435		120	0.85		0.65	716.4211	100	98	248	70	2.0
4			120	0.80		0.62	718.5611	100	98	250	70	2.0
5	440		119	0.71		0.55	720.5981	100	98	252	70	2.0
6			119	0.74		0.57	722.5361	100	98	252	70	2.0
7	445		120	0.94		0.72	724.5151	101	98	252	70	2.0
8			122	1.1		0.85	726.7151	100	98	252	70	2.0
9	450		122	1.0		0.77	729.1571	100	98	251	70	2.0
10			122	1.1		0.85	731.4571	100	98	250	70	2.0
11	455		122	0.9		0.69	733.8691	100	98	252	70	2.0
12			112	0.46		0.35	736.9511	100	98	253	70	2.0
							737.5941					
AV		-2.3	122.1	0.84417		0.650	150.465					

PARTICULATE FIELD DATA

PLANT: L.P
DATE: 6-15-94
REPETITION: 1

Form

LOCATION: Press RT Inlet North
OPERATOR: JS
STACK #: Inlet
SAMPLE BOX #: 9
METER BOX #: 9
AMBIENT TEMPERATURE: 85°
BAROMETRIC PRESSURE: 30.1
ASSUMED MOISTURE: 3%
PROBE LENGTH: 6'
NOZZLE DIAMETER: .243"
STACK DIAMETER: 56"
METER H: 1.670072
C FACTOR: .84
METER CO-EFFICIENT: .9901391

IMPINGERS

	<u>Initial</u>	<u>Final</u>
#1: 100	DNPH	108
#2: 100		119
#3: —		210.5
#4: 200956		39.5
#5: —		

COMMENTS:

CO₂ O₂
0% 21%

FILTER TARE: N/A
PRE-TEST LEAK CHECK

Meter: .010 Cu. ft. 13 in. HG
Pitots: ✓ 3.1 in. H2O
 ✓ 3.0

POST-TEST LEAK CHECK

Meter: .000 Cu. ft. 5 in. HG
Pitots: ✓ 3.0 in. H2O

#	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A1	10:00		119	1.0		3.5	750.754	88	89	245	66	1
2			120	1.2		4.2	53.5	91	89	251	67	1
3			121	1.2		4.2	56.5	92	90	260	68	1
4			127	1.2		4.2	59.5	93	90	258	69	1
5			121	1.1		3.9	62.5	96	91	259	69	1
6		-2.4	122	1.0		3.5	65.4	97	92	267	68	1
7			122	1.0		3.5	68.1	98	92	269	68	1
8			124	1.2		4.2	70.9	99	93	266	69	1
9			122	1.2		4.2	73.9	100	93	266	68	1
10			123	1.1		3.9	76.9	100	94	265	69	1
11			123	1.0		3.5	79.8	101	94	258	69	1
12			117	.79		2.7	82.5	102	95	257	68	1
31	10:32	10:37	123	.95		3.4	785.013	97	95	260	68	1
2			125	1.0		3.5	87.6	99	96	255	68	1
3			126	.89		3.1	90.4	100	97	259	68	1
4			123	.84		3.0	93.0	103	97	257	69	1
5		-2.5	125	.78		2.7	95.5	104	98	256	68	1
6			122	.75		2.6	97.9	104	98	257	70	1
7			122	.97		3.4	800.3	105	99	261	69	1
8			123	1.2		4.2	803.0	106	100	258	70	1
9			122	1.2		4.2	806.0	106	100	254	76	1
10			126	1.2		4.2	809.1	107	101	265	75	1
11			122	1.0		3.5	812.1	107	101	261	75	1
12			121	.78		2.7	814.8	107	102	252	74	1
	11:08						817.293					
AV			1122.5	1.0225			66.539					

[illegible]

PLANT: L.P
DATE: 6-15-94
REPETITION: 3

LOCATION: Press Rto Inlet North

OPERATOR: JS

STACK #:

SAMPLE BOX #4

METER BOX #: 4

AMBIENT TEMPERATURE: 40°

BAROMETRIC PRESSURE: 30.1

ASSUMED MOISTURE: 3%

PROBE LENGTH: 4'

NOZZLE DIAMETER: .243"

STACK DIAMETER: 56"

METER H : 1.670072

C FACTOR: .84

MILTER CO-EFFICIENT: .9901391

FILTER TARE: $\sim/A$

PRE-TEST LEAK CHECK

Meter: .005 Cu. ft. 15 in. HG

Pitots: ☒ 3, 2 in. H2O

IMP INGERS

Initial

Final

#1: 100 \ 1.02 PH

#2: 1007 m/s DIS 11

#3: /

#4: 200 cm S.G

#5: —

114 J

112m

214.1

40.1

COMMENTS:

$$\text{CO}_2 \quad \text{O}_2$$

0% 21%

POST-TEST LEAK CHECK

Meter: 0.005 Cu. ft. 7. in. HG

Pitots ✓ in. H2O

[illegible]

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-15-74
REPETITION: 1

Form Run

LOCATION: South Press RTO Inlet
OPERATOR: MJC
STACK #: RTO Inlet South (Press)
SAMPLE BOX #: 12
METER BOX #:
AMBIENT TEMPERATURE: 87
BAROMETRIC PRESSURE: 30.1
ASSUMED MOISTURE: 3%
PROBE LENGTH: 6
NOZZLE DIAMETER: .243" .000322
STACK DIAMETER: 56"
METER H: 1.738411
C FACTOR: .84
METER CO-EFFICIENT: .985898

IMPINGERS

	Initial	Final
#1: 100 mls	>DNPH	109
#2: 100 mls		166
#3: —		207
#4: 200 g - SG		32
#5:		

COMMENTS:

CO₂ 0.0
O₂ 21.0

FILTER TARE: N/A
PRE-TEST LEAK CHECK

Meter: .016 Cu. ft./7 in. HG
Pitots: 3.3 in. H2O
3.9

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 10 in. HG
Pitots: 3.3 in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
1	10:00		119	0.84		3.0	738.317	89	89	249	68	3.0
2			123	1.0		3.58	740.837	89	88	245	69	2.0
3	05	-2.4	123	1.0		3.58	743.587	92	88	247	69	2.0
4			122	0.91		3.26	746.337	94	89	244	69	2.0
5	10		123	0.83		2.97	748.961	96	89	244	69	2.0
6			122	0.72		2.58	751.466	98	89	243	69	2.5
7	15		123	0.96		3.44	753.800	99	90	247	67	2.5
8			123	1.1		3.94	756.494	100	90	254	69	2.5
9	20		123	1.2		4.30	759.378	101	91	256	70	2.5
10			123	1.0		3.58	762.371	101	92	251	70	2.5
11	25		124	0.86		3.08	765.141	103	92	250	70	2.5
12			123	0.67		2.40	767.691	104	93	252	70	2.5
13	37 1/2		123	0.66		2.36	769.942	95	93	247	70	2.0
2	40		124	0.78		2.77	772.176	95	93	245	70	2.0
3			124	0.80		2.87	774.605	95	93	246	70	2.0
4	45		123	0.74		2.65	777.062	95	94	244	70	2.0
5			124	0.72		2.58	779.430	96	94	245	70	2.0
6	50		123	0.68		2.44	781.635	97	94	242	70	2.0
7			125	0.83		2.97	784.031	97	94	248	70	2.0
8	55		125	0.99		3.55	786.537	97	94	247	70	2.0
9			123	1.1		3.94	789.273	96	94	244	70	2.0
10	11:00		123	1.1		3.94	792.157	97	94	243	70	2.0
11			123	0.94		3.37	795.041	101	95	245	70	2.0
12	05		123	0.61		2.18	797.708	104	95	242	70	2.0
							799.855					
AV		-2.4	123.1	0.87667		3.140	61.538					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-15-94
REPETITION: 2

FORM. RUN

LOCATION: Dress Rd Inlet South

OPERATOR: MM, CT

STACK #: Inlet

SAMPLE BOX #: 12

METER BOX #: 12

AMBIENT TEMPERATURE: 94

BAROMETRIC PRESSURE: 30.1

ASSUMED MOISTURE: 3 /

PROBE LENGTH: 6

NOZZLE DIAMETER:

STACK DIAMETER: 0.56'

METER H : 1.738411

C FACTOR: 0.84

METER CO-EFFICIENT: 0.9858981

FILTER TARE: NA

PRE-TEST LEAK CHECK

Meter: 0.010 Cu. ft. / 2 in. HG
Pitots: ✓ in. H2O

IMP INGERS

Initial

Final

#1: 100 ml DNPH

-116

#2: 100 ml DNP-H

112

#3: 2.5 - 56

214.9

#4: 2007-54
#5: -

42.9

COMMENTS:

$$\frac{O_2}{21\%} \quad \frac{CO_2}{0.0\%}$$

POST-TEST LEAK CHECK

Meter: 0/4 Cu. ft. 6 in. HG
Pitots in. H2O

[illegible]

PLANT: LP
DATE: 6-15-94
REPETITION: 3

FORM RUN
LOCATION: PRESS RTO Inlet South
OPERATOR: MM CJ
STACK #: Inlet
SAMPLE BOX #: 12
METER BOX #: 12
AMBIENT TEMPERATURE: 100
BAROMETRIC PRESSURE: 32.1
ASSUMED MOISTURE: 3%
PROBE LENGTH: 6'
NOZZLE DIAMETER:
STACK DIAMETER: 56"
METER H : 1.738411
C FACTOR: 0.84
METER CO-EFFICIENT: 0.9858981

FILTER TARE: $\frac{N}{A}$
PRE-TEST LEAK CHECK

Meter: 0 003 Cu. ft. 13 in. HG
Pitots: ✓ in. H2O

IMP INGERS

	<u>Initial</u>	<u>Final</u>
#1:	100 ml DNPH	115 ml
#2:	100 ml DNPH	114 ml
#3:		211.3
#4:	200 g SG	
#5:	-	<u>40.3</u>

COMMENTS:

$$\begin{array}{r} \text{O}_2 \\ \hline 21.0\% \end{array} \quad \begin{array}{r} \text{CO}_2 \\ \hline 0.0\% \end{array}$$

POST-TEST LEAK CHECK

Meter: 009 Cu. ft. 5 in. HG
Pitots 16 in. H2O

[illegible]

$S + 0 = \dots$
 $S + 1 = 2.96$

$$\begin{aligned} \text{a. } 1 &= \frac{84}{84} \\ \text{b. } 1 &= 2.2 \\ \text{c. } 2 &= 2.5 \end{aligned}$$

Roof

E: 75°

E: 29.8

58"

= .9901391

IMP INGERS

Initial

Final

#1: 100
#2: 100
#3: -
#4: 200 gms
#5: -

$$\begin{array}{r} 316 \text{ ml} \\ 230 \\ 20 \\ \hline 227.3 \end{array}$$

COMMENTS:

393.3

$$\frac{CO_2}{2.5\%} \quad \frac{O_2}{19.5\%}$$

PRE-TEST LEAK CHECK

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 12 in. HG
Pitots: ✓ 3.5 in. H2O
✓ 3.0

Meter: 0.000 Cu. ft. 17 in. HG
Pitots ✓ in. H2O

[illegible]

PARTICULATE FIELD DATA

PLANT: C.P.
DATE: 6-6-94
REPETITION: 2

LOCATION: DRYER #1
OPERATOR: SC
STACK #: 1 INLET
SAMPLE BOX #: 9
METER BOX #: 9
AMBIENT TEMPERATURE: 86°F
BAROMETRIC PRESSURE: 29.88"
ASSUMED MOISTURE: 25%
PROBE LENGTH: 6'
NOZZLE DIAMETER: 1/4" 258
STACK DIAMETER: 42"
METER H: 1.670072
C FACTOR: .84
METER CO-EFFICIENT: .9901391

IMPINGERS

	Initial	Final
#1: 100ml - 0.0914		242 ml
#2: 100ml - 0.0911		283 ml
#3: —		64 ml
#4: 200 5:10/1000		231.5
#5: —		420.5

COMMENTS:

CO₂ 0.2
35% 18.5%

FILTER TARE: N/A
PRE-TEST LEAK CHECK

Meter: .000 Cu. ft. 15 in. HG
Pitots: ✓ in. H2O

POST-TEST LEAK CHECK

Meter: ✓.002 Cu. ft. 14 in. HG
Pitots: ✓ in. H2O

	⊖	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP. OUTLET TEMP	VACUUM (IN H ₂ O)
A1	1:02	9.5	190	1.2		2.5	20.251	87	87	260	70	1
2	1:04.5	NE6	194	1.6		3.34	22.551	88	87	252	70	1
3	1:07		193	1.8		3.75	25.207	90	87	246	70	2
4	1:09.5		193	1.8		3.75	28.025	91	87	248	70	3
5	1:12		191	1.8		3.75	30.842	93	87	246	69	3
6	1:14.5		191	1.7		3.55	33.660	95	88	245	69	3
7	1:17		191	1.7		3.55	36.398	96	88	245	69	3
8	1:19.5		189	1.6		3.34	39.136	96	89	245	69	3
9	1:22		183	1.5		3.13	41.792	96	89	239	69	3
10	1:24.5		180	1.3		2.71	44.364	97	89	246	69	3
11	1:27		172	1.1		2.29	46.758	96	90	250	69	3
12	1:29.5		117	.68		1.42	48.961	96	90	252	69	2
131	1:32	1:39	186	.92		1.92	50.693	92	91	260	69	2
2	41.5		192	1.3		2.71	52.707	93	90	259	69	2
3	1:44		194	1.5		3.13	55.101	94	90	258	69	2
4	1:46.5		195	1.6		3.34	57.673	96	91	261	69	3
5	1:49		194	1.8		3.75	60.329	96	91	261	69	3
6	1:51.5		194	1.8		3.75	63.147	96	91	264	69	3
7	1:54		193	1.8		3.75	65.964	96	91	259	68	3
8	1:56.5		191	1.7		3.55	68.782	96	92	259	68	3
9	1:59		190	1.7		3.55	71.520	96	92	263	68	3
10	2:01.5		188	1.6		3.34	74.258	96	92	262	67	3
11	2:04		180	1.3		2.71	76.914	96	92	261	67	3
12	2:06.5		18	.72		1.50	79.309	96	92	259	68	2
	2:09						81.091					
ΔV							60.840					

PARTICULATE FIELD DATA

PLANT: C.P
DATE: 6-16-94
REPETITION: 3

LOCATION: DRYER #1 INLET
OPERATOR: JS
STACK #: 1 INLET
SAMPLE BOX #: 9
METER BOX #: 9
AMBIENT TEMPERATURE: 73°
BAROMETRIC PRESSURE: 29.88"
ASSUMED MOISTURE: 25%
PROBE LENGTH: 6'
NOZZLE DIAMETER: 1/4"
STACK DIAMETER: 42" Ø
METER H : 1.670072
C FACTOR: .84
METER CO-EFFICIENT:

FILTER TARE: *NA*
PRE-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 15 in. HG
Pitots: ————— in. H2O

IMPINGERS

	<u>Initial</u>	<u>Final</u>
#1: 100 ml	} DNPA	312
#2: 100 ml		204
#3: —		20
#4: 200 g Silicagel		234.1
#5:		370.
COMMENTS:		

COMMENTS:

$$\frac{O_2}{18\%} \quad \frac{CO_2}{4\%}$$

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 7 in. HG
Pitots ✓ in. H2O

[illegible]

PARTICULATE FIELD DATA

$DP = 1.388 \times 10^{-5}$
 $T_s = 65.1$
 $T_m = 55.0$
 $md = 24.05$

Kiln #2

PLANT: LP
 DATE: 6-16-94
 REPETITION: 1

Form

LOCATION: Kiln #2 Inlet
 OPERATOR: CJ, mp
 STACK #: 56 #2
 SAMPLE BOX #:
 METER BOX #: 12
 AMBIENT TEMPERATURE: 20
 BAROMETRIC PRESSURE: 29.8
 ASSUMED MOISTURE: 25%
 PROBE LENGTH: 6
 NOZZLE DIAMETER: .258"
 STACK DIAMETER: 42"
 METER H: 1.7384
 C FACTOR: .84
 METER CO-EFFICIENT: .98590 4" Nipple

IMPINGERS

	Initial	Final
#1: 100 mls	> 0.001	272
#2: 100 mls		268
#3: —		112
#4: 200 g, 56		224.9
#5: —		476.9

COMMENTS:

$CO_2 = 1.5\%$
 $O_2 = 20.0\%$

FILTER TARE: N/A
 PRE-TEST LEAK CHECK

Meter: 0.016 Cu. ft. 13 in. HG
 Pitots: y in. H2O

POST-TEST LEAK CHECK

Meter: 0.014 Cu. ft. 3.0 in. HG
 Pitots in. H2O

	θ	STATIC PRES.	T_s °F	ΔP	$\sqrt{\Delta P}$	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN HG)
A1	8-37 1/2	-10.01	195	0.99		2.89	923.416	86	85	251	65	2.0
2	8 40		196	1.3		3.79	925.836	87	85	250	65	3.0
3			194	1.4		4.08	928.610	87	85	250	65	3.0
4	8 45		197	1.6		4.67	931.488	90	85	248	65	3.0
5			195	1.6		4.67	934.565	90	85	247	66	3.0
6	8 50		195	1.6		4.67	937.642	89	86	250	66	3.0
7			194	1.7		4.96	940.719	89	86	249	66	3.0
8	8 55		194	1.6		4.67	943.890	89	86	249	66	3.0
9			186	1.6		4.67	946.967	89	86	251	66	3.0
10	9 00		182	1.5		4.37	950.044	88	87	250	66	3.0
11			198	1.5		4.37	953.023	90	87	248	66	3.0
12	9 05		197	0.4		1.17	956.002	90	87	249	66	3.0
B1			191	1.0		2.92	957.541	99	90	249	66	3.0
2	9 40		194	1.6		4.67	959.973	100	90	244	66	3.0
3			196	1.7		4.96	963.054	100	91	244	66	3.0
4	9 45		196	1.8		5.25	966.222	102	91	249	66	3.0
5			195	1.7		4.96	969.485	102	92	244	66	3.0
6	9 50		192	1.8		5.25	972.657	102	92	245	66	3.0
7			191	1.5		4.37	975.921	102	93	246	66	3.0
8	9 55		193	1.2		3.50	978.900	103	93	247	66	3.0
9			194	1.6		4.67	981.564	103	93	248	66	3.0
10	10 00		196	1.1		3.21	984.641	103	94	249	66	3.0
11			195	1.0		2.92	987.193	104	95	252	66	3.0
12	10 05		194	0.54		1.57	989.625	104	95	253	66	3.0
							991.413					
AV		-10	193.8	1.3887		4.051	67.997					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 5-16-94
REPETITION: 2

FORMALDEHYDE RVN

LOCATION: Dryer Inlet #2

OPERATOR: MM,CJ

STACK #:

SAMPLE BOX #: 12

METER BOX #: 12

AMBIENT TEMPERATURE: 88

BAROMETRIC PRESSURE: 29.88

ASSUMED MOISTURE: 3 %

PROBE LENGTH: 6

NOZZLE DIAMETER: 0.243"

STACK DIAMETER: 42

METER H : 1.738417

C FACTOR: 0.84

METER CO-EFFICIENT: 0.9858981

FILTER TARE: 21/A

PRE-TEST LEAK CHECK

Meter: 0.012 Cu. Ft. / 4 in. HG
Pitots: 1 in. H2O

IMP INGERS

Initial

Final

#1: 100 ml DMPH

272

#2: 100 ml DNPH

234

#3:

#4: 200 g SG

94-2

#5:

219.7

COMMENTS:

$$\frac{\text{CO}_2}{1.5\%} \quad \frac{\text{O}_2}{20\%}$$

419.7

POST-TEST LEAK CHECK

Meter: 0 010 Cu. ft. 3.0 in. HG
Pitots in. H2O

[illegible]

R₂ Sec 4/10
 312
 204
 20

FORMALDEHYDE RUN

IMP INGERS

	<u>Initial</u>	<u>Final</u>
#1:	100 ml DNPH	202 ml
#2:	100 ml DNPH	200 ml
#3:		156 ml
#4:	200 g SG	240.4
#5:		
COMMENTS:		<u>378.4</u>

COMMENTS:

O_2	CO_2
19%	2%

Meter: 0.012 Cu. ft. 3.0 in. HG
Pitots in. H2O

[illegible]

PARTICULATE FIELD DATA

PLANT: LP
DATE: 5-17-94
REPETITION: 1

Part

LOCATION: Kiln 4
OPERATOR: MM CJ
STACK #: Inlet - Dwyer #4
SAMPLE BOX #: 12
METER BOX #: 12
AMBIENT TEMPERATURE: 82
BAROMETRIC PRESSURE: 29.91
ASSUMED MOISTURE: 25%
PROBE LENGTH: 5
NOZZLE DIAMETER: 239, 238, 238 = 238
STACK DIAMETER: 42"
METER H: 1.75
C FACTOR: C 84
METER CO-EFFICIENT: 0.9858981

45742
FILTER TARE: 38715
PRE-TEST LEAK CHECK

Meter: 0.016 Cu. ft. 16 in. HG
Pitots: 3.9 in. H2O
4.5

IMPINGERS

	Initial	Final
#1:	100 ml H ₂ O	280 ml/s
#2:	100 ml H ₂ O	203 ml/s
#3:		10 ml/s
#4:	200g SG	224, 3
#5:		317.3

COMMENTS:

O₂ CO₂
19.0% 3.5%

change filter
between points

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 12 in. HG
Pitots: 4.5 in. H2O

	⊖	STATIC PRES.	Ts OF	ΔP	√ΔP	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP OUTLET TEMP.	VACUUM (IN Hg)
1	8:12	-9.5	187	1.2		2.0	120.257	86	86	241	68	3.0
2			188	1.6		2.7	122.284	88	86	248	68	3.0
3	8:17		189	1.8		3.0	124.63	91	87	246	67	3.0
4			189	1.9		3.2	127.11	94	87	253	67	3.5
5	8:22		189	1.8		3.0	129.66	94	87	251	68	3.5
6			188	1.9		3.2	132.14	95	87	256	69	3.8
7	8:27		190	1.8		3.0	134.70	96	87	261	69	3.8
8			189	1.7		2.9	137.18	97	89	262	67	3.5
9	8:32		188	1.4		2.4	139.59	98	89	265	68	3.0
10			189	1.4		2.4	141.79	98	89	267	68	3.5
11	8:37		186	1.2		2.0	143.98	98	89	270	69	5.0
12			175	.81		1.4	146.00	97	90	268	69	8.0
13	8:42		188	1.1		1.9	147.67	90	90	261	68	2.0
14	9:00		191	1.4		2.4	149.61	92	90	265	68	3.0
15	9:05		188	1.6		2.7	151.80	93	90	267	69	3.5
16			191	1.7		2.9	154.14	97	90	268	69	3.5
17	9:10		190	1.8		3.0	156.58	98	91	267	68	3.5
18			190	1.8		3.0	159.04	100	91	270	69	4.0
19	9:15		191	1.8		3.0	161.52	100	91	271	69	4.0
20			190	1.7		2.9	164.00	100	91	272	68	4.0
21	9:20		189	1.5		2.5	166.42	100	91	269	69	3.5
22			187	1.4		2.4	168.69	100	92	270	69	3.0
23	9:25		186	1.2		2.0	170.88	99	92	268	70	3.0
24			177	.95		1.6	172.91	99	92	269	69	3.5
25	9:30						174.72					
AV		-9.5	187.7	1.51917		2.5625	54.455					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-17-94
REPETITION: 2

LOCATION: 1/17 #4
OPERATOR: G. L. W.
STACK #: Inlet Direct #4
SAMPLE BOX #: 12
METER BOX #: 12
AMBIENT TEMPERATURE: 90°
BAROMETRIC PRESSURE: 29.91
ASSUMED MOISTURE: 25%
PROBE LENGTH: 6'
NOZZLE DIAMETER: .238"
STACK DIAMETER: 42"
METER H: 1738411
C FACTOR: .84
METER CO-EFFICIENT: .485871

IMPINGERS

	Initial	Final
#1: 100ml	H ₂ O	299 ml
#2: 100ml		188 ml
#3: —		221.0
#4: 200g 56		308
#5: —		

COMMENTS:

O₂ 18.5% CO₂ 3.0%
change filters between ports

FILTER TARE: PRE-TEST LEAK CHECK

Meter: .008 Cu. ft. / 14 in. HG
Pitots: ✓✓ in. H₂O

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. / 20 in. HG
Pitots: ✓✓ in. H₂O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
1	11:25		190	1.2		2.0	175.249	93	93	261	67	4.0
2			191	1.7		2.9	177.28	93	92	265	67	4.5
3	11:30		191	1.8		3.0	179.69	94	92	264	68	5.0
4			192	1.9		3.2	182.17	95	92	268	68	5.5
5		-10.5	191	1.8		3.0	184.23	98	93	269	68	8.0
6			190	1.8		3.0	187.21	99	93	271	68	9.0
7	11:40		191	1.8		3.0	189.69	99	94	268	69	10.0
8			190	1.8		3.0	192.18	99	94	269	69	10.0
9			189	1.7		2.9	194.66	98	94	273	69	12.0
10			186	1.3		2.2	197.07	97	94	269	69	11.0
11	11:50		187	1.2		2.0	199.19	96	94	267	67	12.0
12			178	.89		1.5	201.21	97	94	266	68	11.0
13	11:55	12:05	187	1.4		2.4	202.96	95	95	255	67	3.0
2			193	1.5		2.5	205.2	95	95	259	68	3.0
3	12:10		194	1.6		2.7	207.4	96	95	261	68	3.0
4			192	1.7		2.9	209.76	97	95	263	69	3.0
5			192	1.8		3.0	212.17	98	95	264	70	3.5
6			192	1.8		3.0	214.66	99	95	261	68	3.5
7	12:20		192	1.8		3.0	217.14	100	95	263	69	4.0
8			193	1.8		3.0	219.62	101	95	261	69	4.0
9			187	1.5		2.5	222.11	102	96	267	69	4.0
10			187	1.4		2.4	224.38	102	96	263	69	3.5
11	12:30		181	1.3		2.2	226.57	102	96	267	67	3.5
12			179	.93		1.6	228.7	102	96	267	67	3.0
13	12:35						230.46					
AV			189.01	1.55917		2.621	55.212					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-17-94
REPETITION: 3

LOCATION: Kiln 4 ex
OPERATOR: LW, CJ
STACK #: Kiln 4 ex
SAMPLE BOX #:
METER BOX #: 12
AMBIENT TEMPERATURE: 95
BAROMETRIC PRESSURE: 29.9
ASSUMED MOISTURE: 25%
PROBE LENGTH: 6'
NOZZLE DIAMETER: .238"
STACK DIAMETER: 42"
METER H: 1.7384
C FACTOR: .84
METER CO-EFFICIENT: .985898

IMPINGERS

	<u>Initial</u>	<u>Final</u>
#1: 100 mls		280 ml
#2: 100 mls	> 420	170 ml
#3: _____		12 ml
#4: 200 gr SW		224.5
#5: _____		286.5

COMMENTS:

CO₂ O₂
3.0% 20.0%

FILTER TARE:

PRE-TEST LEAK CHECK

Meter: .016 Cu. ft. 17 in. HG
Pitots: in. H2O

POST-TEST LEAK CHECK

Meter: Cu. ft. in. HG
Pitots in. H2O

	⊖	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN HG)
1	3:07		185	1.3		2.2	231.13	94	95	264	66	2.0
2			187	1.4		2.4	233.24	96	95	265	67	2.0
3	3:12		188	1.8		3.0	235.43	97	95	266	67	3.0
4			188	1.9		3.2	237.91	98	95	267	67	3.5
5	3:17	-10.2	190	1.9		3.2	240.5	99	95	267	68	3.5
6			191	1.8		3.0	243.02	101	96	264	67	3.5
7	3:22		192	1.8		3.0	245.52	101	96	263	67	5.0
8			190	1.7		2.9	247.99	101	96	267	68	8.5
9	3:27		189	1.5		2.5	250.40	101	96	268	68	9.5
10			188	1.3		2.2	252.67	101	96	270	68	11.0
11	3:32		183	1.1		1.9	254.78	102	97	268	69	12.5
12			179	.85		1.4	256.72	102	97	265	69	14.0
B 1	3:37		191	1.1		1.9	258.43	98	98	264	69	2.0
2			192	1.3		2.2	260.37	98	97	269	68	3.0
3	3:47		190	1.6		2.7	262.48	99	97	269	70	3.0
4			192	1.7		2.9	264.82	101	98	270	68	3.5
5	3:52		194	1.7		2.9	267.23	102	98	267	69	3.5
6			196	1.7		2.9	269.65	103	98	268	69	3.5
7	3:57		195	1.8		3.0	272.06	104	98	266	70	3.5
8			197	1.7		2.9	274.54	105	99	267	68	4.0
9	4:02		195	1.6		2.7	276.958	106	99	266	68	5.0
10			194	1.4		2.4	279.3	105	99	265	69	6.0
11	4:07		187	1.2		2.0	281.49	105	99	269	69	9.0
12			176	.96		1.6	283.5	105	99	267	70	9.0
	4:12						285.332					
AV		-10.2					54.202					

PARTICULATE FIELD DATA

PLANT: CP
DATE: 6-17-94
REPETITION: R1

STD 0 =
STD 1 =
STD 2 =

LOCATION: DRYER-INLET #5 Part

OPERATOR:

STACK #: INLET #5

SAMPLE BOX #: 9

METER BOX #: 9

AMBIENT TEMPERATURE: 85°F

BAROMETRIC PRESSURE: 29.91"

ASSUMED MOISTURE: 25%

PROBE LENGTH: 5'

NOZZLE DIAMETER: .233, .235, .233, .233

STACK DIAMETER: 43"

METER H: 1.670072

C FACTOR: .84

METER CO-EFFICIENT: .9901391

45886

FILTER TARE: .45711

PRE-TEST LEAK CHECK

Meter: Cu. ft. .001 in. HG 10

Pitots: in. H2O

IMPINGERS

Initial

Final

#1: 100m
#2: 100m
#3: 100m
#4: 200 S: 100m
#5:

275m
222m
12m/s
22.7

COMMENTS:

02 CG2
18.5 / 4.5

POST-TEST LEAK CHECK

Meter: 0.009 Cu. ft. 5.0 in. HG
Pitots in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT./S	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP. OUTLET TEMP.	VACUUM (IN Hg)
1	8.5		176	1.1		1.69	142.869	86	85	242	68	3.0
2			178	1.0		1.53	144.757	86	85	241	68	3.0
3	20		177	1.6		2.46	144.557	82	85	243	68	3.0
4			175	1.7		2.61	148.834	88	85	245	68	3.0
5	25		178	1.7		2.61	151.181	88	85	246	68	3.0
6			179	1.8		2.76	153.528	90	86	249	68	3.0
7	30		183	1.7		2.61	155.942	90	87	242	68	3.0
8		-8.5	180	1.7		2.61	158.289	90	87	245	68	3.0
9	35		180	1.7		2.61	160.636	90	87	249	68	3.0
10			180	1.5		2.30	162.983	90	88	247	68	3.0
11	40		180	1.3		1.99	165.188	90	88	248	68	3.0
12			179	0.99		1.52	167.240	90	88	244	68	3.0
13	9.00		186	1.7		2.61	169.031	91	90	246	68	3.0
14			186	1.7		2.61	171.378	92	90	241	68	3.0
15	05		184	1.7		2.61	173.725	94	90	250	68	3.0
16			181	1.8		2.76	176.072	95	90	250	68	3.0
17	10		182	1.7		2.61	178.487	96	90	251	68	3.0
18			184	1.8		2.76	180.834	96	91	257	68	3.0
19	15		185	1.7		2.61	183.249	96	91	252	68	3.0
20			186	1.6		2.46	185.596	96	91	254	68	3.0
21	20		188	1.5		2.30	187.872	97	92	251	68	3.0
22			184	1.1		1.69	190.007	97	92	252	68	3.0
23	25		185	0.75		1.15	191.965	98	92	253	68	3.0
24			186	0.18		0.28	193.524	98	92	253	68	3.0
25							194.237					
AV		-8.5	181.8	1.45971		12.240	151.418					

PARTICULATE FIELD DATA

PLANT: LP
DATE: 6-17-94
REPETITION: 2

Part. Run
LOCATION: Dryer Inlet #5
OPERATOR: mml, SC
STACK #:
SAMPLE BOX #: 12
METER BOX #: 12
AMBIENT TEMPERATURE: 90
BAROMETRIC PRESSURE: 29.1
ASSUMED MOISTURE: 30%
PROBE LENGTH: 5'
NOZZLE DIAMETER: .233
STACK DIAMETER: 46"
METER H: 1.670072
C FACTOR: 0.84
METER CO-EFFICIENT: 0.9901391

FILTER TARE: ① 0.45304, ② 0.39310

PRE-TEST LEAK CHECK

Meter: ✓ Cu. ft. 002 in. HG 14
Pitots: ✓ in. H2O

IMPINGERS

	Initial	Final
#1:	100 ml H ₂ O	226 ml
#2:	100 ml H ₂ O	189 ml
#3:		44 ml
#4:	290g SG	239.3
#5:		297.3

COMMENTS:

O₂ CO₂
19% 3.5%

POST-TEST LEAK CHECK

Meter: 0.013 Cu. ft. 8 in. HG
Pitots: ✓ in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP. OUTLET TEMP	VACUUM (IN Hg)
A	1	25	185	1.1		1.69	194.662	92	92	246	69	3.0
	2		186	1.5		2.30	196.550	93	92	251	69	3.0
	3	30	187	1.7		2.61	198.754	94	92	251	69	3.0
	4		185	1.7		2.61	201.101	96	93	252	69	3.0
	5	35	186	1.7		2.61	203.448	97	94	254	69	3.0
	6		186	1.7		2.61	205.795	99	96	256	69	3.0
	7	40	185	1.7		2.61	208.142	99	96	251	69	3.0
	8		185	1.7		2.61	210.489	100	97	254	69	3.0
	9	45	186	1.6		2.46	212.836	100	97	259	69	3.0
	10		184	1.4		2.15	215.113	99	98	252	69	3.0
	11	50	187	1.0		1.53	217.243	98	98	253	69	3.0
	12		185	0.81		1.24	219.043	98	98	254	69	3.0
B	1	1202/1	186	.95		1.45	220.663	95	96	259	69	3.0
	2	05	185	1.0		1.53	222.417	96	95	255	69	3.0
	3		186	1.5		2.30	224.217	96	95	254	69	3.0
	4	10	186	1.6		2.46	226.421	96	95	252	69	3.0
	5		186	1.7		2.61	228.698	96	95	247	69	3.0
	6	15	187	1.7		2.61	231.048	97	95	250	69	3.0
	7		185	1.7		2.61	233.392	97	95	246	69	3.0
	8	20	186	1.7		2.61	235.739	98	96	247	69	3.0
	9	-9.0	183	1.7		2.61	238.086	98	96	248	69	3.0
	10	25	184	1.5		2.30	240.433	98	96	249	69	3.0
	11		186	0.9		1.38	242.637	100	97	250	69	3.0
	12	30	189	0.79		1.21	244.345	100	97	252	69	3.0
							245.945					
AV							51.283					

PARTICULATE FIELD DATA

PLANT: L P

DATE: 6-17-94

REPETITION: 3

PART. RUN

LOCATION: Dyer, Ind #5

OPERATOR: MM' SC

STACK :: Stack 5

SAMPLE BOX #: 9

METER BOX #: 7

AMBIENT TEMPERATURE: 100

BAROMETRIC PRESSURE: 29.91

ASSUMED MOISTURE:

PROBE LENGTH: 5'

NOZZLE DIAMETER: .133

STACK DIAMETER: 43

METER H : 1.670072

C FACTOR: 0.84

METER CO-EFFICIENT: 0.9901391

FILTER TARE: (0.37586) (0.39264)

PRE-TEST LEAK CHECK

Meter: 0.018 cu. ft. / 8

Pitots: ✓

in. HC

in. H2O

IMPINGERS

Initial

Final

#1: 100 ml H_2O

$$\approx 2:100 \text{ ml } H_2O$$

三:

2007 SG

15:

COMMENTS

 $\mathcal{O}_2$
$$\text{CO}_2$$

19.

3.5%

POST-TEST LEAK CHECK

Meter: 0.010 cu.ft.

Pitote:

3.0

in. HG

in. #20

[illegible]

APPENDIX E

AIR PRODUCTS
4822 INDUSTRY LANE
DURHAM, NC 27713

CERTIFICATE OF ANALYSIS-EPA PROTOCOL MIXTURES

REFERENCE #: 88-23474 CYLINDER #:SG9113709 CYL PRESSURE:2000PSIG

EXPIRATION DATE:4-7-96

LAST ANALYSIS DATE: 4-7-93

BATCH# 05868

CUSTOMER: AIR PRODUCTS
DALLAS, TX. 75233

P.O.#

METHOD: EPA PROTOCOL # 1 3.0.4 G-1

STANDARD:

SRM #: 2646

CYL #: FF27134

CONC.: 1001 PPM

VALID DATE:7-18-92

EXPIR. DATE:7-18-96

INSTRUMENT:

COMPONENT: BECKMAN THC

MODEL #: 400

SERIAL #: 1003052

LAST CAL: 4-2-93

COMP: C3H8

MEAN CONC: 816 PPM

REPLICATE CONC.

DATE: 4-7-93

DATE:

816 PPM

817 PPM

— 815 PPM

COMP:

MEAN CONC:

REPLICATE CONC.

DATE:

DATE:

COMP:

MEAN CONC:

REPLICATE CONC.

DATE:

DATE:

BALANCE GAS: NITROGEN

REPLICATE DATA

DATE: 4-7-93

Z	0	R	383	C	312.2
R	384	Z	0	C	313.4
Z	0	C	315.9	R	388

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:C3H8

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

-DATE:

Z		R		C
R		Z		C
Z		C		R

Z=ZERO C=CANDIDATE R=REFERENCE

ANALYST: *Daniel*APPROVED BY: *Patrick J. Fitch*

"THIS REPORT STATED ACCURATELY THE RESULTS OF THE INVESTIGATION MADE UPON THE MATERIAL SUBMITTED TO THE ANALYTICAL LABORATORY. EVERY EFFORT HAS BEEN MADE TO DETERMINE OBJECTIVELY, THE INFORMATION REQUESTED; HOWEVER, IN CONNECTION WITH ITS RENDERING OF THIS REPORT, AIR PRODUCTS SHALL HAVE NO LIABILITY IN EXCESS OF ITS ESTABLISHED CHARGE FOR THE SERVICE. ANY USE OF THIS REPORT OR THE INFORMATION CONTAINED HEREIN SHALL BE AT THE SOLE RISK OF THE USER."



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ARMSTRONG ENVIROMENTAL
7715 SOVEREIGN ROW
DALLAS TX 75247

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 1349
Scott Project # 561294

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure #G1, Section Number 3.0.4

Cylinder Number ALM013040
Cylinder Pressure 1900 psig

Certification Date 2-2-94
Previous Certification Dates None

Expiration Date 2-2-97

ANALYZED CYLINDER

Components
Propane

Certified Concentration
29.98 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: Nitrogen

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type SRM 2643A
Expiration Date 10-14-95

Cylinder Number
SX-20305

Concentration
99.12 ppm Propane in N₂

INSTRUMENTATION

Instrument/Model/Serial #
Prop: Beckman/400/1002059

Last Date Calibrated
1-8-94

Analytical Principle
Flame Ionization Detector

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components
Propane

First Triad Analysis

Date: 2-2-94 Response Units: mv
Z1=0.00 R1=99.10 T1=30.00
R2=99.10 Z2=0.00 T2=30.00
Z3=0.00 T3=30.00 R3=99.10
Avg. Conc. of Cust. Cyl. 29.98 ppm

Second Triad Analysis

Calibration Curve

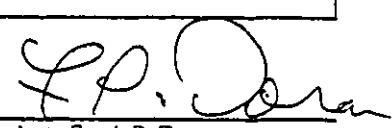
Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 2643A
Constants: A=-0.03442105
B=1.000549 C=0
D=0 E=0

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Concentration=A+Bx+Cx²+Dx³+Ex⁴

Special Notes

NO OTHER HYDROCARBONS DETECTED ON G.C.


Analyst Frank P. Doran



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
C A E INSTRUMENT RENTAL
246 WOODWORK LANE
PALATINE IL 60067

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 8940-7150
Scott Project # 553792

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM030717
Cylinder Pressure 1900 psig

Certification Date 7-27-93
Previous Certification Dates None

General Exp. Date 7-27-96
Acid Rain Exp. Date 7-27-96

ANALYZED CYLINDER

Components
Propane

Certified Concentration
85.31 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: Nitrogen

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type SRM 2643A
Expiration Date 10-14-95

Cylinder Number
SX-20305

Concentration
99.12 ppm Propane in N₂

INSTRUMENTATION

Instrument/Model/Serial #
Prop: Beckman/400/1002059

Last Date Calibrated
5-3-93

Analytical Principle
Flame Ionization Detector

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: 7-27-93 Response Units: mv Z1=0.00 R1=99.10 T1=85.30 R2=99.10 Z2=0.00 T2=85.30 Z3=0.00 T3=85.30 R3=99.10 Avg. Conc. of Cust. Cyl. 85.31 ppm		Concentration=A+Bx+Cx²+Dx³+Ex⁴ r=0.99999 SRM 2643A Constants: A=-0.03442105 B=1.000549 C=0 D=0 E=0
			Concentration=A+Bx+Cx²+Dx³+Ex⁴
			Concentration=A+Bx+Cx²+Dx³+Ex⁴

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.


Analyst Frank P. Doran

AIR PRODUCTS
4822 INDUSTRY LANE
DURHAM, NC 27713

CERTIFICATE OF ANALYSIS-EPA PROTOCOL MIXTURES

REFERENCE #: 88-31136 CYLINDER #: SG9121023 CYL. PRESSURE:2000PSIG
EXPIRATION DATE: 5/6/97 LAST ANALYSIS DATE:5/6/94
CUSTOMER: P.O.#

METHOD: ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION
OF GASEOUS CALIBRATION STANDARDS-SEPTEMBER 1993-G-1

STANDARD:	INSTRUMENT:BECKMAN THC	
SRM #: 1666B	MODEL #:400	
CYL #: CLM5040	SERIAL #:1003052	
CONC.: 9.69PPM	LAST CAL.:5/2/94	
VAL. DATE:6/4/92	EXP. DATE:6/4/96	
COMPONENT:PROPANE	COMPONENT:	COMPONENT:
MEAN CONC:4.95PPM	MEAN CONC:	MEAN CONC:
REPLICATE CONC.	REPLICATE CONC.	REPLICATE CONC.
DATE:5/6/94 DATE:	DATE: DATE:	DATE: DATE:
4.95PPM		
4.94PPM		
4.95PPM		

BALANCE GAS:N2

REPLICATE DATA

DATE: 5/6/94

Z	0	R	283.4	C	144.8
R	283.5	Z	0	C	144.5
Z	0	C	144.8	R	283.5

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:PROPANE

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

Z=ZERO C=CANDIDATE R=REFERENCE

ANALYST: Richard Sykes

APPROVED BY:

"THIS REPORT STATED ACCURATELY THE RESULTS OF THE INVESTIGATION MADE UPON THE MATERIAL SUBMITTED TO THE ANALYTICAL LABORATORY. EVERY EFFORT HAS BEEN MADE TO DETERMINE OBJECTIVELY, THE INFORMATION REQUESTED; HOWEVER, IN CONNECTION WITH ITS RENDERING OF THIS REPORT, NATIONAL SPECIALTY GASES SHALL HAVE NO LIABILITY IN EXCESS OF ITS ESTABLISHED CHARGE FOR THE SERVICE."

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer: ARMSTRONG ENVIRONMENTAL Order No: 36A-006058-05

7715 SOVEREIGN ROW

Batch No: 861-18185

DMLAS TX 75247

Notes:

Cylinder No: SG9132377BAL

Cylinder Pressure: 2000 psig

Certification Date: 05/07/94

Expiration Date: 05/07/97

PO: 1372

Rel:

*** Certified Concentration *** ***** Reference Standards ***** ***** Analytical Instrumentation *****

Certified

Standard

Instrument

Serial

Last

Measurement

Component

Concentration

Cylinder #

Number

Concentration

Make/Model

Number

Calibration

Principal

PROPANE

200 ±1.0

PFM SG9128591BAL

GHIS

201.1000

PFM Gow-Mac 750

59405U

04/14/94

GC-FID

Balance Gas: Nitrogen

* Standard should not be used below 140 psig

Analyst:

James Lewis

Approved By:

Robert McNear

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer: ARMSTRONG ENVIRONMENTAL Order No: 36A-005987-04

7715 SOVEREIGN ROW

Batch No: 861-18145

DALLAS TX 75247

Notes:

Cylinder No: SG9132456BVL

Cylinder Pressure*: 2000 psig

Certification Date: 05/09/94

Expiration Date: 05/09/97

PO: 1371 Rel:

*** Certified Concentration *** ***** Reference Standards ***** Analytical Instrumentation *****
Certified

Component	Concentration	Cylinder #	Standard	Concentration	Instrument	Serial	Last	Measurement
PROPANE	909 ±2.2	PPH SG9128533BVL	GMIS	1025.0000	PPH Gow-Mac 750	594050	05/05/94	GC-FID

Balance Gas: Nitrogen

• Standard should not be used below 150 psig

Analyst:

[Signature]

Approved By:

[Signature]

Robert McNamee



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2350 FAX: (313) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ARMSTRONG ENVIRONMENTAL
7715 SOVEREIGN ROW
DALLAS TX 75247-9004

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48063

Purchase Order 1317
Scott Project # 556803

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM037096
Cylinder Pressure 1900 psig

Certification Date 10-11-93
Previous Certification Dates None

General Exp. Date 10-11-95
Acid Rain Exp. 10-11-95
Date

ANALYZED CYLINDER

Components
Nitric Oxide

Certified Concentration
402.4 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Total Oxides of Nitrogen
Balance Gas: Nitrogen

402.9 ppm

Reference Value Only

*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
NIRM 1687 7-23-95

Cylinder Number
ALM-022382

Concentration
951 PPM NO IN NITROGEN

INSTRUMENTATION

Instrument/Model/Serial #
NO: Beckman/951A/270-082899B

Last Date Calibrated
9-8-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Nitric Oxide	Date: 10-11-93 Response Units: mv Z1=0.00 R1=95.10 T1=40.50 R2=95.10 Z2=0.00 T2=40.50 Z3=0.00 T3=40.50 R3=95.10 Avg. Conc. of Cust. Cyl. 402.9 ppm	Date: 10-11-93 Response Units: mv Z1=0.00 R1=95.10 T1=40.20 R2=95.10 Z2=0.00 T2=40.20 Z3=0.00 T3=40.20 R3=95.10 Avg. Conc. of Cust. Cyl. 401.9 ppm	Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$ $r = 0.99999$ NIRM1687 Constants: $A = -0.1577292$ $B = 10.00145$ $C = 0$ $D = 0$ $E = 0$
			Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$
			Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

Analyst Frank P. Doran

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol #1 Gases

Page 1 of 1

PERFORMED ACCORDING TO SECTION 3.0.4 (Procedure #G1)

Customer:

SOUTHWESTERN ELECTRIC POWER COMPAN
WELSH POWER PLANT
FM RD 1735
CASON TX 75636

Notes:

Order No: 36A-004394-01
Batch No: 861-16363

PO: 53909 Rel:

*** Certified Concentration *** ***** Reference Standards ***** Analytical Instrumentation *****

Component	Certified Concentration	Cylinder #	Standard Number	Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
NITRIC OXIDE	254 PPM	SG9113409BAL	GMIS	234.6000 PPM	Rosemount 951a	0101877	10/29/93	CHEMILUMINESCENCE
Balance Gas: Nitrogen								
Contaminant								
Nitrogen Dioxide	.800 PPM							

Analytical Data*

Component: NITRIC OXIDE				First Analysis Date: 01/17/94				Second Analysis Date: 01/24/04			
Zero	*** Test Gas ***	*** Ref. Gas ***	***	Zero	*** Test Gas ***	*** Ref. Gas ***	***				
mV	mV	PPM	mV	mV	mV	PPM	mV				
.000	104	254	95.7	.030	104	254	95.9				
.010	104	254	95.6	.040	104	254	96.0				
.000	104	255	95.5	.050	104	254	95.9				
Average:	254			Average:	254						

* Calculations performed per Section 3.0.4 subsection 4.1.7

Analyst:

Approved By:

Shane L. Cano

Robert V. McNeer

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer:

ARMSTRONG ENVIRONMENTAL
7715 SOVEREIGN ROW

DALLAS

TX 75247

Notes:

Order No: 36A-006058-01
Batch No: 861-18124

Cylinder No: SG9132485BAL

Cylinder Pressure*: 2000 psig

Certification Date: 05/12/94

Expiration Date: 05/12/96

PO: 1372 Rel:

*** Certified Concentration *** ***** Reference Standards ***** ***** Analytical Instrumentation *****

Component Concentration Cylinder # Standard Number Concentration Make/Model Instrument Serial Last Measurement

NITRIC OXIDE . 29.7 ±0.34 PPM SG9113524BAL GMIS 28.6100 PPM Rosemount 951a 0101877 05/04/94 CHEMILUMINESCENCE

Balance Gas: Nitrogen

Contaminant

Nitrogen Dioxide . 200 PPM

* Standard should not be used below 150 psig

Analyst:

Richard Vandyke

Approved By:

Robert McNear



Scott Specialty Gases, Inc.

Shipped 3714 LAPAS DRIVE
From: HOUSTON TX 77023
Phone: 713-644-4820 Fax: 713-644-0244

C E R T I F I C A T E O F A N A L Y S I S

ARMSTRONG ENVIRONMENTAL

PROJECT #: 04-27582-002

PO#: 1323

7715 SOVEREIGN ROW

ITEM #: 04021413 2AL

DALLAS

TX 75247

DATE: 10/26/93

CYLINDER #: AAL8738

ANALYTICAL ACCURACY: +/- 1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 10/25/94

BLEND TYPE: ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

CONC MOLES

(MOLES)

100. PPM

100. PPM

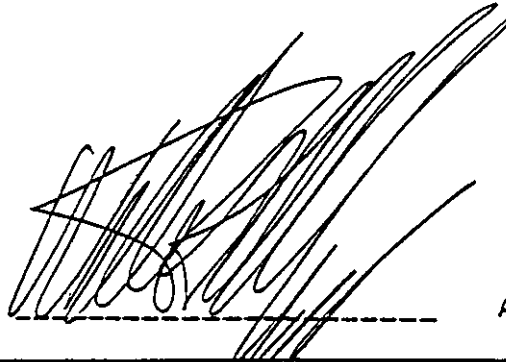
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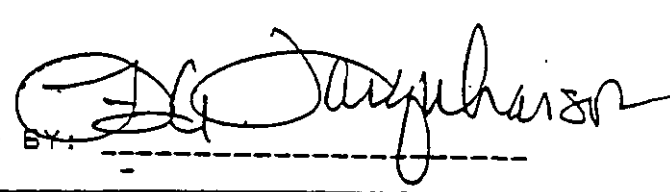
BAL

COMPONENT

CARBON MONOXIDE

AIR

ANALYST: 

APPROVED BY: 



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

PROJECT #: 04-27582-001

PO#: 1323

ITEM #: 04021413 2AL

DATE: 10/26/93

7715 SOVEREIGN ROW

DALLAS

TX 75247

CYLINDER #: AAL9223

ANALYTICAL ACCURACY: +/-1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 10/25/94

BLEND TYPE: ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

CONC MOLES

(MOLES)

400. PPM

400. PPM

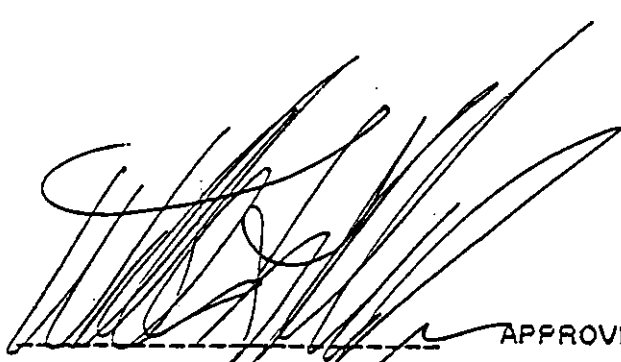
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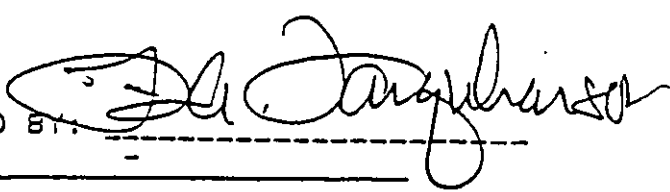
BAL

COMPONENT

CARBON MONOXIDE

AIR

ANALYST: 

APPROVED BY: 



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

PROJECT #: 04-27582-003

PO#: 1323

7715 SOVEREIGN ROW

ITEM #: 04021412 2AL

DATE: 10/26/93

DALLAS

TX 75247

CYLINDER #: AAL16005

ANALYTICAL ACCURACY: +/- 1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 10/25/94

BLEND TYPE: ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

AIR

REQUESTED GAS

CONC MOLES

50.

PPM

BAL

ANALYSIS

(MOLES)

50.5

PPM

BAL

ANALYST:

APPROVED BY:



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

PROJECT #: 04-29795-001

PO#: 1349

ITEM #: 04021453 2AL

DATE: 1/27/94

CYLINDER #: ALM022671

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 1/27/95

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

NITROGEN

2000 PSI

REQUESTED GAS

CONC MOLES

100. PPM

BAL

ANALYSIS

(MOLES)

100. PPM

BAL

ANALYST:

APPROVED BY:



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

PROJECT #: 04-29795-002

PO#: 1349

ITEM #: 04021452 2AL

DATE: 1/27/94

CYLINDER #: ALM003541

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 1/27/95

BLEND TYPE : ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

COMPONENT

CARBON MONOXIDE

NITROGEN

CONC MOLES

50.

PPM

BAL

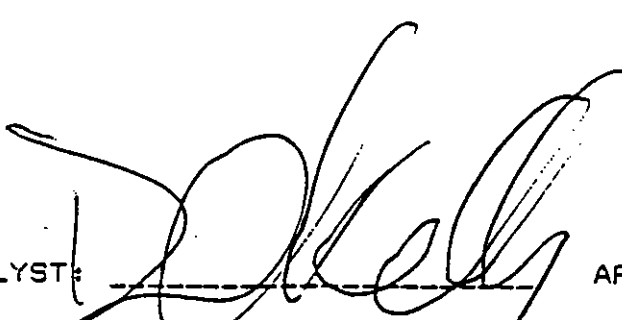
(MOLES)

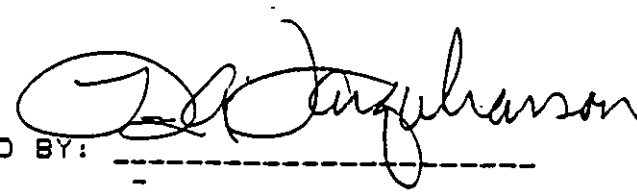
50.8

PPM

BAL

2000 PSI

ANALYST: 

APPROVED BY: 

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

PROJECT #: 04-31603-001

PO#: 1365

7715 SOVEREIGN ROW

ITEM #: 04021453 2AL

DATE: 4/05/94

DALLAS

TX 75247

CYLINDER #: ALM028262

ANALYTICAL ACCURACY: +-1%

PRODUCT EXPIRATION: 4/04/95

BLEND TYPE : ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

COMPONENT

CARBON MONOXIDE

NITROGEN

2000 PSI

CONC MOLES

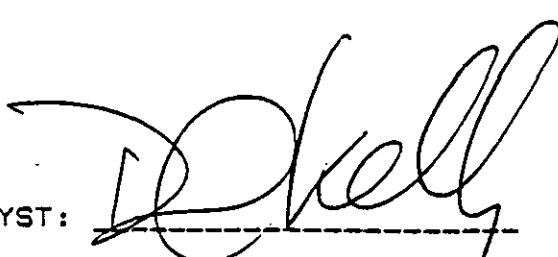
400. PPM

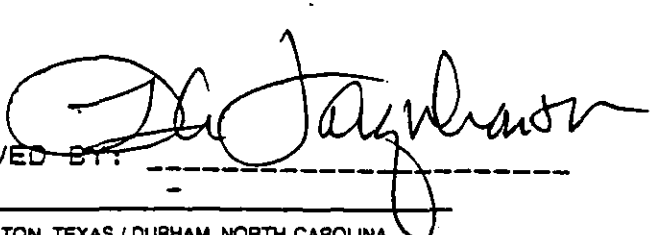
BAL

(MOLES)

400. PPM

BAL

ANALYST: 

APPROVED BY: 

SPECIALTY GAS DEPARTMENT
1722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

P.03

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

INFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

ANALYST: ARNOLD ENVIRONMENTAL
7715 SOVEREIGN ROW
DALLAS TX 75247
Notes: Order No: 36A-005987-03
Batch No: 861-18184

PO: 1371 Rel: Cylinder No: 5091323298AL
Cylinder Pressure: 2000 psig
Certification Date: 05/07/94
Expiration Date: 05/07/94

* Certified Concentration *** ***** Reference Standards *****
Sample Concentration Certified Cylinder # Standard Concentration Instrument Serial Last Measurement
OFANE 200 ±1.0 PPM 509128591BAL GMS 201.1000 PPM GOM-Mac 750 59405U 04/14/94 GC-FID

Sample Gas: Nitrogen

* Standard should not be used below 150 psig

JUN-23-1994 12:35 FROM APCI CHICAGO SPEC GAS

lyst: James Lane
James Lane

Approved By: Robert McNear
Robert McNear

IT Products and Chemicals, Inc.
FACILITY GAS DEPARTMENT
2722 S. WESTWORTH AVENUE
IRVING, TX 76062

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

TOTAL P. 04

REPORTED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #C1)

Customer: ORDER NO: 36A-006058-05

ARMSTRONG ENVIRONMENTAL, 7715 SOVEREIGN BOY, DALLAS, TX 75247

Notes: Batch No: 861-18185

Cylinder No: SC913237BAL

Cylinder Pressure: 2000 psig

Certification Date: 05/07/94

Expiration Date: 05/07/97

PO: 1372 Rel: ***** Reference Standards ***** Analytical Instrumentation *****

** Certified Concentration **

Component Concentration Cylinder # Number Concentration Make/Model Instrument Serial Last Measurement

NO2/PAH 200 ±1.0 PPM SC912859BAL GMI 201.1000 PPM GC-Mac 750 594050 04/14/94 GC-FID

Balance Gas: Nitrogen

* Standard should not be used below 150 psig

Analyst:

James Laas

Approved By:

Robert McNeer

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
2722 S. WESTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer: ORDER NO: 36A-005967-02

ARMSTRONG ENVIRONMENTAL BATCH NO: 861-10143

7715 BOVENHORN RD

DALLAS TX 75247

Notes: CYLINDER NO: SG9132491BAL

PO: 1371 Rel: CYLINDER PRESSURE: 2000 psig

*** Certified Concentration *** ***** Reference Standards ***** ***** Analytical Instrumentation *****

Component Certified Concentration Cylinder # Standard Number Concentration Make/Model Instrument Serial Last Measurement

PROPANE 31.9 ±.13 PPM SG9128572BAL OHS 30.2600 PPM GOW-SEC 750 594050 04/25/94 GC-FID

Balance Gas: Nitrogen

* Standard should not be used below 150 psig

Analyst:

James Lane
James Lane

Approved By:

Robert McNear
Robert McNear

APPENDIX F

PITOT TUBE INSPECTION DATA SHEET

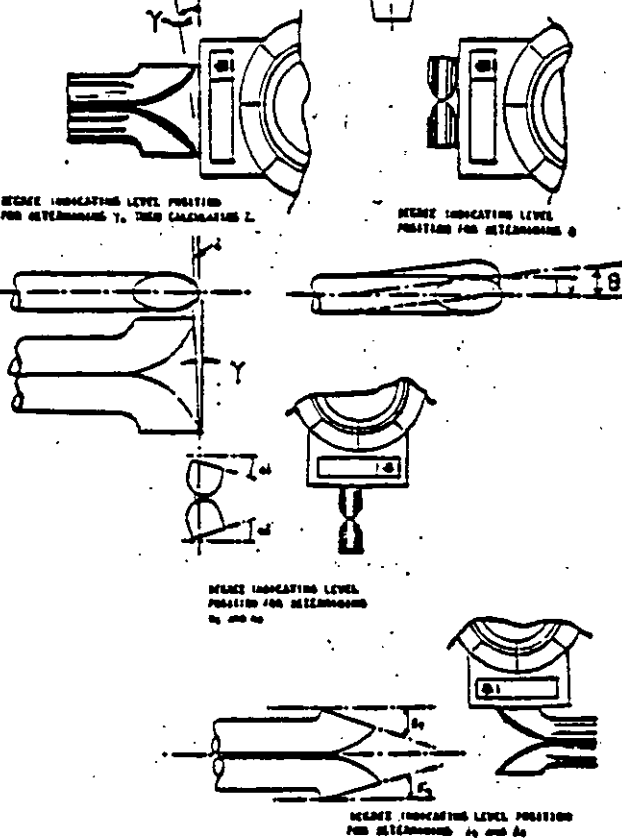
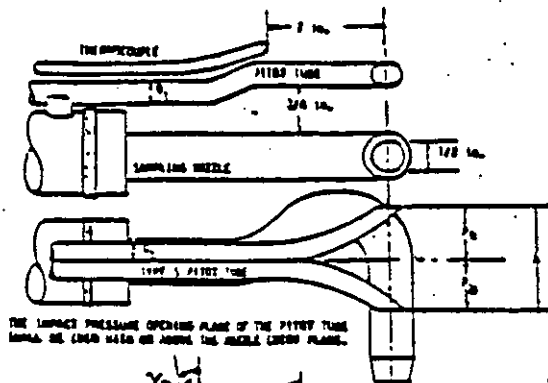
Company Name: Armstrong

Pre-sample

Post Sample

Date 6-9-94

Date 6-20-94



Yes	level?	Yes
No	obstructions?	No
No	damaged?	Slight Nick
-1°	$-10^\circ < \alpha_1 < +10^\circ$	1°
3°	$-10^\circ < \alpha_2 < +10^\circ$	3°
3°	$-5^\circ < \beta_1 < +5^\circ$	3°
2°	$-5^\circ < \beta_2 < +5^\circ$	3°
10	Y	1°
2°	θ	2°
.563	A	.564
.229	$1.05 D_t < P_a < 1.5 D_t$	.229
.273	$1.05 D_t < P_b < 1.5 D_t$	.275
.250	$3/16" < D_t < 3/8"$	.250
.0098	$A \tan \gamma < 0.125"$	.0098
.0197	$A \tan \theta < 0.03125"$	.0197
Yes	$P_a = P_b \pm 0.063"$	Yes

Comments: LP Job

Pitot tube/probe number 5 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Larry White

Date June 20, 1994

*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 12
CALIBRATION DATE: 5/16/94
CALIBRATED BY: MATT TAYLOR
BAROMETRIC PRESSURE: 29.6

```
*****
*                                                                 *
*   DELTA H = ORFICE PRESSURE                                     *
*   VW = VOLUME OF WET GAS METER                                 *
*   TW = AVERAGED TEMPERATURE OF WET METER                     *
*   VD = VOLUME OF DRY GAS METER                                *
*   TD = AVERAGED TEMPERATURE OF DRY GAS METER                 *
*   TIME = DURATION OF EACH POINT RUN                           *
*                                                                 *
*****
```

POINT 1

DELTA H = .5 VW = 5 TW = 76
VD = 4.998 TD = 73.75 TIME = 11.55 TEST METER Y = .9804
METER BOX Y = .9754636
METER BOX H = 1.537989

POINT 2

DELTA H = 1 VW = 5 TW = 76
VD = 4.997 TD = 76.25 TIME = 8.55 TEST METER Y = .9804
METER BOX Y = .9790141
METER BOX H = 1.67773

POINT 3

DELTA H = 1.5 VW = 10 TW = 76
VD = 9.917 TD = 78.25 TIME = 14.35 TEST METER Y = .9804
METER BOX Y = .98907
METER BOX H = 1.765664

POINT 4

DELTA H = 2 VW = 10 TW = 76
VD = 9.939 TD = 80.5 TIME = 12.8 TEST METER Y = .9804
METER BOX Y = .9897811
METER BOX H = 1.865311

POINT 5

DELTA H = 3 VW = 10 TW = 76
VD = 9.923001 TD = 81 TIME = 10.3 TEST METER Y = .9804
METER BOX Y = .9898474
METER BOX H = 1.810071

POINT 6

DELTA H = 4 VW = 10 TW = 76
VD = 9.875 TD = 81 TIME = 8.83 TEST METER Y = .9804
METER BOX Y = .9922124
METER BOX H = 1.773705

AVERAGE Y = .9858981
AVERAGE H = 1.738411

Meter Sox Calibration

Dry Gas Meter #: 12

Calibrated by: MT

Date: 5-16-95

Barometric Pressure: 29.6

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time s	γ	ΔH_2
			Test Meter. T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{co}	Ave T_d			
.5	5.0	4.994	76	72 78	72 73	73.75	11.55	.9804	
1.0	5.0	4.997	76	75 83	75 74	76.25	8.55	.9804	
1.5	10	9.917	76	77 85	75 76	78.25	14.35	.9804	
2.0	10	9.939	76	81 87	76 78	80.5	12.80	.9804	
3.0	10	9.923	76	81 88	77 78	81.0	10.30	.9804	
4.0	10	9.875	76	72 88	78 79	81.0	8.83	.9804	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_2 = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

DRY GAS METER #: 12

DATE: 5-16-94

29.6

ΔH	VW	TW	VD	TDT	TDO	ΔTD	ϕ
0.5 (5FT ³)	152.000	76	791.878	72	72		
	157.000	76	796.890	74	73		
	5.0	76	4.998			13.75	11.55
1.0 (5FT ³)	161.000	76	796.455	75	73		
	162.000	76	791.878	83	74		
	5.0	76	4.977			76.25	8.55
1.5 (10FT ³)	177.000	76	806.772	77	75		
	167.000	76	791.455	85	76		
	10	76	9.917			74.25	14.35
2.0 (10FT ³)	187.000	76	816.711	81	76		
	177.000	76	806.772	87	78		
	10	76	9.939			80.5	12.40
3.0 (10FT ³)	197.000	76	826.634	81	77		
	187.000	76	816.711	88	78		
	10	76	9.923			81.0	10.30
4.0 (10FT ³)	207.000	76	836.509	82	78		
	197.000	76	826.634	88	79		
	10	76	9.875			81.0	4.43

Temperature Meter Calibration Form

Meter # 12 5-25-94

Emtech K
Thermocouple Checker

Meter Reading

P1	$32\text{ F} + 460 = 492\text{ R}$	<u>30</u> + 460 = <u>490</u> R
P2	$212\text{ F} + 460 = 672\text{ R}$	<u>210</u> + 460 = <u>670</u> R
P3	$752\text{ F} + 460 = 1212\text{ R}$	<u>747</u> + 460 = <u>1207</u> R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is +/- 2%.

% Variation

P1	<u>0.4</u>
P2	<u>0.2</u>
P3	<u>0.4</u>

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 12
CALIBRATION DATE: 06/20/94
CALIBRATED BY: Larry Witcher
BAROMETRIC PRESSURE: 29.78

*
* DELTA H = ORFICE PRESSURE *
* VW = VOLUME OF WET GAS METER *
* TW = AVERAGED TEMPERATURE OF WET METER *
* VD = VOLUME OF DRY GAS METER *
* TD = AVERAGED TEMPERATURE OF DRY GAS METER *
* TIME = DURATION OF EACH POINT RUN *
*

POINT 1

DELTA H = .5 VW = 5 TW = 79
VD = 5.038 TD = 79.3 TIME = 11.8 TEST METER Y = .9804
METER BOX Y = .9723464
METER BOX H = 1.596893

POINT 2

DELTA H = 1 VW = 5 TW = 78
VD = 5.006 TD = 79.8 TIME = 8.36 TEST METER Y = .9804
METER BOX Y = .9800812
METER BOX H = 1.595654

POINT 3

DELTA H = 1.5 VW = 10 TW = 78
VD = 10.01 TD = 80.3 TIME = 13.84 TEST METER Y = .9804
METER BOX Y = .9799782
METER BOX H = 1.638429

POINT 4

DELTA H = 2 VW = 10 TW = 78
VD = 9.993 TD = 81.3 TIME = 12.05 TEST METER Y = .9804
METER BOX Y = .9822541
METER BOX H = 1.632971

POINT 5

DELTA H = 3 VW = 10 TW = 77.5
VD = 9.932 TD = 82 TIME = 9.7 TEST METER Y = .9804
METER BOX Y = .9880579
METER BOX H = 1.601611

POINT 6

DELTA H = 4 VW = 11 TW = 77
VD = 10.949 TD = 82.8 TIME = 9.439999 TEST METER Y = .9804
METER BOX Y = .9858682
METER BOX H = 1.66595

AVERAGE Y = .981431
AVERAGE H = 1.625251

Meter Box Calibration

Dry Gas Meter #12
 Calibrated by: Lorrin Witcher
 Date: 6-26-94
 Barometric Pressure: 29.78

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	ΔH_{calc}
			Test Meter, T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{co}	Ave T_d			
.5	S	5.028	79	79 81	79 78	79.3	11:80	.9804	
1.0	S	5.001	78	80 83	78 78	79.8	8:36	.9804	
1.5	18	10.015	78	80 85	75 78	80.3	13:84	.9804	
2.0	10	9.993	78	82 87	78 78	81.3	12:05	.9804	
3.0	10	9.932	77.5	83 88	78 79	82	9:70	.9804	
4.0	11	10.940	77	84 89	79 79	82.8	9:44	.9804	

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_c (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{\text{calc}} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

1 DRY GAS METER #: 12

DATE: 6-20-94

Plan 29.78

[illegible]

Temperature Meter Calibration Form

Meter # 12- 6-20-94

Emtech K

Thermocouple Checker

Meter Reading

P1	$32\text{ F} + 460 = 492\text{ R}$	<u>32</u> + 460 = <u>492</u> R
P2	$212\text{ F} + 460 = 672\text{ R}$	<u>211</u> + 460 = <u>671</u> R
P3	$752\text{ F} + 460 = 1212\text{ R}$	<u>749</u> + 460 = <u>1209</u> R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is $\pm 2\%$.

% Variation

P1	<u>0</u>
P2	<u>0.15</u>
P3	<u>0.25</u>

METER BOX CALIBRATION SUMMARY

METER BOX # 9

05/17/94

BAROMETRIC PRESSURE = 29.73

DELTA H = .5 VW = 5 TW = 76.5

VD = 4.932 TD = 75 TIME = 12.05 TEST METER Y = .9804

METER BOX Y = .9899143

METER BOX H = 1.66592

DELTA H = 1 VW = 5 TW = 77

VD = 4.949 TD = 76.75 TIME = 8.45 TEST METER Y = .9804

METER BOX Y = .9875994

METER BOX H = 1.636117

DELTA H = 1.5 VW = 10 TW = 77.5

VD = 9.828 TD = 78.25 TIME = 14.01 TEST METER Y = .9804

METER BOX Y = .9952578

METER BOX H = 1.685019

DELTA H = 2 VW = 10 TW = 78

VD = 9.984999 TD = 79.75 TIME = 12.2 TEST METER Y = .9804

METER BOX Y = .980218

METER BOX H = 1.702103

DELTA H = 3 VW = 10 TW = 77.5

VD = 9.873999 TD = 81.25 TIME = 9.890001 TEST METER Y = .9804

METER BOX Y = .9924741

METER BOX H = 1.67008

DELTA H = 4 VW = 10 TW = 77

VD = 9.852999 TD = 82.5 TIME = 8.560001 TEST METER Y = .9804

METER BOX Y = .995371

METER BOX H = 1.661196

AVERAGE Y = .9901391

AVERAGE H = 1.670072

Meter Box Calibration

Dry Gas Meter #: 9
 Calibrated by: *Dan Barrera*
 Date: 5-17-94
 Barometric Pressure: 29.73

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time s	γ	ΔH_{20}
			Test Meter T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
0.5	5	4.932	76.5	74 77	74 75	75	12.05	.9804	
1.0	5	4.949	77	76 80	75 76	76.75	8.45	.9804	
1.5	10	9.828	77.5	78 82	76 77	78.25	14.01	.9804	
2.0	10	9.985	78	80 84	77 78	79.75	12.20	.9804	
3.0	10	9.874	77.5	81 87	78 79	81.25	9.89	.9804	
4.0	10	9.853	77	83 88	79 80	82.5	8.56	.9804	

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{20} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[\frac{(T_w + 460) \text{ s}}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

DRY GAS METER #: 9

DATE: 5-17-94

	ΔH	VW	TW	VD	TDT	$\overline{TDO}$	ΔTD	θ
(5FT ³)	212.0	76/76	926.525	74	74			
	207.0	77/77	921.593	77	75			
	5	76.5	4.932		→	75	12:05	
1.0 (5FT ³)	212.0	77/77	931.474	76	75			
	212.0	77/77	926.525	80	76			
	5	77	4.949		→	76.75	8:45	
1.5 (10FT ³)	227.0	77/77	941.302	78	76			
	217.0	78/78	931.474	82	77			
	10	77.5	9.828		→	78.25	14:01	
2.0 (10FT ³)	232.0	78/78	951.287	80	77			
	227.0	78/78	941.302	84	78			
	10	78	9.985		→	79.75	12:20	
3.0 (10FT ³)	247.0	78/78	961.161	81	78			
	237.0	77/77	951.287	87	79			
	10	77.5	9.874		→	81.25	9:89	
4.0 (10FT ³)	257.0	77/77	971.014	83	79			
	247.0 *	77/77	961.161	88	80			
	10	77	9.853		→	82.5	8:56	

Temperature Meter Calibration Form

Meter # 9 5-12-94

Emtech K
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>32</u> + 460 = <u>492</u> R
P2	212 F + 460 = 672 R	<u>212</u> + 460 = <u>672</u> R
P3	752 F + 460 = 1212 R	<u>749</u> + 460 = <u>1209</u> R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is $\pm 2\%$.

% Variation

P1	<u>0</u>
P2	<u>0</u>
P3	<u>0.24</u>

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 9
CALIBRATION DATE: 06/20/94
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE: 29.78

```
*****
*                                     *
*   DELTA H = ORFICE PRESSURE       *
*   VW = VOLUME OF WET GAS METER    *
*   TW = AVERAGED TEMPERATURE OF WET METER *
*   VD = VOLUME OF DRY GAS METER    *
*   TD = AVERAGED TEMPERATURE OF DRY GAS METER *
*   TIME = DURATION OF EACH POINT RUN *
*                                     *
*****
```

POINT 1

DELTA H = .5 VW = 5 TW = 77.5
VD = 4.823 TD = 77.25 TIME = 12.02 TEST METER Y = .9804
METER BOX Y = 1.014655
METER BOX H = 1.65407

POINT 2

DELTA H = 1 VW = 5 TW = 77
VD = 4.811 TD = 78.25 TIME = 8.390001 TEST METER Y = .9804
METER BOX Y = 1.018771
METER BOX H = 1.605769

POINT 3

DELTA H = 1.5 VW = 10 TW = 77
VD = 9.436 TD = 78.75 TIME = 14.01 TEST METER Y = .9804
METER BOX Y = 1.038539
METER BOX H = 1.677504

POINT 4

DELTA H = 2 VW = 10 TW = 77
VD = 9.505999 TD = 81 TIME = 12.16 TEST METER Y = .9804
METER BOX Y = 1.033925
METER BOX H = 1.677965

POINT 5

DELTA H = 3 VW = 10 TW = 76.5
VD = 9.489001 TD = 82 TIME = 9.87 TEST METER Y = .9804
METER BOX Y = 1.036114
METER BOX H = 1.652077

POINT 6

DELTA H = 4 VW = 10 TW = 76
VD = 9.376001 TD = 82.25 TIME = 8.57 TEST METER Y = .9804
METER BOX Y = 1.047496
METER BOX H = 1.656862

AVERAGE Y = 1.031523
AVERAGE H = 1.654041

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 9

DATE: 6-20-94

ΔH	VW	TW	VD	TDT	TDO	ΔTD	θ
1 (5FT ³)	152.0	78/78	304.355	77	76		
	152.0	77/77	299.532	79	77		
	5	77.5	4.823		→	77.25	12'02
2 (5FT ³)	162.0	77/77	309.1166	78	77		
	157.0	77/77	304.355	81	77		
	5	77	4.811		→	78.25	8'39
1.5 (10 FT ³)	172.0	77/77	318.602	80	77		
	162.0	77/77	309.1166	84	78		
	10	77	9.436		→	78.75	14'01
2.0 (10FT ³)	182.0	77/77	328.108	82	78		
	172.0	77/77	318.602	85	79		
	10		9.506		→	81	12'16
3.0 (10FT ³)	192.0	77/77	337.597	83	79		
	182.0	76/76	328.108	86	80		
	10	76.5	9.489		→	82	9'87
4.0 (10FT ³)	202.0	76/76	346.973	83	79		
	192.0	76/76	337.597	87	80		
	10	76	9.376		→	82.25	8'57

Meter Box Calibration

Dry Gas Meter #: 9
 Calibrated by: *Don Carreira*
 Date: 6-20-96
 Barometric Pressure: 29.78

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time s	γ	ΔH_{calc}
			Test Meter T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
0.5	5	4.823	77.5	77 79	76 77	77.25	12:02	9804	
1.0	5	4.811	77	78 81	77 77	78.25	8:39	9804	
1.5	10	9.436	77	80 84	77 78	78.75	14:01	9804	
2.0	10	9.506	77	82 85	78 79	81	12:16	9804	
3.0	10	9.489	76.5	83 86	79 80	82	9:87	9804	
4.0	10	9.376	76	83 87	79 80	82.25	8:57	9804	

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{\text{calc}} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[\frac{(T_w + 460)}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

Temperature Meter Calibration Form

Meter # 9 6-20-94

Emtech K
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>30</u> + 460 = <u>490</u> R
P2	212 F + 460 = 672 R	<u>210</u> + 460 = <u>670</u> R
P3	752 F + 460 = 1212 R	<u>748</u> + 460 = <u>1208</u> R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is +/- 2%.

% Variation

P1	<u>0.4</u>
P2	<u>0.3</u>
P3	<u>0.3</u>

HANCEVILLE OSB STACK TEST OPERATIONAL SUMMARY*

06/14/94

PRESS R-T-O

12 PLATEN PRESS

Press Temperature (°F)	371 - 398
Thickness (in)	0.438 & 0.719**
Density (nominal, lbs/cu ft)	$\frac{7}{16}$ 45 $\frac{23}{32}$
<u>PRODUCTION</u> (Finished 3/8 in basis)	$\frac{43,129 \text{ ft}^2/\text{hr.}}{60,650 \text{ lbs/hr.}}$ ***

*The press, loader, and unloader are completely enclosed. All openings into this enclosure were evaluated for inlet air flows by Jim Boswell, L-P - Southern Division Environmental Control using a Kurz Instrument Model 490 FM hotwire Anemometer (Cert. of Calibration 10/8/93, NIST Traceable). All air flows for each opening exceeded the 200 ft/min. velocity necessary to ensure 100% capture and control within the press enclosure.

**Nominal thickness = 7/16 & 23/32 inch

***Annualized Production of 377,810,040 ft² 3/8 basis (8760 hrs)

HANCEVILLE OSB STACK TEST OPERATIONAL SUMMARY*

06/15/94

PRESS R-T-O

12 PLATEN PRESS

Press Temperature (°F)	367 - 400
Thickness (in)	0.438 & 0.719**
Density (nominal, lbs/cu ft)	45
<u>PRODUCTION</u> (Finished 3/8 in basis)	<u>45,661 ft²/hr.***</u> 64,211 lbs/hr

*The press, loader, and unloader are completely enclosed. All openings into this enclosure were evaluated for inlet air flows by Jim Boswell, L-P - Southern Division Environmental Control using a Kurz Instrument Model 490 FM hotwire Anemometer (Cert. of Calibration 10/8/93, NIST Traceable). All air flows for each opening exceeded the 200 ft/min velocity necessary to ensure 100% capture and control within the press enclosure.

**Nominal thickness - 7/16 & 23/32 inch

***Annualized Production of 399,990,360 ft² basis (8760 hrs)

HANCEVILLE OSB STACK TEST OPERATIONAL SUMMARY*

06/16/94

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 4	DRYER 5	Avg
Dry Furnish Moisture (%)	^{6.6} 5.3-7.9	^{7.65} 5.9-9.4	^{7.6} 6.2-9.0	^{8.75} 6.8-10.7	7.65
Inlet Temperature (°F)	¹⁰⁰⁰ 834-1166	¹⁰⁴⁶ 842-1250	^{878.5} 640-1117	⁹⁴¹ 790-1092	966.4
Outlet Temperature (°F)	²²⁶ 225-227	²²⁵ 223-227	^{209.5} 207-212	²¹⁴ 213-219	219.1
Production (lbs/hr)	19,600	18,933	18,000	19,333	

12 PLATEN PRESS

Press Temperature (°F)	395 - 401
Thickness (in)	0.438 & 0.719**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis) 49,740 ft²/hr***
69,947 lbs/hr

*No. 3 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 and 23/32 inch

***Annualized Production of 435,733,400 ft² 3/8 basis (8760 hrs)

HANCEVILLE OSB STACK TEST OPERATIONAL SUMMARY*

06/17/94

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 4	DRYER 5
Dry Furnish Moisture (%)	4.6-8.4	5.0-7.1	6.4-8.5	7.5-9.8
Inlet Temperature (°F)	700-1119	878-1269	564-1101	791-1083
Outlet Temperature (°F)	223-232	219-228	202-212	213-219
Production (lbs/hr)	19,2000	20,400	18,600	20,600

12 PLATEN PRESS

Press Temperature °F	394 - 399
Thickness (in)	0.438 & 0.719**
Density (nominal, lbs/cu ft)	45
<u>PRODUCTION</u> (Finished 3/8 in basis)	<u>44,838 ft²***</u> <u>63,053 lbs/hr</u>

*No. 3 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal thickness = 7/16 & 23/32 inch

***Annualized Production of 392,780,880 ft² - 3/8 basis (8760 hrs)

AP42 Section: 10.6.1

Background Chapter: 4

Reference Number: 45

**Title: Report of Air Emissions Tests for Louisiana-Pacific Corp.,
Athens, Georgia, June 20-23, 1995,
prepared for Louisiana-Pacific Corporation,

by Environmental Monitoring Laboratories, Inc.,
July 1994.**

AP42 Section: 10.6.1

Background Chapter: 4

Reference Number: 45

**Title: Report of Air Emissions Tests for Louisiana-Pacific Corp.,
Athens, Georgia, June 20-23, 1995,
prepared for Louisiana-Pacific Corporation,

by Environmental Monitoring Laboratories, Inc.,
July 1994.**

REPORT OF
AIR EMISSIONS TESTS
FOR
LOUISIANA PACIFIC CORPORATION

Athens, Georgia
June 20 through June 23, 1995

Prepared for
Louisiana Pacific Corporation
3075 Commerce Road
Athens, Georgia 30607

ph: 706/546-8116
Contact: Tim Adams

Prepared for
Louisiana Pacific Corporation
Post Office Box 3107
Conroe, Texas 77305

ph: 409/760-5921
Contact: Dr. James T. Boswell

Performed By:
Environmental Monitoring Laboratories
Ridgeland, Mississippi
< 601/856-3092 >



Louisiana-Pacific Corporation

31

4-46

111 S.W. Fifth Avenue
Portland, Oregon 97204
503/221-0800
FAX: 503/796-0204

September 6, 1995

Mr. Michael F. Wood, Director
Mr. Laxmi Kesari
Multi Media Enforcement & Strategic Planning Division
U.S. EPA
Aerials Rios Blvd., Room 3119C
1200 Pennsylvania N.W., 7th Floor
Washington, D.C. 20004

re: **Clean Air Enforcement Action - United States v. Louisiana-Pacific Corporation, No. 93-0869 (W.D. LA)**

Revision to Emissions Test Report of June 20 through 23, 1995, for L-P Athens, Georgia OSB Plant

Gentlemen:

You will find attached revised operational data summary sheets for the acceptance tests conducted at the above-referenced facility. The original summary sheets were given incorrect dates. The data summary sheets can be found at the back of the report and should be replaced with the attached corrected sheets.

We apologise for the oversight.

Sincerely,

Elizabeth T. Smith, Director
Environmental Affairs

Enclosure

cc w/enc: **Julie Domike, U.S. EPA, Air Enforcement Division, Washington, DC**
U.S. EPA, Region IV, Air Programs Branch, Atlanta, GA. -
Alabama Dept. of Environmental Management

Mr. Michael F. Wood
September 6, 1995
Page 2

cc w/out enc: Steven Grant - Portland
Gene Meyers - Conroe
Jim Boswell - Conroe

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY*

06/19/95

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0	6.0 - 8.8	5.8 - 8.2
Inlet Temp. (°F)		700 - 1040	760 - 900	960 - 1080	680 - 800
Outlet Temp. (°F)		175 - 190	170 - 180	160 - 165	185 - 200

12 PLATEN PRESS

Press Temp. (°F)	400
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)30,688 ft²***
43,224 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 268,826,880 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY*

06/20/95

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5 7.5	6.0 - 8.0 7.6	6.0 - 8.8 7.4	5.8 - 8.2 7
Inlet Temp. (°F)		760 - 1040 800	800 - 1080 800	800 - 1040 920	740 - 1000 870
Outlet Temp. (°F)		180 - 200 190	175 - 190 183	160 - 170 165	175 - 200 188
Production (lbs/hr)		17,800 17,800	16,600 16,600	16,800 16,800	16,000 16,000

12 PLATEN PRESS

Press Temp. (°F)	395 - 405
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)39,648 ft²***
55,755 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 347,316,480 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY*

06/21/95

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5 7.5	6.0 - 8.0 7	6.0 - 8.8 7.4	5.8 - 8.2 7
Inlet Temp. (°F)1		640 - 1000 820	700 - 1000 850	760 - 1080 920	720 - 920 820
Outlet Temp. (°F)		170 - 180 175	170 - 180 175	150 - 160 155	180 - 195 182
Production (lbs/hr)		17,000 8.5	16,800 8.4	17,700 8.9	17,600 8.8

34,600 lbs/hr

12 PLATEN PRESS

Press Temp. (°F)	400 - 405
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)40,320 ft²***
56,700 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 353,203,200 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY*

06/22/95

DRYER R-T-O'S

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0		5.8 - 8.2
Inlet Temp. (°F) ¹		720 - 920	680 - 880		720 - 840
Outlet Temp. (°F)		170 - 180	170 - 180		185 - 195

12 PLATEN PRESS

Press Temp. (°F) 400 - 405 *410³*

Thickness (in) 0.438** & 0.719

Density (nominal, lbs/cu ft) 45

PRODUCTION (Finished 3/8 in basis)

40,110 ft²*** → *ft² 3/8 / hr*

56,405 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch and 23/32 inch

***Annualized Production of 351,363,600 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY*

06/23/95

DRYER R-T-O'S

DRYER 1 DRYER 2 DRYER 3 DRYER 4 DRYER 5

Dry Furnish
Moisture (%)Inlet Temp.
(°F)1Outlet Temp.
(°F)**12 PLATEN PRESS**Press 395 - 405 700
Temp. (°F)Thickness 0.438**
(in)Density 45
(nominal, lbs/cu ft)**PRODUCTION** (Finished 3/8 in basis)37,901ft²***
53,298 lbs/hr

*On 6/23/95 only the press R-T-O was being sampled, therefore no dryer data were collected.

**Nominal Thickness = 7/16 inch

***Annualized Production of 332,012,760 ft² 3/8 basis (8760 hrs)

ENVIRONMENTAL MONITORING LABORATORIES, INC.

P.O. Box 655 • 624 Ridgewood Road

phone: 601/856-3092

Ridgeland, Mississippi 39158

fax : 601/853-2151

July 30, 1994

Subject: Louisiana Pacific Corporation
Athens, Georgia

On June 20 through June 23, 1995, Environmental Monitoring Laboratories performed air emissions testing for Louisiana Pacific Corporation's oriented strand board (OSB) facility in Athens, Georgia. L.P. operates five rotary OSB dryers which exhaust to a common equalization chamber. Only four dryers are capable of operating at full capacity simultaneously. The equalization chamber exhausts to two parallel regenerative thermal oxidizers (RTO) for emissions control. Two fans direct the exhausts of four press vents to another equalization chamber and RTO. Testing was performed to determine emissions of particulate matter (PM), volatile organic compounds (VOC), formaldehyde (HCOH) nitrogen oxides (NOx), and carbon monoxide (CO) from the dryers RTO and from the press RTO. Testing was also simultaneously performed at the RTO inlets to determine removal efficiency.

FILE + CAN

DRYERS RTO	PM		VOC as C		HCOH		CO		NOx	
	#/hr.	gr/dscf	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm
No. 1 RTO	3.65	0.007	1.27	11.4	0.137	0.49	1.67	7	12.33	30
No. 2 RTO	4.15	0.008	1.69	14.4	0.096	0.33	4.02	15	12.09	(28)
RTO Total	7.80		2.96		0.233		5.69		24.42	
Inlet D2			109.00	1664			3.71	26	4.28	18
Inlet D3			66.08	1155			16.52	118	4.93	22
Inlet D4			67.42	1148			7.97	61	3.70	17
Inlet D5			96.62	1721			11.30	83	5.55	25
INLET TOTAL			339.12				39.50		18.46	
REMOVAL EFFICIENCY			99.13				85.59		N/A	

PRESS VENT RTO	PM		VOC as C		HCOH		CO		NOx	
	#/hr.	gr/dscf	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm	#/hr.	ppm
RTO OUTLET	3.02	0.003	1.80	8	0.037	0.07	3.69	7	9.27	11
No. 1 Inlet			32.01	299			1.82	7	1.15	3
No. 2 Inlet			17.25	168			1.44	6	0.95	2
Inlet Total (#/hr)			49.26				3.59		2.1	
REMOVAL EFFICIENCY			96.35				N/A		N/A	

The testing project was coordinated by Dr. James T. Boswell of Louisiana Pacific Corporation. Mr. Bob Scott of the Georgia DEQ was present to witness portions of the testing. Danny Russell of Environmental Monitoring Laboratories coordinated sample collection and analysis and report preparation. Armstrong Environmental performed testing at the dryer RTO inlets and at both the Press RTO inlets and outlets. All formaldehyde analyses were performed by Armstrong Environmental.

Following is a report of the test.

REPORT OF AIR EMISSIONS TESTS FOR
LOUISIANA PACIFIC CORPORATION
ATHENS OSB FACILITY
ATHENS, GEORGIA
JUNE 20 THROUGH JUNE 23, 1995

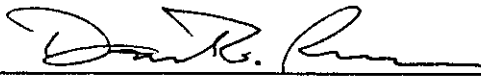
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7.0	APPENDICES:	25
A.	Field and Laboratory Data	
B.	Calibrations	
C.	Instrument Recorder Traces/Data Log	
D.	Armstrong Environmental Report	

REPORT CERTIFICATION

I certify that I have examined the information submitted herein,
and based upon my inquiries of those responsible for obtaining the
data or upon my direct acquisition of data, I believe the submitted
information is true, accurate and complete.

Signed



Daniel G. Russell



P.O. Box 3107
Corpus, Texas 77305
409/758-0511

DATE

8-31-95

TO

Ladoni Kesari

FROM

Jim Boswell

NUMBER OF PAGES

2

(INCLUDING TRANSMITTAL SHEET)

☒

LETTER

☐ LEGAL

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202/564-9001

1.0 TEST RESULTS: The following tables present the measured flow parameters and test results for air emissions testing done during the period June 20 through June 23, 1995, for Louisiana Pacific Corporation's OSB facility in Athens, Georgia.

1.1 DRYERS

1.1.1 RTO Outlets

1.1.1.1 No. 1 RTO (North)

PM/NOx/CO Emissions Test - June 20, 1995

Run No.		1	2	3	AVG.
Date		6/20/95	6/20/95	6/20/95	—
Time Start		1055	1246	1440	—
Time End		1156	1347	1541	—
PARTICULATE EMISSIONS	#/hr	4.32	3.21	3.43	3.65
PARTICULATE EMISSIONS	gr/dscf	0.009	0.007	0.007	0.007
CO EMISSIONS	#/hr	2.22	1.55	1.24	1.67
CO EMISSIONS	ppm	9	6	5	7
NOx EMISSIONS	#/hr	14.98	11.66	10.37	12.33
NOx EMISSIONS	ppm	36	29	26	30
VOLUMETRIC FLOWRATE	acfm	98826	96882	96965	97558
VOLUMETRIC FLOWRATE	dscfm	58591	56292	55875	56919
VELOCITY	ft./sec.	46.3	45.4	45.4	45.7
STACK TEMPERATURE	°F	254	257	257	256
MOISTURE	%	17.8	19.2	19.8	19.0
SAMPLE RATE	% isokinetic	105	107	107	106

VOC/HCOH Emissions Test - June 21, 1995

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	—
Time Start		0905	1058	1355	—
Time End		1006	1159	1456	—
FORMALDEHYDE EMISSIONS	#/hr	0.212	0.104	0.095	0.137
FORMALDEHYDE EMISSIONS	ppm	0.75	0.37	0.34	0.49
VOC EMISSIONS	#/hr	1.47	1.17	1.18	1.27
VOC EMISSIONS	ppm as C	13.0	10.4	10.6	11.4
VOLUMETRIC FLOWRATE	acfm	102132	103602	101267	102334
VOLUMETRIC FLOWRATE	dscfm	60530	59854	59181	59855
VELOCITY	ft./sec.	47.9	48.6	47.5	48.0
STACK TEMPERATURE	°F	265	259	263	262
MOISTURE	%	16.8	19.5	18.2	18.2
SAMPLE RATE	% isokinetic	106	108	106	107

1.1.1.2 No. 2 RTO (South)

REPLACE
J/PAGE 1
No. 1 RTO

PM/NOx/CO Emissions Test - June 20, 1995

Run No.		1	2	3	AVG.
Date		6/20/95	5/12/95	5/12/95	---
Time Start		1055	1245	1440	---
Time End		1156	1346	1542	---
PARTICULATE EMISSIONS	#/hr	3.41	3.92	5.13	4.15
PARTICULATE EMISSIONS	gr/dscf	0.007	0.008	0.010	0.008
CO EMISSIONS	#/hr	4.97	3.67	3.42	4.02
CO EMISSIONS	ppm	19	14	13	15
NOx EMISSIONS	#/hr	14.73	10.86	10.69	12.09
NOx EMISSIONS	ppm	34	25	25	28
VOLUMETRIC FLOWRATE	acfm	102073	102334	102231	102213
VOLUMETRIC FLOWRATE	dscfm	60335	60606	59874	60272
VELOCITY	ft./sec.	47.8	48.0	47.9	47.9
STACK TEMPERATURE	°F	257	258	257	257
MOISTURE	%	17.7	17.5	18.5	17.9
SAMPLE RATE	% isokinetic	108	103	106	106

VOC/HCOH Emissions Test - June 21, 1995

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	---
Time Start		0905	1058	1355	---
Time End		1007	1200	1456	---
FORMALDEHYDE EMISSIONS	#/hr	0.112	0.088	0.088	0.096
FORMALDEHYDE EMISSIONS	ppm	0.38	0.29	0.31	0.33
VOC EMISSIONS	#/hr	1.45	1.82	1.78	1.69
VOC EMISSIONS	ppm as C	12.2	15.2	15.7	14.4
VOLUMETRIC FLOWRATE	acfm	106182	107841	103835	105953
VOLUMETRIC FLOWRATE	dscfm	63387	64169	60873	62810
VELOCITY	ft./sec.	49.8	50.5	48.7	49.7
STACK TEMPERATURE	°F	260	260	264	261
MOISTURE	%	16.7	17.0	17.7	17.2
SAMPLE RATE	% isokinetic	105	104	107	105

1.1.1.2 No. 2 RTO (South)

PM/NOx/CO Emissions Test - June 20, 1995

Run No.		1	2	3	AVG.
Date		6/20/95	5/12/95	5/12/95	—
Time Start		1055	1245	1440	—
Time End		1156	1346	1542	—
PARTICULATE EMISSIONS	#/hr	3.41	3.92	5.13	4.15
PARTICULATE EMISSIONS	gr/dscf	0.007	0.008	0.010	0.008
CO EMISSIONS	#/hr	4.97	3.67	3.42	4.02
CO EMISSIONS	ppm	19	14	13	15
NOx EMISSIONS	#/hr	14.73	10.86	10.69	12.09
NOx EMISSIONS	ppm	34	25	25	28
VOLUMETRIC FLOWRATE	acfm	102073	102334	102231	102213
VOLUMETRIC FLOWRATE	dscfm	60335	60606	59874	60272
VELOCITY	ft./sec.	47.8	48.0	47.9	47.9
STACK TEMPERATURE	°F	257	258	257	257
MOISTURE	%	17.7	17.5	18.5	17.9
SAMPLE RATE	% isokinetic	108	103	106	106

VOC/HCOH Emissions Test - June 21, 1995

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	—
Time Start		0905	1058	1355	—
Time End		1007	1200	1456	—
FORMALDEHYDE EMISSIONS	#/hr	0.112	0.088	0.088	0.096
FORMALDEHYDE EMISSIONS	ppm	0.38	0.29	0.31	0.33
VOC EMISSIONS	#/hr	1.45	1.82	1.78	1.69
VOC EMISSIONS	ppm as C	12.2	15.2	15.7	14.4
VOLUMETRIC FLOWRATE	acfm	106182	107841	103835	105953
VOLUMETRIC FLOWRATE	dscfm	63387	64169	60873	62810
VELOCITY	ft./sec.	49.8	50.5	48.7	49.7
STACK TEMPERATURE	°F	260	260	264	261
MOISTURE	%	16.7	17.0	17.7	17.2
SAMPLE RATE	% isokinetic	105	104	107	105

1.1.2 Dryer Outlets (RTO Inlets)

1.1.2.1 No. 2 Dryer

NOx/CO Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/20/95	6/20/95	6/20/95	—
Time Start		1055	1245	1440	—
Time End		1215	1305	1500	—
CO EMISSIONS	#/hr	3.36 /	/ 3.15	/ 4.61	/ 3.71
CO EMISSIONS	ppm	23	23	33	26
NOx EMISSIONS	#/hr	/ 4.75	/ 4.08	/ 4.02	/ 4.28
NOx EMISSIONS	ppm	20	18	17	18
VOLUMETRIC FLOWRATE	acfm	47398	47711	47618	47576
VOLUMETRIC FLOWRATE	dscfm	33795 /	/ 31774	/ 32217	32595
VELOCITY	ft./sec.	84.1	84.7	84.5	84.4
STACK TEMPERATURE	°F	179	179	176	178
MOISTURE	%	11.0	17.0	16.0	14.7

VOC Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		4	6	7	AVG.
Date		6/21/95	6/21/95	6/21/95	—
Time Start		0905	1357	0522	—
Time End		1005	1459	1622	—
VOC EMISSIONS	#/hr	/ 136.03	/ 66.23	/ 124.75	109.00
VOC EMISSIONS	ppm as C	2077.0	1011.0	1905.0	1664.3
VOLUMETRIC FLOWRATE	acfm	49716	50346	50353	50138
VOLUMETRIC FLOWRATE	dscfm	35033 /	33358 /	/ 33344	/ 33912
VELOCITY	ft./sec.	88.2	89.3	89.3	89.0
STACK TEMPERATURE	°F	172	172	174	173
MOISTURE	%	13.1	18.2	18.0	16.4

1.1.2.2 Dryer No. 3

NOx/CO Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/20/95	6/20/95	6/20/95	—
Time Start		1132	1317	0513	—
Time End		1152	1337	0533	—
CO EMISSIONS	#/hr	15.38	19.77	14.42	16.52
CO EMISSIONS	ppm	109	139	107	118
NOx EMISSIONS	#/hr	4.70	4.75	5.34	4.93
NOx EMISSIONS	ppm	20	20	24	22
VOLUMETRIC FLOWRATE	acfm	45793	47049	47321	46721
VOLUMETRIC FLOWRATE	dscfm	32496	32630	30783	31970
VELOCITY	ft./sec.	81.3	83.5	84.0	82.9
STACK TEMPERATURE	°F	179	178	178	178
MOISTURE	%	11.4	13.7	19.0	14.7

VOC Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	—
Time Start		0905	1055	1357	—
Time End		1005	1155	1459	—
VOC EMISSIONS	#/hr	49.44	70.15	78.65	66.08
VOC EMISSIONS	ppm as C	864.0	1226.0	1375.0	1155.0
VOLUMETRIC FLOWRATE	acfm	46445	47251	47093	46930
VOLUMETRIC FLOWRATE	dscfm	30602 /	30603 /	30906	30704
VELOCITY	ft./sec.	82.4	83.8	83.6	83.3
STACK TEMPERATURE	°F	170	172	173	172
MOISTURE	%	19.1	20.2	19.0	19.4

1.1.2.3 Dryer No. 4

NOx/CO Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/20/95	6/20/95	6/20/95	---
Time Start		1055	1245	1440	---
Time End		1115	1305	0500	---
CO EMISSIONS	#/hr	/ 9.48	/ 6.03	8.39	/ 7.97
CO EMISSIONS	ppm	72	46	66	61
NOx EMISSIONS	#/hr	/ 3.97	/ 3.37	/ 3.76	/ 3.70
NOx EMISSIONS	ppm	18	16	18	17
VOLUMETRIC FLOWRATE	acfm	43255	42838	44184	43426
VOLUMETRIC FLOWRATE	dscfm	/30324	/29846	/29277	/ 29816
VELOCITY	ft./sec.	76.8	76.0	78.4	77.1
STACK TEMPERATURE	°F	178	178	178	178
MOISTURE	%	12.7	13.1	17.6	14.5

VOC Emissions (RTO inlet loading) Test - June 21, 1995 (Armstrong Environmental)

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	---
Time Start		0905	1055	1357	---
Time End		1005	1155	1459	---
VOC EMISSIONS	#/hr	/ 50.50	/ 52.93	/ 98.83	67.42
VOC EMISSIONS	ppm as C	860.0	902.0	1683.0	1148.3
VOLUMETRIC FLOWRATE	acfm	46353	46638	46940	46644
VOLUMETRIC FLOWRATE	dscfm	31411 /	31430 /	/ 31777	/ 31539
VELOCITY	ft./sec.	82.2	82.8	83.3	82.7
STACK TEMPERATURE	°F	172	171	171	171
MOISTURE	%	16.5	17.1	16.6	16.7

1.1.2.4 Dryer No. 5

NOx/CO Emissions (RTO inlet loading) Test - June 20, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/20/95	6/20/95	6/20/95	---
Time Start		1132	1317	1513	---
Time End		1152	1337	1333	---
CO EMISSIONS	#/hr	11.41	14.99	7.49	11.30
CO EMISSIONS	ppm	85	110	55	83
NOx EMISSIONS	#/hr	6.83	4.17	5.64	5.55
NOx EMISSIONS	ppm	31	19	25	25
VOLUMETRIC FLOWRATE	acfm	44066	47802	46326	46065
VOLUMETRIC FLOWRATE	dscfm	30664	31328	31405	31132
VELOCITY	ft./sec.	78.2	84.8	82.2	81.7
STACK TEMPERATURE	°F	179	177	177	178
MOISTURE	%	13.2	18.6	15.8	15.8

VOC Emissions (RTO inlet loading) Test - June 21, 1995

Run No.		4	5	6	AVG.
Date		6/21/95	6/21/95	6/21/95	---
Time Start		0905	1055	1357	---
Time End		1005	1155	1459	---
VOC EMISSIONS	#/hr	61.93	152.84	75.10	96.62
VOC EMISSIONS	ppm as C	1103.0	2722.0	1338.0	1721.0
VOLUMETRIC FLOWRATE	acfm	44560	44684	45207	44817
VOLUMETRIC FLOWRATE	dscfm	30037	31690	27839	29855
VELOCITY	ft./sec.	79.1	79.3	80.2	79.5
STACK TEMPERATURE	°F	170	173	176	173
MOISTURE	%	17.2	12.6	23.7	17.8

1.2 OSB PRESS RTO

1.2.1 Press Vents RTO Outlet

PM/NO_x/CO Emissions Test - June 22, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/22/95	6/22/95	6/22/95	—
Time Start		1023	1254	1420	—
Time End		1133	1356	1522	—
PARTICULATE EMISSIONS	#/hr	3.47	2.77	2.83	3.02
PARTICULATE EMISSIONS	gr/dscf	0.0035	0.0029	0.0030	0.0031
CO EMISSIONS	#/hr	4.23	3.97	2.88	3.69
CO EMISSIONS	ppm	8	8	6	7
NO _x EMISSIONS	#/hr	8.50	9.49	9.83	9.27
NO _x EMISSIONS	ppm	10	12	12	11
VOLUMETRIC FLOWRATE	acfm	157336	155738	153336	155470
VOLUMETRIC FLOWRATE	dscfm	114240	112955	110936	112710
VELOCITY	ft./sec.	66.5	65.9	64.9	65.8
STACK TEMPERATURE	°F	226	230	233	230
MOISTURE	%	3.8	3.7	3.4	3.6
SAMPLE RATE	% isokinetic	97	97	100	98

VOC/HCHO Emissions Test - June 22 and 23, 1995 (Armstrong Environmental)

Run No.		4	5	6	AVG.
Date		6/22/95	6/23/95	6/23/95	—
Time Start		1634	0855	1033	—
Time End		1757	0957	1135	—
FORMALDEHYDE EMISSIONS	#/hr	0.054	0.029	0.028	0.037
FORMALDEHYDE EMISSIONS	ppm	0.10	0.05	0.05	0.07
VOC EMISSIONS	#/hr	2.07	1.52	1.80	1.80
VOC EMISSIONS	ppm as C	9.2	6.8	8.0	8.0
VOLUMETRIC FLOWRATE	acfm	164128	165299	165181	164869
VOLUMETRIC FLOWRATE	dscfm	119993	119384	120260	119879
VELOCITY	ft./sec.	69.4	69.9	69.9	69.7
STACK TEMPERATURE	°F	234	234	235	234
MOISTURE	%	2.4	2.6	2.6	2.5
SAMPLE RATE	% isokinetic	102	109	108	106

1.2.2 Press Vent RTO Inlets

1.2.2.1 Press RTO Inlet No. 1

NOx/CO Emissions (RTO inlet loading) Test - June 22, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/22/95	6/22/95	6/22/95	—
Time Start		1025	1215	0403	—
Time End		1155	1235	1423	—
CO EMISSIONS	#/hr	/ 2.70	/ 1.41	/ 1.34	1.82
CO EMISSIONS	ppm	11	6	5	7
NOx EMISSIONS	#/hr	/ 0.89	/ 0.96	/ 1.59	/ 1.15
NOx EMISSIONS	ppm	2	2	4	3
VOLUMETRIC FLOWRATE	acfm	66994	67578	69836	68136
VOLUMETRIC FLOWRATE	dscfm	58935 /	58263 /	60113	59104
VELOCITY	ft./sec.	66.5	67.0	69.3	67.6
STACK TEMPERATURE	°F	102	111	110	108
MOISTURE	%	3.1	3.7	4.0	3.6

VOC Emissions Test - June 22 and 23, 1995 (Armstrong Environmental)

Run No.		4	6	7	AVG.
Date		6/22/95	6/23/95	6/23/95	—
Time Start		1634	0855	1033	—
Time End		1736	0959	1138	—
VOC EMISSIONS	#/hr	33.89	26.12	36.01	32.01
VOC EMISSIONS	ppm as C	317.0	244.0	337.0	299.3
VOLUMETRIC FLOWRATE	acfm	65595	66717	65671	65994
VOLUMETRIC FLOWRATE	dscfm	57232 /	58880	58468 /	58193
VELOCITY	ft./sec.	65.1	66.2	65.2	65.5
STACK TEMPERATURE	°F	110	109	100	106
MOISTURE	%	3.2	2.3	3.0	2.9

1.2.2.2 Press Vent Inlet No. 2

NOx/CO Emissions (RTO inlet loading) Test - June 22, 1995 (Armstrong Environmental)

Run No.		1	2	3	AVG.
Date		6/22/95	6/22/95	6/22/95	—
Time Start		1025	1215	0403	—
Time End		1155	1235	1423	—
CO EMISSIONS	#/hr	1.54	1.27	1.51	1.44
CO EMISSIONS	ppm	6	5	6	6
NOx EMISSIONS	#/hr	1.01	0.64	1.20	0.95
NOx EMISSIONS	ppm	3	2	3	2
VOLUMETRIC FLOWRATE	acfm	63579	62703	63639	63307
VOLUMETRIC FLOWRATE	dscfm	56612	55553	55749	55971
VELOCITY	ft./sec.	63.1	62.2	63.1	62.8
STACK TEMPERATURE	°F	99	103	108	103
MOISTURE	%	2.8	2.7	2.9	2.8

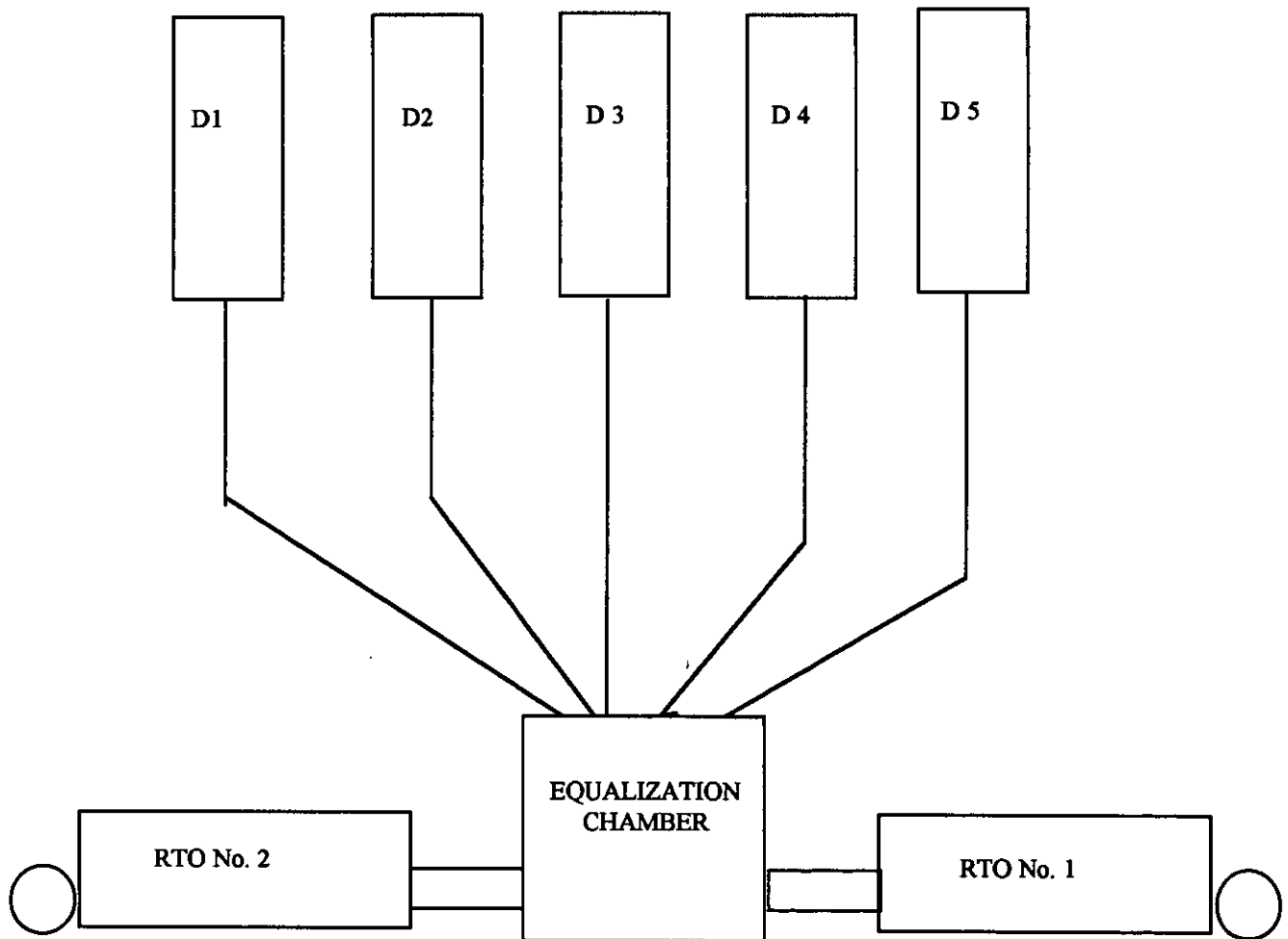
VOC Emissions Test - June 22 and 23, 1995 (Armstrong Environmental)

Run No.		4	5	6	AVG.
Date		6/22/95	6/23/95	6/23/95	—
Time Start		1634	0855	1033	—
Time End		1736	0959	1135	—
VOC EMISSIONS	#/hr	22.66	13.32	15.77	17.25
VOC EMISSIONS	ppm as C	221.0	130.0	154.0	168.3
VOLUMETRIC FLOWRATE	acfm	62610	60497	62676	61928
VOLUMETRIC FLOWRATE	dscfm	54962	52543	54857	54121
VELOCITY	ft./sec.	62.1	60.0	62.2	61.4
STACK TEMPERATURE	°F	110	106	110	109
MOISTURE	%	2.8	3.5	3.1	3.1

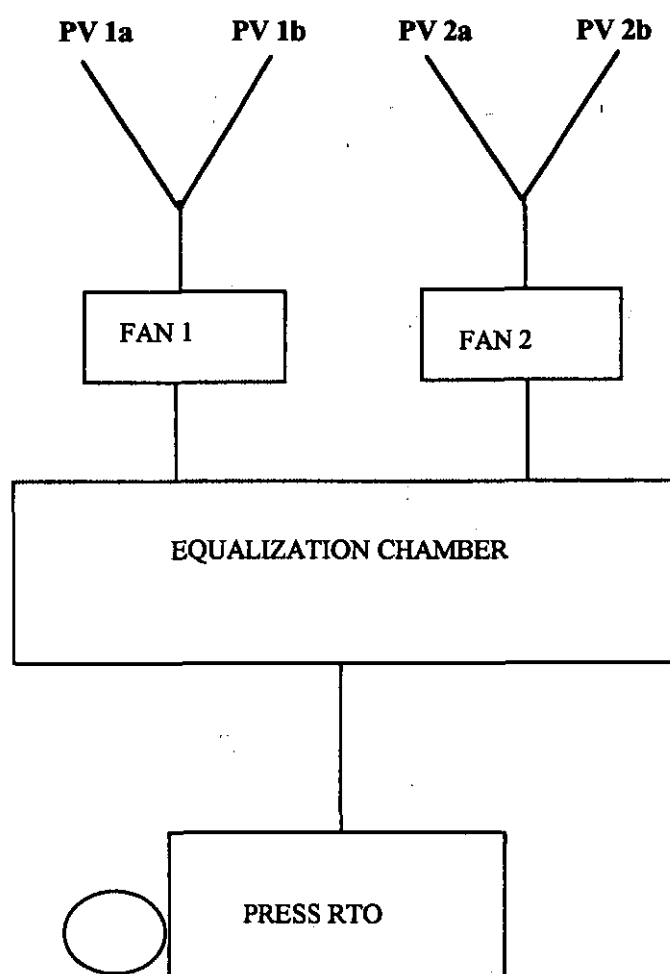
2.0 SOURCE DESCRIPTION: Louisiana Pacific Corporation operates an Oriented Strand Board (OSB) plant in Jackson County near Athens, Georgia. Two emissions producing processes associated with the manufacture of OSB are the drying of wood flakes and ventilation of the press. Process description here is limited to a brief description of the emissions sources and their sampling locations. Detailed descriptions of the processes, the pollution control equipment, and records of operating rates and conditions may be supplied by Louisiana Pacific Corporation. Armstrong Environmental performed testing at the Dryers RTO inlet for both inlets and the outlet at the press vent RTO. Descriptions of those sampling sites may be reviewed in the copy of that report which is provided in Appendix E of this report.

2.1 Five rotary dryers are used for drying wood flakes. Each dryer exhausts to a primary cyclone, then to high efficiency multicyclones. Exhausts from all five dryer multiclones are directed to a concrete mixing chamber then to dual regenerative thermal oxidizers (RTO). The RTO's are two mirrored sections referred to as the No. 1 RTO and No. 2 RTO. RTO inlet sampling was done at the inlets to the Mixing chamber. Each of the two RTOs exhaust to the atmosphere by way of a vertical 80.75 inch diameter stack. Two sample ports are provided at a location that is 3.4 diameters downstream of the inlet duct and 12.1 diameters below the stack exit. Sketches of the stacks and sampling locations are provided in Appendix A. Process schematics are provided on the following two pages for the dryers and press vent.

ATHENS DRYER SCHEMATIC



ATHENS PRESS SCHEMATIC



3.0 TEST PROCEDURES:

Test procedures used are those described in 40 CFR, Part 60, Appendix A and in Part 266, Appendix IX.

Particulate sampling was done as described in Method 5. An exception was the inclusion of the condenser section particulate as described in Method 202. Reported particulate is based on three fractions: the front half, the back half organic (methylene chloride extraction), and the back half aqueous. The contribution of each fraction can be reviewed in Section 4.0.

Carbon monoxide concentrations were continuously monitored as described in Method 10. A Beckman Model 864 NDIR with a 0 to 1000 ppm range was used for inlet locations. Outlet concentrations were monitored using a TECO Model 48H gas correlation filter NDIR in various ranges. The exhausts of the CO instruments were captured in Tedlar bags in order to obtain an integrated gas sample. Oxygen content of the bag samples was measured using a calibrated Servomex paramagnetic oxygen analyzer. Carbon dioxide was measured using an Orsat analyzer. Instrument calibration was performed prior to and following each series of tests, and a mid range system bias check was made prior to and following each run by directing calibration to the gas sampling probe.

Nitrogen oxides were continuously monitored as described in Method 7E. Two TECO Model 10S analyzers were used. Instrument calibration was performed prior to and following each series of tests, and a mid range system bias check was made prior to and following each run by directing calibration to the gas sampling probe.

VOC concentrations were measured using Method 25A (continuous monitoring with a flame ionization detector). A TECO Model 51 was used at the outlet locations and a Ratfisch Model 55CA was used at the outlet locations. Both FIDs are equipped with multiple scales. The 0 to 100 ppm scale and the 0 to 1000 ppm scale were used for calibrations using zero air, and appropriate low, mid and high range concentrations of EPA protocol propane in nitrogen. Since calibrations are made with propane (C_3H_8), results as methane (CH_4) (or as carbon) are determined by increasing the measured concentration by a factor of three. A continuous trace of VOC as propane was recorded and manually integrated for each 60 minute test period. Instrument calibration was performed initially, and following each 60 minute test period. Any necessary adjustments were made after recording the response of the mid range calibration gas, which was introduced at the inlet to the VOC sampling probe. The gas samples were directed to the heated FID analyzers by way of heated teflon sample lines maintained at a minimum temperature of 275°F.

Instrument calibrations were made with Protocol 1 cylinder gas and with the aid of an Environics Model 2020 gas diluter. (Carbon monoxide cylinder gas was certified rather than Protocol 1). All calibrations were made by introducing calibration gas at the probe inlet.

Formaldehyde was measured using the procedure described in CFR 40, Part 266, Appendix IX, Method 0011. Reagent preparation and sample analysis was performed by Oxford Laboratories of Wilmington, North Carolina.

Inlet sampling was done simultaneously with outlet sampling in order to determine removal efficiency or additional pollutant contribution. For the dryers, this required the operation of four sample trains simultaneously at relatively far removed locations. Armstrong Engineering of Dallas, Texas, performed the inlet sampling at the dryer outlets and the Press Vent RTO inlet. A copy of Armstrong Environmental's report is provided in Appendix E of this report.

4.0 DATA REDUCTION

Louisiana Pacific Corporation - Athens, Georgia
 No. 1 RTO (North)
 PM/NOx/CO Emissions Test - June 20, 1995

Collected Test Data:

RUN 1 RUN 2 RUN 3

Date	:	6/20/95	5/12/95	5/12/95
Time start	:	1055	1246	1440
Time end	:	1156	1347	1541
1. As	: sq ft	35.5642	35.5642	35.5642
2. Dn	: in.	0.270	0.270	0.270
3. Cp	: dimensionless	0.84	0.84	0.84
4. Theta	: minutes	60.00	60.00	60.00
5. Y	: dimensionless	1.00	1.00	1.00
6. Pbar	: in. Hg	29.23	29.23	29.23
7. Pg	: in. H2O	-0.39	-0.39	-0.39
8. Vm	: cf (dry gas)	44.381	43.803	43.484
9. $\text{sqr}(\text{DP})_{\text{avg}}$	: $\text{in. H}_2\text{O}^{.5}$	0.6808	0.6632	0.6631
10. DH	: in. H2O	1.6479	1.5758	1.5667
11. ts	: degrees F	254.13	256.54	257.04
12. tm	: degrees F	95.21	101.65	101.75
13. Vlc	: ml	191	204	210.5
14. CO2	: percent	3.50	2.50	2.50
15. O2	: percent	17.50	18.50	19.50
16. CO	: percent	0.00	0.00	0.00
17. CO	: ppm	8.7	6.3	5.1
18. M,PM	: milligrams			
	front half	22	16	16.4
	back half organic	0.1	0.8	1.5
	back half aqueous	1	0.6	0.7
19. NOx	: ppm	35.8	29.0	26.0

255.90

6.7

30

Louisiana Pacific Corporation - Athens, Georgia
 No. 1 RTO (North)
 PM/NOx/CO Emissions Test - June 20, 1995

Calculations:

		RUN 1	RUN 2	RUN 3	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.3512	29.3459	29.3452	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.2013	29.2013	29.2013	
3. An	: sq ft ((Dn/24)^2)(3.1416)	3.98E-04	3.98E-04	3.98E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	41.404	40.388	40.086	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	8.990	9.602	9.908	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1784	0.1921	0.1982	0.1896
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.26	29.14	29.18	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.25	27.00	26.96	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	46.31	45.40	45.44	45.72
10. Q	: cfm Vs As(60 sec/min)	98826	96882	96965	97558
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	71313	69675	69686	70225
12. Qstd	: dscfm Qstw(1-Bws)	58591	56292	55875	56919
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	105.36	106.97	106.96	106.43

Particulate Emissions

14. E,PM	: pounds/hr (M,PM/Vmstd)(Qstd)(60)/(453590)				
front half		4.118	2.950	3.024	3.364
back half organic		0.019	0.147	0.277	0.148
back half aqueous		0.187	0.111	0.129	0.142
Total		4.324	3.208	3.429	3.654
15. C,PM	: grains/dscf (M,PM/Vmstd)(.0154 grains/mg)				
front half		0.0082	0.0061	0.0063	0.0069
back half organic		0.0000	0.0003	0.0006	0.0003
back half aqueous		0.0004	0.0002	0.0003	0.0003
Total		0.0086	0.0066	0.0071	0.0075

CO Emissions

16. E,CO	: pounds/hr (C,CO)(7.27e-8)(Qstd)(60)	2.22	1.55	1.24	1.67
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NOx Emissions

17. E,NOx	: pounds/hr C,NOx(1.19e-7)(Qstd)(60)	14.98	11.66	10.37	12.33
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Louisiana Pacific Corporation - Athens, Georgia
 No. 1 RTO (North)
 VOC/HCOH Emissions Test - June 21, 1995

Collected Test Data:

RUN 4

RUN 5

RUN 6

Date :	6/21/95	6/21/95	6/21/95
Time start :	0905	1058	1355
Time end :	1006	1159	1456
1. As : sq ft	35.5642	35.5642	35.5642
2. Dn : in.	0.265	0.265	0.265
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.00	1.00	1.00
6. Pbar : in. Hg	29.28	29.28	29.28
7. Pg : in. H2O	-0.39	-0.39	-0.39
8. Vm : cf (dry gas)	44.119	44.569	43.776
9. $\text{sqrt}(\text{DP})_{\text{avg}}$: in.H2O ^{.5}	0.6997	0.7071	0.6934
10. DH : in. H2O	1.6104	1.6583	1.5996
11. ts : degrees F	264.63	258.92	262.58
12. tm : degrees F	91.77	94.88	101.83
13. Vlc : ml	178	215	191
14. CO2 : percent	3.00	2.00	3.50
15. O2 : percent	17.50	18.00	17.00
16. CO : percent	0	0	0
17. M,HCOH : micrograms	1098	548	491
18. C,VOC : ppm as CH ₄	3.6	2.8	2.9

262.04

Louisiana Pacific Corporation - Athens, Georgia
 No. 1 RTO (North)
 VOC/HCOH Emissions Test - June 21, 1995

Calculations:

		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.3984	29.4019	29.3976	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.2513	29.2513	29.2513	
3. An	: sq ft ((Dn/24) ²)(3.1416)	3.83E-04	3.83E-04	3.83E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	41.482	41.676	40.422	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	8.378	10.120	8.990	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1680	0.1954	0.1819	0.1818
7. Md	: mol.wt. dry basis .44 CO ₂ +.32 O ₂ +.28(CO+N ₂)	29.18	29.04	29.24	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.30	26.88	27.19	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	47.86	48.55	47.46	47.96
10. Q	: cfm Vs As(60 sec/min)	102132	103602	101267	102334
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	72755	74388	72344	73162
12. Qstd	: dscfm Qstw(1-Bws)	60530	59854	59181	59855
13. I	: percent [(100 Ts)(.002689 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)]	106.07	107.77	105.71	106.52

Formaldehyde Emissions

14. E,HCOH	: pounds/hr (M,HCOH/Vmstd)(Qstd)(60)/(453590000)	0.212	0.104	0.095	0.137
15. C,HCOH	: ppm (M,HCOH/Vmstd)(.0283)	0.75	0.37	0.34	0.49

VOC Emissions

16. C,VOC	: ppm as Carbon, dry ((C,VOC)*3)/(1-Bws)	12.98	10.44	10.64	11.35
17. E,VOC	: pounds/hr (C,VOC)(3.116e-8)(Qstd)(60)	1.47	1.17	1.18	1.27

Louisiana Pacific Corporation - Athens, Georgia
 No. 2 RTO (South)
 PM/NOx/CO Emissions Test - June 20, 1995

Collected Test Data:

	RUN 1	RUN 2	RUN 3
Date :	6/20/95	5/12/95	5/12/95
Time start :	1055	1245	1440
Time end :	1156	1346	1542
1. As : sq ft	35.5642	35.5642	35.5642
2. Dn : in.	0.270	0.270	0.270
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.00	1.00	1.00
6. Pbar : in. Hg	29.23	29.23	29.23
7. Pg : in. H2O	-0.45	-0.45	-0.45
8. Vm : cf (dry gas)	46.777	46.218	46.303
9. $\text{sq}(\text{DP})_{\text{avg}}$: in.H2O ^{.5}	0.7000	0.7026	0.7009
10. DH : in. H2O	1.8688	1.8625	1.8679
11. ts : degrees F	257.46	257.63	257.29
12. tm : degrees F	93.48	111.58	103.21
13. Vlc : ml	200	189	205
14. CO2 : percent	2.50	3.00	3.00
15. O2 : percent	17.50	17.00	17.50
16. CO : percent	0.00	0.00	0.00
17. CO : ppm	18.9	13.9	13.1
18. M,PM : milligrams			
front half	14.1	14.4	16.8
back half organic	3	3.8	3.3
back half aqueous	1.6	2.3	7.5
19. NOx : ppm	34.2	25.1	25.0

257.46

15.3

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Louisiana Pacific Corporation - Athens, Georgia
 No. 2 RTO (South)
 PM/NOx/CO Emissions Test - June 20, 1995

Calculations:

		RUN 1	RUN 2	RUN 3	AVG.
1. Pm	: in. Hg (DH/13.6)+Pbar	29.3674	29.3669	29.3673	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.1969	29.1969	29.1969	
3. An	: sq ft ((Dn/24) ²)(3.1416)	3.98E-04	3.98E-04	3.98E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	43.799	41.905	42.606	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	9.414	8.896	9.649	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1769	0.1751	0.1847	0.1789
7. Md	: mol.wt. dry basis .44 CO ₂ + .32 O ₂ + .28(CO+N ₂)	29.1	29.16	29.18	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.14	27.21	27.12	
9. Vs	: ft/sec Kp Cp (sqrDP)sqr(Ts/(Ps Ms))	47.84	47.96	47.91	47.90
10. Q	: cfm Vs As(60 sec/min)	102073	102334	102231	102213
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	73303	73473	73434	73403
12. Qstd	: dscfm Qstw(1-Bws)	60335	60606	59874	60272
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	108.23	103.09	106.09	105.80

Particulate Emissions

14. E,PM	: pounds/hr (M,PM/Vmstd)(Qstd)(60)/(453590)				
front half		2.569	2.755	3.123	2.816
back half organic		0.547	0.727	0.613	0.629
back half aqueous		0.292	0.440	1.394	0.709
Total		3.407	3.922	5.131	4.153
15. C,PM	: grains/dscf (M,PM/Vmstd)(.0154 grains/mg)				
front half		0.0050	0.0053	0.0061	0.0054
back half organic		0.0011	0.0014	0.0012	0.0012
back half aqueous		0.0006	0.0008	0.0027	0.0014
Total		0.0066	0.0075	0.0100	0.0080

CO Emissions

16. E,CO	: pounds/hr (C,CO)(7.27e-8)(Qstd)(60)	4.97	3.67	3.42	4.02
----------	--	------	------	------	------

NOx Emissions

17. E,NOx	: pounds/hr C,NOx(1.19e-7)(Qstd)(60)	14.73	10.86	10.69	12.09
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Louisiana Pacific Corporation - Athens, Georgia
 No. 2 RTO (South)
 VOC/HCOH Emissions Test - June 21, 1995

Collected Test Data:

RUN 4

RUN 5

RUN 6

Date :	6/21/95	6/21/95	6/21/95
Time start :	0905	1058	1355
Time end :	1007	1200	1456
1. As : sq ft	35.5642	35.5642	35.5642
2. Dn : in.	0.265	0.265	0.265
3. Cp : dimensionless	0.84	0.84	0.84
4. Theta : minutes	60.00	60.00	60.00
5. Y : dimensionless	1.00	1.00	1.00
6. Pbar : in. Hg	29.28	29.28	29.28
7. Pg : in. H2O	-0.45	-0.45	-0.45
8. Vm : cf (dry gas)	45.266	46.615	45.553
9. $\text{sqrt}(\text{DP})_{\text{avg}}$: in.H2O ^{.5}	0.7298	0.7394	0.7108
10. DH : in. H2O	1.8688	1.9042	1.8167
11. ts : degrees F	260.13	259.58	264.21
12. tm : degrees F	88.67	101.75	101.27
13. Vlc : ml	182.5	188	193
14. CO2 : percent	3.00	2.00	3.50
15. O2 : percent	17.50	18.00	17.00
16. CO : percent	0	0	0
17. M,HCOH : micrograms	572	448	463
18. C,VOC : ppm as CH ₄	3.4	4.2	4.3

261.31

Louisiana Pacific Corporation - Athens, Georgia
 No. 2 RTO (South)
 VOC/HCOH Emissions Test - June 21, 1995

Calculations:

		RUN 4	RUN 5	RUN 6	AVG.
1. Pm	: in.Hg (DH/13.6)+Pbar	29.4174	29.4200	29.4136	
2. Ps	: in. Hg (Pg/13.6)+Pbar	29.2469	29.2469	29.2469	
3. An	: sq ft ((Dn/24)^2)(3.1416)	3.83E-04	3.83E-04	3.83E-04	
4. Vmstd	: dscf Vm Y(Pm/Pstd)(Tstd/Tm)	42.829	43.082	42.127	
5. Vwstd	: scf (.04707cf/ml)(Vlc)	8.590	8.849	9.085	
6. Bws	: dimensionless Vwstd/(Vwstd+Vmstd)	0.1671	0.1704	0.1774	0.1716
7. Md	: mol.wt. dry basis .44 CO2+.32 O2+.28(CO+N2)	29.18	29.04	29.24	
8. Ms	: mol.wt. wet basis Md(1-Bws)+18 Bws	27.31	27.16	27.25	
9. Vs	: ft/sec Kp Cp (sq rDP)sqr(Ts/(Ps Ms))	49.76	50.54	48.66	49.65
10. Q	: cfm Vs As(60 sec/min)	106182	107841	103835	105953
11. Qstw	: scfm Q(Ps/Pstd)(Tstd/Ts)	76101	77349	74000	75817
12. Qstd	: dscfm Qstw(1-Bws)	63387	64169	60873	62810
13. I	: percent [(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)	104.57	103.91	107.11	105.20

Formaldehyde Emissions

14. E,HCOH	: pounds/hr (M,HCOH/Vmstd)(Qstd)(60)/(453590000)	0.112	0.088	0.088	0.096
15. C,HCOH	: ppm (M,HCOH/Vmstd)(.0283)	0.38	0.29	0.31	0.33

VOC Emissions

16. C,VOC	: ppm as Carbon, dry ((C,VOC)*3)/(1-Bws)	12.25	15.19	15.68	14.37
17. E,VOC	: pounds/hr (C,VOC)(3.116e-8)(Qstd)(60)	1.45	1.82	1.78	1.69

5.0 NOMENCLATURE

SYMBOL	UNITS	DESCRIPTION
An	ft ²	Nozzle cross sectional area
As	ft ²	Stack cross sectional area
Bws	dimensionless	Wet gas fraction
CO ₂	percent	Carbon dioxide content by volume
CO	percent	Carbon monoxide content by volume
Cp	dimensionless	Pitot correction factor
C,X	as labeled	Concentration of pollutant X
DGF	dimensionless	Dry gas fraction
Dn	inches	Nozzle diameter
ΔH (delta H)	in. H ₂ O	Pressure drop across meter orifice
ΔP (delta P)	in. H ₂ O	Stack gas velocity pressure
E,X	#/hr	Emission rate of pollutant X
E'X	#/MM Btu	Emission rate of pollutant X
F	dscf	Volume of flue gas per MM Btu
I	percent	Nozzle velocity/stack gas velocity
Kp	consistent	Pitot tube constant
M,X	milligrams	Sample weight of pollutant X
Md	## mole	Dry molecular weight of stack gas
Ms	## mole	Wet molecular weight of stack gas
N ₂	percent	Nitrogen content by volume, dry basis
O ₂	percent	Oxygen content by volume, dry basis
Pbar	in. Hg	Barometric pressure
Pg	in. Hg	Stack static pressure
Pm	in. Hg	Total pressure at meter (Pbar+(DH/13.6))
Ps	in. Hg	Total stack pressure (Pbar+(Pg/13.6))
Pstd	in. Hg	Standard barometric pressure = 29.92
Q	acfm	Volumetric flow rate at stack conditions
Qstd	dscfm	Volumetric flow rate at standard conditions, dry basis
Qstdw	scfm	Volumetric flow rate at standard conditions, wet basis
θ (theta)	minutes	Sample duration
tm	°F	Meter temperature (Tm denotes °R)
ts	°F	Stack temperature (Ts denotes °R)
Tstd	°R	Standard temperature = 528°R
Vlc	ml	volume of water collected
Vm	ft ³	Volume of dry gas sampled through meter
Vmstd	dscf	Sample volume at standard conditions
Vwstd	scf	Sample volume of water vapor
Y	dimensionless	Meter coefficient
Xsair	percent	Excess air

6.0 CALIBRATIONS:

Measurement devices used by Environmental Monitoring Laboratories and subject to changes in measurement precision are initially calibrated prior to use. Those instruments for which calibration factors are subject to change or for which calibration checks are required, are calibrated following each field use or as otherwise directed and noted. Calibration procedures for specific equipment are as follows.

Dry Gas Meter:

Dry gas meters are periodically removed from the sampling consoles and cleaned and repaired (new gaskets etc. as required). Following the overhaul of a meter, the measuring precision is checked by the Bell Prover Method and adjusted when necessary to read to within 2% of 100% accuracy. This service is provided by Big Three Meter Company in Jackson, Mississippi. Overhaul service or any six month period is followed by a five point calibration described in APTD-0576 using either a wet test meter or calibrated dry gas meter (used exclusively for calibrations) as a standard reference. Following field use, a gas meter calibration is checked in one of two ways. [1] Three calibration checks at intermediate orifice settings are performed or [2] orifice meter coefficients are used.

If a meter coefficient obtained from pre-test and post-test checks differs by more than 5%, the coefficient (Y) giving the lower sample volume is used in the calculations.

Orifice:

The orifice coefficient is initially determined and is rechecked following a major gas meter repair and calibration.

Nozzles:

Nozzles are checked before each field use with a precision (.001 in.) dial caliper. Three measurements on different axes are made; an average of those three readings is used in calculations. If the tolerance among measurements exceeds 0.004 inches (highest to lowest reading) the nozzle is repaired and recalibrated or discarded.

Pitot Tubes:

Pitot tubes meeting EPA geometry standards are assigned a coefficient of 0.84. Pitot tubes are visually inspected for damage before, during and after use. Those pitot tubes not meeting the geometry standards are assigned a coefficient from the manufacturer's calibration which it retains unless damaged. All pitot tubes used by Environmental Monitoring Laboratories are manufactured by NAPP, Inc.

Temperature Measuring Instruments:

Most temperature measurements are made with a type K thermocouple and an Omega digital thermocouple thermometer which has an initial calibration traceable to NBS. Other measurements are made using bimetallic dial thermometers. The thermocouples and dial thermometers are checked following or during a test series against an ASTM mercury in glass thermometer.

Barometer:

Aneroid field barometers are checked against and adjusted to readings from a mercury barometer or readings obtained from local weather authorities.

Differential Pressure Gauges:

Velocity head (ΔP) and orifice pressure differential (ΔH) measurements are made using water manometers of the appropriate range unless otherwise noted in the test data. Manometers do not require calibration.

7.0 APPENDICES

A. Field and Laboratory Data

B. Calibrations

C. Instrument Recorder Traces/Data Log

D. Armstrong Environmental Report

7.0 APPENDICES

APPENDIX A.

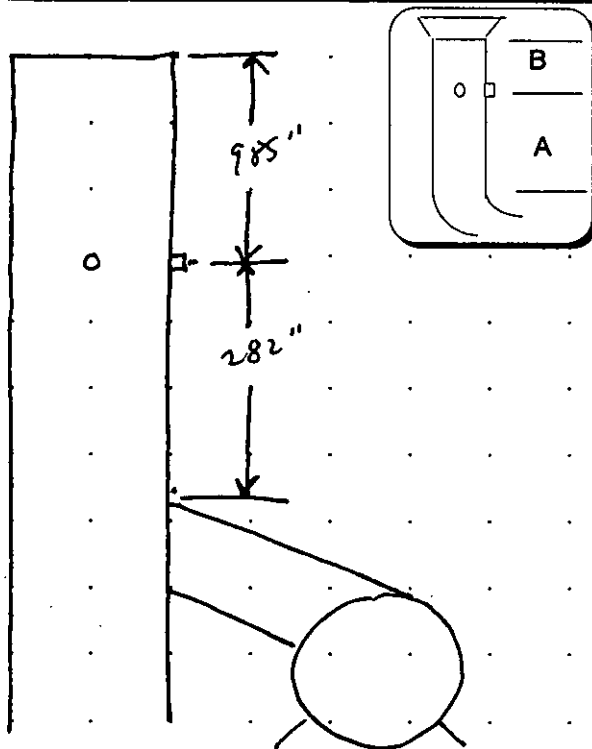
SAMPLING AND ANALYTICAL DATA

NO. 1 RTO

STACK CONFIGURATION AND SAMPLE POINT LAYOUT FOR CIRCULAR STACKS

PLANT: LOUISIANA PACIFIC OSB PLANT PATTENS GA. Date: 6-20-95
 SOURCE: No. 1 + No. 2 RTO
 TEST FOR: PM S. Disp
 TEST OPERATORS: Russell

SKETCH OF STACK



PERCENT OF DIAMETER

point no.	points on a diameter						
	2	4	6	8	10	12	14
1	14.6	6.7	4.4	3.2	2.6	2.1	1.8
2	85.4	25.0	14.6	10.5	8.2	6.7	5.7
3		75.0	29.6	19.4	14.6	11.8	9.9
4		93.3	70.4	32.3	22.6	17.7	14.6
5			85.4	67.7	34.2	25.0	20.1
6			95.6	80.6	65.8	35.6	26.9
7				89.5	77.4	64.4	36.6
8				96.8	85.4	75.0	63.4
9					91.8	82.3	73.1
10					97.4	88.2	79.9
11						93.3	85.4
12						97.9	90.1
13							94.3
14							98.2
15							95.1
16							98.4

STACK DIAMETER: 80.75"

Distance from ports to disturbance:

A. to upstream disturbance

282"

B. to downstream disturbance

985"

Upstream diameters:

3.4

Downstream diameters:

12.1

Minimum No. sample points required:

29

No. sample points selected:

12 x 2

Port Length:

4.50

Port Type:

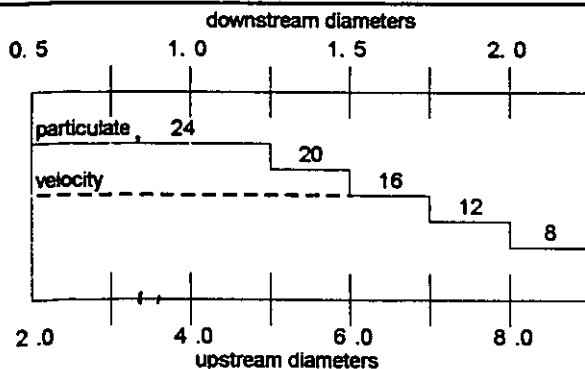
4" Nipple

Port Access:

MANHOLES

Point No.	Inches from wall	velocity head	
1	1.7	.40	.70
2	5.4	.42	.70
3	9.5	.41	.72
4	14.3	.38	.65
5	20.2	.35	.58
6	28.7	.33	.52
7	52.0	.25	.40
8	60.6	.22	.35
9	66.5	.20	.33
10	71.2	.19	.34
11	75.3	.18	.30
12	89.1	.17	.26

MINIMUM NO. OF POINTS ON A DIAMETER



Pitot ID : _____ Pitot Cp: _____ Stack Temp: 250

Remarks:

Plant LOUISIANA PACIFIC CO. ATHENS GA.Sampling Location RTO. NO. 1 (NORTH)Test For PM / CO / NOxTest Operators B. MASKNIGHT / G. MASKNIGHTRUN No. 1Date 6-20-95Time start 1055 end 1156

Meter Box ANDERSEN
 Sample Box NO. 4
 Probe/Pitot 74.55.
 Pitot Cp .84
 Nozzle Dia. .270
 Filter No. _____

No. Sample Pts. 12K2
 Minutes/Pt. 25
 NOMOGRAPH
 $\Delta H @$ 1.75
 Meter Temp. 100
 % H₂O 18
 C-Factor .80
 Stack Temp. 250
 Ref. ΔP .54

Gas Analysis FVRITE

CO₂ 3.5
 O₂ 17.5
 CO 8.7 ppm
 NOx 35.8 ppm

Condensate:

tare 200 fin 379

Silica gel:

tare 701.5 fin 713.5

Remarks:

0.2687
0.271 } 270 Dn
0.271

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	1	000	722.966	0.64	2.20	259	75 73	256	58 2
	2	230	724.9	0.60	2.10	260	77 73	240	58 2
	3	500	727.0	0.60	2.10	255	82 74	243	58 2
	4	730	729.0	0.58	2.00	262	86 75	251	58 2
	5	1000	731.0	0.58	2.00	254	89 77	254	57 2
	6	1230	733.0	0.52	1.80	265	93 79	255	57 2
	7	1500	735.0	0.40	1.40	253	75 81	266	57 2
	8	1730	736.7	0.30	1.05	263	95 83	260	57 2
	9	2000	738.2	0.28	0.95	250	96 85	239	57 2
	10	2230	739.7	0.24	0.82	262	97 87	242	57 2
	11	2500	740.9	0.25	0.86	246	97 89	262	57 2
	12	2730	742.4	0.27	0.92	253	99 91	251	57 2
2	1	3000	743.911	0.63	2.20	240	100 94	252	57 2
	2	230	745.9	0.66	2.30	255	105 95	249	57 2
	3	500	748.1	0.67	2.35	255	108 97	253	57 2
	4	730	750.5	0.65	2.25	258	110 99	254	57 2
	5	1000	752.6	0.62	2.15	256	111 100	245	56 2
	6	1230	754.7	0.56	1.95	263	111 101	250	56 2
	7	1500	756.8	0.46	1.60	256	112 103	260	56 2
	8	1730	758.6	0.40	1.40	267	111 104	254	56 2
	9	2000	760.4	0.40	1.40	253	110 104	253	56 2
	10	2230	762.2	0.37	1.25	266	110 105	249	56 2
	11	2500	763.8	0.36	1.25	232	110 106	252	56 2
	12	2730	765.6	0.37	1.25	216	110 106	247	56 2
END	W/10		767.341						

LEAK CHECK: 098 → .011 = .003 change 8" Hg

+ plot 6.8
 - plot 6.2

44.381

.6808

1.6479

254.13

95.21

Plant LOUISIANA - PACIFIC CORP. OSB ATHENS, GA.Sampling Location RTO NO. 1 (NORTH)Test For PM / CO / NO_xTest Operators B. McEWART / E. M. KNIGHTRUN No. 2Date 6-20-75Time start 1246 end 1347Meter Box ADDISONSample Box NO. 1Probe/Pitot 2A-55Pitot Cp .84Nozzle Dia. .270Filter No. Amb. Temp. °F 68Bar. Press. "Hg 29.23Static Press. "H₂O - .39No. Sample Pts. 12x2Minutes/Pt. 2.5

NOMOGRAPH

ΔH@ 1.75Meter Temp. 100% H₂O 18C-Factor .80Stack Temp. 250Ref. ΔP .54Gas Analysis FIRTECO₂ 2.5O₂ 18.5CO 6.3NO_x Time 29.0

Condensate:

tare 200 fin 380

Silica gel:

tare 690 fin 714Remarks:

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH, in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	000	767.632	0.60	2.10	255	87	89	250	58	2
2	020	769.6	0.65	2.20	258	89	89	251	58	2
3	040	771.8	0.65	2.20	256	93	89	241	58	2
4	060	774.0	0.60	2.10	261	96	89	253	58	2
5	080	776.0	0.55	1.90	261	99	90	251	58	2
6	100	778.0	0.52	1.80	261	101	91	250	58	2
7	120	780.0	0.35	1.20	260	102	92	245	58	2
8	140	781.7	0.30	1.05	258	102	93	259	58	2
9	160	783.2	0.24	0.82	263	102	93	250	58	2
10	180	784.5	0.23	0.80	256	102	94	260	58	2
11	200	785.8	0.18	0.61	256	102	97	256	58	2
12	220	787.0	0.20	0.69	240	103	98	257	58	2
21	3000	788.405	0.58	2.00	233	103	100	252	58	2
22	020	790.2	0.67	2.30	261	107	101	254	58	2
23	040	792.5	0.62	2.15	260	111	102	245	58	2
24	060	794.5	0.66	2.30	260	112	103	250	58	2
25	080	796.9	0.60	2.10	260	114	103	250	58	2
26	100	799.2	0.60	2.10	260	114	103	260	58	2
27	120	801.4	0.43	1.45	260	115	106	270	58	2
28	140	803.2	0.38	1.30	260	113	106	259	58	2
29	160	804.9	0.40	1.46	261	113	107	250	58	2
30	180	806.7	0.34	1.15	257	113	108	246	58	2
31	200	808.2	0.30	1.05	250	112	108	245	58	2
32	220	809.8	0.30	1.05	250	112	109	260	58	2
33	2400	811.435								

LEAK CHECK: 089 → 093 = 004 cfm @ 8" Hg

+ pilot 6.5
- pilot 6.5

43.803

.6632

1.5758

256.54

101.65

Plant LOUISIANA PACIFIC CORP. DSB. ATHENS, GA.
 Sampling Location RTO NO. 1 (NORTH)
 Test For PM / CO / NO_x
 Test Operators B. MCKNIGHT / E. MCKNIGHT

RUN No. 3
 Date 6-20-95
 Time start 1440 end 1541

Meter Box ANDERSON
 Sample Box NO. 4
 Probe/Pitot 744.5.5.
 Pitot Cp 84
 Nozzle Dia. 270
 Filter No.

No. Sample Pts. 12X2
 Minutes/Pt. 25
 NOMOGRAPH
 $\Delta H @$ 1.75
 Meter Temp. 100
 % H₂O 18
 C-Factor 80
 Stack Temp. 250
 Ref. ΔP .54

Gas Analysis
 CO₂ 2.5
 O₂ 19.5
 CO 5.1 ppm
 NO_x 26.

Condensate:
 tare 200 fin 403
 Silica gel:
 tare 713.5 fin 721

Remarks:

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F in Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	000	811.810	0.62	2.15	264	87 88	264	56	2
2	030	813.8	0.62	2.15	259	89 88	243	56	2
3	060	815.8	0.58	2.00	263	92 88	250	56	2
4	090	817.9	0.58	2.00	261	96 88	247	56	2
5	120	820.0	0.54	1.85	264	99 89	249	56	2
6	150	822.0	0.50	1.70	261	101 90	259	56	2
7	180	823.9	0.35	1.20	261	103 92	269	56	2
8	210	825.5	0.31	1.05	261	103 93	272	56	2
9	240	827.1	0.28	0.95	259	103 95	264	56	2
10	270	828.5	0.23	0.78	258	103 96	268	56	2
11	300	829.8	0.18	0.62	251	103 98	262	56	2
12	330	831.0	0.20	0.68	247	104 99	253	56	2
13									
2	360	832.303	0.62	2.10	242	104 100	245	56	2
3	390	834.4	0.62	2.10	257	109 102	264	56	2
4	420	836.4	0.67	2.35	263	111 103	264	56	2
5	450	838.7	0.62	2.15	260	113 104	260	56	2
6	480	840.8	0.60	2.05	262	113 105	255	56	2
7	510	842.9	0.58	2.00	260	114 106	257	56	2
8	540	844.9	0.48	1.65	260	114 106	261	56	2
9	570	847.1	0.40	1.40	261	112 107	262	56	2
10	600	848.7	0.35	1.20	261	111 107	261	56	2
11	630	850.3	0.38	1.40	260	111 108	258	56	2
12	660	852.1	0.30	1.05	238	111 108	262	56	2
13	690	853.7	0.30	1.05	235	110 108	265	56	2
END	00/00	855.294							

WAK check: 050 → 051 = 001 chm 28' Hg

+ plot to 6.9
 - plot to 6.5

43484 .6631 1.5667 252.04 101.75

PARTICULATE CATCH ANALYSIS

SAMPLES: L.P. - Athens No. 1 RTO

DATE TAKEN: 6-20-95 DATE ANALYZED: 6-24-95

DELIVERED BY: DR RECEIVED BY: DR

ANALYZED BY: DR

(Attach chain of custody if additional exchanges occur)

FILTERS:

RUN NO.	1	2	3	
FILTER NO.	2841	2840	2923	
FILTER TARE, gms.	.5742	.5735	.5761	
	.5884	.5812	.5872	
	.5883	.5811	.5870	
FINAL WEIGHT, gms.	.5885	.5811	.5870	
NET GAIN, gms.	.0143	.0076	.0109	

PROBE WASH:

RUN NO.	1	2	3	
CONTAINER I.D.	1RTO R1	1RTO R2	1RTO R3	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	120	200	170	
	(10)	(45)	(71)	()
TARE WEIGHT, gms.	99.7484	107.2480	115.8209	
	99.7565	107.2566	115.8264	
	99.7561	107.2564	115.8264	
FINAL WEIGHT, gms.	99.7561	107.2564	115.8264	
NET GAIN, gms.	.0077	.0084	.0055	
LESS BLANK, gms.				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
filter + probe, mg.	22.0	18.0	16.4	

BACK HALF PARTICULATE CATCH ANALYSIS

Methylene Chloride Extraction

SAMPLES:

L.P. Athens - No. 1 RTO BAK

DATE TAKEN:

6-20-95 DATE ANALYZED: 6-24-95

DELIVERED BY:

DER RECEIVED BY: DER

ANALYZED BY:

DER

(Attach chain of custody if additional exchanges occur)

RUN NO.	1	2	3	
CONTAINER I.D.	1RTO R1 BAK	1RTO R2 BAK	1RTO R3 BAK	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	410	400	430	

Organic Fraction

	(1)	(2)	(3)	()
TARE WEIGHT, gms.	96.7817	101.6877	104.7537	
	96.7826	101.6888	104.7554	
	96.7819	101.6885	104.7552	
	96.7818			
FINAL WEIGHT, gms.	96.7818	101.6885	104.7552	
less blank, gms.				
NET GAIN, milligrams	0.1	0.8	1.5	

Aqueous Fraction

	(M)	(7)	(90)	()
TARE WEIGHT, gms.	99.5037	111.5403	107.9613	
	99.5055	111.5417	107.9623	
	99.5045	111.5410	107.9620	
	99.5047	111.5409		
FINAL WEIGHT, gms.	99.5047	111.5409	107.9620	
less blank, gms.	0			
NET GAIN, milligrams	1.0	0.6	0.7	

Plant LOUISIANA PACIFIC CORP. OSB ATHENS, GA.
 Sampling Location RTO NO. 1 (NORTH)
 Test For HCHO (VOC)
 Test Operators B. MCKNIGHT / E. MCKNIGHT

RUN No. 4
 Date 6-28-94
 Time start 0905 end 1006

Meter Box ANDERSON
 Sample Box NO. 1
 Probe/Pitot 7444P
 Pitot Cp .84
 Nozzle Dia. .245
 Filter No. _____
 Amb. Temp. °F 72
 Bar. Press. "Hg 29.28
 Static Press. "H₂O -.39

No. Sample Pts. 12x2
 Minutes/Pt. 2.5
 NOMOGRAPH
 ΔH@ 1.75
 Meter Temp. 100
 % H₂O 18
 C-Factor 80
 Stack Temp. 250
 Ref. ΔP 58

Gas Analysis FVITE
 CO₂ 3.0
 O₂ 17.5
 CO _____
 Time _____
 Condensate:
 tare REMARKS fin _____
 Silica gel:
 tare REMARKS fin _____

Remarks:

Impingers	TARE	FIN
1) DNPH	563	692
2) DNPH	524	610
3) MT	477	479
4) S. GEL	705	716

AVG VOC : 3.6 ppm

Ø.265 Ø.265 Ø.265

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	000	855.542	0.68	2.20	268	71	71	N/A	60	2
2	230	857.5	0.64	2.05	268	74	71		60	2
3	570	859.6	0.60	1.90	266	78	71		60	2
4	730	861.6	0.56	1.80	269	82	72		60	2
5	1000	863.4	0.65	2.10	266	85	74		60	2
6	1230	865.5	0.55	1.75	268	89	76		61	2
7	1500	867.5	0.42	1.35	265	91	78		61	2
8	1770	869.2	0.37	1.20	263	92	80		61	2
9	2000	870.7	0.30	0.95	275	93	82		61	2
10	2230	872.2	0.28	0.90	259	93	84		61	2
11	2500	873.6	0.27	0.85	273	94	86		61	2
12	2770	874.9	0.25	0.80	254	95	88		61	2
13										
21	3000	876.330	0.68	2.20	254	96	91		60	2
22	230	878.4	0.65	2.10	272	101	93		60	2
23	570	880.5	0.66	2.15	271	103	94		60	2
24	730	882.6	0.67	2.15	268	105	94		60	2
25	1000	884.8	0.64	2.05	269	107	97		60	2
26	1230	886.9	0.62	2.00	264	107	98		60	2
27	1500	889.0	0.47	1.50	262	108	99		60	2
28	1730	890.9	0.42	1.35	263	107	100		60	2
29	2000	892.6	0.42	1.35	261	107	101		60	2
30	2230	894.4	0.40	1.30	295	107	101		60	2
31	2500	896.0	0.40	1.30	272	107	102		60	2
32	2730	897.8	0.42	1.35	256	107	103		60	2
33	3000	899.661								

LEAK CHECK .014 → 0.19 = 003 cm @ 8" Hg

1 plot - 6.6
 - plot - 6.9

44.119

6997

1.6104

26463

91.77

Plant LOUISIANA - PACIFIC CORP. OSB ATHENS, GA.Sampling Location RTO NO.1 (NORTH)Test For HCHO / VOCTest Operators B. MCKNIGHT / G. MCKNIGHTRUN No. 5Date 6-21-95Time start 1058 end 1159Meter Box ANDERSEN
Sample Box NO. 4
Probe/Pitot 744.100
Pitot Cp .84
Nozzle Dia. .265
Filter No. No. Sample Pts. 12K2
Minutes/Pt. 2.5
NOMOGRAPH
 $\Delta H @$ 1.75
Meter Temp. 100
% H₂O 15
C-Factor .80
Stack Temp. 250
Ref. ΔP .58Gas Analysis FYRITE
CO₂ 2
O₂ 18
CO
Time

Condensate:

tare RAMARKS fin.

Silica gel:

tare RAMARKS fin.

Remarks:

	impingers	tare	fin
1) DNPH	583		741
2) DNPH	591		620
3) MT	489		498
4) SGL	711		730

Avg VOC: 2.8 ppm

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp., °F	Imp. Temp., °F	Vac in. Hg
1	000	899.921	0.64	2.05	252	79	80	N/A	60	2
2	230	901.8	0.65	2.10	268	80	80		60	2
3	500	903.9	0.72	2.30	263	84	80		60	2
4	730	906.2	0.62	2.00	267	88	81		60	2
5	1000	908.2	0.70	2.25	267	91	81		60	2
6	1230	910.4	0.65	2.10	264	95	93		60	2
7	1500	912.4	0.42	1.35	265	96	84		60	2
8	1730	914.2	0.38	1.20	259	96	86		60	2
9	2000	915.6	0.38	1.20	261	96	87		60	2
10	2230	917.3	0.25	0.80	258	96	89		60	2
11	2500	918.7	0.24	0.76	248	96	90		60	2
12	2730	920.0	0.20	0.64	230	97	74		60	2
2	3000	921.238	0.68	2.20	249	97	93		60	2
2	230	923.1	0.71	2.30	266	102	94		60	2
3	500	925.4	0.75	2.40	268	105	96		60	2
4	730	927.6	0.80	2.60	266	107	97		60	2
5	1000	930.0	0.60	2.15	266	109	98		60	2
6	1230	932.3	0.69	2.20	266	109	99		60	2
7	1500	934.5	0.45	1.45	269	109	100		60	2
8	1730	936.3	0.40	1.30	262	107	101		60	2
9	2000	938.0	0.45	1.30	265	106	101		60	2
10	2230	939.7	0.36	1.15	261	106	102		60	2
11	2500	941.3	0.33	1.05	238	106	102		60	2
12	2730	942.9	0.30	0.95	236	106	103		60	2
END	4900	944.490								

LEAK CHECK: 038 → 040 = 002
CLM 10 8" Hg+ pitot 6.8
- pitot 6.0

44.569

.2071

1.6583

258.92

94.88

Plant <u>LOUISIANA PACIFIC CORP. OSA</u>		ATHENS GA.		RUN No. <u>6</u>	
Sampling Location <u>RTO NO. 1 (NORTH)</u>				Date <u>6-21-95</u>	
Test For <u>HCHO / VOC</u>				Time start <u>1355</u> end <u>1456</u>	
Test Operators <u>G. McMAHITT</u> <u>G. McMAHITT</u>					

Meter Box <u>ANDERSEN</u>	No. Sample Pts. <u>12V2</u>	Gas Analysis <u>FYRTE</u>	Remarks:
Sample Box <u>NO. 1</u>	Minutes/Pt. <u>2.5</u>	CO ₂ <u>2</u>	<u>impingers tare</u> <u>AN</u>
Probe/Pitot <u>7H. tot.</u>		O ₂ <u>18</u>	1) DNPH <u>566</u> <u>698</u>
Pitot Cp <u>89</u>	NOMOGRAPH	CO	2) DNPH <u>572</u> <u>626</u>
Nozzle Dia. <u>.265</u>	Δ H @	Time	3) MT <u>478</u> <u>479</u>
Filter No.	Meter Temp. <u>100</u>		4) S.GEL <u>663</u> <u>667</u>
	% H ₂ O <u>18</u>	Condensate:	
Amb. Temp. °F <u>80</u>	C-Factor <u>.90</u>	tare <u>PHMACS</u> fin	
Bar. Press. "Hg <u>29.29</u>	Stack Temp. <u>250</u>	Silica gel:	<u>Avg VOC: 2.9 ppm</u>
Static Press. "H ₂ O <u>-.39</u>	Ref. Δ P <u>.58</u>	tare <u>Remarks</u> fin	

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head Δ P, in. H ₂ O	Orifice Δ H in. H ₂ O	Stack Temp. °F	Meter Temp., °F in	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac in. Hg
1	1	944	0.68	2.20	277	87	86	N/A	58	2
2	2	946	0.46	2.15	257	90	86		58	2
3	3	948	0.62	2.00	273	94	86		58	2
4	4	950	0.62	2.00	270	98	87		58	2
5	5	952	0.57	1.80	271	101	89		58	2
6	6	954	0.59	1.90	269	103	91		58	2
7	7	956	0.42	1.35	269	105	93		58	2
8	8	958	0.32	1.00	266	106	94		57	2
9	9	960	0.32	1.00	264	106	96		58	2
10	10	961	0.28	0.90	261	106	98		58	2
11	11	962	0.22	0.70	238	106	100		58	2
12	12	964	0.20	0.64	250	106	101		57	2
13										
14	1	965	0.66	2.15	280	106	102		57	2
15	2	967	0.71	2.30	255	111	104		57	2
16	3	969	0.72	2.35	272	113	105		57	2
17	4	971	0.70	2.25	254	115	106		57	2
18	5	973	0.68	2.20	277	116	107		57	2
19	6	976	0.64	2.05	253	117	108		57	2
20	7	978	0.53	1.70	276	117	109		57	2
21	8	980	0.37	1.20	253	116	109		57	2
22	9	981	0.40	1.30	274	114	110		57	2
23	10	983	0.38	1.20	243	115	110		57	2
24	11	985	0.34	1.10	250	114	111		57	2
25	12	986	0.30	0.95	250	114	111		57	2
END	60/60	988	.527							

LEAK CHECK: 576 → 0.79 = .003 @ 28" Hg

+ pitot 4.0
- pitot 6.5

43.22% 1.6934 1.5996 242.58 101.83

NO. 2 RTO

Plant LOUISIANA PACIFIC CORP. DSB ARKENS, GA.
 Sampling Location NO. 2 RTO (SOUTH)
 Test For PM 100/NO_x
 Test Operators RUSSELL / CARROLL
 RUN No. 1
 Date 6-20-95
 Time start 1055 end 1456

Meter Box <u>RAC</u>	No. Sample Pts. <u>12x2</u>	Gas Analysis <u>Fyite</u>	Remarks: ① 270 ② 270 } Dn = 270 ③ 269
Sample Box <u>NO. 3</u>	Minutes/Pt. <u>2.5</u>	CO ₂ _____	
Probe/Pitot <u>7A.5.5</u>	NOMOGRAPH	O ₂ <u>S. Max = 17.5</u>	
Pitot Cp <u>.84</u>	Δ H @ _____	CO <u>TECO 48 = 189 ppm</u>	
Nozzle Dia. <u>.270</u>	Meter Temp. <u>100</u>	Time _____	
Filter No. _____	% H ₂ O <u>18</u>	Condensate:	
Amb. Temp. °F <u>68</u>	C-Factor <u>.86</u>	tare <u>200</u> fin <u>385</u>	
Bar. Press. "Hg <u>29.23</u>	Stack Temp. <u>250</u>	Silica gel:	
Static Press. "H ₂ O <u>-.45</u>	Ref. Δ P <u>.50</u>	tare <u>691</u> fin <u>706</u>	

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head Δ P, in. H ₂ O	Orifice Δ H in. H ₂ O	Stack Temp. °F	Meter Temp., °F in : Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg	
1	1	000	571.791	0.72	2.65	275	72	69	220	58.2
	2	230	573.8	0.75	2.85	256	74	72	243	57.2
	3	500	577.2	0.74	2.75	271	75	73	250	56.2
	4	730	578.8	0.64	2.60	255	82	75	250	56.2
	5	1000	581.8	0.62	2.30	254	87	77	250	56.2
	6	1230	583.0	0.58	2.20	248	88	75	250	56.2
	7	1500	585.2	0.40	1.50	268	92	74	250	56.2
	8	1730	587.1	0.33	1.25	246	101	78	252	58.2
	9	2000	589.2	0.30	1.10	269	99	78	254	58.2
	10	2230	590.7	0.35	1.30	244	100	80	255	58.2
	11	2500	592.3	0.34	1.25	240	104	81	252	58.2
	12	2730	594.0	0.30	1.10	261	108	85	250	58.2
2	1	3000	595.678	0.54	2.00	252	104	86	229	57.2
	2	330	597.5	0.56	2.10	249	103	87	238	57.2
	3	500	599.5	0.56	2.10	257	108	89	225	57.2
	4	730	601.7	0.58	2.20	263	111	88	285	56.2
	5	1000	603.6	0.54	2.00	269	115	91	255	56.2
	6	1230	605.7	0.59	2.20	258	117	92	250	56.2
	7	1500	607.9	0.40	1.50	276	117	95	244	58.2
	8	1730	609.5	0.43	1.60	260	120	95	251	58.2
	9	2000	612.3	0.44	1.60	259	121	97	250	58.2
	10	2230	613.3	0.46	1.70	258	120	95	249	58.2
	11	2500	615.0	0.43	1.60	244	122	97	251	60.2
	12	2730	616.6	0.38	1.40	253	121	97	253	60.2
END	0060	618.568								
back check: 015 → 022 = .007 for 8" Hg pitot = 4.9 pitot = 5.6										
46.777 7000 1.8688 25746 93.98										

Plant Louisiana Pacific - Athens OSB
 Sampling Location No. 2 Dryer RTO
 Test For PM/CO/NOx
 Test Operators Rimmer / Caswell

RUN No. 2
 Date 6-20-95
 Time start 1245 end 1346

Meter Box RAC
 Sample Box No 2
 Probe/Pitot 7' 55
 Pitot Cp .87
 Nozzle Dia. .270
 Filter No.

No. Sample Pts. 12x2
 Minutes/Pt. 2.5
 NOMOGRAPH
 ΔH@ 1.90
 Meter Temp.
 % H₂O
 C-Factor
 Stack Temp.
 Ref. ΔP .50

Gas Analysis
 CO₂ 3.0
 O₂ 17.0
 CO 13.9
 Time NOx = 25.1

Remarks:

Amb. Temp. °F 79
 Bar. Press. "Hg 29.23
 Static Press. "H₂O -1.45

Condensate:
 tare 200 fin 374
 Silica gel:
 tare 709 fin 724

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP, in. H ₂ O	Orifice ΔH in. H ₂ O	Stack Temp. °F	Meter Temp., °F In	Meter Temp., °F Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	1	100 620.915	0.71	2.60	268	104	95	248	63	2
2	2	170 622.9	0.70	2.60	249	107	95	252	60	2
3	3	500 625.3	0.66	2.45	271	108	99	250	60	5
4	4	730 628.8	0.63	2.30	272	111	99	249	57	2
5	5	1020 630.2	0.60	2.20	256	113	100	255	57	2
6	6	1270 632.7	0.54	2.00	255	114	100	250	57	2
7	7	1500 634.2	0.40	1.50	255	118	99	251	56	2
8	8	1730 635.9	0.34	1.30	267	119	98	251	56	2
9	9	2000 637.6	0.31	1.15	252	118	98	250	56	2
10	10	2230 639.1	0.28	1.05	270	120	98	250	56	2
11	11	2500 640.5	0.32	1.15	245	121	101	252	56	2
12	12	2730 642.2	0.25	1.00	250	122	101	250	56	2
13	1	3000 643.832	0.63	2.35	257	117	103	256	56	2
14	2	3230 645.5	0.60	2.20	251	121	103	251	56	2
15	3	3500 647.3	0.64	2.30	251	120	103	248	56	2
16	4	3730 649.8	0.58	2.10	255	122	105	250	52	2
17	5	4000 651.7	0.64	2.30	259	124	105	250	52	2
18	6	4230 653.9	0.62	2.25	250	126	106	253	52	2
19	7	4500 656.1	0.52	1.90	274	128	106	256	52	2
20	8	4730 658.0	0.44	1.60	272	121	106	250	52	3
21	9	5000 659.9	0.44	1.60	259	132	108	250	52	3
22	10	5230 661.0	0.46	1.75	248	135	107	250	52	2
23	11	5500 663.4	0.42	1.70	260	135	109	252	52	2
24	12	5730 665.5	0.37	1.35	280	136	110	255	52	2
25	END	6000 667.133								

Leak check: .086 → 100 = .014% @ 7" Hg
 pitd + 27
 pitd - 82

46.218 .7026 1.8625 25263 111.58

Plant Louisiana Pacific - Athens DSB

Sampling Location No. 2 Physics RTU

Test For PH/CO/NOx

Test Operators Rumsey/Carruth

Ca. DEQ - Bob Scott

RUN No. 3

Date 6-20-95

Time start 1440 end 1542

Meter Box RAC
Sample Box NO. 3
Probe/Pitot 755
Pitot Cp .84
Nozzle Dia. .270
Filter No. _____

No. Sample Pts. 12x2
Minutes/Pt. 2.5

NOMOGRAPH
 $\Delta H @$ 1.9
Meter Temp. _____
% H₂O _____
C-Factor _____
Stack Temp. _____
Ref. ΔP 50

Gas Analysis
CO₂ 3.0
O₂ 17.5%
CO 13.1 ppm
Time NOx 2.25

Condensate:
tare 200 fin 392
Silica gel:
tare 688 fin 701

Remarks: _____

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp, °F	Meter Temp., °F in out	Oven Temp, °F	Imp. Temp, °F	Vac., in. Hg
1	100	667.545	0.75	2.80	245	91	90	235	60.2
2	200	670.1	0.73	2.70	267	95	91	240	56.2
3	300	672.0	0.75	2.80	255	96	92	252	56.2
4	400	674.8	0.67	2.45	267	99	92	249	52.2
5	500	676.9	0.63	2.35	262	100	92	252	53.2
6	600	679.5	0.54	2.00	260	105	93	256	58.2
7	700	681.0	0.42	1.55	258	105	90	258	56.2
8	800	682.8	0.33	1.25	266	107	94	250	56.2
9	900	684.9	0.29	1.10	256	112	97	255	56.2
10	1000	686.3	0.29	1.10	262	113	99	254	59.2
11	1100	687.8	0.29	1.10	247	112	98	247	59.2
12	1200	689.4	0.22	0.83	247	112	97	253	57.2
13									
14	1300	690.618	0.55	2.00	250	107	96	252	55.2
15	1400	692.6	0.60	2.20	260	111	96	252	55.2
16	1500	694.8	0.59	2.20	255	113	97	250	57.2
17	1600	696.5	0.61	2.25	266	115	98	233	57.2
18	1700	698.6	0.59	2.20	250	117	97	246	58.2
19	1800	700.8	0.60	2.20	267	118	101	250	58.2
20	1900	703.0	0.51	1.80	252	117	98	253	58.2
21	2000	704.8	0.44	1.55	266	119	99	255	58.2
22	2100	706.6	0.47	1.75	251	119	101	255	58.2
23	2200	708.5	0.42	1.55	266	119	101	251	58.2
24	2300	710.1	0.44	1.60	250	122	101	239	59.2
25	2400	712.1	0.40	1.50	250	118	102	243	62.2
26	2500	713.848							

check check 080 → 085 = 005 gpe 6" Hg

44.303 .7009 1.8679 257.29 103.21

PARTICULATE CATCH ANALYSIS

SAMPLES: L.P. - Athens - No. 2 RTO
 DATE TAKEN: 6-20-95 DATE ANALYZED: 6-27-95
 DELIVERED BY: DSR RECEIVED BY: DSR
 ANALYZED BY: DSR

(Attach chain of custody if additional exchanges occur)

FILTERS:

RUN NO.	1	2	3	
FILTER NO.	2921	2920	2942	
FILTER TARE, gms.	.5673	.5668	.5736	
	.5804	.5762	.5833	
	.5802	.5765	.5837	
FINAL WEIGHT, gms.	.5802	.5765	.5837	
NET GAIN, gms.	.029	.0097	.0101	

PROBE WASH:

RUN NO.	1	2	3	
CONTAINER I.D.	2RTO R1	2RTO R2	2RTO R3	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	200	150	150	
	(C)	(E)	(9)	()
TARE WEIGHT, gms.	98.5617	99.1376	114.8137	
	98.5629	99.1427	114.8207	
	98.5629	99.1423	114.8204	
FINAL WEIGHT, gms.	98.5629	99.1423	114.8204	
NET GAIN, gms.	.0012	.0047	.0067	
LESS BLANK, gms.				

PARTICULATE SAMPLE WEIGHT:

RUN NO.	1	2	3	
filter + probe, mg.	14.1	14.4	16.8	

BACK HALF PARTICULATE CATCH ANALYSIS

Methylene Chloride Extraction

SAMPLES:

L.P. Athan - No. 2 RTO BAK

DATE TAKEN:

6-20-95 DATE ANALYZED: 6-24-95

DELIVERED BY:

DGR RECEIVED BY: PCR

ANALYZED BY:

DGR

(Attach chain of custody if additional exchanges occur)

RUN NO.	1	2	3	
CONTAINER I.D.	2RTO R1 BAK	2RTO R2 BAK	2RTO BAK (R)	
VOLUME INTACT?	✓	✓	✓	
VOLUME, ml	420	400	425	

Organic Fraction

	(3)	(86)	(87)	()
TARE WEIGHT, gms.	104.6263	108.1486	107.2307	
	104.6297	108.1524	107.2344	
	104.6293	108.1524	107.2340	
FINAL WEIGHT, gms.	104.6293	108.1524	107.2340	
less blank, gms.				
NET GAIN, milligrams	3.0	3.8	3.3	

Aqueous Fraction

	(A)	(1)	(88)	()
TARE WEIGHT, gms.	104.7126	103.1816	108.5430	
	104.7144	103.1840	108.5510	
	104.7142	103.1839	108.5505	
FINAL WEIGHT, gms.	104.7142	103.1839	108.5505	
less blank, gms.				
NET GAIN, milligrams	1.6	2.3	7.5	

Plant Louisiana Pacific - Athens OSBSampling Location No. 2 Dryer RTOTest For HCN/VOCTest Operators Russell/ConrathRUN No. 4Date 6-21-95Time start 0905 end 1007

Meter Box RAC
 Sample Box No. 2
 Probe/Pitot 2" Teflon
 Pitot Cp 87
 Nozzle Dia. .265 Qtz
 Filter No. _____

No. Sample Pts. 1212
 Minutes/Pt. 25

NOMOGRAPH

$\Delta H @$ 1.9
 Meter Temp. 100
 % H₂O 18
 C-Factor .88
 Stack Temp. 260
 Ref. ΔP .55

Gas Analysis

Eggs
 CO, 3.0
 O₂ 17.5
 CO _____
 Time _____

Condensate:

tare REMARKS fin _____

Silica gel:

tare REMARKS fin _____

Remarks:

Impingers	TARE	FIN
1st PH	589	7115
2nd PH	595	641
3rd MT	476	477
4th EL	698	711

AUG VOC = 3.4 ppm

Port Point	El. Time, Min.	DGM Reading, Ft. ³	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp. °F	Meter Temp., °F In Out	Oven Temp. °F	Imp. Temp. °F	Vac. in. Hg
1	00	714.197	0.78	2.70	273	70 70	411	582	
2	230	716.4	0.76	2.60	256	71 70		542	
3	500	718.5	0.76	2.60	269	74 72		542	
4	730	721.2	0.68	2.35	261	79 73		562	
5	1000	723.0	0.67	2.30	269	81 77		562	
6	1230	725.3	0.55	1.80	267	87 77		562	
7	1500	727.0	0.45	1.55	275	90 78		582	
8	1720	729.0	0.34	1.30	254	93 76		582	
9	2000	730.6	0.31	1.05	263	97 78		572	
10	2230	732.0	0.31	1.05	276	101 78		582	
11	2500	733.5	0.26	0.90	252	100 80		552	
12	2720	734.8	0.34	1.30	230	101 82		572	
13									
14	130/00	736.550	0.68	2.35	254	102 82		592	
15	230	738.4	0.68	2.35	258	104 82		602	
16	500	740.7	0.64	2.20	270	105 87		602	
17	730	742.7	0.70	2.40	268	108 84		602	
18	5	1000	0.63	2.15	270	110 87		582	
19	6	1230	0.62	2.10	268	113 88		582	
20	7	1500	0.45	1.55	268	114 87		612	
21	8	1730	0.50	1.70	262	117 90		622	
22	9	2000	0.48	1.60	270	115 90		622	
23	10	2230	0.48	1.60	260	116 90		622	
24	11	2500	0.47	1.55	271	115 92		622	
25	12	2730	0.53	1.80	239	116 94			
26	and 60	759.463							

Leak check: 0.62 → 0.65 = .003 for 2 7" H
 pitot + 1/2 = 5.5
 pitot - 1/2 = 7.1

75.266 7298 1.8688 260.13 88.67

Plant Louisiana Pacific - Athens OSBSampling Location No 2 PTOTest For VOC/HCHOTest Operators Russell/CornwellRUN No. 5Date 6-21-95Time start 1058 end 1200Meter Box RACSample Box No. 3Probe/Pitot 2.5 ftPitot Cp .84Nozzle Dia. .265

Filter No. _____

No. Sample Pts. 12x2Minutes/Pt. 2.5

NOMOGRAPH

 $\Delta H @$ 1.9

Meter Temp. _____

% H₂O _____

C-Factor _____

Stack Temp. _____

Ref. ΔP .55Gas Analysis FinalCO₂ 2.0O₂ 18.0

CO _____

Time _____

Condensate:

tare Rem fin _____

Silica gel:

tare Rem fin _____

Remarks:

imping. acc. tar. final

1) DNPH 600 736

2) DNPH 593 618

3) MT 470 481

4) S. cel 1706 722

Avg VOC = 4.2 ppm

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP , in. H ₂ O	Orifice ΔH , in. H ₂ O	Stack Temp., °F	Meter Temp., °F In Out	Oven Temp., °F	Imp. Temp., °F	Vac. n. Hg
1	000	759.938	0.82	2.80	266	87 85	N/A	61	2
2	230	762.1	0.85	2.85	269	89 87		57	2
3	500	764.7	0.76	2.60	250	92 86		56	2
4	730	767.1	0.70	2.70	275	96 86		56	2
5	1000	769.6	0.66	2.25	253	100 88		58	2
6	1230	771.3	0.70	2.70	264	103 90		58	2
7	1500	773.7	0.40	1.35	253	104 90		58	2
8	1730	775.4	0.35	1.20	271	108 90		60	2
9	2000	776.9	0.33	1.15	256	106 89		62	2
10	2230	778.4	0.34	1.15	259	109 91		60	2
11	2500	780.0	0.33	1.15	243	112 91		60	2
12	2730	781.5	0.37	1.25	237	113 91		60	2
1	3000	783.182	0.61	2.05	252	110 96		60	2
2	230	785.1	0.67	2.30	267	112 92		58	2
3	500	787.2	0.66	2.25	255	113 94		58	2
4	730	789.3	0.64	2.20	270	114 98		58	2
5	1000	791.5	0.62	2.10	257	120 100		55	2
6	1230	793.6	0.67	2.30	274	118 97		57	2
7	1500	795.6	0.48	1.60	258	120 98		58	2
8	1730	797.4	0.52	1.75	264	125 102		57	2
9	2000	799.2	0.50	1.70	262	122 100		59	2
10	2230	801.3	0.48	1.60	267	124 99		60	2
11	2500	802.9	0.48	1.60	254	125 99		62	2
12	2730	804.8	0.50	1.70	246	123 100		62	2
end	60	806.553							

Leak check: .016 → .016 = 0004 e 6" Hg
pitot + 4.8
pitot - 5.2

46.615

.2394

1.9092

259.98

101.75

Plant LOUISIANA PACIFIC ATHENS, OSB
 Sampling Location NO. 2 DRYERS RTD
 Test For HCOH / VOC
 Test Operators RUSSELL / CARLUTH
 RUN No. 6
 Date 6-21-95
 Time start 1355 end 1456

Meter Box <u>RAC</u>	No. Sample Pts. <u>12x2</u>	Gas Analysis <u>Epitr</u>	Remarks: <u>inlet</u> <u>7arc</u> <u>Fin</u> <u>DNPH</u> <u>593</u> <u>721</u> <u>DNPH</u> <u>596</u> <u>645</u> <u>MT</u> <u>476</u> <u>478</u> <u>S.Gell</u> <u>686</u> <u>700</u> <u>AVG VOC = 4.3</u>
Sample Box	Minutes/Pt. <u>2.5</u>	CO ₂ <u>17.0</u>	
Probe/Pitot <u>7.55</u>	NOMOGRAPH	O ₂ <u>5.0</u>	
Pitot Cp <u>.89</u>	ΔH@ <u>1.95</u>	CO	
Nozzle Dia. <u>.265</u>	Meter Temp.	Time	
Filter No.	% H ₂ O	Condensate:	
Amb. Temp. °F <u>80</u>	C-Factor	tare <u>200</u> fin	
Bar. Press. "Hg <u>29.28</u>	Stack Temp.	Silica gel:	
Static Press. "H ₂ O <u>-.45</u>	Ref. ΔP <u>.55</u>	tare fin	

Port Point	El. Time, Min.	DGM Reading, Ft.	Velocity Head ΔP, in. H ₂ O	Orifice ΔH, in. H ₂ O	Stack Temp, °F	Meter Temp., °F in Out	Oven Temp, °F	Imp. Temp, °F	Vac, in. Hg
1	000	806.853	0.83	2.90	271	82 82	N/A	68	2
2	230	808.9	0.85	2.90	270	86 83		60	2
3	500	811.4	0.77	2.65	253	90 85		60	2
4	730	814.0	0.75	2.60	261	96 88		60	2
5	1000	816.0	0.63	2.10	270	99 90		57	2
6	1230	818.5	0.55	1.90	261	99 87		58	2
7	1500	820.3	0.43	1.45	271	102 89		60	2
8	1730	822.8	0.31	1.05	267	106 88		60	2
9	1900	823.9	0.32	1.10	270	108 89		62	2
10	2130	825.2	0.31	1.05	252	109 90		63	2
11	2500	826.9	0.30	1.00	256	110 91		64	2
12	2730	828.2	0.30	1.00	242	111 91		64	2
13									
14	3000	829.772	0.63	2.10	255	113 92		65	2
15	230	831.3	0.68	2.30	268	111 96		60	2
16	500	833.2	0.61	2.10	275	113 102		60	2
17	730	835.2	0.64	2.20	262	113 100		59	2
18	1000	837.4	0.57	1.90	275	117 97		57	2
19	1230	839.5	0.64	2.20	271	121 96		57	2
20	1500	841.2	0.44	1.50	272	122 95		57	2
21	1730	843.4	0.43	1.45	261	123 97		58	2
22	2000	845.1	0.47	1.60	264	123 99		59	2
23	2230	846.9	0.48	1.65	275	124 104		60	2
24	2500	848.7	0.43	1.45	264	122 102		63	2
25	2730	850.3	0.43	1.45	255	125 103		63	2
END	6700	852.406							

Leak check: 1048 → 255 = .005 g/s 7" Hg
 Pitot at 5.3
 Pitot at 4.0

45.553, 7108, 1.8167, 264.21, 106.27

APPENDIX B.

CALIBRATION DATA



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX: (810) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer

ENVIRONMENTAL MON
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory

Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0116

Scott Project # : 576120

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 : ALM049194
Cylinder Pressure + : 1900 psig

Certificate Date : 2/1/95
Previous Certificate Date : None

Expiration Date : 2/1/98

ANALYZED CYLINDER

Components

Propane

Certified Concentration

953.4 ppm

Analytical Uncertainty*

±1% NIST Directly Traceable

Balance Gas: Nitrogen

Do not use when cylinder pressure is below 150 psig.

Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type

NTRM 1668

Expiration Date

6/7/96

Cylinder Number

ALM-032015

Concentration

95.5 ppm Propane in Air.

INSTRUMENTATION

Instrument/Model/Serial

Prop: Beckman/400/1002059

Last Date Calibrated

1/19/95

Analytical Principle

Flame Ionization Detection

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Propane

First Triad Analysis

Date: 2/1/95 Response Units: mv
Z1=0.00 R1=14.40 T1=143.00
R2=14.40 Z2=0.00 T2=143.00
Z3=0.00 T3=143.00 R3=14.40
Avg. Conc. of Cust. Cyl. 953.4 ppm

Second Triad Analysis

Calibration Curve

Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$
r=1.00000 NTRM 1668
Constants: A=-0.237940000
B=6.669000000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes

Analyst

Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX: (810) 589-2134

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer:
ENVIRONMENTAL MON
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory
Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0116
Scott Project # : 576120

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 : ALM016861
Cylinder Pressure + : 1900 psig

Certificate Date : 1/27/95
Previous Certificate Date : None

Expiration Date : 1/27/98

ANALYZED CYLINDER

Components
Propane

Certified Concentration
475.3 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Balance Gas: Air

Do not use when cylinder pressure is below 150 psig.

Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type
NTRM 1668

Expiration Date
6/7/96

Cylinder Number
ALM-032015

Concentration
95.5 ppm Propane in Air.

INSTRUMENTATION

Instrument/Model/Serial #
Pom Beckman/400/1002059

Last Date Calibrated
1/19/95

Analytical Principle
Flame Ionization Detection

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components
Propane

First Triad Analysis

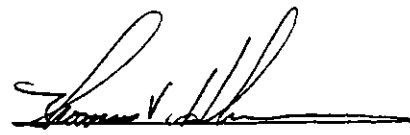
Date: 1/27/95 Response Units: mv
Z1=0.00 R1=14.40 T1=71.30
R2=14.40 Z2=0.00 T2=71.30
Z3=0.00 T3=71.30 R3=14.40
Avg. Conc. of Cust. Cyl. 475.3 ppm

Second Triad Analysis

Calibration Curve

Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$
r=1.00000 NTRM 1668
Constants: A=-0.237940000
B=6.669000000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes


Analyst



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX: (810) 589-2134

90.46 Propane

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer

ENVIRONMENTAL MON
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory

Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0116

Scott Project # : 576120

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 : ALM016008

Certificate Date : 1/27/95

Expiration Date : 1/27/98

Cylinder Pressure + : 1900 psig

Previous Certificate Date : None

ANALYZED CYLINDER

Components

Propane

Certified Concentration

90.46 ppm

Analytical Uncertainty*

±1% NIST Directly Traceable

Balance Gas: Air

*Do not use when cylinder pressure is below 150 psig.

*Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type

NTRM 1668

Expiration Date

6/7/96

Cylinder Number

ALM-032015

Concentration

95.5 ppm Propane in Air

INSTRUMENTATION

Instrument/Model/Serial

Propane : Beckman/400/1002059

Last Date Calibrated

1/19/95

Analytical Principle

Flame Ionization Detector

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Propane

First Triad Analysis

Date: 1/27/95 Response Units: mv
Z1=0.00 R1=95.50 T1=90.50
R2=95.50 Z2=0.00 T2=90.40
Z3=0.00 T3=90.50 R3=95.50
Avg. Conc. of Cust. Cyl. 90.46 ppm

Second Triad Analysis

Calibration Curve

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=1.00000 NTRM 1668
Constants: A=0.086524000
B=1.000900000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes

[Signature]
Analyst



Scott Specialty Gases, Inc.

500 WEAVER PARK ROAD, LONGMONT, CO 80501 (303) 442-4700, (303) 851-3094 FAX (303) 772-7673

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
500 Weaver Park Road
Longmont, CO 80501

Purchase Order DRV0826
Scott Project # 0815606
CGA Fitting 660
QC Number 11039435
File Number 15606-01

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol to Assay and certification of Gaseous Calibration Standards; Procedure G1; September, 1993.

Cylinder Number ALM-043125 Certification Date 08/30/94 Expiration Date 08/30/96
Cylinder Pressure 2000 psig Previous Certification Dates None

ANALYZED CYLINDER

Components	Certified Concentration
(Nitric Oxide)	2400 ppm
(Nitrogen Dioxide)	2410 ppm
(Nitrogen)	Balance

Analytical Uncertainty*
±1% NIST Directly Traceable
Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM 2631	06/18/95	ALM-022283	2814.0ppm NO / N2
GMIS	NONE	AAL-19328	2170.0ppm NO / N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Monitor Labs 8840-857	08/22/94	Chemiluminescence

ANALYZER READINGS

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components
(Nitric Oxide)

First Triad Analysis

Date: 12/22/93 Response Units: mv
Z1 = 0.0000 R1 = 0.4316 T1 = 0.4785
R2 = 0.4316 Z2 = 0.0000 T2 = 0.4785
Z3 = 0.0000 T3 = 0.4785 R3 = 0.4316
Avg. Conc. of Cust. Cyl. = 2401.1 ppm

Second Triad Analysis

Date: 08/30/94 Response Units: mv
Z1 = 0.0000 R1 = 0.4316 T2 = 0.4786
R2 = 0.4316 Z2 = 0.0000 T2 = 0.4786
Z3 = 0.0000 T3 = 0.4786 R3 = 0.4316
Avg. Conc. of Cust. Cyl. = 2401.6 ppm

Calibration Curve

Concentration = A+Bx+Cx²+Dx³+Ex⁴
r = 0.999997 NTRM 2631
Constants: A = -11.764180
B = 5151.8800 C = -232.7234
D = 0 E = 0

Special Notes

Do not use when cylinder pressure is below 150 psig.

Analyst: Diana L. Beehler



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX: (810) 589-2134

102.0NOx

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory
Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0826
Scott Project # : 570523

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 : ALM036349
Cylinder Pressure + : 1900 psig

Certificate Date : 8/30/94
Previous Certificate Date : None

Expiration Date : 8/30/96

ANALYZED CYLINDER

Components
Nitric Oxide
Total Oxides of Nitrogen

Certified Concentration
99.90 ppm
102.0 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable
Reference Value Only

Balance Gas: Nitrogen

* Do not use when cylinder pressure is below 150 psig.

* Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type
NTRM 1684

Expiration Date
4/1/96

Cylinder Number
ALM-024582

Concentration
95.2 ppm Nitric Oxide in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #
NO Horiba/OPE-235/483814

Last Date Calibrated
8/24/94

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components
Nitric Oxide

First Triad Analysis

Date: 3/28/94 Response Units: mv
Z1=0.00 R1=95.20 T1=99.80
R2=95.20 Z2=0.00 T2=99.80
Z3=0.00 T3=99.80 R3=95.20
Avg. Conc. of Cust. Cyl: 99.80 ppm

Second Triad Analysis

Date: 8/30/94 Response Units: mv
Z1=0.00 R1=95.20 T1=100.00
R2=95.20 Z2=0.00 T2=100.00
Z3=0.00 T3=100.00 R3=95.20
Avg. Conc. of Cust. Cyl: 100.0 ppm

Calibration Curve

Concentration = $A \cdot Bx + Cx^2 + Dx^3 + Ex^4$
r=0.99999 NTRM 1684
Constants: A=0.000000000
B=1.000000000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes

Don E. [Signature]
Analyst



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

12.90 NOx

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Designed to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM022478
Cylinder Pressure 1900 psig

Certification Date 7-19-93
Previous Certification Dates None

General Exp. Date 7-19-95
Acid Rain Exp. Date 7-19-95

ANALYZED CYLINDER

Components
Nitric Oxide

Certified Concentration
12.90 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Total Oxides of Nitrogen
Balance Gas: Nitrogen

12.90 ppm

Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type SRM 2629A
Expiration Date 1-4-95

Cylinder Number
FF-28502

Concentration
19.40 ppm NO in N₂

INSTRUMENTATION

Instrument/Model/Serial #
NO: Horiba/OPE-235/560543082

Last Date Calibrated
5-18-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

First Triad Analysis

Second Triad Analysis

Calibration Curve

Nitric Oxide

Date: 7-11-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Date: 7-19-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 2629A
Constants: A=0.01381712
B=0.9992878 C=0
D=0 E=0

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

F. P. Doran
Analyst Frank P. Doran



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DANNY RUSSELL
P O BOX 655

PROJECT #: 04-43368-001

PO#: DRV0517

ITEM #: 04024315 2AL

DATE: 5/26/95

RIDGELAND

MS 39158

CYLINDER #: ALM055984

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 5/24/96

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

OXYGEN

NITROGEN

REQUESTED GAS

CONC MOLES

452.

PPM

11.

%

BALANCE

ANALYSIS

(MOLES)

453.

PPM

11.01

%

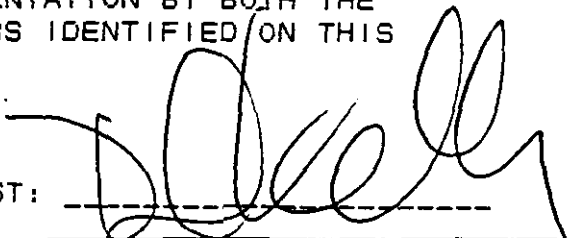
BALANCE

2000 PSI

453

THIS PRODUCT IS TRACEABLE TO
DOCUMENTATION BY BOTH THE
NUMBERS IDENTIFIED ON THIS

ALL PRODUCTION & ANALYTICAL
PROJECT & CYLINDER SERIAL
CERTIFICATE OF ANALYSIS.

ANALYST: 

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped

3714 LAPAS DRIVE

From:

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING

DAN RUSSELL

P O BOX 655

RIDGELAND

MS 39158

PROJECT #: 04-29381-003

PO#: DRV-0107

ITEM #: 04021453 2AL

DATE: 1/11/94

CYLINDER #: ALM007930

ANALYTICAL ACCURACY: +/- 1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 1/11/95

BLEND TYPE: ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

COMPONENT

CARBON MONOXIDE

NITROGEN

CONC MOLES

4,500. PPM

BAL

(MOLES)

4,540. PPM

BAL

ANALYST:

APPROVED BY:

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DANNY RUSSELL
P O BOX 655

RIDGELAND

MS 39158

PROJECT #: 04-39907-002
PO#: DRV0116
ITEM #: 04024520 2AL
DATE: 1/27/95

CYLINDER #: AAL19761

ANALYTICAL ACCURACY: +/-1%
PRODUCT EXPIRATION: 1/27/96

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON DIOXIDE
CARBON MONOXIDE
OXYGEN
NITROGEN

REQUESTED GAS

CONC MOLES

12. %
955. PPM
3. %
BALANCE

ANALYSIS

(MOLES)

12.08 %
953. PPM
3.03 %
BALANCE

2000 PSI

THIS PRODUCT IS TRACEABLE TO
DOCUMENTATION BY BOTH THE
NUMBERS IDENTIFIED ON THIS

ALL PRODUCTION & ANALYTICAL
PROJECT & CYLINDER SERIAL
CERTIFICATE OF ANALYSIS.

ANALYST:

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA

DRY GAS METER CALIBRATION

Meter ID RAC
Calibration Method DGM/DGM **By** GNM
Calibration Meter ID 651729 **Pbar** 29.76
Date 7/13/95

Var. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _I ft'	V _F ft'	Temp °F	V _I ft'	V _F ft'	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	8.50	432.392	442.521	76	569.427	579.951	91	103	91	92	0.983	1.21	0.682	1.982
1	4.00	9.50	442.521	452.659	83	579.951	590.419	103	120	92	97	0.994	1.08	0.676	2.013
1	3.00	11.00	452.659	462.725	86	590.419	600.891	117	128	97	104	0.999	0.93	0.671	2.049
1	2.00	13.50	462.725	472.804	88	600.891	611.460	126	135	104	111	1.003	0.77	0.673	2.036
1	1.00	18.25	472.804	482.837	89	611.460	622.042	132	135	109	117	1.005	0.57	0.703	1.862
Averages:												1.00			1.99

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)/((T_m \text{ out})(DH))})$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{M,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID Andersen
Calibration Method DGM/DGM **By** WBM
Calibration Meter ID 651729 **Pbar** 29.95
Date 7/14/95

Vac. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			Vi ft ³	Vf ft ³	Temp °F	Vi ft ³	Vf ft ³	Temp. in		Temp out					
								init.	final	init.	final				
2	2.00	15.00	483.913	496.161	74	364.061	376.451	86	105	85	88	1.015	0.83	0.74	1.668
2	2.00	19.00	496.161	511.716	78	376.451	392.400	98	119	88	103	1.014	0.84	0.75	1.657
2	2.00	15.00	511.716	523.976	80	392.400	405.126	111	123	102	109	1.014	0.85	0.75	1.645
Averages:												1.01			1.66

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)/((T_m \text{ out})(DH))})$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{M,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID RAC
 Calibration Method DGM/DGM By DGR
 Calibration Meter ID 651729 Pbar 30.05
 Date 2/18/95

Vol. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp °F	V _i ft ³	V _f ft ³	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	12.50	772.047	787.047	59	612.402	627.716	59	98	58	69	0.990	1.2	0.694	1.911
1	4.00	19.25	787.047	807.415	59	627.716	648.935	96	111	68	77	1.004	1.08	0.691	1.929
1	3.00	13.45	807.415	819.741	62	648.935	661.985	109	114	77	82	0.998	0.94	0.692	1.921
1	2.00	18.00	819.741	832.838	62	661.985	675.978	110	108	81	84	0.992	0.75	0.676	2.015
1	1.00	21.00	832.838	844.241	62	675.978	688.173	106	111	84	87	0.995	0.57	0.716	1.795
Averages:												1.00			1.91

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)} / ((T_m \text{ out})(DH)))$$

$$Q = ((V_{mi} - V_{mf}) / \text{min.})(T_{M, out} / T_{m, avg})(Y)$$

$$DH@ = 0.921 / K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID Andersen
Calibration Method DGM/DGM **By** DGR
Calibration Meter ID 651729 **Pbar** 30.05
Date 2/18/95

Vac. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			Vi ft'	Vf ft'	Temp °F	Vi ft'	Vf ft'	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	10.00	705.781	718.433	70	142.259	154.458	55	82	55	62	1.012	1.22	0.713	1.810
1	4.00	14.00	718.433	734.176	70	154.458	169.964	72	88	62	73	1.013	1.11	0.716	1.798
1	3.00	14.00	734.176	747.841	70	169.964	183.706	83	88	73	80	1.008	0.98	0.724	1.755
1	2.00	15.00	747.841	759.444	70	183.706	195.595	84	86	80	83	0.995	0.79	0.707	1.841
1	1.00	17.50	759.444	769.343	70	195.595	205.763	86	84	82	85	0.997	0.58	0.734	1.711
Averages:												1.00			1.78

$$Y = [V_{cal}(P_{bar})(T_{dgm})] / [(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)} / ((T_m \text{ out})(DH)))$$

$$Q = ((V_{mi} - V_{mf}) / \text{min.})(T_{m, \text{out}} / T_{m, \text{avg}})(Y)$$

$$DH@ = 0.921 / K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe Identification: No. 2 7

Date Checked: 6-20-95

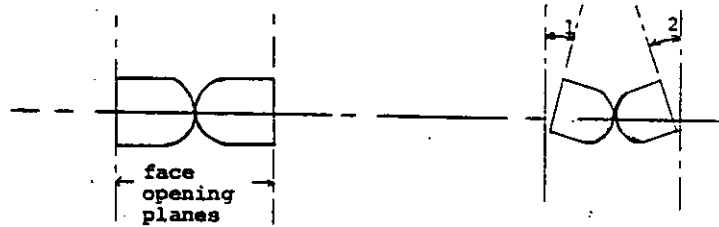
By: DCR

1. Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: (α_1 and $\alpha_2 < 10^\circ$)

$$\alpha_1 = \underline{0}$$

$$\alpha_2 = \underline{0}$$



2. Face openings parallel to longitudinal axis: (β_1 and $\beta_2 < 5^\circ$; $P = 1.05 D_t$ to $1.50 D_t$; $P_A = P_B$)

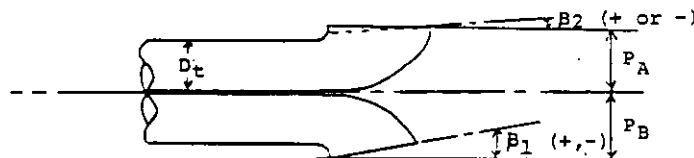
$$D_t = \underline{.375}$$

$$\beta_1 = \underline{0}$$

$$P_A = \underline{.45}$$

$$\beta_2 = \underline{0}$$

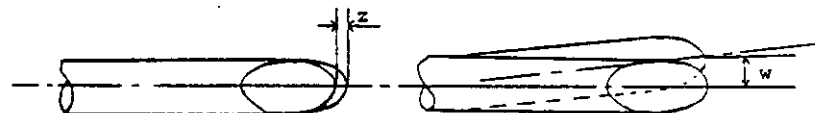
$$P_B = \underline{.45}$$



3. Both legs equal length and centerline coincident ($z < .125$ inch; $w < .031$ inch)

$$z = \underline{0}$$

$$w = \underline{0}$$



PITOT/PROBE CLEARANCE CHECK:

Nozzle ID: .270 / .265Q

Nozzle dia: .270 / .265Q

Date: 6-20-95 + 6-21-95

II. Pitot/probe/nozzle assemblies have the same C_p as the isolated Pitot tube when the following conditions exist.

1. $D_t > .188$ & $< .375$ inch

$$D_t = \underline{.375}$$

2. $X_1 \geq .75$ inch

$$X_1 = \underline{1.0'' / 1.0''}$$

3. $X_2 \geq 0$ inch

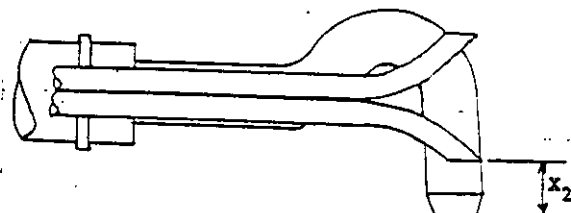
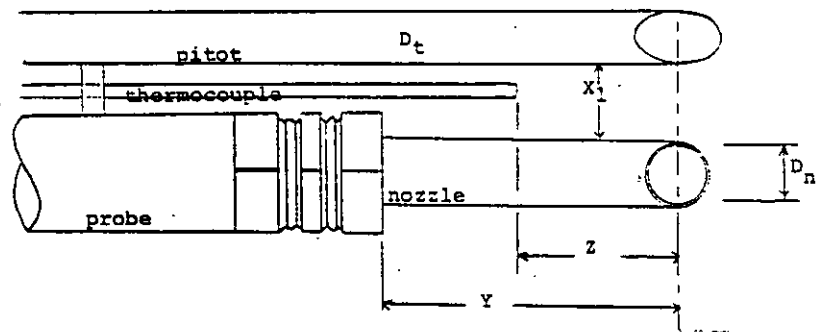
$$X_2 = \underline{.5'' / .6''}$$

4. $Y \geq 3.0$ inch

$$Y = \underline{6.0'' / 6.0''}$$

5. $z \geq 2.0$ inch

$$z = \underline{2.4'' / 2.4''}$$



PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe identification: 7'

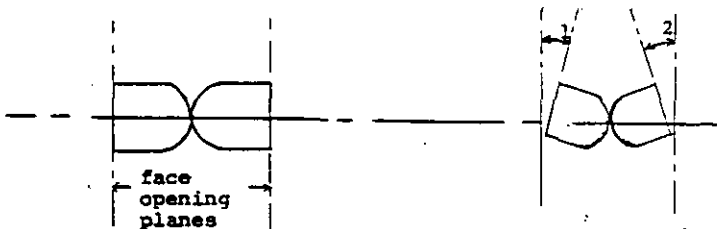
Date Checked: 6-20-95 By: DSR

Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: (α_1 and $\alpha_2 < 10^\circ$)

$\alpha_1 = \underline{0}$

$\alpha_2 = \underline{0}$



2. Face openings parallel to longitudinal axis: (β_1 and $\beta_2 < 5^\circ$; $P = 1.05 D_t$ to $1.50 D_t$; $P_A = P_B$)

$D_t = \underline{.375}$

$\beta_1 = \underline{0}$

$P_A = \underline{.50}$

$\beta_2 = \underline{0}$

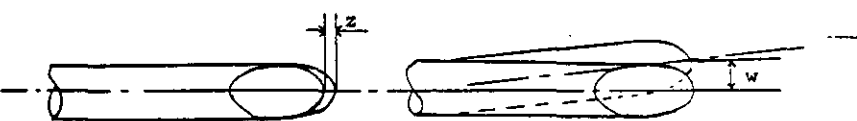
$P_B = \underline{.50}$



3. Both legs equal length and centerline coincident ($z < .125$ inch; $w < .031$ inch)

$z = \underline{0}$

$w = \underline{0}$



PITOT/PROBE CLEARANCE CHECK:

Nozzle ID: .270 .265 Q Nozzle dia: .270 .265 Date: 6-20-95 / 6-21-95

1. Pitot/probe/nozzle assemblies have the same C_p as the isolated Pitot tube when the following conditions exist.

1. $D_t > .188$ & $< .375$ inch

$D_t = \underline{.375''}$

2. $X_1 \geq .75$ inch

$X_1 = \underline{.95''}$ 1.1''

3. $X_2 \geq 0$ inch

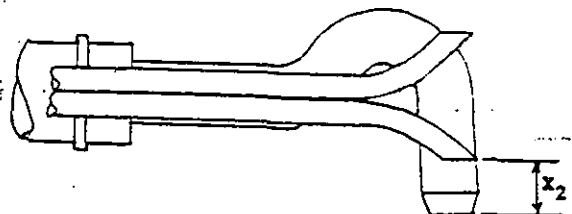
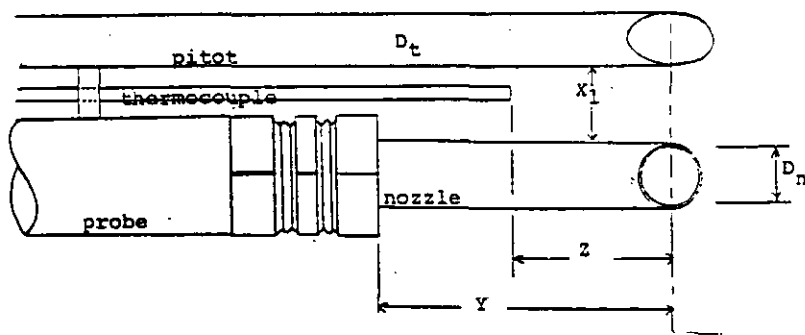
$X_2 = \underline{.25''}$.50''

4. $Y \geq 3.0$ inch

$Y = \underline{6.0''}$ 6.0''

5. $Z \geq 2.0$ inch

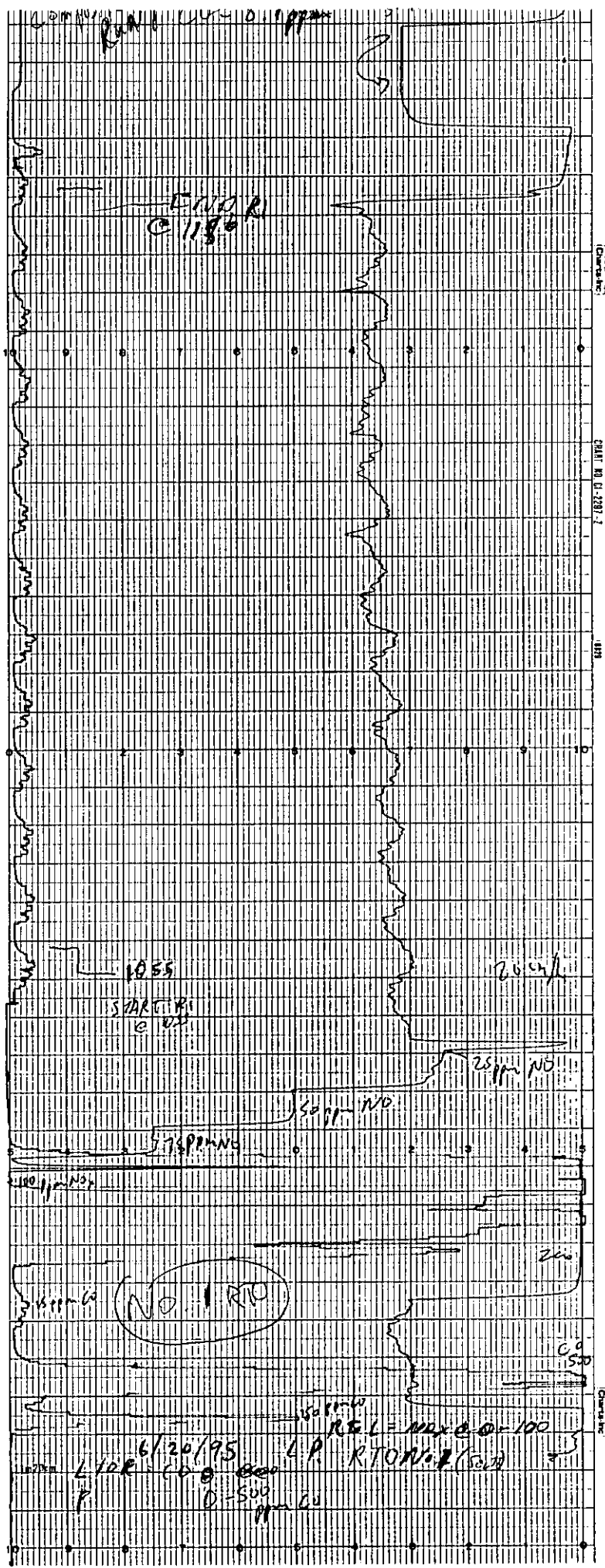
$Z = \underline{2.2''}$ 2.2''

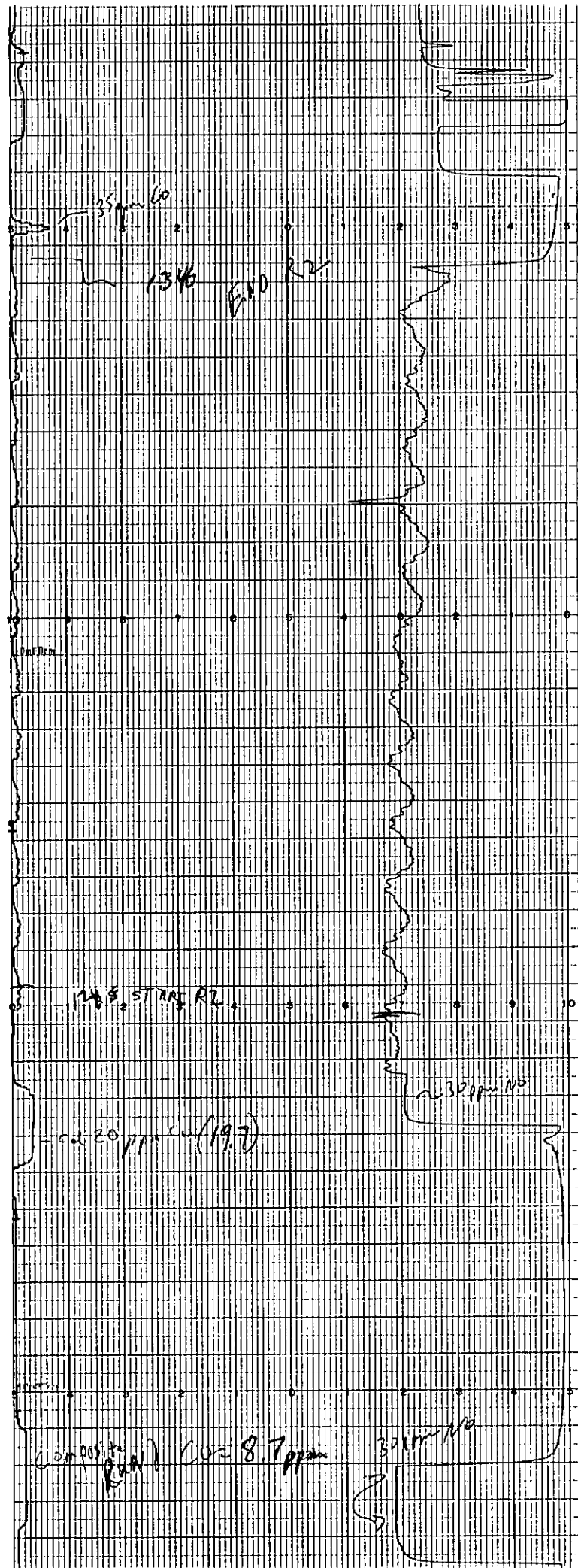


APPENDIX C.

INSTRUMENT RECORDER TRACES/DATA LOG

NO. 1 RTO NO_x AND CO TRACE





35 ppm Co

13% END R2

12% S. ST. R2

Co 20 ppm Co (19.7)

Co 8.7 ppm

32 ppm No

Chart No. D-223-2
1973

2500 No

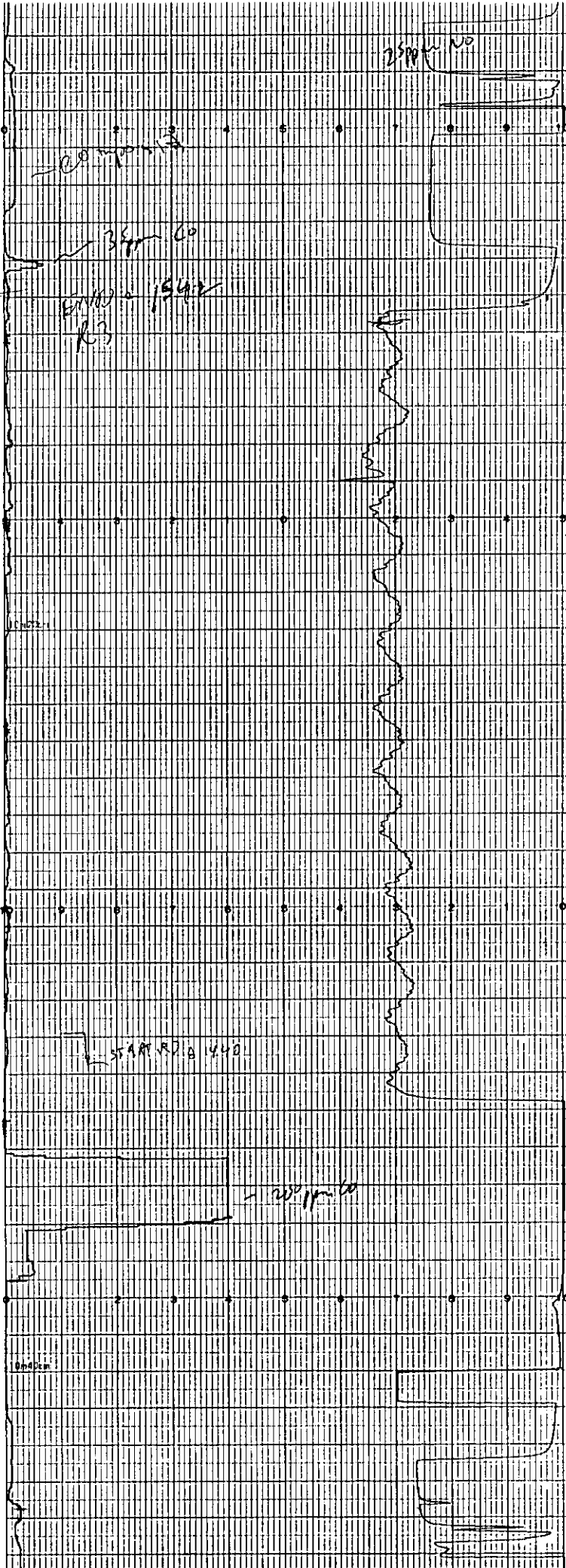
Comp 3

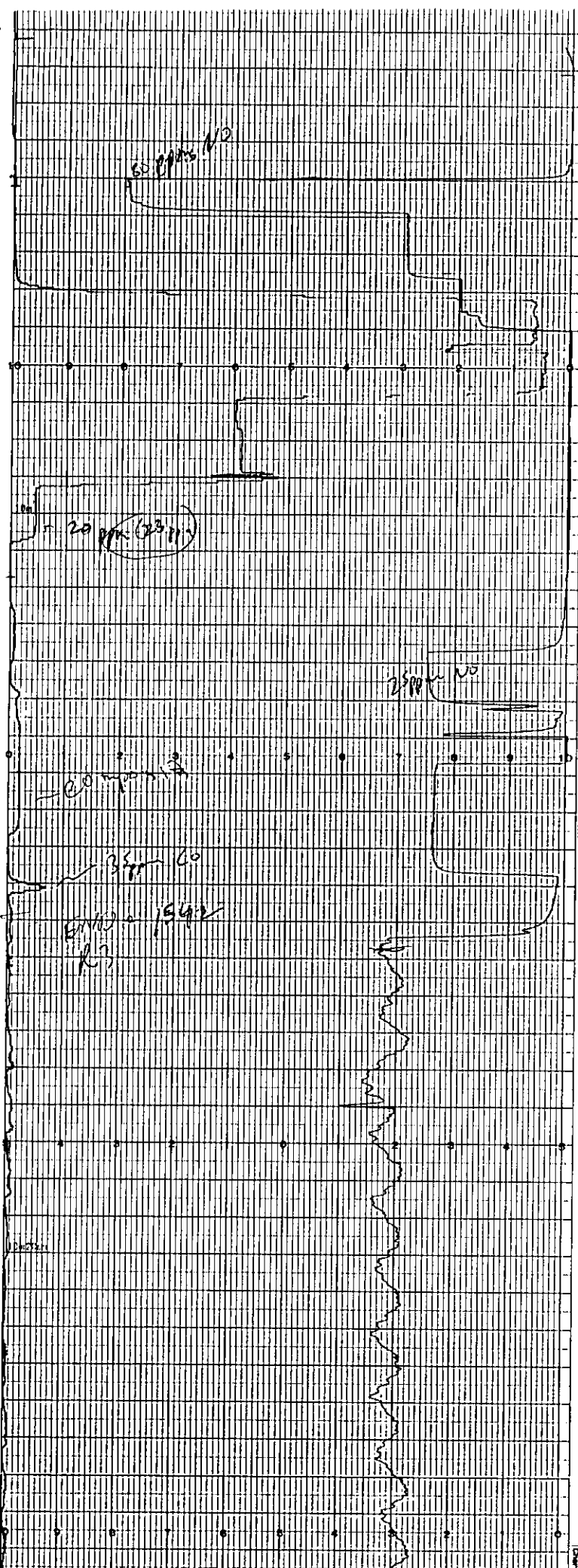
360 Co

END 1542
R3

START RD 440

2000 Co





60 ppm NO

20 ppm (23.11)

25 ppm NO

Component 3

35 ppm CO

EMD - 1542
R3

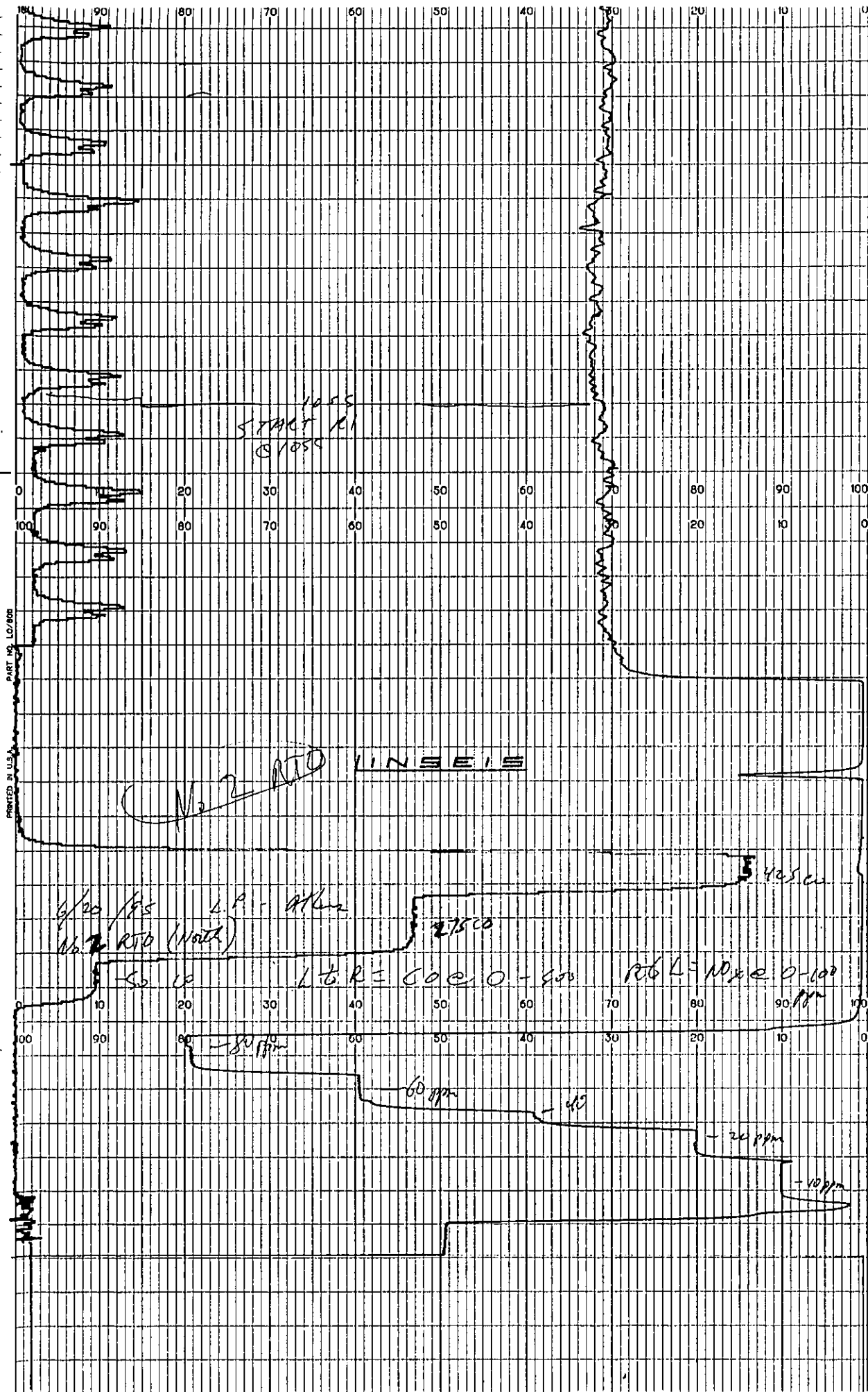
Distance

SCALE: 100 ft = 1 inch

Time

Scale

NO. 2 RTO NO_x AND CO TRACE



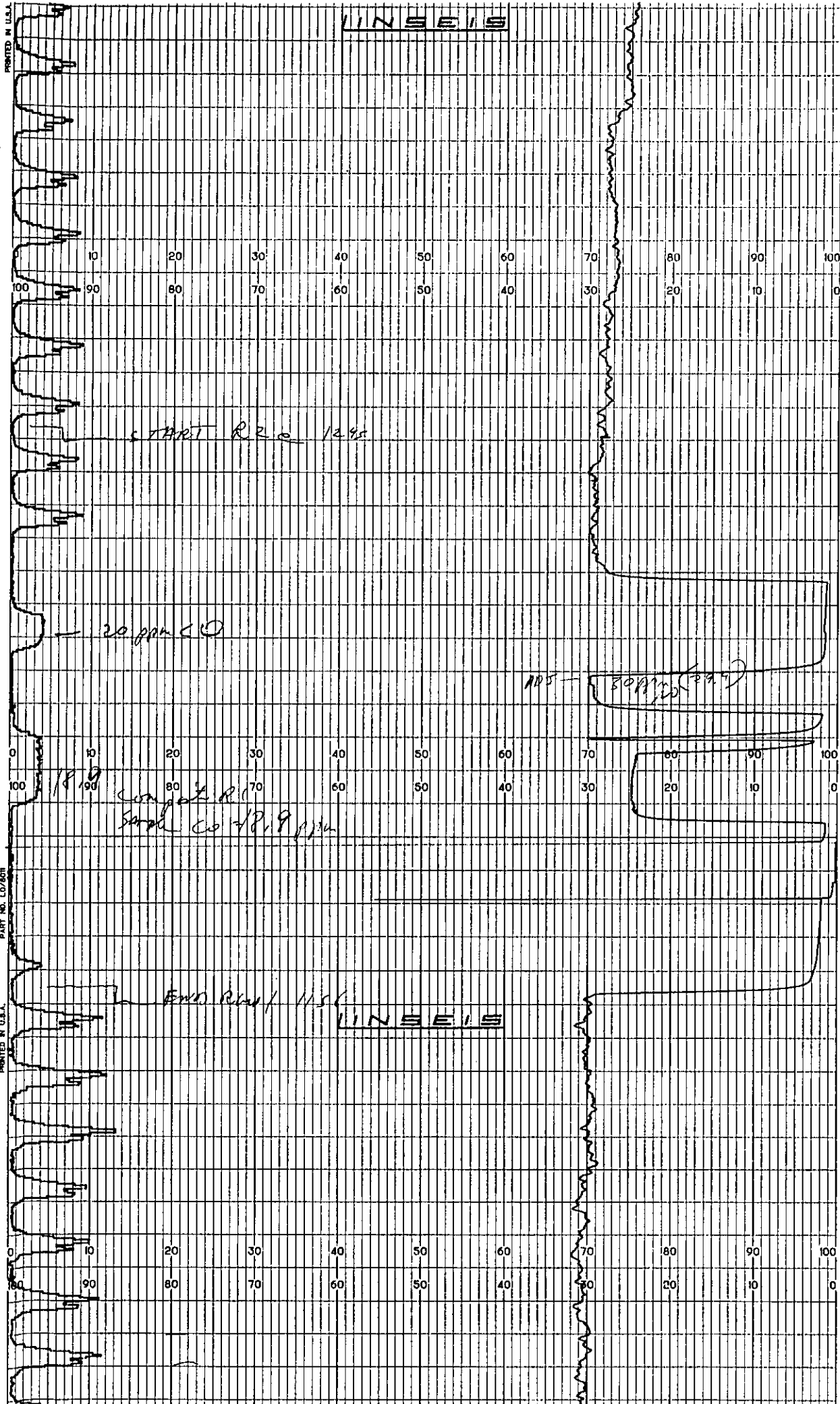
PRINTED IN U.S.A.
PART NO. 10/808

PRINTED IN U.S.A.

INSEIS

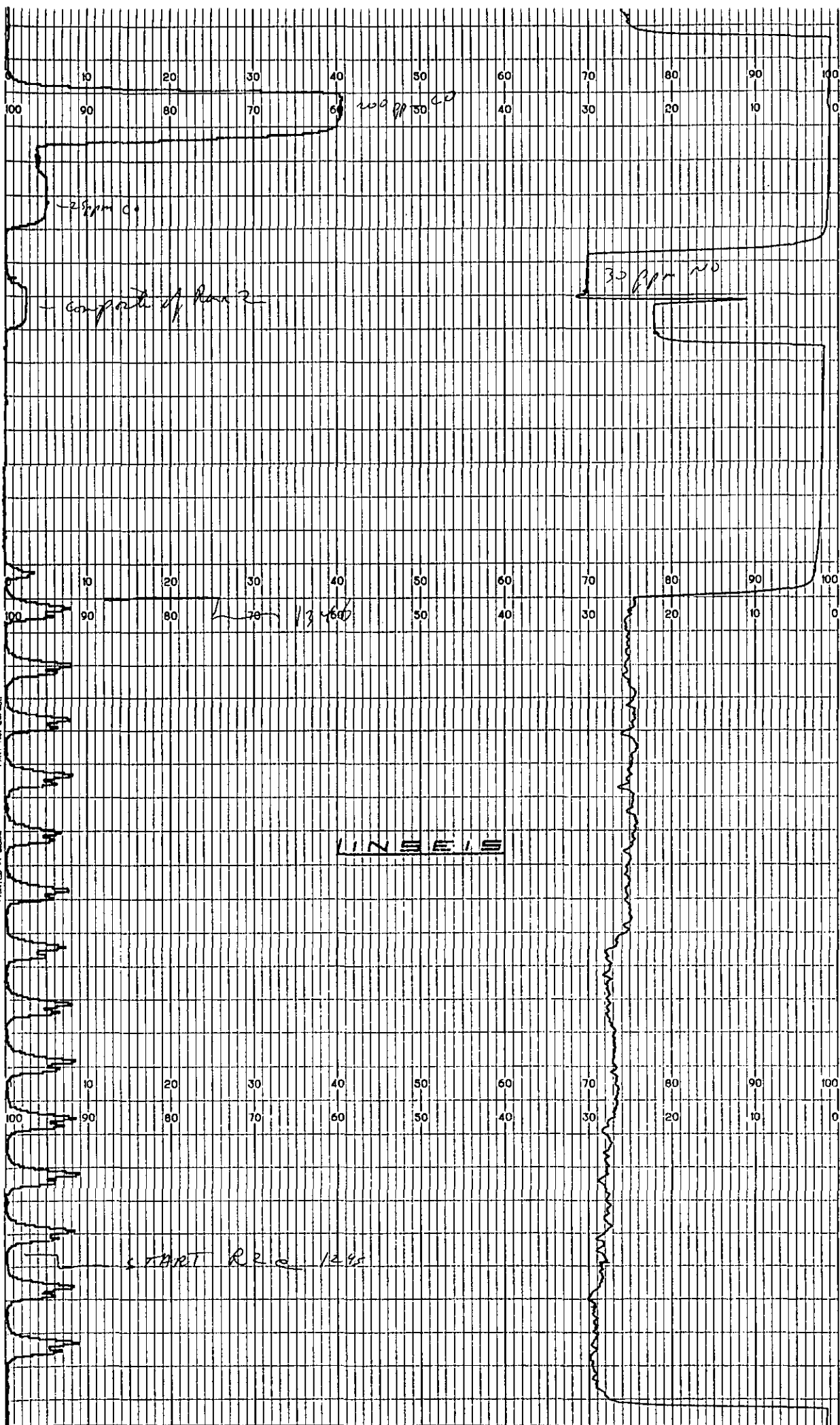
PART NO. LO/801

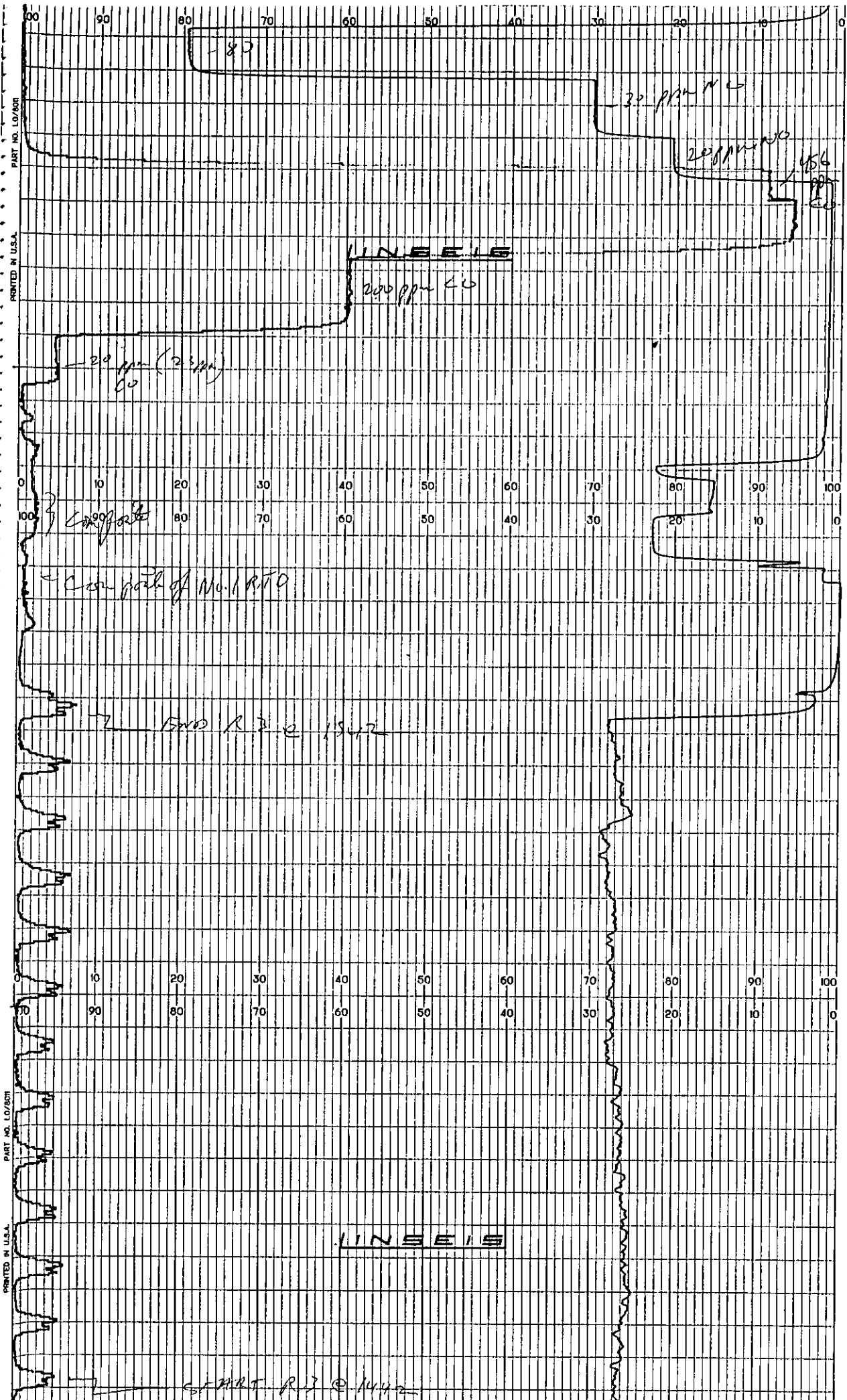
PRINTED IN U.S.A.



PART NO. 107088

PRINTED IN U.S.A.





PART NO. 10/801

PRINTED IN U.S.A.

PART NO. 10/801

PRINTED IN U.S.A.

PART R 3 @ 1442

VOC TRACE

PART NO. LO/501

PRINTED IN U.S.A.

PART NO. LO/501

PRINTED IN U.S.A.

0 10 20 30 40 50 60 70 80 90 100
90 80 70 60 50 40 30 20 10 0

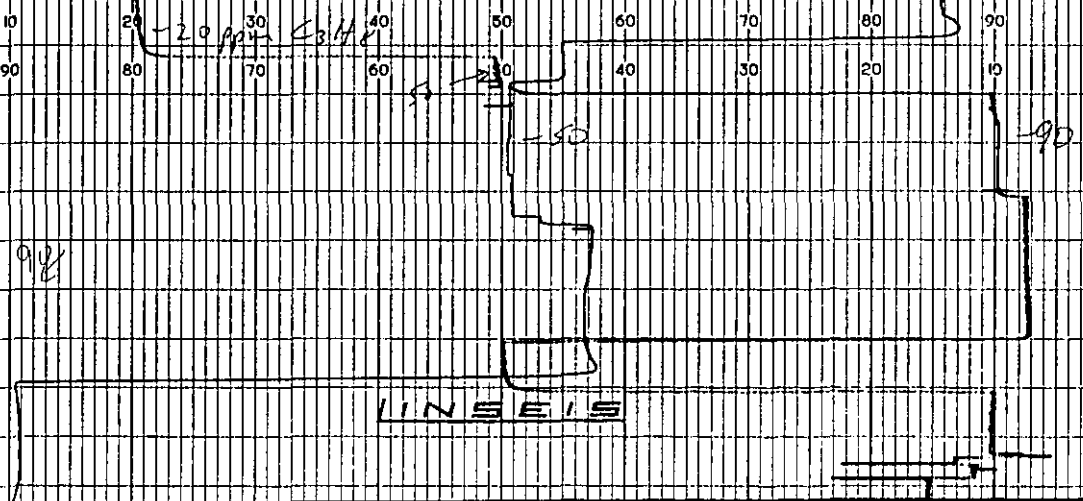
NO. 2 RTO
NO. 1 RTO
L.P. RTO
6/21/95
20 cm/hr

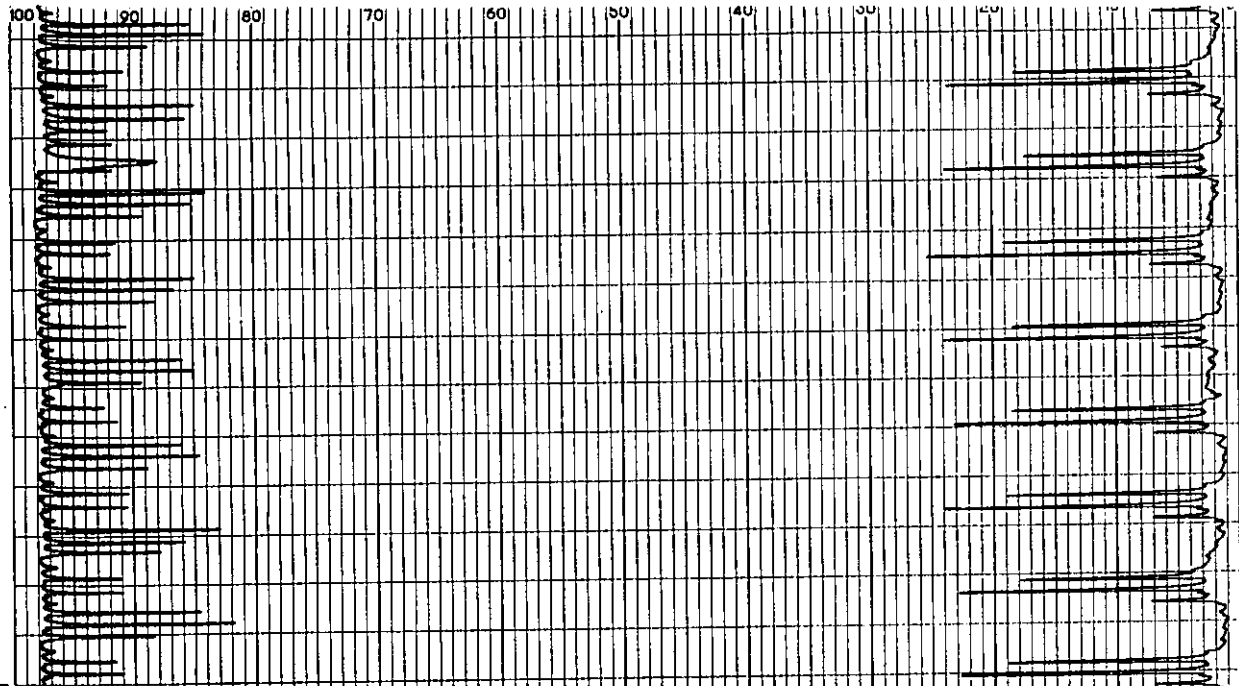
INSEIS

START RTO @ 0905
LG R = NO. 2 RTO @ 0-100
RTO L = NO. 1 RTO @ 0-100
20 cm/hr

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0



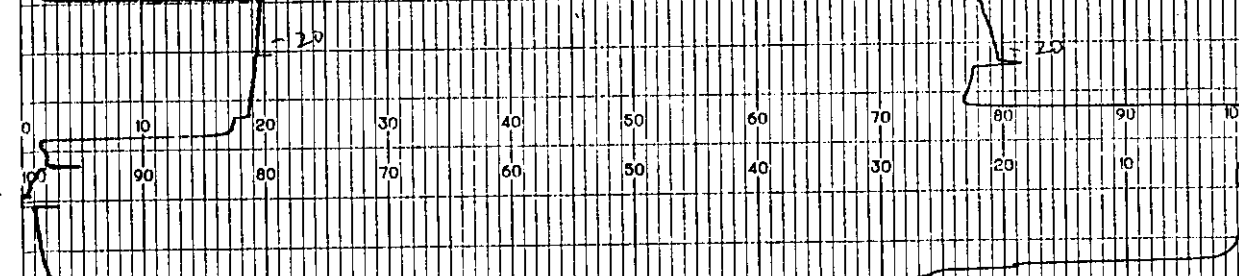


START R5
@ 1058

PART NO. LD/801

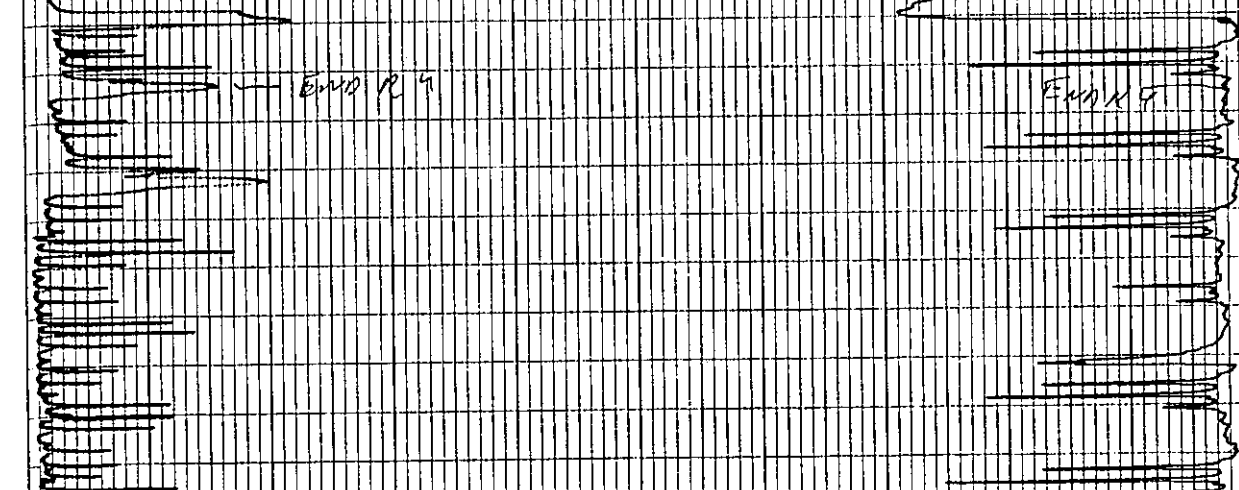
PRINTED IN U.S.A.

INSEIS



END R 7

END R 7



INSEIS

PRINTED IN U.S.

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

-20 ppm

23 ppm

INSEIS

- END R L E

PRINTED IN U.S.A.

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

PART NO.

PRINTED IN U.S.A.

PART NO. L0-8081

PRINTED IN U.S.A.

2-20 ppm

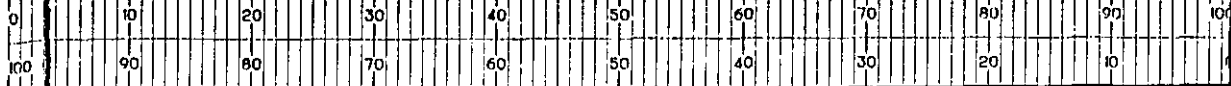
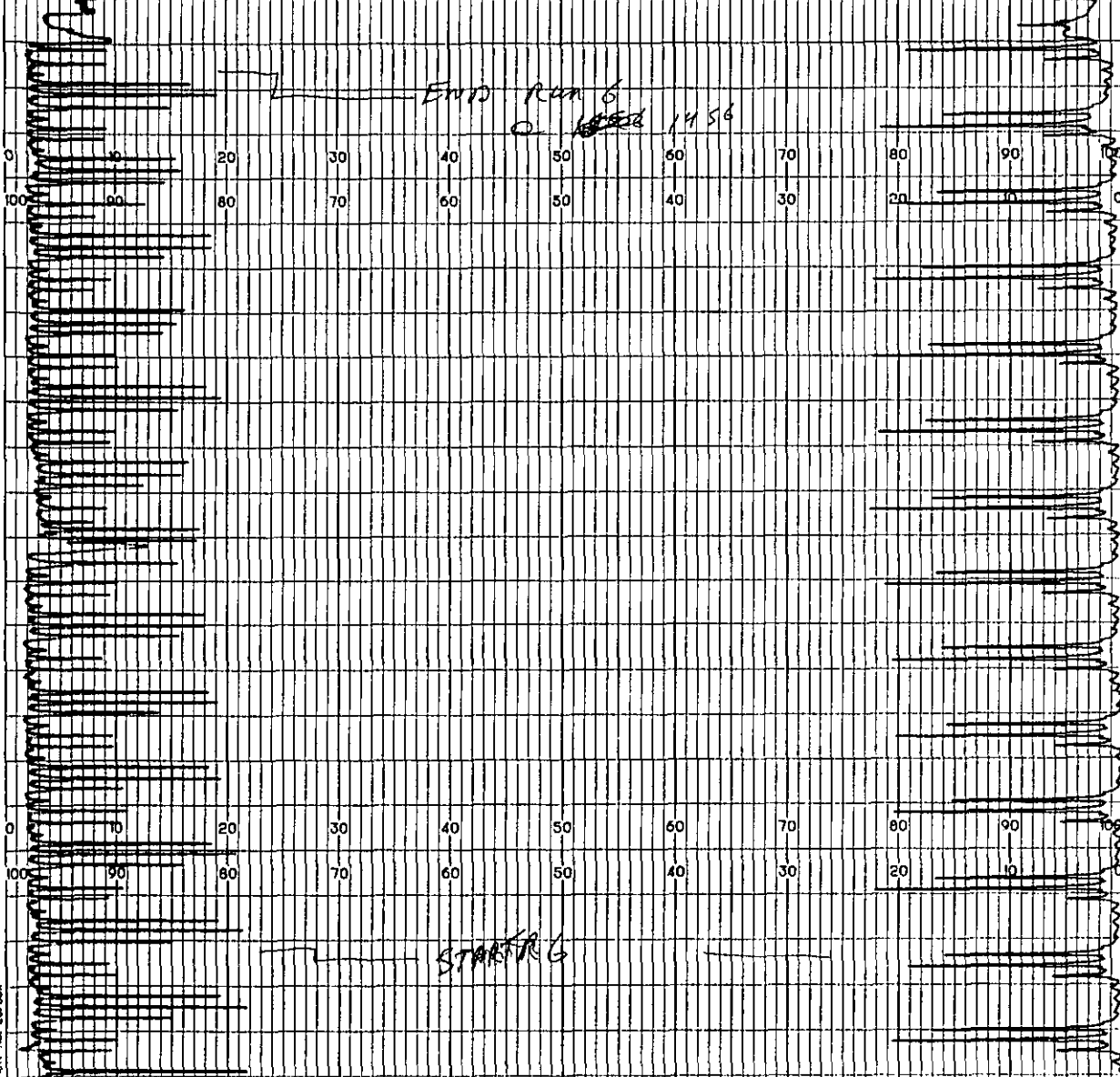
20 ppm

LINE 15

END RUN 6
O ~~1056~~ 1456

START 6

LINE 15



APPENDIX D.

ARMSTRONG ENVIRONMENTAL REPORT



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX (810) 589-2134

90.46 Propane

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer

ENVIRONMENTAL MON
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory

Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0116

Scott Project # : 576120

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 : ALM016008

Certificate Date : 1/27/95

Expiration Date : 1/27/98

Cylinder Pressure + : 1900 psig

Previous Certificate Date : None

ANALYZED CYLINDER

Components

Propane

Certified Concentration

90.46 ppm

Analytical Uncertainty*

±1% NIST Directly Traceable

Balance Gas: Air

*Do not use when cylinder pressure is below 150 psig.

*Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type

NTRM 1668

Expiration Date

6/7/96

Cylinder Number

ALM-032015

Concentration

95.5 ppm Propane in Air

INSTRUMENTATION

Instrument/Model/Serial

Propane : Beckman/400/1002059

Last Date Calibrated

1/19/95

Analytical Principle

Flame Ionization Detector

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Propane

First Triad Analysis

Date: 1/27/95 Response Units: mv
Z1=0.00 R1=95.50 T1=90.50
R2=95.50 Z2=0.00 T2=90.40
Z3=0.00 T3=90.50 R3=95.50
Avg. Conc. of Cust. Cyl. 90.46 ppm

Second Triad Analysis

Calibration Curve

Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$
r=1.00000 NTRM 1668
Constants: A=-0.086524000
B=1.000900000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes

Mail


Analyst

2410 NOx



Scott Specialty Gases, Inc.

500 WEAVER PARK ROAD, LONGMONT, CO 80501 (303) 442-4700, (303) 651-3094 FAX (303) 772-7673

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer:
ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
500 Weaver Park Road
Longmont, CO 80501

Purchase Order DRV0826
Scott Project # 0815606
CGA Fitting 660
QC Number 11039435
File Number 15606-01

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-043125 **Certification Date** 08/30/94 **Expiration Date** 08/30/96
Cylinder Pressure 2000 psig **Previous Certification Dates** None

ANALYZED CYLINDER

Components	Certified Concentration
Carbon Dioxide	2400 ppm
(Nitrogen Oxides)	2410 ppm
(Nitrogen)	Balance

Analytical Uncertainty*
±1% NIST Directly Traceable
Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM 2631	06/18/95	ALM-022283	2814.0ppm NO / N2
GMIS	NONE	AAL-19328	2170.0ppm NO / N2

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Monitor Labs 8840-857	08/22/94	Chemiluminescence

ANALYZER READINGS

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components (Nitric Oxide)	First Triad Analysis	Second Triad Analysis	Calibration Curve
	Date: 12/22/93 Response Units: mv Z1 = 0.0000 R1 = 0.4316 T1 = 0.4785 R2 = 0.4316 Z2 = 0.0000 T2 = 0.4785 Z3 = 0.0000 T3 = 0.4785 R3 = 0.4316 Avg. Conc. of Cust. Cyl. = 2401.1 ppm	Date: 08/30/94 Response Units: mv Z1 = 0.0000 R1 = 0.4316 T2 = 0.4786 R2 = 0.4316 Z2 = 0.0000 T2 = 0.4786 Z3 = 0.0000 T3 = 0.4786 R3 = 0.4316 Avg. Conc. of Cust. Cyl. = 2401.6 ppm	Concentration = A+Bx+Cx+Dx+Ex r = 0.999997 NTRM 2631 Constants: A = -11.764180 B = 5151.8800 C = -232.7234 D = 0 E = 0

Special Notes Do not use when cylinder pressure is below 150 psig.

Diana L. Beehler
Analyst: Diana L. Beehler



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX: (810) 589-2134

102.DNOx

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer

ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON, MS 39110

Assay Laboratory

Scott Specialty Gases, Inc
1290 Combermere
Troy, MI 48083

Purchase Order : DRV0826

Scott Project # : 570523

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 : ALM036349

Certificate Date : 8/30/94

Expiration Date : 8/30/96

Cylinder Pressure + : 1900 psig

Previous Certificate Date : None

ANALYZED CYLINDER

Components

Nitric Oxide
Total Oxides of Nitrogen

Certified Concentration

99.90 ppm
102.0 ppm

Analytical Uncertainty*

±1% NIST Directly Traceable
Reference Value Only

Balance Gas: Nitrogen

*Do not use when cylinder pressure is below 150 psig.

*Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

Type

NTRM 1684

Expiration Date

4/1/96

Cylinder Number

ALM-024582

Concentration

95.2 ppm Nitric Oxide in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial

NO-Horiba/OPE-235/483814

Last Date Calibrated

8/24/94

Analytical Principle

Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Nitric Oxide

First Triad Analysis

Date: 3/28/94 Response Units: mv
Z1=0.00 R1=95.20 T1=99.80
R2=95.20 Z2=0.00 T2=99.80
Z3=0.00 T3=99.80 R3=95.20
Avg. Conc. of Cust. Cyl. 99.80 ppm

Second Triad Analysis

Date: 8/30/94 Response Units: mv
Z1=0.00 R1=95.20 T1=100.00
R2=95.20 Z2=0.00 T2=100.00
Z3=0.00 T3=100.00 R3=95.20
Avg. Conc. of Cust. Cyl. 100.0 ppm

Calibration Curve

Concentration = $A + Bx + Cx^2 + Dx^3 + Ex^4$
r=0.99999 NTRM 1684
Constants: A=0.000000000
B=1.000000000 C=0.000000000
D=0.000000000 E=0.000000000

Special Notes

Don E. Smith Jr.

Analyst



Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48063

(313) 589-2950 FAX: (313) 589-2134

12.90 NOx

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENVIRONMENTAL MONITORING
242 INGLESIDE DRIVE
MADISON MS 39110

Assay Laboratory
Scott Specialty Gases, Inc.
1290 Combermere
Troy, MI 48083

Purchase Order 0630DR
Scott Project # 553186

ANALYTICAL INFORMATION

Tested to exceed the minimum specifications of EPA Protocol 1 Procedure # G1, Section Number 3.0.4

Cylinder Number ALM022478
Cylinder Pressure 1900 psig

Certification Date 7-19-93
Previous Certification Dates None

General Exp. Date 7-19-95
Acid Rain Exp. Date 7-19-95

ANALYZED CYLINDER

Components
Nitric Oxide

Certified Concentration
12.90 ppm

Analytical Uncertainty*
±1% NIST Directly Traceable

Total Oxides of Nitrogen
Balance Gas: Nitrogen

12.90 ppm

Reference Value Only

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type SRM 2629A
Expiration Date 1-4-95

Cylinder Number
FF-28502

Concentration
19.40 ppm NO in N₂

INSTRUMENTATION

Instrument/Model/Serial #
NO: Horiba/OPE-235/560543082

Last Date Calibrated
5-18-93

Analytical Principle
Chemiluminescence

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Nitric Oxide

First Triad Analysis

Date: 7-11-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Second Triad Analysis

Date: 7-19-93 Response Units: mv
Z1=0.00 R1=19.40 T1=12.90
R2=19.40 Z2=0.00 T2=12.90
Z3=0.00 T3=12.90 R3=19.40
Avg. Conc. of Cust. Cyl. 12.90 ppm

Calibration Curve

Concentration=A+Bx+Cx²+Dx³+Ex⁴
r=0.99999 SRM 2629A
Constants: A=0.01581712
B=0.9992878 C=0
D=0 E=0

Special Notes

If this product is used for Acid Rain Rule Compliance, the Acid Rain Expiration Date noted above applies per 40 CFR Part 75, Appendix H. Otherwise, the General Expiration Date applies.

Analyst Frank P. Doran



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE

HOUSTON

TX 77023

Phone: 713-644-4820

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DANNY RUSSELL
P O BOX 655

PROJECT #: 04-43368-001

PO#: DRV0517

ITEM #: 04024315 2AL

DATE: 5/26/95

RIDGELAND

MS 39158

CYLINDER #: ALM055984

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 5/24/96

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

OXYGEN

NITROGEN

REQUESTED GAS

CONC MOLES

452. PPM

11. %

BALANCE

ANALYSIS

(MOLES)

453. PPM

11.01 %

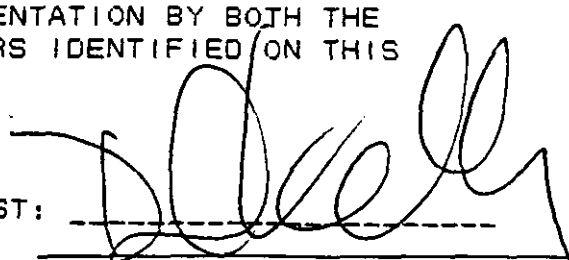
BALANCE

2000 PSI

US3

THIS PRODUCT IS TRACEABLE TO
DOCUMENTATION BY BOTH THE
NUMBERS IDENTIFIED ON THIS

ALL PRODUCTION & ANALYTICAL
PROJECT & CYLINDER SERIAL
CERTIFICATE OF ANALYSIS.

ANALYST: 

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DAN RUSSELL
P O BOX 655

PROJECT #: 04-29381-003
PO#: DRV-0107
ITEM #: 04021453 2AL
DATE: 1/11/94

RIDGELAND

MS 39158

CYLINDER #: ALM007930

ANALYTICAL ACCURACY: +/- 1%

FILL PRESSURE: 2000 PSI

PRODUCT EXPIRATION: 1/11/95

BLEND TYPE : ACUBLEND MASTER GAS

REQUESTED GAS

ANALYSIS

CONC MOLES

(MOLES)

COMPONENT

CARBON MONOXIDE

4,500.

PPM

4,540.

PPM

NITROGEN

BAL

BAL

ANALYST:

APPROVED BY:

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA



Scott Specialty Gases, Inc.

955 CO

PAGE

1

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING
DANNY RUSSELL
P O BOX 655

PROJECT #: 04-39807-002
PO#: DRV0116
ITEM #: 04024520 2AL
DATE: 1/27/95

RIDGELAND

MS 39158

CYLINDER #: AAL19761

ANALYTICAL ACCURACY: +/-1%
PRODUCT EXPIRATION: 1/27/96

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON DIOXIDE
CARBON MONOXIDE
OXYGEN
NITROGEN

REQUESTED GAS

CONC MOLES

12. %
955. PPM
3. %
BALANCE

ANALYSIS

(MOLES)

12.08 %
953. PPM
3.03 %
BALANCE

2000 PSI

THIS PRODUCT IS TRACEABLE TO
DOCUMENTATION BY BOTH THE
NUMBERS IDENTIFIED ON THIS

ALL PRODUCTION & ANALYTICAL
PROJECT & CYLINDER SERIAL
CERTIFICATE OF ANALYSIS.

ANALYST:

PLUMSTEADVILLE, PENNSYLVANIA / TROY, MICHIGAN / HOUSTON, TEXAS / DURHAM, NORTH CAROLINA
SOUTH PLAINFIELD, NEW JERSEY / FREMONT, CALIFORNIA / WAKEFIELD, MASSACHUSETTS / LONGMONT, COLORADO
BATON ROUGE, LOUISIANA

DRY GAS METER CALIBRATION

Meter ID RAC
Calibration Method DGM/DGM **By** GNM
Calibration Meter ID 651729 **Pbar** 29.76
Date 7/13/95

Vol. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp °F	V _i ft ³	V _f ft ³	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	8.50	432.392	442.521	76	569.427	579.951	91	103	91	92	0.983	1.21	0.682	1.982
1	4.00	9.50	442.521	452.659	83	579.951	590.419	103	120	92	97	0.994	1.08	0.676	2.013
1	3.00	11.00	452.659	462.725	86	590.419	600.891	117	128	97	104	0.999	0.93	0.671	2.049
1	2.00	13.50	462.725	472.804	88	600.891	611.460	126	135	104	111	1.003	0.77	0.673	2.036
1	1.00	18.25	472.804	482.837	89	611.460	622.042	132	135	109	117	1.005	0.57	0.703	1.862
Averages:												1.00			1.99

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)/((T_m \text{ out})(DH))})$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{m, \text{out}}/T_{m, \text{avg}})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID Andersen
 Calibration Method DGM/DGM By WBM
 Calibration Meter ID 651729 Pbar 29.95
 Date 7/14/95

V _{cal} in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp °F	V _i ft ³	V _f ft ³	Temp. in		Temp. out					
								init.	final	init.	final				
2	2.00	15.00	483.913	496.161	74	364.061	376.451	86	105	85	88	1.015	0.83	0.74	1.668
2	2.00	19.00	496.161	511.716	78	376.451	392.400	98	119	88	103	1.014	0.84	0.75	1.657
2	2.00	15.00	511.716	523.976	80	392.400	405.126	111	123	102	109	1.014	0.85	0.75	1.645
Averages:												1.01			1.66

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)} / ((T_m \text{ out})(DH)))$$

$$Q = ((V_{mi} - V_{mf}) / \text{min.})(T_{M, out} / T_{m, avg})(Y)$$

$$DH@ = 0.921 / K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID RAC
 Calibration Method DGM/DGM By DGR
 Calibration Meter ID 651729 Pbar 30.05
 Date 2/18/95

Vol. In. Hg	DH In. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			Vi ft ³	Vf ft ³	Temp °F	Vi ft ³	Vf ft ³	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	12.50	772.047	787.047	59	612.402	627.716	59	98	58	69	0.990	1.2	0.694	1.911
1	4.00	19.25	787.047	807.415	59	627.716	648.935	96	111	68	77	1.004	1.08	0.691	1.929
1	3.00	13.45	807.415	819.741	62	648.935	661.985	109	114	77	82	0.998	0.94	0.692	1.921
1	2.00	18.00	819.741	832.838	62	661.985	675.978	110	108	81	84	0.992	0.75	0.676	2.015
1	1.00	21.00	832.838	844.241	62	675.978	688.173	106	111	84	87	0.995	0.57	0.716	1.795
Averages:												1.00			1.91

$$Y = [V_{cal}(P_{bar}(T_{dgm}))]/[V_{dgm}(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m - M_m)/((T_m - out)(DH))})$$

$$Q = ((V_{mi} - V_{mf})/min.)(T_{m,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

Vcal = Volume of gas through calibrating meter, cubic feet

Vdgm = Volume of gas through field dry gas meter, cubic feet

Pbar = Barometric pressure, in. Hg

Pm = Meter pressure, (Pbar = DH/13.6)

Tdgm = Average dry gas meter temp, degrees R

Tcal = Temperature of gas at calibrating meter, degrees R

DRY GAS METER CALIBRATION

Meter ID Andersen

Calibration Method DGM/DGM By DGR

Calibration Meter ID 651729 Pbar 30.05

Date 2/18/95

vac. in. Hg	DH in. H ₂ O	Time min	Calibrating Meter			Field Meter						Y	Q	K	DH@
			V _i ft ³	V _f ft ³	Temp °F	V _i ft ³	V _f ft ³	Temp. in		Temp out					
								init.	final	init.	final				
1	5.00	10.00	705.781	718.433	70	142.259	154.458	55	82	55	62	1.012	1.22	0.713	1.810
1	4.00	14.00	718.433	734.176	70	154.458	169.964	72	88	62	73	1.013	1.11	0.716	1.798
1	3.00	14.00	734.176	747.841	70	169.964	183.706	83	88	73	80	1.008	0.98	0.724	1.755
1	2.00	15.00	747.841	759.444	70	183.706	195.595	84	86	80	83	0.995	0.79	0.707	1.841
1	1.00	17.50	759.444	769.343	70	195.595	205.763	86	84	82	85	0.997	0.58	0.734	1.711
Averages:												1.00			1.78

$$Y = [V_{cal}(P_{bar})(T_{dgm})]/[(V_{dgm})(P_m)(T_{cal})]$$

$$K = Q(\sqrt{(P_m M_m)/((T_m \text{ out})(DH))})$$

$$Q = ((V_{mi} - V_{mf})/\text{min.})(T_{M,out}/T_{m,avg})(Y)$$

$$DH@ = 0.921/K^2$$

Where:

Y = Meter correction factor, dimensionless

V_{cal} = Volume of gas through calibrating meter, cubic feet

V_{dgm} = Volume of gas through field dry gas meter, cubic feet

P_{bar} = Barometric pressure, in. Hg

P_m = Meter pressure, (P_{bar} = DH/13.6)

T_{dgm} = Average dry gas meter temp, degrees R

T_{cal} = Temperature of gas at calibrating meter, degrees R

PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe identification: No. 2 7

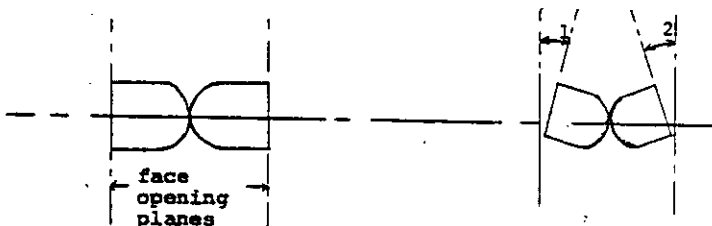
Date Checked: 6-20-95 By: DCR

1. Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: (α_1 and $\alpha_2 < 10^\circ$)

$\alpha_1 = \underline{0}$

$\alpha_2 = \underline{0}$



2. Face openings parallel to longitudinal axis: (β_1 and $\beta_2 < 5^\circ$; $P = 1.05 D_t$ to $1.50 D_t$; $P_A = P_B$)

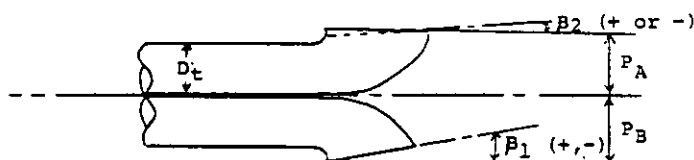
$D_t = \underline{.375}$

$\beta_1 = \underline{0}$

$P_A = \underline{.45}$

$\beta_2 = \underline{0}$

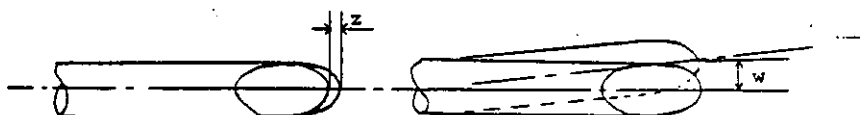
$P_B = \underline{.45}$



3. Both legs equal length and centerline coincident ($z < .125$ inch; $w < .031$ inch)

$z = \underline{0}$

$w = \underline{0}$



PITOT/PROBE CLEARANCE CHECK:

Nozzle ID: .270 / .265Q Nozzle dia: .270 / .265Q Date: 6-20-95 + 6-21-95

II. Pitot/probe/nozzle assemblies have the same C_p as the isolated Pitot tube when the following conditions exist.

1. $D_t > .188$ & $< .375$ inch

$D_t = \underline{.375}$

2. $X_1 \geq .75$ inch

$X_1 = \underline{1.0'' / 1.0''}$

3. $X_2 \geq 0$ inch

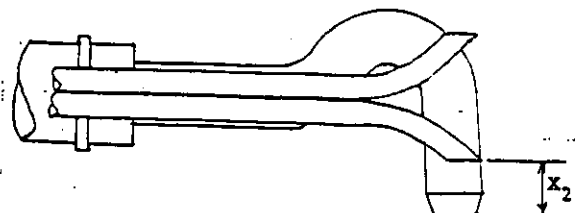
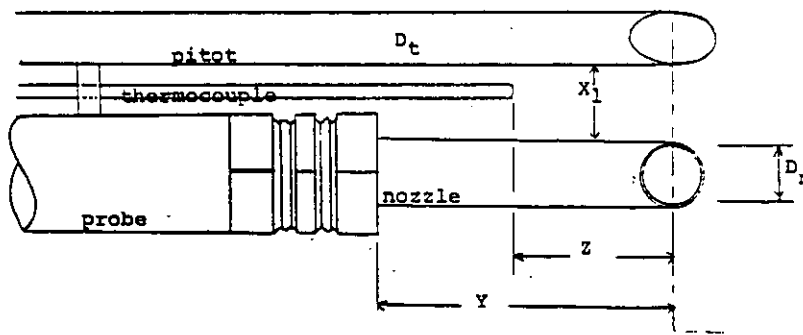
$X_2 = \underline{.5'' / .6''}$

4. $Y \geq 3.0$ inch

$Y = \underline{6.0'' / 6.0''}$

5. $z \geq 2.0$ inch

$z = \underline{2.4'' / 2.4''}$



PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe identification: 7'

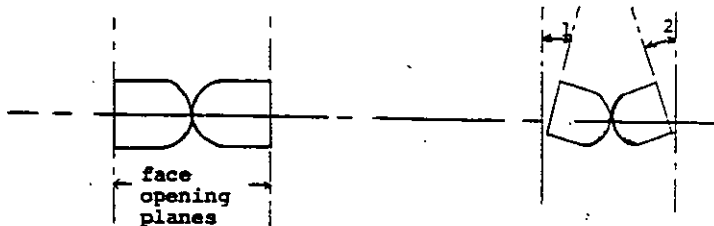
Date Checked: 6-20-95 By: DSR

Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: (α_1 and $\alpha_2 < 10^\circ$)

$\alpha_1 = \underline{0}$

$\alpha_2 = \underline{0}$



2. Face openings parallel to longitudinal axis: (β_1 and $\beta_2 < 5^\circ$; $P = 1.05 D_t$ to $1.50 D_t$; $P_A = P_B$)

$D_t = \underline{.375}$

$\beta_1 = \underline{0}$

$P_A = \underline{.50}$

$\beta_2 = \underline{0}$

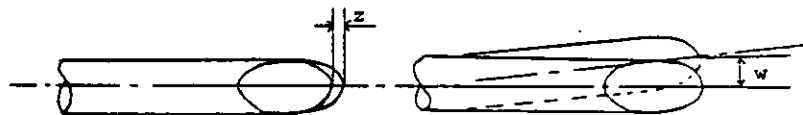
$P_B = \underline{.50}$



3. Both legs equal length and centerline coincident ($z < .125$ inch; $w < .031$ inch)

$z = \underline{0}$

$w = \underline{0}$



PITOT/PROBE CLEARANCE CHECK:

Nozzle ID: .270 .265Q Nozzle dia: .270 .265 Date: 6-20-95 / 6-21-95

II. Pitot/probe/nozzle assemblies have the same C_p as the isolated Pitot tube when the following conditions exist.

1. $D_t > .188$ & $< .375$ inch

$D_t = \underline{.375''}$

2. $X_1 \geq .75$ inch

$X_1 = \underline{.95''}$ 1.1''

3. $X_2 \geq 0$ inch

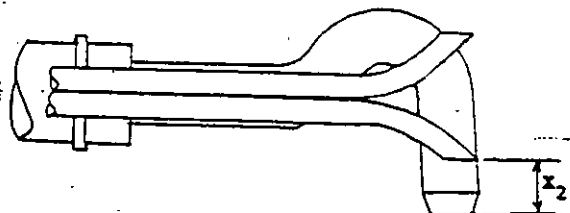
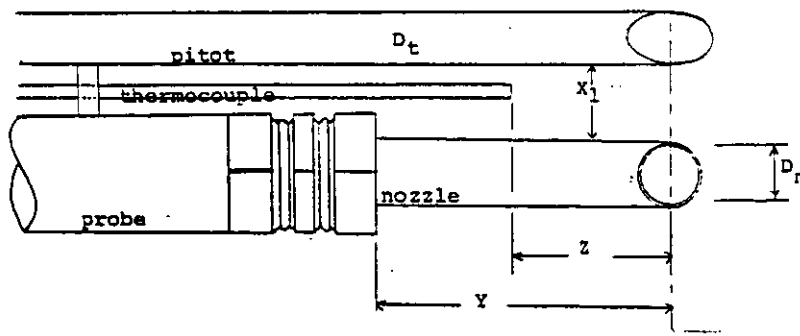
$X_2 = \underline{.25''}$.50''

4. $Y \geq 3.0$ inch

$Y = \underline{6.0''}$ 6.0''

5. $z \geq 2.0$ inch

$z = \underline{2.2''}$ 2.2''



JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY***10/19/94****DRYER R-T-O'S**

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0	6.0 - 8.8	5.8 - 8.2
Inlet Temp. (°F)		700 - 1040	760 - 900	960 - 1080	680 - 800
Outlet Temp. (°F)		175 - 190	170 - 180	160 - 165	185 - 200

12 PLATEN PRESS

Press Temp. (°F)	400
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)30,688 ft²***
43,224 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 268,826,880 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY***10/20/94****DRYER R-T-O'S**

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0	6.0 - 8.8	5.8 - 8.2
Inlet Temp. (°F)		760 - 1040	800 - 1080	800 - 1040	740 - 1000
Outlet Temp. (°F)		180 - 200	175 - 190	160 - 170	175 - 200
Production (lbs/hr)		17,800	16,600	16,800	16,000

12 PLATEN PRESS

Press Temp. (°F)	395 - 405
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)39,648 ft²***
55,755 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 347,316,480 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY***10/21/94****DRYER R-T-O'S**

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0	6.0 - 8.8	5.8 - 8.2
Inlet Temp. (°F)1		640 - 1000	700 - 1000	760 - 1080	720 - 920
Outlet Temp. (°F)		170 - 180	170 - 180	150 - 160	180 - 195
Production (lbs/hr)		17,000	16,800	17,700	17,600

12 PLATEN PRESS

Press Temp. (°F)	400 - 405
Thickness (in)	0.438**
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)40,320 ft²***
56,700 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch

***Annualized Production of 353,203,200 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY***10/22/94****DRYER R-T-O'S**

	DRYER 1	DRYER 2	DRYER 3	DRYER 4	DRYER 5
Dry Furnish Moisture (%)		6.5 - 8.5	6.0 - 8.0		5.8 - 8.2
Inlet Temp. (°F)1		720 - 920	680 - 880		720 - 840
Outlet Temp. (°F)		170 - 180	170 - 180		185 - 195

12 PLATEN PRESS

Press Temp. (°F)	400 - 405
Thickness (in)	0.438** & 0.719
Density (nominal, lbs/cu ft)	45

PRODUCTION (Finished 3/8 in basis)40,110 ft²***
56,405 lbs/hr

*No. 1 Dryer was not operating. With all 5 dryers running at these rates the dry bin was being overloaded so four dryer operation was maintained.

**Nominal Thickness = 7/16 inch and 23/32 inch

***Annualized Production of 351,363,600 ft² 3/8 basis (8760 hrs)

JACKSON CO. GEORGIA OSB STACK TEST OPERATIONAL SUMMARY***10/23/94****DRYER R-T-O'S****DRYER 1 DRYER 2 DRYER 3 DRYER 4 DRYER 5****Dry Furnish
Moisture (%)****Inlet Temp.
(°F)¹****Outlet Temp.
(°F)****12 PLATEN PRESS****Press 395 - 405
Temp. (°F)****Thickness 0.438**
(in)****Density 45
(nominal, lbs/cu ft)****PRODUCTION (Finished 3/8 in basis)****37,901ft²***
53,298 lbs/hr**

*On 10/23/94 only the press R-T-O was being sampled, therefore no dryer data were collected.

**Nominal Thickness = 7/16 inch

***Annualized Production of 332,012,760 ft² 3/8 basis (8760 hrs)

Exhaust Emission Sampling
Louisiana Pacific, Athens, GA
RTO Inlets & Exhaust
June 20 - 23, 1995
Armstrong Environmental, Inc.
Project W-1710-95

Report Prepared For:
Mr. Dan Russel
EMS
PO Box 655
Ridgeland, MS 39158

Report Prepared July 5, 1995 By:
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I. INTRODUCTION

A series of tests were performed on four of five dryer exhausts associated with the two Dryer RTOs and on the two inlets and single exhaust associated with the Press RTO at the Louisiana Pacific facility located in Athens, GA on June 20 - 23, 1995.

The purpose of this test series was to determine the emission rates of particulate, Nox, CO, VOC and Formaldehyde in terms of lbs/hr on the Press RTO exhaust, CO, Nox and VOC emissions simultaneously with the sampling performed on the Press RTO exhausts, and to determine the Nox, CO and VOC emissions on the Dryer RTO inlets concurrently with RTO exhaust sampling. Sampling was performed under the following schedule:

June 20 - Nox & CO sampling on four dryer exhausts (10:55 am - 3:00pm)

June 21 - VOC sampling on four dryer exhausts (9:05 am - 4:22pm)

June 22 - Nox, CO, and PM on Press RTO inlet and exhaust (10:25 am - 5:36 pm)

June 22 & 23 - VOC and formaldehyde on Press RTO inlet and exhaust (8:55am - 11:35 am)

Testing followed procedures detailed in Title 40: Code of Federal Regulations (40:CFR).

Sampling was performed by John Dahlem, Danny Barrera, Cody Jefferson, Matt Taylor and Tom Armstrong of Armstrong Environmental, Inc. using an 4 Apex Method 5 Sampling Trains, two FUJI continuous CO analyzers, four TECO Model 51 continuous FID analyzers, a single JUM continuous FID analyzer, a single Ratfisch continuous FID analyzer, and two TECO Model 10 Nox analyzers.

Submitted by:

Armstrong Environmental, Inc.

Tom Armstrong /cs

Tom Armstrong
President

II. SUMMARY

A series of tests were performed on four Dryers associated with RTO #1 and #2, and the two inlets and single exhaust of the Press RTO at the Louisiana Pacific facility in Athens, GA on June 20- 23, 1995.

Sampling was performed following procedures detailed in Title 40: Code of Federal Regulations.

Results of this test series are summarized in Table 1-14.

Results indicate the following emission rates:

Component/Run#	1	2	3	Ave.
Dryer #2				
Nox, lbs/hr	4.75	4.08	4.02	4.28
CO, lbs/hr	3.36	3.15	4.61	3.71
VOC as C - *DB, lbs/hr	136.0	63.06	118.73	105.93
*DB - Dry Basis				
Dryer #3				
Nox, lbs/hr	4.70	4.75	5.33	4.93
CO, lbs/hr	15.38	19.77	14.42	16.52
VOC as C - DB, lbs/hr	49.44	70.14	79.42	66.34
Dryer #4				
Nox, lbs/hr	3.97	3.37	3.76	3.7
CO, lbs/hr	9.48	6.03	8.39	7.97
VOC as C - DB, lbs/hr	50.50	52.97	99.98	67.82
Dryer #5				
Nox, lbs/hr	6.84	4.17	5.63	5.55
CO, lbs/hr	11.41	14.99	7.49	11.29
VOC as C - DB, lbs/hr	61.93	161.24	69.61	97.59

Press RTO Inlet 1				
Nox, lbs/hr	0.89	0.96	1.59	1.15
CO, lbs/hr	2.70	1.41	1.34	1.82
VOC as C - DB, lbs/hr	33.89	26.87	36.79	32.52

Press RTO Inlet 2				
Nox, lbs/hr	1.01	0.64	1.20	0.95
CO, lbs/hr	1.54	1.27	1.51	1.44
VOC as C - DB, lbs/hr	22.66	12.73	15.74	17.04

Press RTO Exhaust				
Particulate, lbs/hr	4.96	3.48	3.96	0.41
Nox, lbs/hr	8.50	9.49	9.83	9.27
CO, lbs/hr	4.23	3.97	2.88	3.69
Formaldehyde, lbs/hr	0.053	0.027	0.026	0.035
VOC as C - DB, lbs/hr	2.07	1.51	1.80	1.79
VOC Destruction, %	96.34	96.18	96.57	96.38

Based on the results of this test series, the following comments can be made:

1. VOC is reported on a dry basis as C (Carbon), although measurements were taken on a wet basis. Concentrations on wet basis were adjusted up for these calculations.
2. Field blanks and spiked blanks were taken in the field. The spike consisted of a 1 ml aliquot of 1.004 mg/ml formaldehyde in water added to the DNPH reagent. Results yielded 0.937 mg for the Dryer RTO exhausts, and 0.830 mg for the Press RTO exhaust, within the +/- 20% given in Method 0011. Field blanks showed no formaldehyde detected. Two blanks were analyzed, one from Armstrong equipment, one from EMS. Results of the formaldehyde analysis for EMS sampling runs on RTO #1 and #2 are as follows:

Run#	<u>Formaldehyde, Total mg</u>		
	1	2	3
RTO #1	1.098	0.548	0.491
RTO #2	0.572	0.448	0.463

Chromatograms and analytical summaries can be found in Appendix C.

3. During Run #2 of the VOC sampling on the Dryers, the continuous analyzer (JUM) plugged up. No data was recovered from this run. An additional repetition was performed after sampling was completed and is reported as "Run #4" in the summary table and as "Run #3" in the summary above. During Run #3, one analyzer was switched between Dryer #3 and Dryer #4 at approximate 5 minute intervals.
4. A data logger was used to record VOC concentrations at all locations. Recording interval was set at 15 seconds for the Dryers, and at 5 seconds for the Press RTO.

SUMMARY OF EMISSIONS TEST DATA

Table : 1
 Plant : LP Athens, GA
 Location : Dryer #2
 Operator : C. Jefferson, M. Taylor
 Test Date : 20-Jun-95
 Repetition :

	1	2	3
STACK GAS			
Temperature, F	178.8	178.8	176.3
Velocity, fps	84.10	84.65	84.49
Volume Flow, acfm	47397.9	47710.8	47618.3
scfm	33795.2	31773.5	32216.9
scfh	2027711	1906410	1933012
Moisture, %	11.01%	16.97%	16.00%
CO2, %	2.50	1.00	1.00
O2, %	19.00	19.50	19.00
SAMPLE			
Start Time, hrs:min	10:55 AM	12:45 PM	2:40 PM
Finish Time, hrs:min	12:15 PM	1:05 PM	3:00 PM
Sample Volume, scf	10.841	11.010	11.098
CARBON MONOXIDE			
Concentration, ppm	22.8	22.7	32.78
Emissions, lbs/hr	3.360567	3.145675	4.605907
NITROGEN OXIDE AS NO2			
Concentration, ppm	19.6	17.9	17.4
Emissions, lbs/hr	4.746064	4.075124	4.016569

SUMMARY OF EMISSIONS TEST DATA

Table : 2

Plant : LP Athens, GA

Location : Dryer #3

Operator : C. Jefferson, M. Taylor

Test Date : 20-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	179.0	177.5	178.0
Velocity, fps	81.25	83.48	83.96
Volume Flow, acfm	45792.8	47049.0	47321.1
scfm	32495.8	32630.0	30783.2
scfh	1949747	1957801	1846989
Moisture, %	11.42%	13.70%	18.97%
CO2, %	3.00	1.00	1.00
O2, %	18.50	18.00	18.00
SAMPLE			
Start Time, hrs:min	11:32 AM	1:17 PM	3:13 PM
Finish Time, hrs:min	11:52 AM	1:37 PM	3:33 PM
Sample Volume, scf	9.783	11.031	10.275
CARBON MONOXIDE			
Concentration, ppm	108.5	138.9	107.4
Emissions, lbs/hr	15.37729	19.76708	14.41917
NITROGEN OXIDE AS NO2			
Concentration, ppm	20.2	20.3	24.19
Emissions, lbs/hr	4.703283	4.746091	5.335459

SUMMARY OF EMISSIONS TEST DATA

Table : 3

Plant : LP Athens, GA

Location : Dryer #4

Operator : M. Taylor, J. Dahlem

Test Date : 20-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	177.5	177.5	177.5
Velocity, fps	76.75	76.01	78.40
Volume Flow, acfm	43255.1	42838.1	44184.1
scfm	30324.3	29846.0	29276.8
scfh	1819459	1790763	1756608
Moisture, %	12.74%	13.13%	17.55%
CO2, %	2.50	1.50	2.00
O2, %	19.00	18.50	17.00
SAMPLE			
Start Time, hrs:min	10:55 AM	12:45 PM	2:40 PM
Finish Time, hrs:min	11:15 AM	1:05 PM	3:00 PM
Sample Volume, scf	12.089	11.463	10.992
CARBON MONOXIDE			
Concentration, ppm	71.7	46.3	65.7
Emissions, lbs/hr	9.482724	6.026856	8.389036
NITROGEN OXIDE AS NO2			
Concentration, ppm	18.26	15.77	17.93
Emissions, lbs/hr	3.967478	3.372418	3.761203

SUMMARY OF EMISSIONS TEST DATA

Table : 4

Plant : LP Athens, GA

Location : Dryer #5

Operator : M. Taylor, J. Dahlem

Test Date : 20-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	179.0	177.0	177.0
Velocity, fps	78.19	84.82	82.20
Volume Flow, acfm	44065.7	47802.3	46325.8
scfm	30663.7	31328.1	31405.0
scfh	1839819	1879684	1884298
Moisture, %	13.23%	18.55%	15.75%
CO2, %	3.00	1.00	1.00
O2, %	18.00	17.00	17.00
SAMPLE			
Start Time, hrs:min	11:32 AM	1:17 PM	3:13 PM
Finish Time, hrs:min	11:52 AM	1:37 PM	3:33 PM
Sample Volume, scf	11.270	11.736	11.505
CARBON MONOXIDE			
Concentration, ppm	85.3	109.7	54.7
Emissions, lbs/hr	11.40764	14.98867	7.492188
NITROGEN OXIDE AS NO2			
Concentration, ppm	31.1	18.58	25.04
Emissions, lbs/hr	6.832931	4.170634	5.634501

SUMMARY OF EMISSIONS TEST DATA

Table : 5

Plant : LP Athens, GA

Location : Dryer #2

Operator : D. Barrera, M. Taylor

Test Date : 21-Jun-95

Repetition :	1	2	3	4
STACK GAS				
Temperature, F	171.8	172.3	172.3	174.0
Velocity, fps	88.21	88.04	89.33	89.34
Volume Flow, acfm	49715.9	49621.9	50345.6	50353.4
scfm	35033.2	35382.3	33357.9	33344.2
scfh	2101989	2122939	2001472	2000651
Moisture, %	13.06%	11.98%	18.19%	18.01%
CO2, %	1.50	1.50	1.50	1.50
O2, %	19.50	19.00	19.00	18.50
SAMPLE				
Start Time, hrs:min	9:05 AM	10:55 AM	1:57 PM	3:22 PM
Finish Time, hrs:min	10:05 AM	11:55 AM	2:59 PM	4:22 PM
Sample Volume, scf	12.283	13.867	10.798	11.294
VOC				
Concentration as C3H8, ppm WB	602.00	NM	275.80	520.66
Concentration as C, ppm WB	1806	NM	827.4	1561.98
Concentration as C, ppm DB	2077.307	NM	1011.352	1905.055
Emissions as C, lbs/hr DB	136.0273	NM	63.059	118.7337

SUMMARY OF EMISSIONS TEST DATA

Table : 6

Plant : LP Athens

Location : Dryer #3

Operator : D. Barrera, M. Taylor, C. Jefferson

Test Date : 21-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	169.7	171.5	173.3
Velocity, fps	82.41	83.84	83.56
Volume Flow, acfm	46445.4	47250.6	47092.7
scfm	30602.1	30603.3	30905.8
scfh	1836128	1836201	1854347
Moisture, %	19.10%	20.22%	18.96%
CO ₂ , %	1.50	1.50	1.50
O ₂ , %	19.00	19.00	19.00
SAMPLE			
Start Time, hrs:min	9:05 AM	10:55 AM	1:57 PM
Finish Time, hrs:min	10:05 AM	11:55 AM	2:59 PM
Sample Volume, scf	11.065	10.973	11.165
VOC			
Concentration as C ₃ H ₈ , ppm WB	233.10	326.10	371.40
Concentration as C, ppm WB	699.3	978.3	1114.2
Concentration as C, ppm DB	864.402	1226.307	1374.909
Emissions as C, lbs/hr DB	49.44401	70.14788	79.42553

SUMMARY OF EMISSIONS TEST DATA

Table : 7

Plant : LP Athens, GA

Location : Dryer #4

Operator : D. Barrera, M. Taylor, C. Jefferson

Test Date : 21-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	171.8	171.3	171.3
Velocity, fps	82.24	82.75	83.29
Volume Flow, acfm	46352.9	46637.7	46939.9
scfm	31411.2	31430.0	31777.2
scfh	1884671	1885799	1906631
Moisture, %	16.50%	17.05%	16.63%
CO ₂ , %	3.00	3.00	2.00
O ₂ , %	18.50	18.00	18.50
SAMPLE			
Start Time, hrs:min	9:05 AM	10:55 AM	1:57 PM
Finish Time, hrs:min	10:05 AM	11:55 AM	2:59 PM
Sample Volume, scf	11.696	10.789	11.187
VOC			
Concentration as C ₃ H ₈ , ppm WB	239.40	249.30	467.80
Concentration as C, ppm WB	718.2	747.9	1403.4
Concentration as C, ppm DB	860.1124	901.5865	1683.29
Emissions as C, lbs/hr DB	50.49935	52.96608	99.98172

SUMMARY OF EMISSIONS TEST DATA

Table : 8

Plant : LP Athens, GA

Location : Dryer #5

Operator : D. Barrera, M. Taylor, C. Jefferson

Test Date : 21-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	170.3	172.5	175.5
Velocity, fps	79.06	79.28	80.21
Volume Flow, acfm	44559.6	44684.0	45206.5
scfm	30036.8	31689.8	27839.3
scfh	1802211	1901386	1670361
Moisture, %	17.20%	12.57%	23.73%
CO ₂ , %	2.00	2.00	1.50
O ₂ , %	18.00	18.50	19.00
SAMPLE			
Start Time, hrs:min	9:05 AM	10:55 AM	1:57 PM
Finish Time, hrs:min	10:05 AM	11:55 AM	2:59 PM
Sample Volume, scf	11.512	11.159	9.125
VOC			
Concentration as C ₃ H ₈ , ppm WB	304.45	793.30	340.10
Concentration as C, ppm WB	913.35	2379.9	1020.3
Concentration as C, ppm DB	1103.07	2722.218	1337.662
Emissions as C, lbs/hr DB	61.93036	161.2457	69.60678

SUMMARY OF EMISSIONS TEST DATA

Table : 9
 Plant : LP Athens, GA
 Location : Press RTO Inlet #1
 Operator : M. Taylor, C. Jefferson
 Test Date : 22-Jun-95
 Repetition :

	1	2	3
STACK GAS			
Temperature, F	102.3	110.6	109.5
Velocity, fps	66.46	67.04	69.28
Volume Flow, acfm	66994.4	67578.1	69836.1
scfm	58935.0	58263.3	60112.6
scfh	3536098	3495797	3606756
Moisture, %	3.12%	3.66%	4.02%
CO2, %	0.50	0.50	0.00
O2, %	21.00	21.00	21.00
SAMPLE			
Start Time, hrs:min	10:25 AM	12:15 PM	2:03 PM
Finish Time, hrs:min	10:55 AM	12:35 PM	2:23 PM
Sample Volume, scf	13.149	11.161	11.230
CARBON MONOXIDE			
Concentration, ppm	10.52	5.55	5.1
Emissions, lbs/hr	2.704032	1.410298	1.337084
NITROGEN OXIDE AS NO2			
Concentration, ppm	2.1	2.3	3.7
Emissions, lbs/hr	0.886779	0.960164	1.593639

0.3

SUMMARY OF EMISSIONS TEST DATA

Table : 10

Plant : LP Athens,GA

Location : Press RTO Inlet #2

Operator : M. Taylor, C. Jefferson

Test Date : 22-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	99.2	103.0	108.2
Velocity, fps	63.07	62.20	63.13
Volume Flow, acfm	63578.7	62703.0	63638.6
scfm	56612.1	55553.4	55747.9
scfh	3396725	3333203	3344873
Moisture, %	2.82%	2.65%	2.86%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00
SAMPLE			
Start Time, hrs:min	11:11 AM	12:59 PM	2:35 PM
Finish Time, hrs:min	11:31 AM	1:19 PM	2:55 PM
Sample Volume, scf	11.344	10.371	11.203
CARBON MONOXIDE			
Concentration, ppm	6.24	5.26	6.2
Emissions, lbs/hr	1.540695	1.27444	1.50745
NITROGEN OXIDE AS NO2			
Concentration, ppm	2.5	1.6	3
Emissions, lbs/hr	1.01408	0.636874	1.198319

SUMMARY OF EMISSIONS TEST DATA

Table : 11

Plant : LP Athens, GA

Location : Press RTO Exhaust

Operator : J. Dahlem, D. Barrera, C. Jefferson

Test Date : 22-Jun-95

Repetition :	1	2	3
STACK GAS			
Temperature, F	228.3	229.8	233.3
Velocity, fps	66.54	65.87	64.85
Volume Flow, acfm	157335.8	155737.8	153336.4
scfm	114240.3	112955.2	110935.9
scfh	6854419	6777310	6656156
Moisture, %	3.79%	3.67%	3.42%
CO2, %	0.00	0.50	0.00
O2, %	21.00	21.00	21.00
SAMPLE			
Start Time, hrs:min	10:23 AM	12:54 PM	2:20 PM
Finish Time, hrs:min	11:33 AM	1:56 PM	3:22 PM
Sample Volume, scf	32.274	31.878	32.177
Isokinetic Ratio, %	97.34242	97.24194	99.9394
PARTICULATE			
Front Half			
Sample Weight, mg	7.40	5.90	6.20
Concentration, gr/scf	0.003538	0.002856	0.002973
Emissions, lbs/hr	3.465431	2.765833	2.828019
Back Half			
Sample Weight, mg	3.20	1.53	2.50
Concentration, gr/scf	0.00153	0.000741	0.001199
Emissions, lbs/hr	1.498565	0.717242	1.14033
Total Particulate, lbs/hr	4.963996	3.483075	3.968349
CARBON MONOXIDE			
Concentration, ppm	8.48	8.05	5.96
Emissions, lbs/hr	4.225112	3.965747	2.883643
NITROGEN OXIDE AS NO2			
Concentration, ppm	10.38	11.73	12.37
Emissions, lbs/hr	8.49649	9.493512	9.832518

SUMMARY OF EMISSIONS TEST DATA

Table : 12

Plant : LP Athens, GA

Location : Press RTO Inlet #1

Operator : M. Taylor, D. Barrera

Test Date : 6/22/95

6/23/95

6/23/95

Repetition : 1

2

3

STACK GAS

Temperature, F	110.3	109.0	99.5
Velocity, fps	65.07	66.19	65.15
Volume Flow, acfm	65594.9	66716.7	65670.9
scfm	57231.5	58880.1	58467.7
scfh	3433891	3532808	3508061
Moisture, %	3.23%	2.31%	3.04%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00

SAMPLE

Start Time, hrs:min	4:34 PM	8:55 AM	10:33 AM
Finish Time, hrs:min	5:36 PM	9:59 AM	11:35 AM
Sample Volume, scf	11.280	11.960	11.999

VOC

Concentration as C3H8, ppm WB	102.20	79.50	108.80
Concentration as C, ppm WB	306.6	238.5	326.4
Concentration as C, ppm DB	316.8353	244.1318	336.6435
Emissions as C, lbs/hr DB	33.8934	26.86825	36.79022

SUMMARY OF EMISSIONS TEST DATA

Table : 13

Plant : LP Athens, GA

Location : Press RTO Inlet #2

Operator : M. Taylor, D. Barrera

Test Date :	6/22/95	6/23/95	6/23/95
Repetition :	1	2	3

STACK GAS

Temperature, F	109.5	105.5	109.5
Velocity, fps	62.11	60.02	62.18
Volume Flow, acfm	62610.1	60497.4	62676.1
scfm	54961.8	52542.6	54856.9
scfh	3297710	3152557	3291416
Moisture, %	2.79%	3.48%	3.05%
CO2, %	0.00	0.00	0.00
O2, %	21.00	21.00	21.00

SAMPLE

Start Time, hrs:min	4:34 PM	8:55 AM	10:33 AM
Finish Time, hrs:min	5:36 PM	9:59 AM	11:35 AM
Sample Volume, scf	11.478	11.745	11.955

VOC

Concentration as C3H8, ppm WB	71.48	41.70	49.62
Concentration as C, ppm WB	214.44	125.1	148.86
Concentration as C, ppm DB	220.5957	129.6123	153.5487
Emissions as C, lbs/hr DB	22.66232	12.72929	15.74432

SUMMARY OF EMISSIONS TEST DATA

Table : 14

Plant : LP Athens, GA

Location : Press RTO Exhaust

Operator : J. Dahlem, C. Jefferson

Test Date : 6/22/95

6/23/95

6/23/95

Repetition : 1

2

3

STACK GAS

Temperature, F	233.5	234.0	235.2
Velocity, fps	69.42	69.91	69.86
Volume Flow, acfm	164127.7	165299.0	165181.2
scfm	119993.2	119384.2	120260.3
scfh	7199590	7163053	7215618
Moisture, %	2.44%	2.57%	2.62%
CO2, %	0.00	0.50	0.50
O2, %	21.00	20.50	20.50

SAMPLE

Start Time, hrs:min	4:34 PM	8:55 AM	10:33 AM
Finish Time, hrs:min	5:37 PM	9:57 AM	11:35 AM
Sample Volume, scf	42.416	45.011	44.925
Isokinetic Ratio, %	101.7455	108.5196	107.5235

VOC

Concentration as C3H8, ppm WB	3.00	2.20	2.60
Concentration as C, ppm WB	9	6.6	7.8
Concentration as C, ppm DB	9.224717	6.773929	8.010032
Emissions as C, lbs/hr DB	2.068978	1.511589	1.80054

FORMALDEHYDE

Sample Weight, mg	0.14	0.08	0.08
Concentration, ppm	0.095355	0.049014	0.047129
Emissions, lbs/hr	0.05352	0.027371	0.026318

III. PROCEDURES

The procedure for emissions sampling followed USEPA test methods as detailed in Title 40: Code of Federal Regulations. The following methods were used:

<u>Method</u>	<u>Title</u>
1	Sample and Velocity Traverses for Stationary Sources
2	Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
3	Gas Analysis for CO ₂ , O ₂ , Excess Air and Dry Molecular Weight
4	Determination of Moisture Content in Stack Gases
5	Determination of Particulate Emissions from Stationary Sources
7E	Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
10	Determination of Carbon Monoxide Emission from Stationary Sources
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer
0011	Sampling for Aldehyde and Ketone Emissions from Stationary Sources

O₂ and CO₂ were determined using Fyrite Analyzers.

Sampling was performed on the two inlets and exhaust of the Press RTO using the following test matrix:

Location	Inlets #1	Inlets #2	RTO exhaust
PM, Nox, CO			
Sample Train	Apex	Apex	Apex
Sample Points	24	24	24
Duration, minutes	20	20	60
Minutes/point	NA	NA	2.5
Nozzle Size, inches	NA	NA	0.187
Nozzle Material	NA	NA	Stainless
Probe Liner	Stainless	Stainless	Stainless
Impinger Solution	H ₂ O	H ₂ O	H ₂ O

It should be noted that only moisture runs were performed on the inlet, 20 minutes each with a minimum volume of 10 cubic feet. Sampling was performed at a single point for

each test. It should be noted that the sampling locations on the four inlets did not meet the criteria in Method 1, however, tangential flow determinations were taken showing little turbulence and acceptable flow angles. It should also be noted that Nox and CO sampling was performed for 30 minute intervals on each stack during each run. This same matrix was used to sample the four Dryer exhausts.

VOC, Formaldehyde

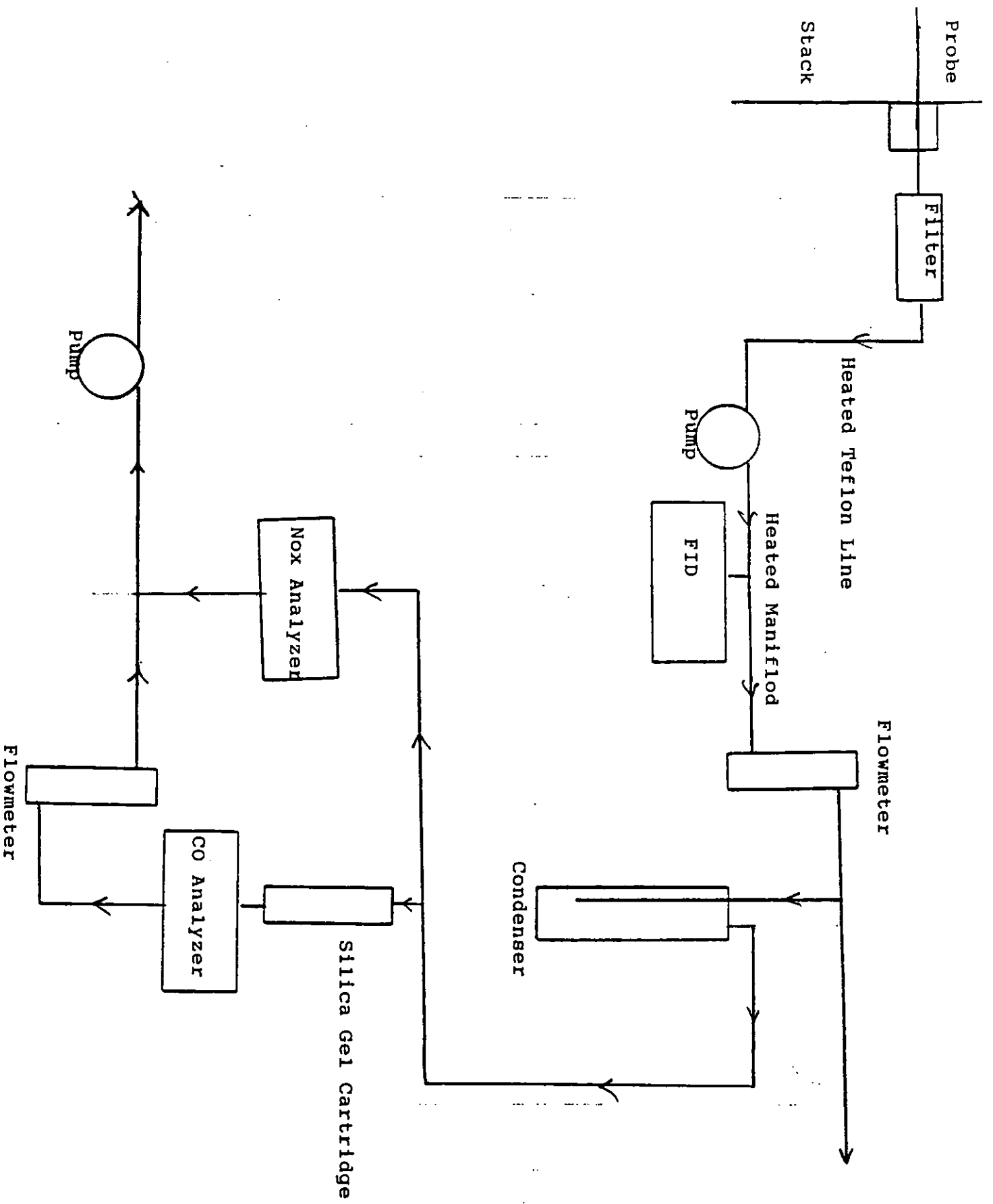
Sample Train	Apex	Apex	Apex
Sample Points	24	24	24
Duration, minutes	20	20	60
Minutes/point	NA	NA	2.5
Nozzle Size, inches	NA	NA	0.2046
Nozzle Material	NA	NA	Glass
Probe Liner	Stainless	Stainless	Teflon
Impinger Solution	H2O	H2O	DNPH

Moisture determinations were taken on the inlets the same as in the first series, however, VOC measurements were taken continuously from all three stacks for the 60 minute duration of each run.

CEM data was taken using heated teflon sample lines and manifolds. The following matrix was used:

Location	Dryers 4&5	Dryers 1&2
	Press Inlets	Press RTO Exhaust
CO Analyzer	Fuji NDIR	Fuji NDIR
CO Standards, ppm in N2	400	391
(Certified +/- 2%)	250	98
	100	50
Nox Analyzer	Teco 10	Teco 10
Nox Standards, NO in N2, ppm	95.8	110
(EPA Protocol 1)	29.7	50.8
VOC analyzer (FID)	D2 Ratfisch	Teco 51
	D3 JUM	
	D4 Teco 51	
	D 5 Teco 51	
VOC Standards, C3H8 in N2, ppm	909	91
(EPA Protocol 1)	495	36.9
	203	4.95
	91	

All analyzers were zeroed with N2. A schematic of CEM flow is included.



APPENDIX A

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #2
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	28.5
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.7
GAS METER VOL.(Cu.Ft.) :	10.886	PERCENT CO2 :	2.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.8412
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.3415
FRACTIONAL MOISTURE CONTENT (%):	0.1101
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.1600
MOLECULAR WT. OF STACK GAS (WET BASE):	27.9311

STACK PRESSURE (inch Hg):	29.0015
STACK GAS VELOCITY (ft/sec.):	84.0978
ACTUAL STACK GAS FLOW RATE (ACFM):	47397.9295
STANDARD STACK GAS FLOW RATE (SCFH):	2027710.71

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	180	1.30	1.140175	1.00	73	73
2	179	1.50	1.224745	1.00	76	73
3	178	1.40	1.183216	1.00	79	74
4	178	1.50	1.224745	1.00	81	75
5		1.80	1.341641			
6		2.00	1.414214			
7		2.00	1.414214			
8		2.30	1.516575			
9		1.10	1.048809			
10		1.70	1.30384			
11		1.70	1.30384			
12		1.90	1.378405			
13		1.60	1.264911			
14		1.80	1.341641			
15		2.20	1.48324			
16		2.30	1.516575			
	178.75		1.3188	1.0000	77.2500	73.7500 75.5000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 20-Jun-95
 PLACE : Dryer #2
 RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	47.8
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	11.195	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.0101
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.2499
FRACTIONAL MOISTURE CONTENT (%):	0.1697
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9400
MOLECULAR WT. OF STACK GAS (WET BASE):	27.0837
STACK PRESSURE (inch Hg):	29.0309
STACK GAS VELOCITY (ft/sec.):	84.6529
ACTUAL STACK GAS FLOW RATE (ACFM):	47710.8199
STANDARD STACK GAS FLOW RATE (SCFH):	1906409.71

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	179	1.20	1.095445	1.00	80	80	
2	179	1.80	1.341641	1.00	84	80	
3	180	1.60	1.264911	1.00	86	80	
4	177	1.60	1.264911	1.00	87	81	
5		1.80	1.341641				
6		2.20	1.48324				
7		1.70	1.30384				
8		2.10	1.449138				
9		1.10	1.048809				
10		1.60	1.264911				
11		1.70	1.30384				
12		1.50	1.224745				
13		1.60	1.264911				
14		1.80	1.341641				
15		2.10	1.449138				
16		2.20	1.48324				
	178.75		1.3079	1.0000	84.2500	80.2500	82.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #2
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mis) :	44.9
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.2
GAS METER VOL.(Cu.Ft.) :	11.365	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.0980
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.1134
FRACTIONAL MOISTURE CONTENT (%):	0.1600
DRY BASE:	80.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9200
MOLECULAR WT. OF STACK GAS (WET BASE):	27.1731
STACK PRESSURE (inch Hg):	29.0382
STACK GAS VELOCITY (ft/sec.):	84.4888
ACTUAL STACK GAS FLOW RATE (ACFM):	47618.3001
STANDARD STACK GAS FLOW RATE (SCFH):	1933011.65

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	177	1.30	1.140175	1.00	84	84
2	177	1.70	1.30384	1.00	86	84
3	175	1.50	1.224745	1.00	89	84
4	176	1.70	1.30384	1.00	93	85
5		1.90	1.378405			
6		2.00	1.414214			
7		1.80	1.341641			
8		2.00	1.414214			
9		1.30	1.140175			
10		1.80	1.341641			
11		1.50	1.224745			
12		1.70	1.30384			
13		1.70	1.30384			
14		1.60	1.264911			
15		2.00	1.414214			
16		2.10	1.449138			
	176.25		1.3102	1.0000	88.0000	84.2500 86.1250

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #3
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	26.8
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.6
GAS METER VOL.(Cu.Ft.) :	9.904	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	9.7833
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.2615
FRACTIONAL MOISTURE CONTENT (%):	0.1142
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2200
MOLECULAR WT. OF STACK GAS (WET BASE):	27.9385
STACK PRESSURE (inch Hg):	29.0088
STACK GAS VELOCITY (ft/sec.):	81.2498
ACTUAL STACK GAS FLOW RATE (ACFM):	45792.7695
STANDARD STACK GAS FLOW RATE (SCFH):	1949746.81

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.50	1.224745	1.00	77	77
2	180	1.70	1.30384	1.00	81	78
3	178	1.70	1.30384	1.00	84	78
4	179	1.20	1.095445	1.00	85	79
5		1.60	1.264911			
6		1.50	1.224745			
7		1.50	1.224745			
8		2.10	1.449138			
9		1.50	1.224745			
10		1.70	1.30384			
11		1.80	1.341641			
12		1.60	1.264911			
13		1.30	1.140175			
14		1.60	1.264911			
15		1.80	1.341641			
16		2.00	1.414214			
	179		1.2742	1.0000	81.7500	78.0000 79.8750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 20-Jun-95
 PLACE : Dryer #3
 RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	37.2
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	11.265	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.):	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.0307
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7510
FRACTIONAL MOISTURE CONTENT (%):	0.1370
DRY BASE:	81.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8800
MOLECULAR WT. OF STACK GAS (WET BASE):	27.3895

STACK PRESSURE (inch Hg):	29.0309
STACK GAS VELOCITY (ft/sec.):	83.4787
ACTUAL STACK GAS FLOW RATE (ACFM):	47049.0384
STANDARD STACK GAS FLOW RATE (SCFH):	1957800.81

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.20	1.095445	1.00	82	82
2	177	1.90	1.378405	1.00	86	82
3	178	1.70	1.30384	1.00	89	82
4	176	1.60	1.264911	1.00	91	83
5		1.90	1.378405			
6		1.80	1.341641			
7		1.50	1.224745			
8		1.90	1.378405			
9		1.50	1.224745			
10		1.70	1.30384			
11		1.80	1.341641			
12		1.60	1.264911			
13		1.50	1.224745			
14		1.40	1.183216			
15		2.00	1.414214			
16		2.10	1.449138			
	177.5		1.2983	1.0000	87.0000	82.2500 84.6250

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #3
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	51.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	10.566	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.2755
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.4053
FRACTIONAL MOISTURE CONTENT (%):	0.1897
DRY BASE:	81.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8800
MOLECULAR WT. OF STACK GAS (WET BASE):	26.8163

STACK PRESSURE (inch Hg):	29.0235
STACK GAS VELOCITY (ft/sec.):	83.9614
ACTUAL STACK GAS FLOW RATE (ACFM):	47321.0628
STANDARD STACK GAS FLOW RATE (SCFH):	1846989.14

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.30	1.140175	1.00	87	87
2	177	1.80	1.341641	1.00	90	87
3	178	1.65	1.284523	1.00	92	87
4	178	1.70	1.30384	1.00	91	86
5		1.80	1.341641			
6		1.75	1.322876			
7	Q	1.60	1.264911			
8		2.00	1.414214			
9		1.40	1.183216			
10		1.60	1.264911			
11		1.70	1.30384			
12		1.50	1.224745			
13		1.40	1.183216			
14		1.50	1.224745			
15		2.10	1.449138			
16		2.00	1.414214			
	178		1.2914	1.0000	90.0000	86.7500 88.3750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 20-Jun-95
 PLACE : Dryer #4
 RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	37.5
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	1.01077	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	12.319	PERCENT CO2 :	2.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	41.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	9.39342 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0.00034 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 9.39342

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	12.0891
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7651
FRACTIONAL MOISTURE CONTENT (%):	0.1274
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.1600
MOLECULAR WT. OF STACK GAS (WET BASE):	27.7381
STACK PRESSURE (inch Hg):	29.0235
STACK GAS VELOCITY (ft/sec.):	76.7471
ACTUAL STACK GAS FLOW RATE (ACFM):	43255.069
STANDARD STACK GAS FLOW RATE (SCFH):	1819458.71

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	175	1.20	1.09545	1.00	70	70
2	176	1.80	1.34164	1.00	72	71
3	179	1.60	1.26491	1.00	74	71
4	180	1.30	1.14018	1.00	75	72
5		1.60	1.26491			
6		1.40	1.18322			
7		1.70	1.30384			
8		1.40	1.18322			
9		0.70	0.83666			
10		1.40	1.18322			
11		1.10	1.04881			
12		1.20	1.09545			
13		1.30	1.14018			
14		1.80	1.34164			
15		2.00	1.41421			
16		1.90	1.3784			
	177.5		1.2010	1.0000	72.7500	71.0000 71.8750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #4
RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	36.8
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.1
GAS METER VOL.(Cu.Ft.) :	11.816	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.4634
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7322
FRACTIONAL MOISTURE CONTENT (%):	0.1313
DRY BASE:	80.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9800
MOLECULAR WT. OF STACK GAS (WET BASE):	27.5387
STACK PRESSURE (inch Hg):	28.9721
STACK GAS VELOCITY (ft/sec.):	76.0073
ACTUAL STACK GAS FLOW RATE (ACFM):	42838.0845
STANDARD STACK GAS FLOW RATE (SCFH):	1790762.97

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.50	1.224745	1.00	77	77
2	177	1.70	1.30384	1.00	79	77
3	177	0.95	0.974679	1.00	80	77
4	177	1.30	1.140175	1.00	80	77
5		1.70	1.30384			
6		1.60	1.264911			
7		1.40	1.183216			
8		1.00	1			
9		0.80	0.894427			
10		1.20	1.095445			
11		1.40	1.183216			
12		1.30	1.140175			
13		1.30	1.140175			
14		1.70	1.30384			
15		2.00	1.414214			
16		1.90	1.378405			
	177.5		1.1841	1.0000	79.0000	77.0000 78.0000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #4
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	49.7
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.3
GAS METER VOL.(Cu.Ft.) :	11.399	PERCENT CO2 :	2
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	17
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	41.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	9.393417 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0.000341 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.9925
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.3394
FRACTIONAL MOISTURE CONTENT (%):	0.1755
DRY BASE:	81.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	27.0698

STACK PRESSURE (inch Hg):	29.0309
STACK GAS VELOCITY (ft/sec.):	78.3956
ACTUAL STACK GAS FLOW RATE (ACFM):	44184.1311
STANDARD STACK GAS FLOW RATE (SCFH):	1756608.29

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.30	1.140175	1.00	80	80
2	177	1.65	1.284523	1.00	81	80
3	177	1.30	1.140175	1.00	83	81
4	177	1.30	1.140175	1.00	84	81
5		1.80	1.341641			
6		1.70	1.30384			
7		1.50	1.224745			
8		1.10	1.048809			
9		0.95	0.974679			
10		1.30	1.140175			
11		1.50	1.224745			
12		1.40	1.183216			
13		1.25	1.118034			
14		1.60	1.264911			
15		2.10	1.449138			
16		2.00	1.414214			
	177.5		1.2121	1.0000	82.0000	80.5000 81.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #5
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	36.5
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.2
GAS METER VOL.(Cu.Ft.) :	11.571	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	41.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	9.393417 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0.000341 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.2703
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.7181
FRACTIONAL MOISTURE CONTENT (%):	0.1323
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2000
MOLECULAR WT. OF STACK GAS (WET BASE):	27.7185

STACK PRESSURE (inch Hg):	29.0382
STACK GAS VELOCITY (ft/sec.):	78.1855
ACTUAL STACK GAS FLOW RATE (ACFM):	44065.7331
STANDARD STACK GAS FLOW RATE (SCFH):	1839819.05

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	179	1.50	1.224745	1.00	74	74
2	179	1.70	1.30384	1.00	76	75
3	179	1.25	1.118034	1.00	78	75
4	179	1.20	1.095445	1.00	79	76
5		1.60	1.264911			
6		2.10	1.449138			
7		1.80	1.341641			
8		1.10	1.048809			
9		0.81	0.9			
10		1.40	1.183216			
11		1.40	1.183216			
12		1.00	1			
13		1.70	1.30384			
14		1.90	1.378405			
15		2.00	1.414214			
16		1.80	1.341641			
	179		1.2219	1.0000	76.7500	75.0000 75.8750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #5
RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	56.8
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.1
GAS METER VOL.(Cu.Ft.) :	12.148	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	17
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.7365
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.6736
FRACTIONAL MOISTURE CONTENT (%):	0.1855
DRY BASE:	82.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	26.8288
STACK PRESSURE (inch Hg):	29.0456
STACK GAS VELOCITY (ft/sec.):	84.8152
ACTUAL STACK GAS FLOW RATE (ACFM):	47802.261
STANDARD STACK GAS FLOW RATE (SCFH):	1879683.71

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	177	1.50	1.224745	1.00	79	78
2	178	1.80	1.341641	1.00	81	79
3	177	1.70	1.30384	1.00	82	79
4	176	1.60	1.264911	1.00	84	80
5		1.80	1.341641			
6		2.10	1.449138			
7		1.70	1.30384			
8		2.20	1.48324			
9		1.30	1.140175			
10		1.20	1.095445			
11		1.00	1			
12		1.80	1.341641			
13		1.80	1.341641			
14		1.90	1.378405			
15		1.80	1.341641			
16		2.40	1.549193			
	177		1.3063	1.0000	81.5000	79.0000 80.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 20-Jun-95
PLACE : Dryer #5
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	45.7
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.1
GAS METER VOL.(Cu.Ft.) :	11.997	PERCENT CO2 :	1
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	17
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.5054
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.1511
FRACTIONAL MOISTURE CONTENT (%):	0.1575
DRY BASE:	82.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	27.1325
STACK PRESSURE (inch Hg):	29.0456
STACK GAS VELOCITY (ft/sec.):	82.1955
ACTUAL STACK GAS FLOW RATE (ACFM):	46325.8118
STANDARD STACK GAS FLOW RATE (SCFH):	1884298.11

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	178	1.50	1.224745	1.00	87	87
2	177	1.85	1.360147	1.00	84	83
3	177	1.50	1.224745	1.00	84	83
4	176	1.50	1.224745	1.00	84	82
5	177	1.70	1.30384			
6		2.00	1.414214			
7		1.60	1.264911			
8		2.00	1.414214			
9		1.20	1.095445			
10		1.10	1.048809			
11		1.20	1.095445			
12		1.50	1.224745			
13		1.70	1.30384			
14		1.80	1.341641			
15		2.00	1.414214			
16		2.00	1.414214			
	177		1.2731	1.0000	84.7500	83.7500 84.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 21-Jun-95
 PLACE : RTO Inlet #2
 RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	39.2
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL.(Cu.Ft.) :	12.316	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19.5
		PERCENT CO :	0

FOR CIRCULAR STACK

STACK DIAMETER (inch): 41.5
 STACK AREA (Sq.Ft.): 9.393417
 NOZZLE AREA (feet): 0.000341

FOR RECTANGULAR STACK

STACK LENGTH(inchs) :
 STACK WIDTH(inchs) :
 STACK AREA (Sq.Ft.): 0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	12.2825
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.8451
FRACTIONAL MOISTURE CONTENT (%):	0.1306
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0200
MOLECULAR WT. OF STACK GAS (WET BASE):	27.5807

STACK PRESSURE (inch Hg):	29.0162
STACK GAS VELOCITY (ft/sec.):	88.2105
ACTUAL STACK GAS FLOW RATE (ACFM):	49715.8548
STANDARD STACK GAS FLOW RATE (SCFH):	2101989.18

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	173	2.10	1.449138	1.00	71	71
2	172	2.30	1.516575	1.00	75	73
3	171	1.70	1.30384	1.00	78	75
4	171	1.70	1.30384	1.00	79	76
5		1.70	1.30384			
6		1.60	1.264911			
7		2.00	1.414214			
8		2.00	1.414214			
9		2.20	1.48324			
10		2.30	1.516575			
11		2.00	1.414214			
12		2.10	1.449138			
13		1.60	1.264911			
14		1.70	1.30384			
15		2.00	1.414214			
16		1.70	1.30384			
	171.75		1.3825	1.0000	75.7500	73.7500 74.7500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 21-Jun-95
 PLACE : RTO Inlet #2
 RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	40.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.4
GAS METER VOL.(Cu.Ft.) :	13.915	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	13.8674
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.8875
FRACTIONAL MOISTURE CONTENT (%):	0.1198
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	27.6822

STACK PRESSURE (inch Hg):	29.0235
STACK GAS VELOCITY (ft/sec.):	88.0437
ACTUAL STACK GAS FLOW RATE (ACFM):	49621.8933
STANDARD STACK GAS FLOW RATE (SCFH):	2122939.48

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	170	2.10	1.449138	1.00	73	73
2	173	2.20	1.48324	1.00	76	73
3	173	1.70	1.30384	1.00	79	73
4	173	1.70	1.30384	1.00	80	74
5		1.70	1.30384			
6		1.60	1.264911			
7		1.90	1.378405			
8		2.00	1.414214			
9		2.30	1.516575			
10		2.40	1.549193			
11		2.10	1.449138			
12		2.10	1.449138			
13		1.60	1.264911			
14		1.70	1.30384			
15		2.00	1.414214			
16		1.60	1.264911			
	172.25		1.3821	1.0000	77.0000	73.2500 75.1250

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 21-Jun-95
 PLACE : RTO Inlet #2
 RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	51
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL.(Cu.Ft.) :	11.075	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.7975
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.4006
FRACTIONAL MOISTURE CONTENT (%):	0.1819
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.9992

STACK PRESSURE (inch Hg):	29.0162
STACK GAS VELOCITY (ft/sec.):	89.3278
ACTUAL STACK GAS FLOW RATE (ACFM):	50345.6128
STANDARD STACK GAS FLOW RATE (SCFH):	2001472.23

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	171	2.10	1.449138	1.00	85	85
2	173	2.30	1.516575	1.00	88	85
3	173	1.70	1.30384	1.00	90	85
4	172	1.70	1.30384	1.00	92	86
5		1.70	1.30384			
6		1.60	1.264911			
7		2.00	1.414214			
8		2.10	1.449138			
9		2.20	1.48324			
10		2.30	1.516575			
11		2.10	1.449138			
12		2.10	1.449138			
13		1.60	1.264911			
14		1.70	1.30384			
15		1.90	1.378405			
16		1.70	1.30384			
	172.25		1.3847	1.0000	88.7500	85.2500 87.0000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 21-Jun-95
 PLACE : Dryer #3
 RUN# : 4

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	52.7
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	0.98105	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.5
GAS METER VOL.(Cu.Ft.) :	12.214	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.2938
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.4806
FRACTIONAL MOISTURE CONTENT (%):	0.1801
DRY BASE:	80.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9800
MOLECULAR WT. OF STACK GAS (WET BASE):	27.0026

STACK PRESSURE (inch Hg):	29.0162
STACK GAS VELOCITY (ft/sec.):	89.3417
ACTUAL STACK GAS FLOW RATE (ACFM):	50353.4114
STANDARD STACK GAS FLOW RATE (SCFH):	2000651.13

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	174	2.10	1.449138	1.00	85	85
2	175	2.20	1.48324	1.00	88	85
3	174	1.80	1.341641	1.00	92	86
4	173	1.70	1.30384	1.00	95	87
5		1.70	1.30384			
6		1.70	1.30384			
7		2.00	1.414214			
8		2.10	1.449138			
9		2.10	1.449138			
10		2.40	1.549193			
11		2.00	1.414214			
12		2.00	1.414214			
13		1.70	1.30384			
14		1.80	1.341641			
15		1.70	1.30384			
16		1.70	1.30384			
	174		1.3831	1.0000	90.0000	85.7500 87.8750

EMISSION TEST SUMMARY

PLANT : LP Athens
DATE : 21-Jun-95
PLACE : Dryer #3
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	55.5
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.9
GAS METER VOL.(Cu.Ft.) :	11.134	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.0649
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.6124
FRACTIONAL MOISTURE CONTENT (%):	0.1910
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.8990
STACK PRESSURE (inch Hg):	29.0603
STACK GAS VELOCITY (ft/sec.):	82.4076
ACTUAL STACK GAS FLOW RATE (ACFM):	46445.3589
STANDARD STACK GAS FLOW RATE (SCFH):	1836128.06

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	170	1.80	1.341641	1.00	75	75
2	170	1.90	1.378405	1.00	78	74
3	169	1.70	1.30384	1.00	81	74
4		1.60	1.264911	1.00	81	75
5		1.40	1.183216			
6		1.80	1.341641			
7		1.60	1.264911			
8		1.90	1.378405			
9		1.20	1.095445			
10		1.90	1.378405			
11		1.90	1.378405			
12		1.90	1.378405			
13		1.60	1.264911			
14		1.30	1.140175			
15		1.30	1.140175			
16		1.50	1.224745			
	169.66667		1.2786	1.0000	78.7500	74.5000 76.6250

EMISSION TEST SUMMARY

PLANT : LP Athens
DATE : 21-Jun-95
PLACE : Dryer #3
RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	59.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2
GAS METER VOL.(Cu.Ft.) :	11.065	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.9733
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.7818
FRACTIONAL MOISTURE CONTENT (%):	0.2022
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.7754

STACK PRESSURE (inch Hg):	29.0529
STACK GAS VELOCITY (ft/sec.):	83.8363
ACTUAL STACK GAS FLOW RATE (ACFM):	47250.583
STANDARD STACK GAS FLOW RATE (SCFH):	1836200.9

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	171	1.80	1.341641	1.00	75	75	
2	172	1.90	1.378405	1.00	80	75	
3	172	1.70	1.30384	1.00	82	75	
4	171	1.70	1.30384	1.00	84	76	
5		1.50	1.224745				
6		1.90	1.378405				
7		1.60	1.264911				
8		2.00	1.414214				
9		1.30	1.140175				
10		2.00	1.414214				
11		1.90	1.378405				
12		1.90	1.378405				
13		1.70	1.30384				
14		1.30	1.140175				
15		1.40	1.183216				
16		1.40	1.183216				
	171.5		1.2957	1.0000	80.2500	75.2500	77.7500

EMISSION TEST SUMMARY

PLANT : LP Athens
 DATE : 21-Jun-95
 PLACE : Dryer #3
 RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	55.5
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.9
GAS METER VOL.(Cu.Ft.) :	11.496	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	41.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	9.393417 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0.000341 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.1646
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.6124
FRACTIONAL MOISTURE CONTENT (%):	0.1896
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.9142

STACK PRESSURE (inch Hg):	29.0603
STACK GAS VELOCITY (ft/sec.):	83.5562
ACTUAL STACK GAS FLOW RATE (ACFM):	47092.7048
STANDARD STACK GAS FLOW RATE (SCFH):	1854347.33

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	172	1.90	1.378405	1.00	86	86
2	174	1.90	1.378405	1.00	90	86
3	174	1.80	1.341641	1.00	94	87
4	173	1.60	1.264911	1.00	96	88
5		1.40	1.183216			
6		1.70	1.30384			
7		1.60	1.264911			
8		2.00	1.414214			
9		1.30	1.140175			
10		1.90	1.378405			
11		1.90	1.378405			
12		2.00	1.414214			
13		1.70	1.30384			
14		1.30	1.140175			
15		1.30	1.140175			
16		1.60	1.264911			
	173.25		1.2931	1.0000	91.5000	86.7500 89.1250

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 21-Jun-95
PLACE : Dryer #4
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	49.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2
GAS METER VOL.(Cu.Ft.) :	11.86	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.6964
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.3111
FRACTIONAL MOISTURE CONTENT (%):	0.1650
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2200
MOLECULAR WT. OF STACK GAS (WET BASE):	27.3688

STACK PRESSURE (inch Hg):	29.0529
STACK GAS VELOCITY (ft/sec.):	82.2436
ACTUAL STACK GAS FLOW RATE (ACFM):	46352.912
STANDARD STACK GAS FLOW RATE (SCFH):	1884671.42

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	173	2.00	1.414214	1.00	67	67	
2	172	1.70	1.30384	1.00	69	69	
3	171	1.70	1.30384	1.00	71	69	
4	171	1.30	1.140175	1.00	72	70	
5		1.30	1.140175				
6		1.70	1.30384				
7		1.50	1.224745				
8		1.60	1.264911				
9		2.00	1.414214				
10		1.80	1.341641				
11		1.60	1.264911				
12		1.60	1.264911				
13		1.70	1.30384				
14		1.70	1.30384				
15		1.70	1.30384				
16		1.60	1.264911				
	171.75		1.2849	1.0000	69.7500	68.7500	69.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 21-Jun-95
PLACE : Dryer #4
RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	47.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.9
GAS METER VOL.(Cu.Ft.) :	11.025	PERCENT CO2 :	3
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.7888
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.2170
FRACTIONAL MOISTURE CONTENT (%):	0.1705
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.2000
MOLECULAR WT. OF STACK GAS (WET BASE):	27.2908

STACK PRESSURE (inch Hg):	29.0603
STACK GAS VELOCITY (ft/sec.):	82.7489
ACTUAL STACK GAS FLOW RATE (ACFM):	46637.7053
STANDARD STACK GAS FLOW RATE (SCFH):	1885799.37

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	172	1.90	1.378405	1.00	72	72
2	171	1.80	1.341641	1.00	74	73
3	171	1.70	1.30384	1.00	75	73
4	171	1.25	1.118034	1.00	75	73
5		1.30	1.140175			
6		1.70	1.30384			
7		1.60	1.264911			
8		1.60	1.264911			
9		2.10	1.449138			
10		1.80	1.341641			
11		1.50	1.224745			
12		1.50	1.224745			
13		1.65	1.284523			
14		1.80	1.341641			
15		1.80	1.341641			
16		1.80	1.341641			
	171.25		1.2916	1.0000	74.0000	72.7500 73.3750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 21-Jun-95
PLACE : Dryer #4
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	47.4
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-2.1
GAS METER VOL.(Cu.Ft.) :	11.432	PERCENT CO2 :	2
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	41.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	9.393417 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0.000341 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.1871
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.2311
FRACTIONAL MOISTURE CONTENT (%):	0.1663
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0600
MOLECULAR WT. OF STACK GAS (WET BASE):	27.2210

STACK PRESSURE (inch Hg):	29.0456
STACK GAS VELOCITY (ft/sec.):	83.2850
ACTUAL STACK GAS FLOW RATE (ACFM):	46939.8613
STANDARD STACK GAS FLOW RATE (SCFH):	1906631.07

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	172	2.10	1.449138	1.00	72	72
2	171	1.90	1.378405	1.00	74	73
3	171	1.60	1.264911	1.00	75	73
4	171	1.30	1.140175	1.00	75	73
5		1.25	1.118034			
6		1.60	1.264911			
7		1.50	1.224745			
8		1.70	1.30384			
9		2.00	1.414214			
10		1.90	1.378405			
11		1.40	1.183216			
12		1.60	1.264911			
13		1.70	1.30384			
14		1.75	1.322876			
15		1.80	1.341641			
16		2.00	1.414214			
	171.25		1.2980	1.0000	74.0000	72.7500 73.3750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 21-Jun-95
PLACE : Dryer #5
RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	50.8
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.7
GAS METER VOL.(Cu.Ft.) :	11.747	PERCENT CO2 :	2
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.5115
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.3912
FRACTIONAL MOISTURE CONTENT (%):	0.1720
DRY BASE:	80.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0400
MOLECULAR WT. OF STACK GAS (WET BASE):	27.1412
STACK PRESSURE (inch Hg):	29.0750
STACK GAS VELOCITY (ft/sec.):	79.0617
ACTUAL STACK GAS FLOW RATE (ACFM):	44559.5654
STANDARD STACK GAS FLOW RATE (SCFH):	1802210.87

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	170	1.40	1.183216	1.00	72	72
2	170	2.10	1.449138	1.00	73	72
3	170	1.80	1.341641	1.00	74	72
4	171	1.40	1.183216	1.00	74	72
5		1.30	1.140175			
6		1.70	1.30384			
7		2.00	1.414214			
8		1.90	1.378405			
9		1.10	1.048809			
10		1.50	1.224745			
11		1.00	1			
12		1.00	1			
13		1.80	1.341641			
14		1.80	1.341641			
15		1.60	1.264911			
16		1.20	1.095445			
	170.25		1.2319	1.0000	73.2500	72.0000 72.6250

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 21-Jun-95
PLACE : Dryer #5
RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	34.1
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.7
GAS METER VOL.(Cu.Ft.) :	11.364	PERCENT CO2 :	2
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	18.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	41.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.1591
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.6051
FRACTIONAL MOISTURE CONTENT (%):	0.1257
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0600
MOLECULAR WT. OF STACK GAS (WET BASE):	27.6692

STACK PRESSURE (inch Hg):	29.0750
STACK GAS VELOCITY (ft/sec.):	79.2824
ACTUAL STACK GAS FLOW RATE (ACFM):	44683.975
STANDARD STACK GAS FLOW RATE (SCFH):	1901386.41

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	172	1.50	1.224745	1.00	72	72	
2	173	2.00	1.414214	1.00	71	70	
3	173	1.90	1.378405	1.00	72	71	
4	172	1.50	1.224745	0.90	73	71	
5		1.40	1.183216				
6		1.70	1.30384				
7		2.00	1.414214				
8		2.00	1.414214				
9		1.00	1				
10		1.60	1.264911				
11		1.10	1.048809				
12		1.00	1				
13		1.80	1.341641				
14		1.70	1.30384				
15		1.60	1.264911				
16		1.30	1.140175				
	172.5		1.2451	0.9750	72.0000	71.0000	71.5000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 21-Jun-95
 PLACE : Dryer #5
 RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	60.3
NOZZLE DIAMETER (INCH.) :	0.25	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-1.7
GAS METER VOL.(Cu.Ft.) :	9.493	PERCENT CO2 :	1.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	19
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	41.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	9.393417	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000341	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 9.393417

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	9.1250
VOLUME OF WATER VAPOR (STD. CU.FT.):	2.8383
FRACTIONAL MOISTURE CONTENT (%):	0.2373
DRY BASE:	79.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	29.0000
MOLECULAR WT. OF STACK GAS (WET BASE):	26.3902
STACK PRESSURE (inch Hg):	29.0750
STACK GAS VELOCITY (ft/sec.):	80.2096
ACTUAL STACK GAS FLOW RATE (ACFM):	45206.5087
STANDARD STACK GAS FLOW RATE (SCFH):	1670360.99

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	173	1.40	1.183216	1.00	82	82
2	175	2.10	1.449138	0.30	83	82
3	177	1.70	1.30384	0.25	83	82
4	177	1.30	1.140175	1.00	83	83
5		1.40	1.183216			
6		1.80	1.341641			
7		2.10	1.449138			
8		1.80	1.341641			
9		1.00	1			
10		1.60	1.264911			
11		1.10	1.048809			
12		1.10	1.048809			
13		1.70	1.30384			
14		1.60	1.264911			
15		1.60	1.264911			
16		1.10	1.048809			
	175.5		1.2273	0.6375	82.7500	82.2500 82.5000

APPENDIX B

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 22-Jun-95
 PLACE : Press RTO Inlet #1
 RUN# : 1

TEST DURATION (MINUTES) :	30	LIQUID COLLECTED (mls) :	9
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	1.03275	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	13.241	PERCENT CO2 :	0.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	16.8002 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 16.8002

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	13.1487
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.4236
FRACTIONAL MOISTURE CONTENT (%):	0.0312
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9200
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5792

STACK PRESSURE (inch Hg):	28.9353
STACK GAS VELOCITY (ft/sec.):	66.4620
ACTUAL STACK GAS FLOW RATE (ACFM):	66994.3592
STANDARD STACK GAS FLOW RATE (SCFH):	3536098.45

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	106	1.30	1.14018	0.61	75	75
2	105	1.40	1.18322	0.60	76	75
3	100	1.10	1.04881	0.60	77	75
4	101	1.30	1.14018	0.60	78	75
5	101	1.50	1.22474	0.60	80	76
6	101	1.60	1.26491	0.60	80	76
7		1.60	1.26491			
8		1.20	1.09545			
9		1.00	1			
10		1.00	1			
11		0.68	0.82462			
12		0.83	0.91104			
13		1.80	1.34164			
14		1.80	1.34164			
15		1.60	1.26491			
16		0.83	0.91104			
	102.3333		1.1223	0.6017	77.6667	75.3333 76.5000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 22-Jun-95
 PLACE : Press RTO inlet #1
 RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	9
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	11.432	PERCENT CO2 :	0.5
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inches) :
STACK AREA (Sq.Ft.) :	16.80016 STACK WIDTH(inches) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.1609
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.4236
FRACTIONAL MOISTURE CONTENT (%):	0.0366
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9200
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5207
STACK PRESSURE (inch Hg):	28.9353
STACK GAS VELOCITY (ft/sec.):	67.0411
ACTUAL STACK GAS FLOW RATE (ACFM):	67578.0596
STANDARD STACK GAS FLOW RATE (SCFH):	3495797.1

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	110	0.78	0.883176	1.00	84	84
2	108	1.10	1.048809	1.00	86	84
3	111	0.85	0.921954	1.00	89	89
4	112	0.67	0.818535	1.00	90	84
5	112	1.60	1.264911			
6		1.70	1.30384			
7		1.60	1.264911			
8		1.20	1.095445			
9		1.20	1.095445			
10		1.50	1.224745			
11		1.40	1.183216			
12		1.20	1.095445			
13		1.50	1.224745			
14		1.60	1.264911			
15		1.50	1.224745			
16		1.10	1.048809			
	110.6		1.1227	1.0000	87.2500	85.2500 86.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Inlet #1
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	10
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.5
GAS METER VOL.(Cu.Ft.) :	11.577	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.2	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	55.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	16.80016	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.2305
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.4707
FRACTIONAL MOISTURE CONTENT (%):	0.0402
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4039
STACK PRESSURE (inch Hg):	28.9426
STACK GAS VELOCITY (ft/sec.):	69.2812
ACTUAL STACK GAS FLOW RATE (ACFM):	69836.0979
STANDARD STACK GAS FLOW RATE (SCFH):	3606755.88

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	109	0.98	0.989949	1.00	89	89	
2	110	1.00	1	1.00	90	89	
3	110	1.10	1.048809	1.00	92	88	
4	109	1.40	1.183216	1.00	93	88	
5		1.50	1.224745				
6		1.70	1.30384				
7		1.60	1.264911				
8		1.30	1.140175				
9		1.10	1.048809				
10		1.40	1.183216				
11		1.50	1.224745				
12		1.30	1.140175				
13		1.60	1.264911				
14		1.70	1.30384				
15		1.50	1.224745				
16		1.00	1				
	109.5		1.1591	1.0000	91.0000	88.5000	89.7500

EMISSION TEST SUMMARY

PLANT : LP Athens,GA
 DATE : 22-Jun-95
 PLACE : Press RTO Inlet #2
 RUN# : 1

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	7
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	11.469	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.3	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch): 55.5	STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) : 16.80016	STACK WIDTH(inchs) :
NOZZLE AREA (feet): 0	STACK AREA (Sq.Ft.) : 0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.3443
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3295
FRACTIONAL MOISTURE CONTENT (%):	0.0282
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5340
STACK PRESSURE (inch Hg):	29.0353
STACK GAS VELOCITY (ft/sec.):	63.0736
ACTUAL STACK GAS FLOW RATE (ACFM):	63578.7493
STANDARD STACK GAS FLOW RATE (SCFH):	3396725.47

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	101	1.50	1.224745	1.00	79	79
2	100	1.50	1.224745	1.00	82	79
3	98	1.40	1.183216	1.00	85	79
4	97	1.00	1	1.00	86	79
5	100	1.20	1.095445			
6		1.50	1.224745			
7		1.50	1.224745			
8		1.20	1.095445			
9		0.50	0.707107			
10		0.55	0.74162			
11		0.65	0.806226			
12		0.69	0.830662			
13		1.80	1.341641			
14		1.30	1.140175			
15		1.60	1.264911			
16		1.00	1			
	99.2		1.0691	1.0000	83.0000	79.0000 81.0000

EMISSION TEST SUMMARY

PLANT : LP Athens,GA
 DATE : 22-Jun-95
 PLACE : Press RTO Inlet #2
 RUN# : 2

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	6
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	10.599	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.3	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	55.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	16.80016	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	10.3711
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.2824
FRACTIONAL MOISTURE CONTENT (%):	0.0265
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5526
STACK PRESSURE (inch Hg):	29.0353
STACK GAS VELOCITY (ft/sec.):	62.2048
ACTUAL STACK GAS FLOW RATE (ACFM):	62703.0383
STANDARD STACK GAS FLOW RATE (SCFH):	3333202.73

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	102	1.50	1.224745	1.00	85	85
2	103	1.40	1.183216	1.00	87	85
3	103	1.40	1.183216	1.00	90	85
4	102	1.00	1	1.00	92	86
5	105	1.20	1.095445			
6		1.30	1.140175			
7		1.10	1.048809			
8		0.98	0.989949			
9		0.68	0.824621			
10		0.58	0.761577			
11		0.74	0.860233			
12		0.72	0.848528			
13		1.60	1.264911			
14		1.50	1.224745			
15		1.40	1.183216			
16		0.97	0.984886			
	103		1.0511	1.0000	88.5000	85.2500 86.8750

EMISSION TEST SUMMARY

PLANT : LP Athens,GA
DATE : 22-Jun-95
PLACE : Press RTO Inlet #2
RUN# : 3

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	7
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	1.03275	PARTICULATE WEIGHT (Back half mg)	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	11.535	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.3	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	16.8002 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 16.8002

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.2025
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3295
FRACTIONAL MOISTURE CONTENT (%):	0.0286
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5303
STACK PRESSURE (inch Hg):	29.0353
STACK GAS VELOCITY (ft/sec.):	63.1329
ACTUAL STACK GAS FLOW RATE (ACFM):	63638.5583
STANDARD STACK GAS FLOW RATE (SCFH):	3344872.86

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	107	1.60	1.26491	1.00	90	90
2	108	1.50	1.22474	1.00	93	89
3	108	1.30	1.14018	1.00	94	89
4	109	1.10	1.04881	1.00	94	89
5	109	1.30	1.14018			
6		1.40	1.18322			
7		1.20	1.09545			
8		1.00	1			
9		0.52	0.72111			
10		0.60	0.7746			
11		0.71	0.84261			
12		0.70	0.83666			
13		1.70	1.30384			
14		1.40	1.18322			
15		1.50	1.22474			
16		1.00	1			
	108.2		1.0615	1.0000	92.7500	89.2500 91.0000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Exhaust
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	27
NOZZLE DIAMETER (INCH.) :	0.187	PARTICULATE WEIGHT (Front half mg)	7.4
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg)	3.2
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.65
GAS METER VOL.(Cu.Ft.) :	32.908	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.3	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	85	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	39.40626	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000191	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	32.2741
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.2709
FRACTIONAL MOISTURE CONTENT (%):	0.0379
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4293
STACK PRESSURE (inch Hg):	29.3478
STACK GAS VELOCITY (ft/sec.):	66.5443
ACTUAL STACK GAS FLOW RATE (ACFM):	157335.783
STANDARD STACK GAS FLOW RATE (SCFH):	6854419.03

PARTICULATE

FRONT HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0035
PARTICULATE CONCENTRATION (LBS/SCF):	5.06E-07
PARTICULATE EMISSION (LBS/HR):	3.4654
BACK HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0015
PARTICULATE CONCENTRATION (LBS/SCF):	2.19E-07
PARTICULATE EMISSION (LBS/HR):	1.4986

ISOKINETIC RATIO (%):	97.3424
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POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	225	0.55	0.74162	0.44	69	69
2	226	0.56	0.748331	0.45	71	71
3	226	0.60	0.774597	0.48	73	71
4	227	0.70	0.83666	0.57	73	71
5	227	0.70	0.83666	0.57	74	71
6	227	0.81	0.9	0.65	75	72
7	227	1.10	1.048809	0.89	76	72
8	227	1.30	1.140175	1.00	75	73
9	227	1.30	1.140175	1.10	76	73
10	226	1.30	1.140175	1.10	77	73
11	227	1.20	1.095445	0.97	76	73
12	226	1.00	1	0.81	75	73
13	225	1.50	1.224745	1.20	75	73
14	226	1.90	1.378405	1.50	75	72
15	226	1.90	1.378405	1.50	76	73
16	226	1.80	1.341641	1.50	76	73
17	226	1.80	1.341641	1.50	76	73
18	227	1.60	1.264911	1.90	75	73
19	226	1.00	1	0.81	76	74
20	226	0.95	0.974679	0.77	76	75
21	226	0.83	0.911043	0.67	76	75
22	226	0.72	0.848528	0.58	76	75
23	226	0.56	0.748331	0.45	76	75
24	226	0.50	0.707107	0.40	76	75
	226.25		1.0218	0.9088	74.9583	72.8333
						73.8958

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Exhaust
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	25.8
NOZZLE DIAMETER (INCH.) :	0.187	PARTICULATE WEIGHT (Front half mg)	5.9
METER COEFFICIENT (Y) :	0.98105	PARTICULATE WEIGHT (Back half mg)	1.53
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.66
GAS METER VOL.(Cu.Ft.) :	34.066	PERCENT CO2 :	0.5
BAROMETRIC PRESSURE :	29.38	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	85 STACK LENGTH(inches) :
STACK AREA (Sq.Ft.) :	39.40626 STACK WIDTH(inches) :
NOZZLE AREA (feet):	0.000191 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	31.8781
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.2144
FRACTIONAL MOISTURE CONTENT (%):	0.0367
DRY BASE:	78.5000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9200
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5193
STACK PRESSURE (inch Hg):	29.4285
STACK GAS VELOCITY (ft/sec.):	65.8885
ACTUAL STACK GAS FLOW RATE (ACFM):	155737.835
STANDARD STACK GAS FLOW RATE (SCFH):	6777309.56

PARTICULATE

FRONT HALF
PARTICULATE CONCENTRATION (GR./SCF): 0.0029
PARTICULATE CONCENTRATION (LBS/SCF): 4.06E-07
PARTICULATE EMISSION (LBS/HR): 2.7658

BACK HALF
PARTICULATE CONCENTRATION (GR./SCF): 0.0007
PARTICULATE CONCENTRATION (LBS/SCF): 1.06E-07
PARTICULATE EMISSION (LBS/HR): 0.7172

ISOKINETIC RATIO (%): 97.2419

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	226	0.56	0.748331	0.46	77	77
2	226	0.58	0.761577	0.47	79	77
3	226	0.59	0.768115	0.48	80	78
4	225	0.66	0.812404	0.54	84	80
5	226	0.71	0.842615	0.58	85	80
6	227	0.68	0.824621	0.56	88	80
7	228	0.92	0.959166	0.75	89	80
8	230	1.50	1.224745	1.20	90	79
9	230	1.50	1.224745	1.20	91	80
10	230	1.40	1.183216	1.10	91	80
11	230	1.30	1.140175	1.10	91	80
12	230	1.10	1.048809	0.90	91	80
13	229	1.50	1.224745	1.20	84	80
14	231	1.70	1.30384	1.40	89	81
15	230	1.60	1.264911	1.30	90	81
16	231	1.60	1.264911	1.30	91	81
17	232	1.70	1.30384	1.40	91	81
18	233	1.60	1.264911	1.30	92	81
19	233	0.98	0.989949	0.80	92	81
20	232	0.90	0.948683	0.74	93	82
21	233	0.80	0.894427	0.65	93	82
22	233	0.71	0.842615	0.58	93	82
23	232	0.55	0.74162	0.45	93	82 METER T.
24	231	0.49	0.7	0.40	93	82 AVERAGE
	229.75		1.0118	0.8692	88.7500	80.2917 84.5208

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Exhaust
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	24.2
NOZZLE DIAMETER (INCH.) :	0.187	PARTICULATE WEIGHT (Front half mg)	6.2
METER COEFFICIENT (Y) :	1.010772	PARTICULATE WEIGHT (Back half mg)	2.5
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.67
GAS METER VOL.(Cu.Ft.) :	33.426	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.38	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	85	STACK LENGTH(Inchs) :	
STACK AREA (Sq.Ft.) :	39.40626	STACK WIDTH(Inchs) :	
NOZZLE AREA (feet):	0.000191	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	32.1767
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.1391
FRACTIONAL MOISTURE CONTENT (%):	0.0342
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4694

STACK PRESSURE (Inch Hg):	29.4293
STACK GAS VELOCITY (ft/sec.):	64.8528
ACTUAL STACK GAS FLOW RATE (ACFM):	153336.358
STANDARD STACK GAS FLOW RATE (SCFH):	6656155.98

PARTICULATE

FRONT HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0030
PARTICULATE CONCENTRATION (LBS/SCF):	4.25E-07
PARTICULATE EMISSION (LBS/HR):	2.8280

BACK HALF	
PARTICULATE CONCENTRATION (GR./SCF):	0.0012
PARTICULATE CONCENTRATION (LBS/SCF):	1.71E-07
PARTICULATE EMISSION (LBS/HR):	1.1403

ISOKINETIC RATIO (%):	99.9394
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POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	230	0.60	0.774597	0.50	81	81
2	231	0.58	0.761577	0.47	83	80
3	233	0.60	0.774597	0.49	85	80
4	234	0.67	0.818535	0.55	86	80
5	234	0.72	0.848528	0.59	87	80
6	234	0.70	0.83666	0.57	88	80
7	235	0.90	0.948683	0.74	90	80
8	235	1.60	1.264911	1.30	91	81
9	235	1.50	1.224745	1.20	91	81
10	234	1.20	1.095445	0.98	91	81
11	234	1.10	1.048809	0.90	91	81
12	233	1.10	1.048809	0.90	91	81
13	231	1.40	1.183216	1.10	83	82
14	232	1.50	1.224745	1.20	87	82
15	231	1.50	1.224745	1.20	87	82
16	233	1.50	1.224745	1.20	88	82
17	235	1.60	1.264911	1.30	92	82
18	235	1.40	1.183216	1.10	92	82
19	234	0.96	0.979796	0.78	94	82
20	235	0.89	0.943398	0.73	94	82
21	234	0.81	0.9	0.66	94	82
22	233	0.79	0.888819	0.65	93	82
23	232	0.49	0.7	0.40	93	82 METER T.
24	232	0.44	0.663325	0.36	93	82 AVERAGE
	233.29167		0.9928	0.8279	89.3750	81.2500 85.3125

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 6-22, 6-23-95
 PLACE : Press RTO Inlet #1
 RUN# : 4

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	8
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	11.57	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	55.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	16.80016	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.2799
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3766
FRACTIONAL MOISTURE CONTENT (%):	0.0323
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4898
STACK PRESSURE (inch Hg):	29.1353
STACK GAS VELOCITY (ft/sec.):	65.0737
ACTUAL STACK GAS FLOW RATE (ACFM):	65594.9286
STANDARD STACK GAS FLOW RATE (SCFH):	3433890.87

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	108	0.94	0.969536	1.00	89	89
2	110	0.96	0.979796	1.00	92	89
3	111	0.84	0.916515	1.00	94	89
4	112	0.37	0.608276	1.00	95	89
5		1.70	1.30384			
6		1.80	1.341641			
7		1.60	1.264911			
8		1.20	1.095445			
9		1.10	1.048809			
10		1.30	1.140175			
11		1.20	1.095445			
12		1.00	1			
13		1.50	1.224745			
14		1.40	1.183216			
15		1.20	1.095445			
16		1.50	1.224745			
	110.25		1.0933	1.0000	92.5000	89.0000 90.7500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 6-22, 6-23-95
 PLACE : Press RTO Inlet #1
 RUN# : 5

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	6
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.7
GAS METER VOL.(Cu.Ft.) :	12.084	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	55.5	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	16.80016	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.9601
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.2824
FRACTIONAL MOISTURE CONTENT (%):	0.0231
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5899
STACK PRESSURE (inch Hg):	29.1279
STACK GAS VELOCITY (ft/sec.):	66.1866
ACTUAL STACK GAS FLOW RATE (ACFM):	66716.7484
STANDARD STACK GAS FLOW RATE (SCFH):	3532807.68

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	100	1.10	1.048809	1.00	79	79
2	111	1.20	1.095445	1.00	84	80
3	112	0.72	0.848528	1.00	87	81
4	113	0.65	0.806226	1.00	88	82
5		1.60	1.264911			
6		1.60	1.264911			
7		1.20	1.095445			
8		1.20	1.095445			
9		1.40	1.183216			
10		1.50	1.224745			
11		1.40	1.183216			
12		1.20	1.095445			
13		1.50	1.224745			
14		1.60	1.264911			
15		1.20	1.095445			
16		1.10	1.048809			
	109		1.1150	1.0000	84.5000	80.5000 82.5000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 6-22, 6-23-95
PLACE : Press RTO Inlet #1
RUN# : 6

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	8
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.9
GAS METER VOL.(Cu.Ft.) :	12.218	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	16.80016 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.9988
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3766
FRACTIONAL MOISTURE CONTENT (%):	0.0304
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5102

STACK PRESSURE (inch Hg):	29.1132
STACK GAS VELOCITY (ft/sec.):	65.1491
ACTUAL STACK GAS FLOW RATE (ACFM):	65670.9474
STANDARD STACK GAS FLOW RATE (SCFH):	3508061.31

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	100	0.91	0.953939	1.00	85	85
2	98	1.00	1	1.00	87	85
3	99	0.82	0.905539	1.00	90	85
4	101	0.63	0.793725	1.00	91	86
5		1.80	1.341641			
6		1.70	1.30384			
7		1.30	1.140175			
8		1.10	1.048809			
9		1.40	1.183216			
10		1.40	1.183216			
11		1.40	1.183216			
12		1.10	1.048809			
13		1.50	1.224745			
14		1.50	1.224745			
15		1.20	1.095445			
16		1.10	1.048809			
	99.5		1.1050	1.0000	88.2500	85.2500 86.7500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
 DATE : 6-22, 6-23-95
 PLACE : Press RTO Inlet #2
 RUN# : 4

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	7
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.5
GAS METER VOL.(Cu.Ft.) :	11.72	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inchs) :
STACK AREA (Sq.Ft.) :	16.80016 STACK WIDTH(inchs) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.4782
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3295
FRACTIONAL MOISTURE CONTENT (%):	0.0279
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5375
STACK PRESSURE (inch Hg):	29.1426
STACK GAS VELOCITY (ft/sec.):	62.1127
ACTUAL STACK GAS FLOW RATE (ACFM):	62610.1454
STANDARD STACK GAS FLOW RATE (SCFH):	3297709.67

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	108	1.00	1	1.00	86	86
2	110	1.30	1.140175	1.00	89	86
3	111	1.30	1.140175	1.00	91	87
4	109	1.40	1.183216	1.00	93	88
5		1.40	1.183216			
6		1.20	1.095445			
7		1.30	1.140175			
8		1.50	1.224745			
9		0.42	0.648074			
10		0.74	0.860233			
11		0.77	0.877496			
12		0.68	0.824621			
13		0.77	0.877496			
14		1.70	1.30384			
15		1.50	1.224745			
16		1.00	1			
	109.5		1.0452	1.0000	89.7500	86.7500 88.2500

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 6-22, 6-23-95
PLACE : Press RTO Inlet #2
RUN# : 5

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	9
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	11.831	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.1	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK
STACK DIAMETER (inch):	55.5 STACK LENGTH(inches) :
STACK AREA (Sq.Ft.) :	16.80016 STACK WIDTH(inches) :
NOZZLE AREA (feet):	0 STACK AREA (Sq.Ft.) :
	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.7448
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.4236
FRACTIONAL MOISTURE CONTENT (%):	0.0348
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.4626

STACK PRESSURE (inch Hg):	28.8353
STACK GAS VELOCITY (ft/sec.):	60.0167
ACTUAL STACK GAS FLOW RATE (ACFM):	60497.3714
STANDARD STACK GAS FLOW RATE (SCFH):	3152556.88

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	100	1.10	1.048809	1.00	73	73
2	105	1.20	1.095445	1.00	75	73
3	108	1.40	1.183216	1.00	79	74
4	109	1.00	1	1.00	81	75
5		1.30	1.140175			
6		1.30	1.140175			
7		1.10	1.048809			
8		0.92	0.959166			
9		0.42	0.648074			
10		0.48	0.69282			
11		0.72	0.848528			
12		0.68	0.824621			
13		1.00	1			
14		1.60	1.264911			
15		1.50	1.224745			
16		0.98	0.989949			
	105.5		1.0068	1.0000	77.0000	73.7500 75.3750

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 6-22, 6-23-95
PLACE : Press RTO Inlet #2
RUN# : 6

TEST DURATION (MINUTES) :	20	LIQUID COLLECTED (mls) :	8
NOZZLE DIAMETER (INCH.) :	0	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	1.032748	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	-3.6
GAS METER VOL.(Cu.Ft.) :	12.246	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK		FOR RECTANGULAR STACK	
STACK DIAMETER (inch):	55.5	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	16.80016	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 16.80016

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	11.9552
VOLUME OF WATER VAPOR (STD. CU.FT.):	0.3766
FRACTIONAL MOISTURE CONTENT (%):	0.0305
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5090
STACK PRESSURE (inch Hg):	29.1353
STACK GAS VELOCITY (ft/sec.):	62.1780
ACTUAL STACK GAS FLOW RATE (ACFM):	62676.0617
STANDARD STACK GAS FLOW RATE (SCFH):	3291415.71

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET
1	108	1.10	1.048809	1.00	88	88
2	110	1.50	1.224745	1.00	91	88
3	111	1.40	1.183216	1.00	93	89
4	109	1.30	1.140175	1.00	94	89
5		1.40	1.183216			
6		1.30	1.140175			
7		1.00	1			
8		0.92	0.959166			
9		0.47	0.685565			
10		0.73	0.8544			
11		0.70	0.83666			
12		0.71	0.842615			
13		1.50	1.224745			
14		1.60	1.264911			
15		1.40	1.183216			
16		0.92	0.959166			
	109.5		1.0457	1.0000	91.5000	88.5000 90.0000

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Exhaust
RUN# : 1

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	22.5
NOZZLE DIAMETER (INCH.) :	0.2046	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	0.98105	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.68
GAS METER VOL.(Cu.Ft.) :	45.516	PERCENT CO2 :	0
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	21
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	85	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	39.40626	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000228	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	42.4163
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.0591
FRACTIONAL MOISTURE CONTENT (%):	0.0244
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.8400
MOLECULAR WT. OF STACK GAS (WET BASE):	28.5759
STACK PRESSURE (inch Hg):	29.4500
STACK GAS VELOCITY (ft/sec.):	69.4169
ACTUAL STACK GAS FLOW RATE (ACFM):	164127.744
STANDARD STACK GAS FLOW RATE (SCFH):	7199590.24

ISOKINETIC RATIO (%): 101.7455

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	233	1.70	1.30384	2.20	81	81	
2	234	1.80	1.341641	2.30	84	81	
3	234	1.60	1.264911	2.10	86	81	
4	234	1.40	1.183216	1.80	87	82	
5	234	1.20	1.095445	1.60	90	82	
6	234	0.95	0.974679	1.20	91	82	
7	235	0.96	0.979796	1.30	91	82	
8	234	0.70	0.83666	0.92	91	82	
9	235	0.66	0.812404	0.86	91	83	
10	234	0.65	0.806226	0.85	93	83	
11	233	0.60	0.774597	0.79	95	84	
12	233	0.55	0.74162	0.72	95	84	
13	232	1.90	1.378405	2.50	87	85	
14	234	1.80	1.341641	2.40	91	85	
15	236	1.90	1.378405	2.50	95	86	
16	234	1.70	1.30384	2.20	95	86	
17	233	1.60	1.264911	2.10	96	86	
18	234	1.40	1.183216	1.80	96	86	
19	233	1.10	1.048809	1.50	96	86	
20	232	0.96	0.979796	1.30	96	86	
21	233	0.90	0.948683	1.20	96	86	
22	233	0.85	0.921954	1.10	96	86	
23	232	0.73	0.8544	0.98	96	86	
24	232	0.70	0.83666	0.94	96	86	
						METER T. AVERAGE	
	233.54167		1.0648	1.5483	92.1250	84.0417	88.0833

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 23-Jun-95
PLACE : Press RTO Exhaust
RUN# : 2

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mis) :	25.2
NOZZLE DIAMETER (INCH.) :	0.2046	PARTICULATE WEIGHT (Front half mg) :	0
METER COEFFICIENT (Y) :	0.98105	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.7
GAS METER VOL.(Cu.Ft.) :	48.035	PERCENT CO2 :	0.5
BAROMETRIC PRESSURE :	29.1	PERCENT O2 :	20.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	85	STACK LENGTH(inches) :	
STACK AREA (Sq.Ft.) :	39.40626	STACK WIDTH(inches) :	
NOZZLE AREA (feet):	0.000228	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	45.0108
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.1862
FRACTIONAL MOISTURE CONTENT (%):	0.0257
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9000
MOLECULAR WT. OF STACK GAS (WET BASE):	28.6201
STACK PRESSURE (inch Hg):	29.1515
STACK GAS VELOCITY (ft/sec.):	69.9123
ACTUAL STACK GAS FLOW RATE (ACFM):	165299.028
STANDARD STACK GAS FLOW RATE (SCFH):	7163053.22

ISOKINETIC RATIO (%): 108.5196

POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T: INLET	METER T. OUTLET	
1	226	2.00	1.414214	2.90	69	69	
2	227	1.80	1.341641	2.60	73	69	
3	232	1.70	1.30384	2.50	76	69	
4	235	1.70	1.30384	2.50	78	69	
5	236	1.20	1.095445	1.70	80	70	
6	235	1.10	1.048809	1.60	82	70	
7	234	0.96	0.979796	1.40	84	71	
8	236	0.90	0.948683	1.30	85	72	
9	237	0.83	0.911043	1.20	87	73	
10	235	0.76	0.87178	1.10	87	73	
11	234	0.67	0.818535	0.98	87	73	
12	233	0.66	0.812404	0.96	87	73	
13	233	1.70	1.30384	2.50	84	75	
14	235	1.60	1.264911	2.30	86	75	
15	234	1.60	1.264911	2.30	87	75	
16	237	1.40	1.183216	2.00	90	75	
17	236	1.40	1.183216	1.90	90	77	
18	236	1.30	1.140175	1.70	90	77	
19	235	1.00	1	1.50	91	78	
20	235	0.95	0.974679	1.40	91	78	
21	234	0.86	0.927362	1.20	92	78	
22	234	0.77	0.877496	1.10	92	78	
23	234	0.71	0.842615	1.00	93	78	METER T.
24	233	0.65	0.806226	0.95	93	78	AVERAGE
	234		1.0674	1.6913	85.5833	73.8750	79.7292

EMISSION TEST SUMMARY

PLANT : LP Athens, GA
DATE : 22-Jun-95
PLACE : Press RTO Exhaust
RUN# : 3

TEST DURATION (MINUTES) :	60	LIQUID COLLECTED (mls) :	25.7
NOZZLE DIAMETER (INCH.) :	0.2046	PARTICULATE WEIGHT (Front half mg)	0
METER COEFFICIENT (Y) :	0.98105	PARTICULATE WEIGHT (Back half mg) :	0
PITOT COEFFICIENT (Cp) :	0.84	STATIC PRESSURE (in. H2O) :	0.71
GAS METER VOL. (Cu.Ft.) :	48.202	PERCENT CO2 :	0.5
BAROMETRIC PRESSURE :	29.4	PERCENT O2 :	20.5
		PERCENT CO :	0

FOR CIRCULAR STACK	FOR RECTANGULAR STACK		
STACK DIAMETER (inch):	85	STACK LENGTH(inchs) :	
STACK AREA (Sq.Ft.) :	39.40626	STACK WIDTH(inchs) :	
NOZZLE AREA (feet):	0.000228	STACK AREA (Sq.Ft.) :	0

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

FLOWS

SAMPLED VOLUME (STD. CU.FT.):	44.9249
VOLUME OF WATER VAPOR (STD. CU.FT.):	1.2097
FRACTIONAL MOISTURE CONTENT (%):	0.0262
DRY BASE:	79.0000
MOLECULAR WT. OF STACK GAS (DRY BASE):	28.9000
MOLECULAR WT. OF STACK GAS (WET BASE):	28.6142
STACK PRESSURE (inch Hg):	29.4522
STACK GAS VELOCITY (ft/sec.):	69.8625
ACTUAL STACK GAS FLOW RATE (ACFM):	165181.232
STANDARD STACK GAS FLOW RATE (SCFH):	7215618.04

ISOKINETIC RATIO (%): 107.5235

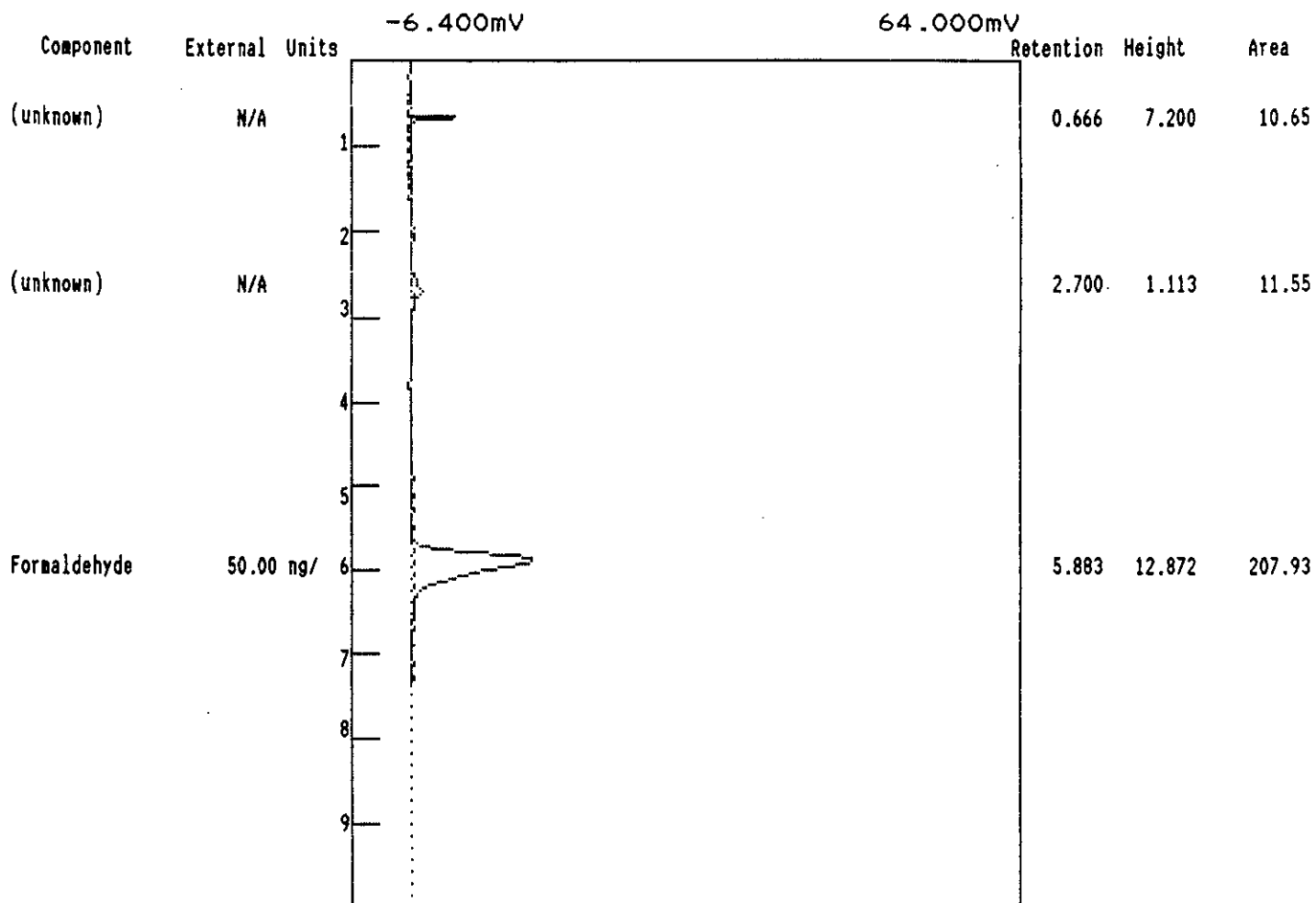
POINTS	STACK T. deg F	DELTA P	QUAR D.	DELTA H	METER T. INLET	METER T. OUTLET	
1	236	1.80	1.341641	2.60	78	78	
2	237	1.70	1.30384	2.50	82	78	
3	236	1.70	1.30384	2.50	90	79	
4	235	1.50	1.224745	2.20	90	79	
5	236	1.10	1.048809	1.60	92	80	
6	236	1.10	1.048809	1.60	93	80	
7	235	0.97	0.984886	1.40	94	81	
8	235	0.91	0.953939	1.20	95	81	
9	236	0.80	0.894427	1.10	95	81	
10	236	0.77	0.877496	1.10	95	81	
11	237	0.67	0.818535	0.98	96	82	
12	236	0.67	0.818535	0.98	96	82	
13	237	1.90	1.378405	2.80	91	84	
14	235	1.90	1.378405	2.80	92	84	
15	233	1.70	1.30384	2.50	95	84	
16	234	1.70	1.30384	2.50	95	84	
17	235	1.20	1.095445	1.70	97	85	
18	236	1.20	1.095445	1.70	97	85	
19	235	1.00	1	1.50	97	86	
20	234	0.95	0.974679	1.40	98	86	
21	233	0.88	0.938083	1.30	98	86	
22	234	0.80	0.894427	1.20	98	86	
23	234	0.78	0.883176	1.10	98	86	METER T.
24	233	0.71	0.842615	1.00	99	87	AVERAGE
	235.16667		1.0712	1.7192	93.7917	82.7083	88.2500

APPENDIX C

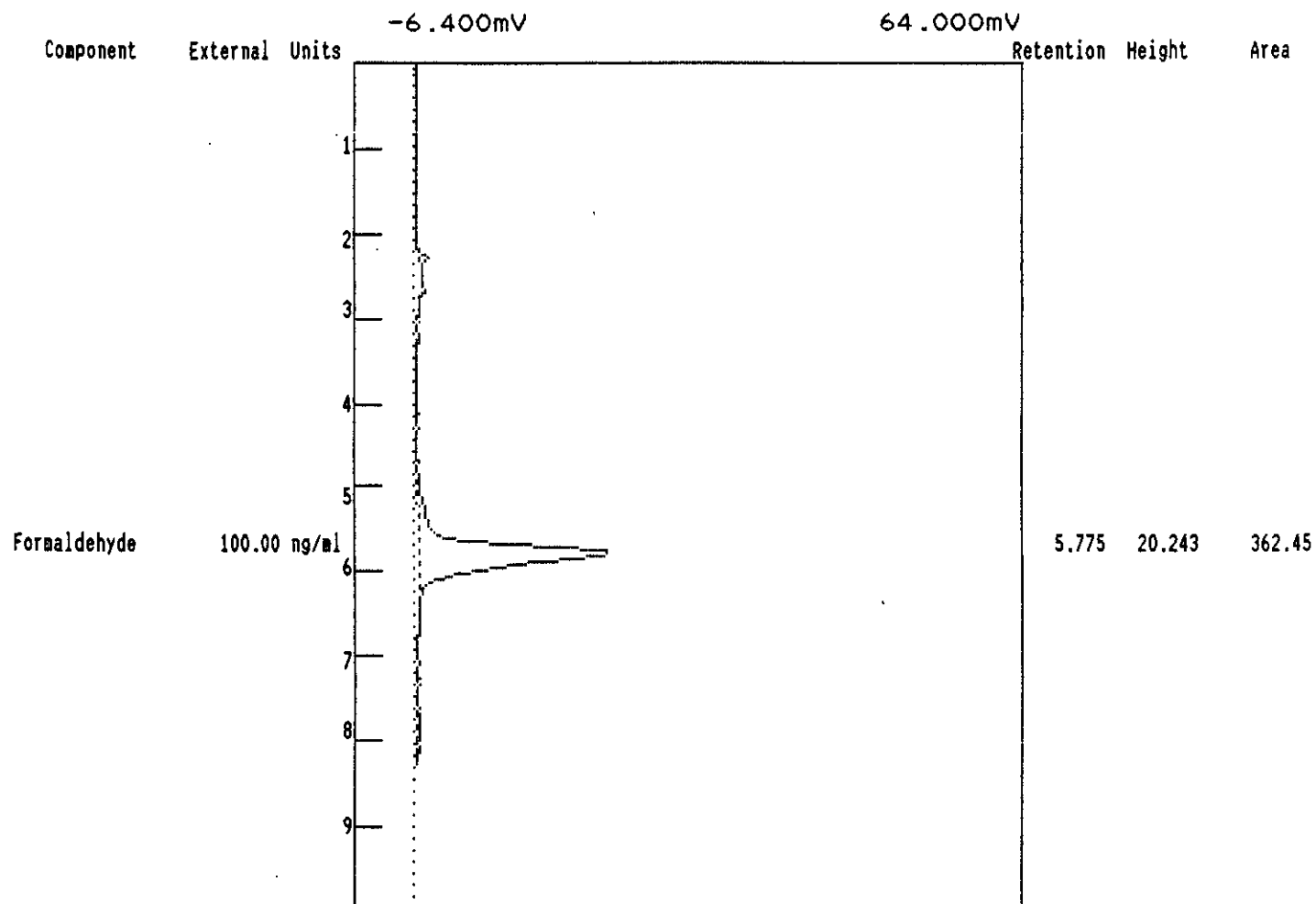
Sheet1

Summary of Formaldehyde Analytical Results					
Plant:	Louisiana Pacific, Athens, GA				
Location:	Dryer and Press Vent RTO Exhausts				
			Formaldehyde, Total mg		
Run#		1	2		3
Press Vent Spike		0.83			
Dryer Spike		0.937			
Dryer RTO #1		1.098	0.548		0.491
Dryer RTO #2		0.572	0.448		0.463
Press RTO		0.143	0.078		0.075

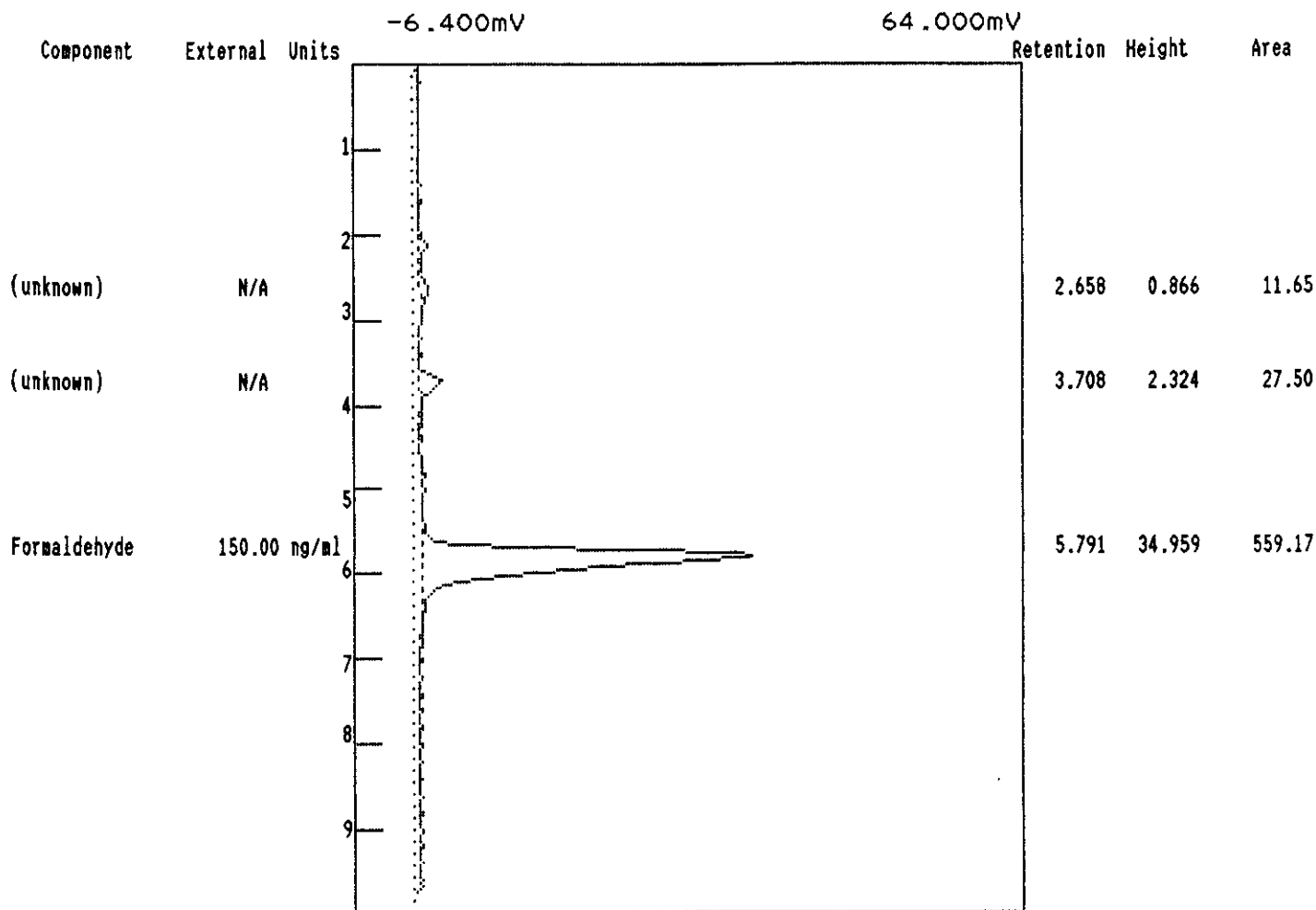
Description : Channel 1
 Conditions : 50 ng/ml Formaldehyde
 Date : 07/01/1995
 Time : 10:42:10



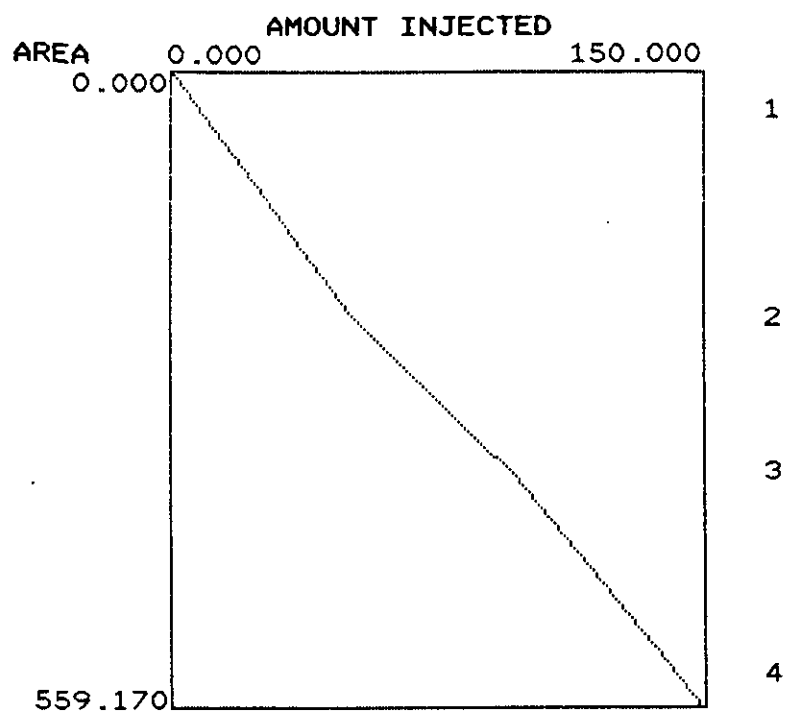
Description : Channel 1
Conditions : 100 ng/ml Formaldehyde
Date : 07/01/1995
Time : 11:09:58



Description : Channel 1
 Conditions : 150 ng/ml Formaldehyde
 Date : 07/01/1995
 Time : 11:20:37



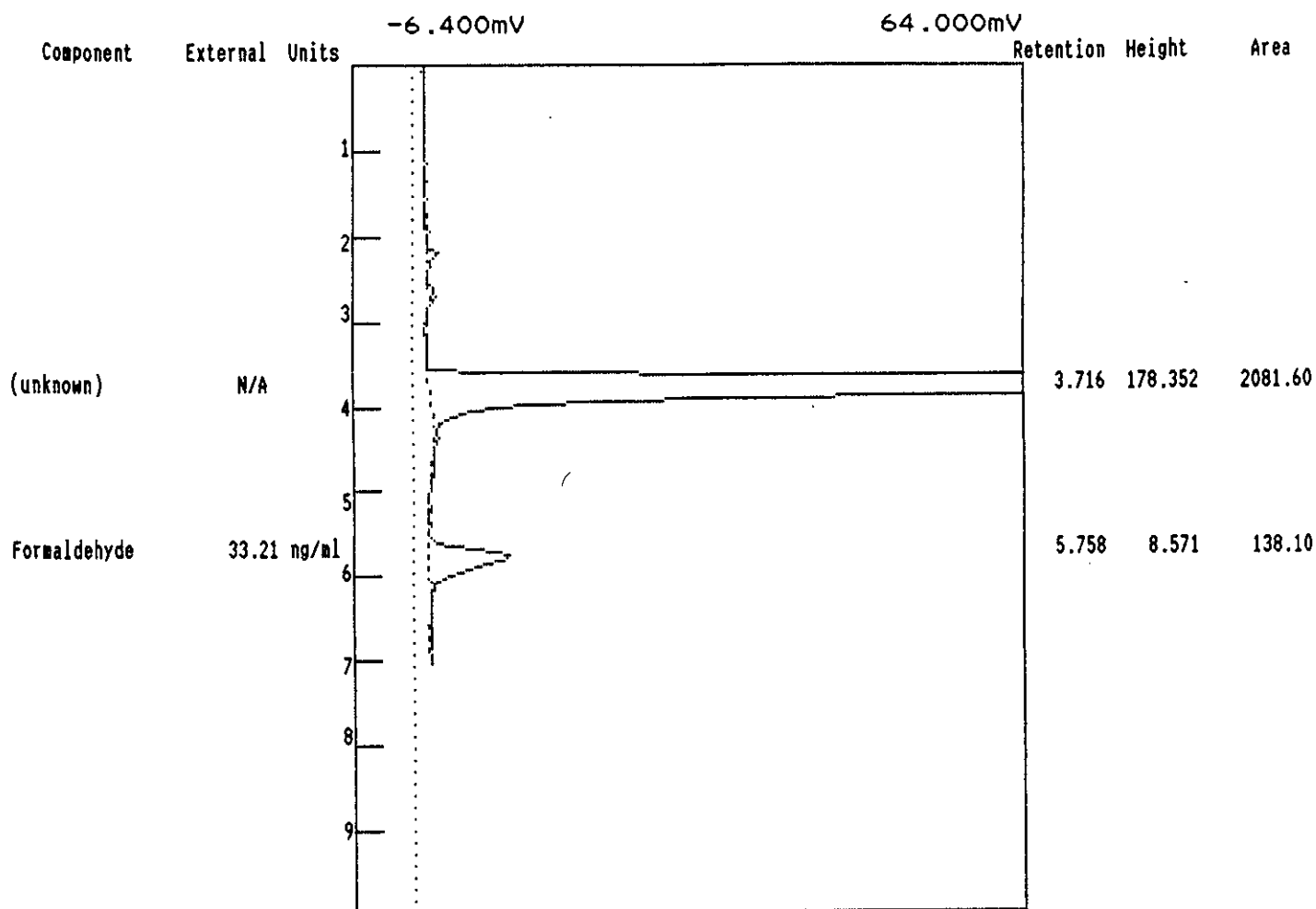
Calibration file : formald.cal



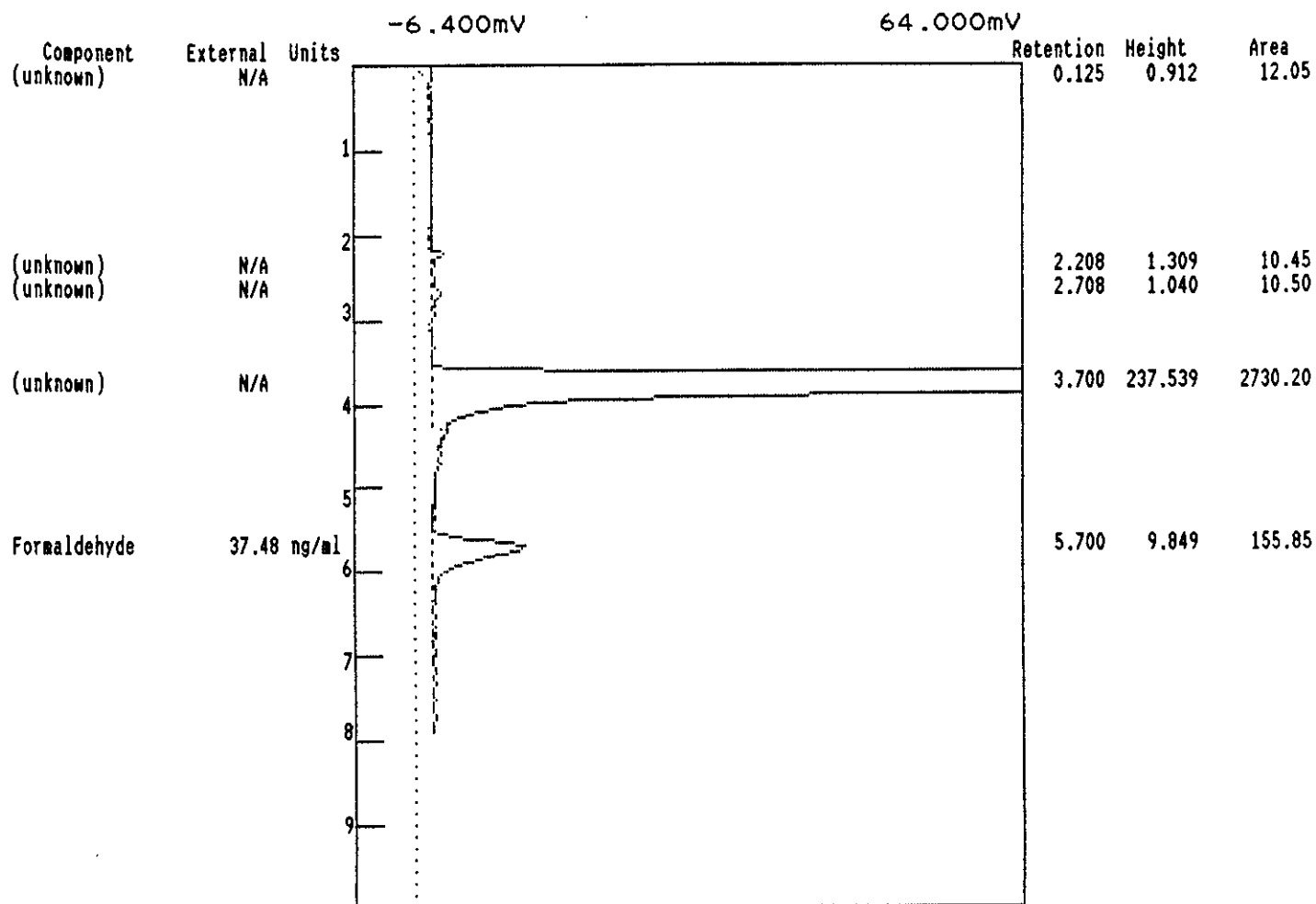
Avg slope of curve: 3.73
Y-axis intercept: 0.00
Coeff of lin regr: 0.90

No.	Area	Amount	CF
0:	0.000	0.000	0.000
1:	207.930	50.000	4.159
2:	362.450	100.000	3.624
3:	559.170	150.000	3.728

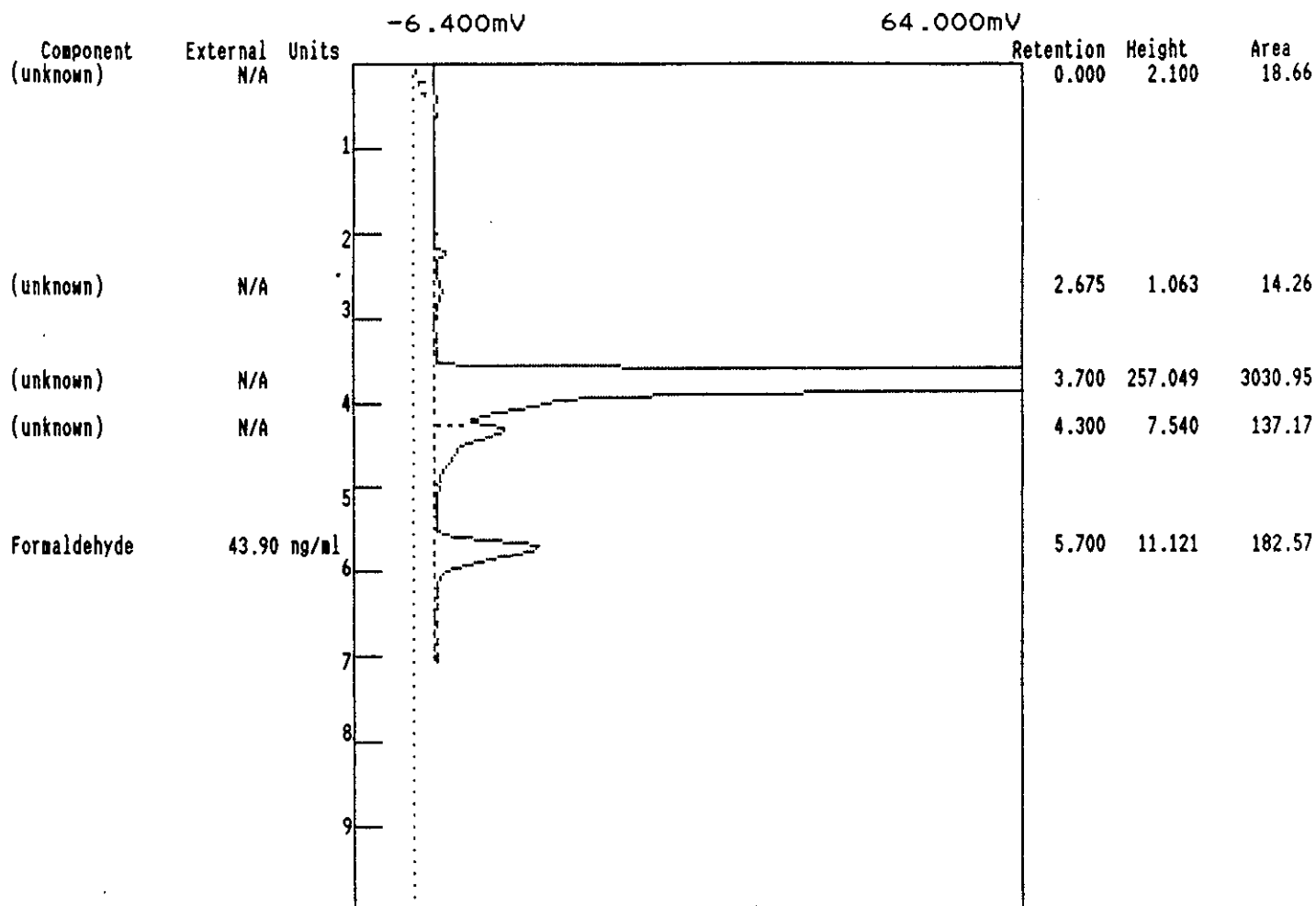
Description : Channel 1
 Conditions : Press Vent Spike
 : 1004 ug
 : 250 mls 1/100 Dilution
 Date : 07/01/1995
 Time : 11:41:28



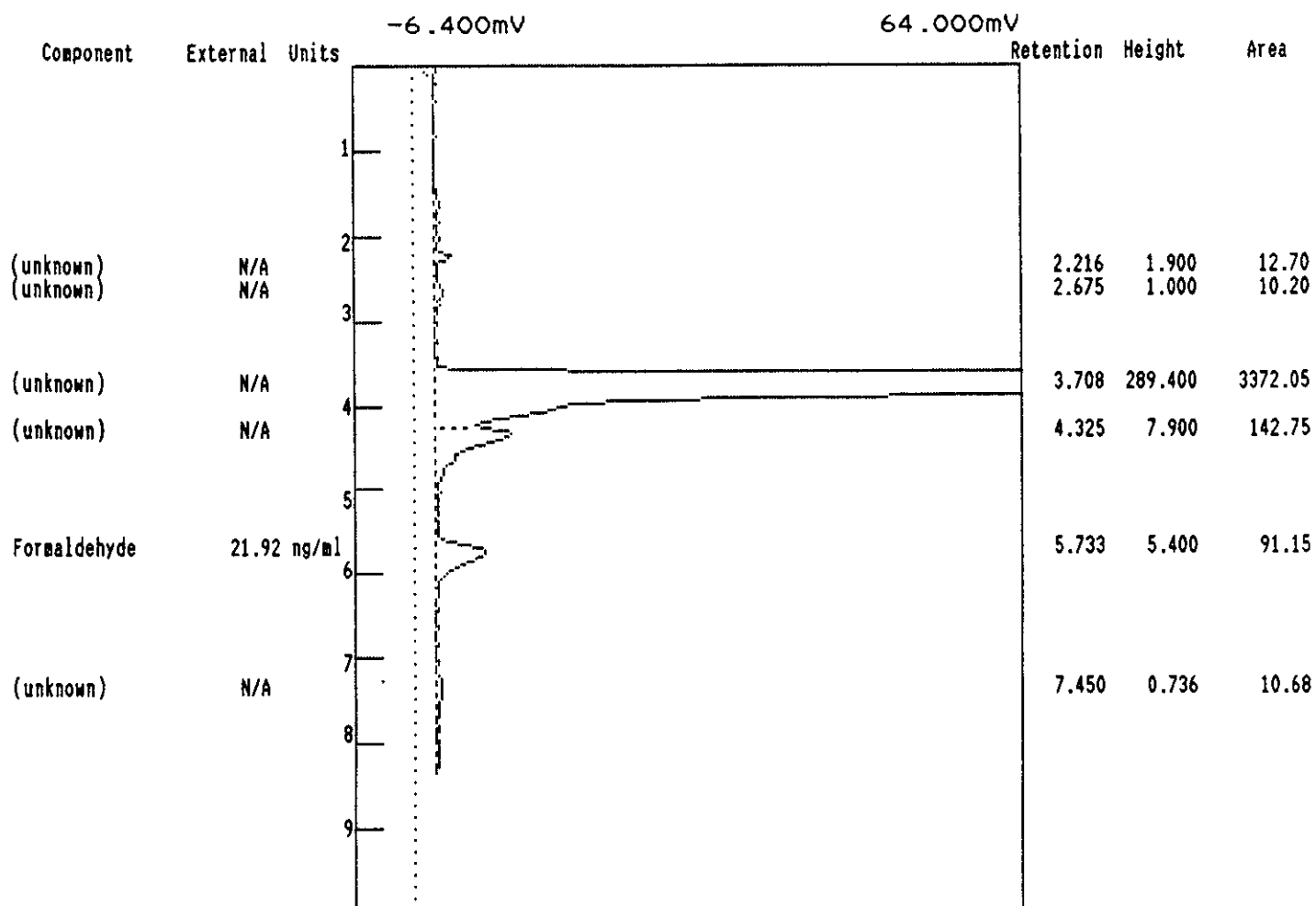
Description : Channel 1
 Conditions : Dryer RTO Spike
 : 1004 ug
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 11:51:17



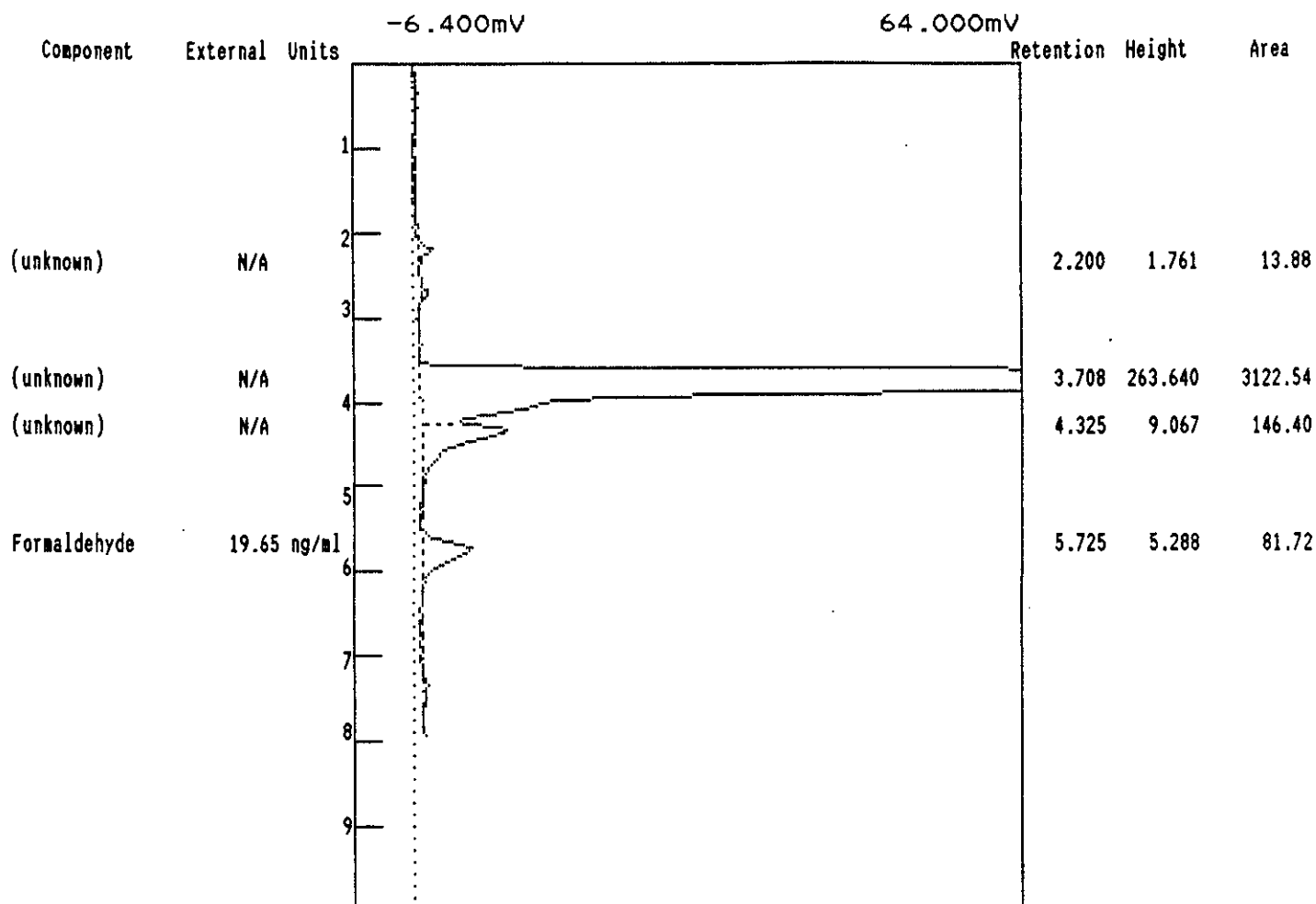
Description : Channel 1
 Conditions : Dryer RTO Exhaust
 : Run 4
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 12:01:36



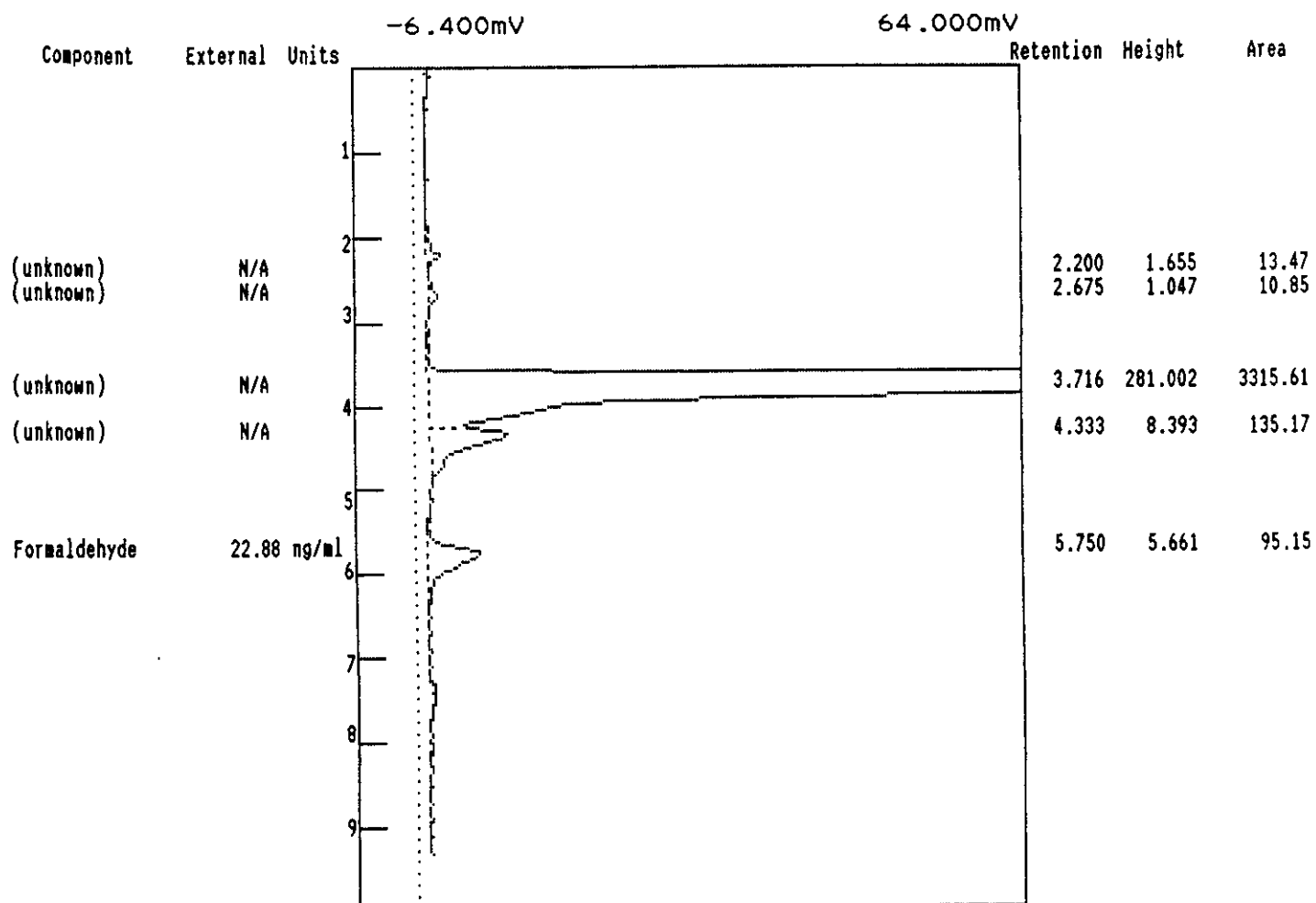
Description : Channel 1
 Conditions : Dryer RTO Exhaust
 : Run 5
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 12:10:46



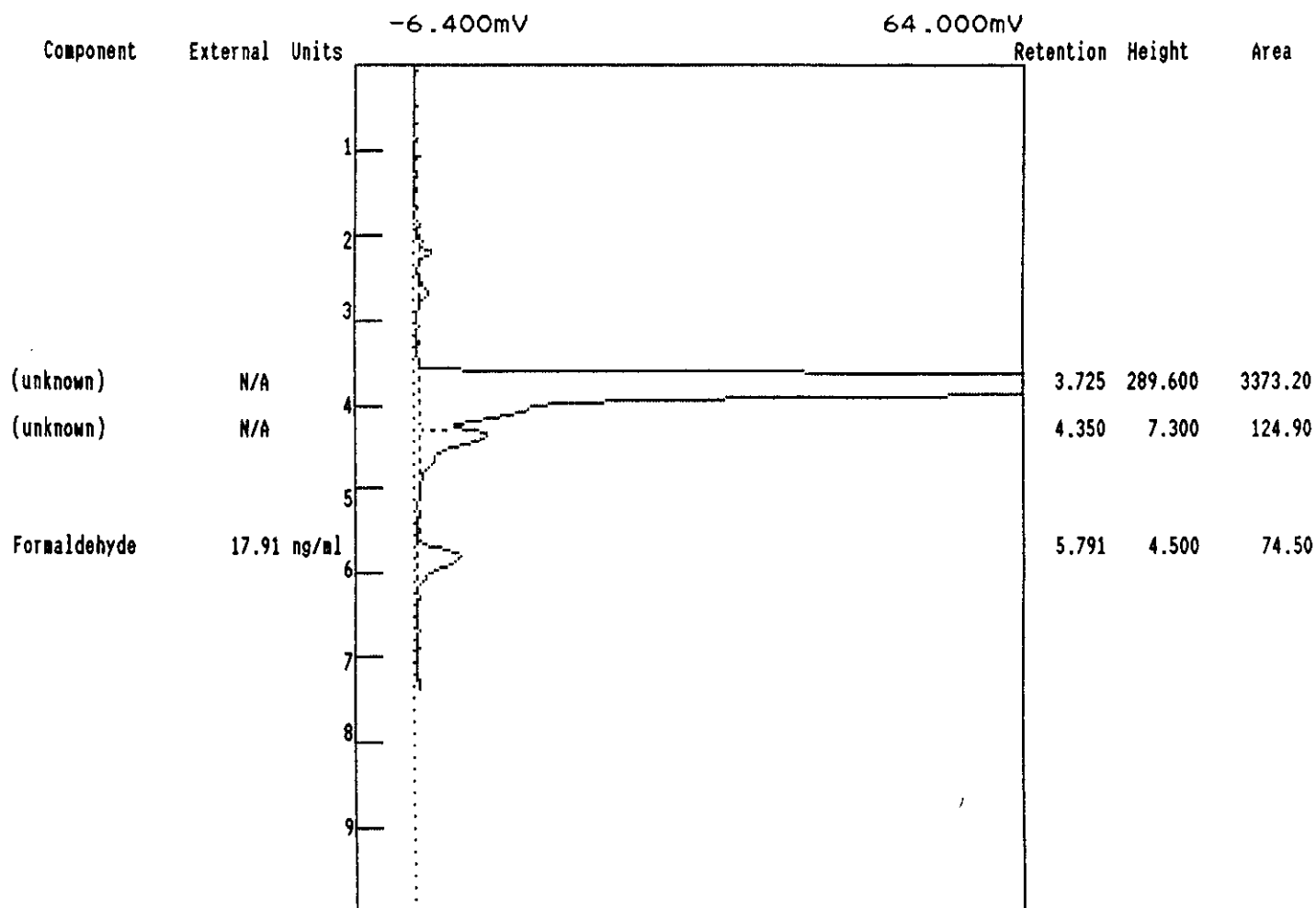
Description : Channel 1
 Conditions : Dryer RT0#1 Exhaust
 : Run 6
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 12:21:15



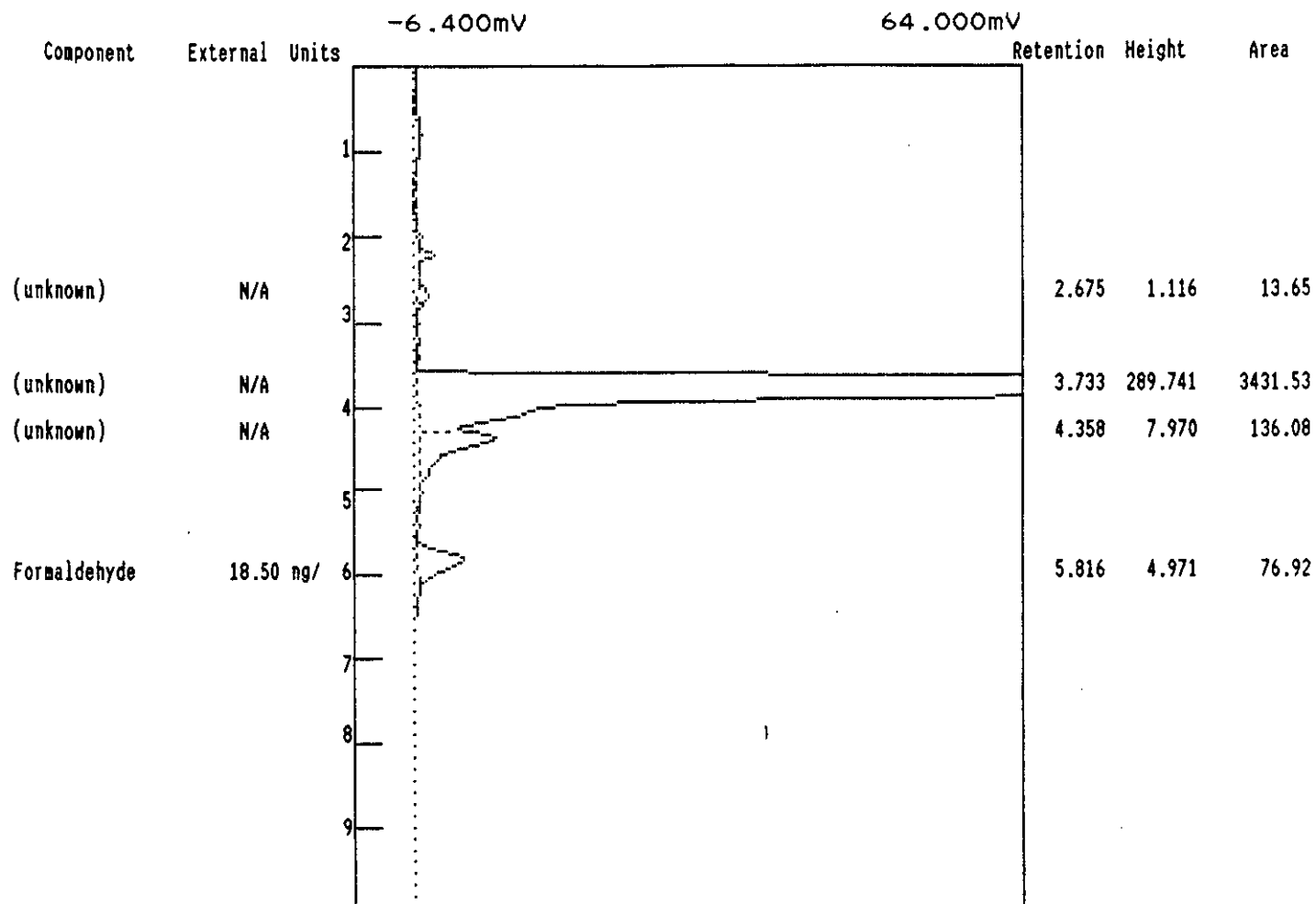
Description : Channel 1
 Conditions : Dryer RT0#2 Exhaust
 : Run 4
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 12:42:15



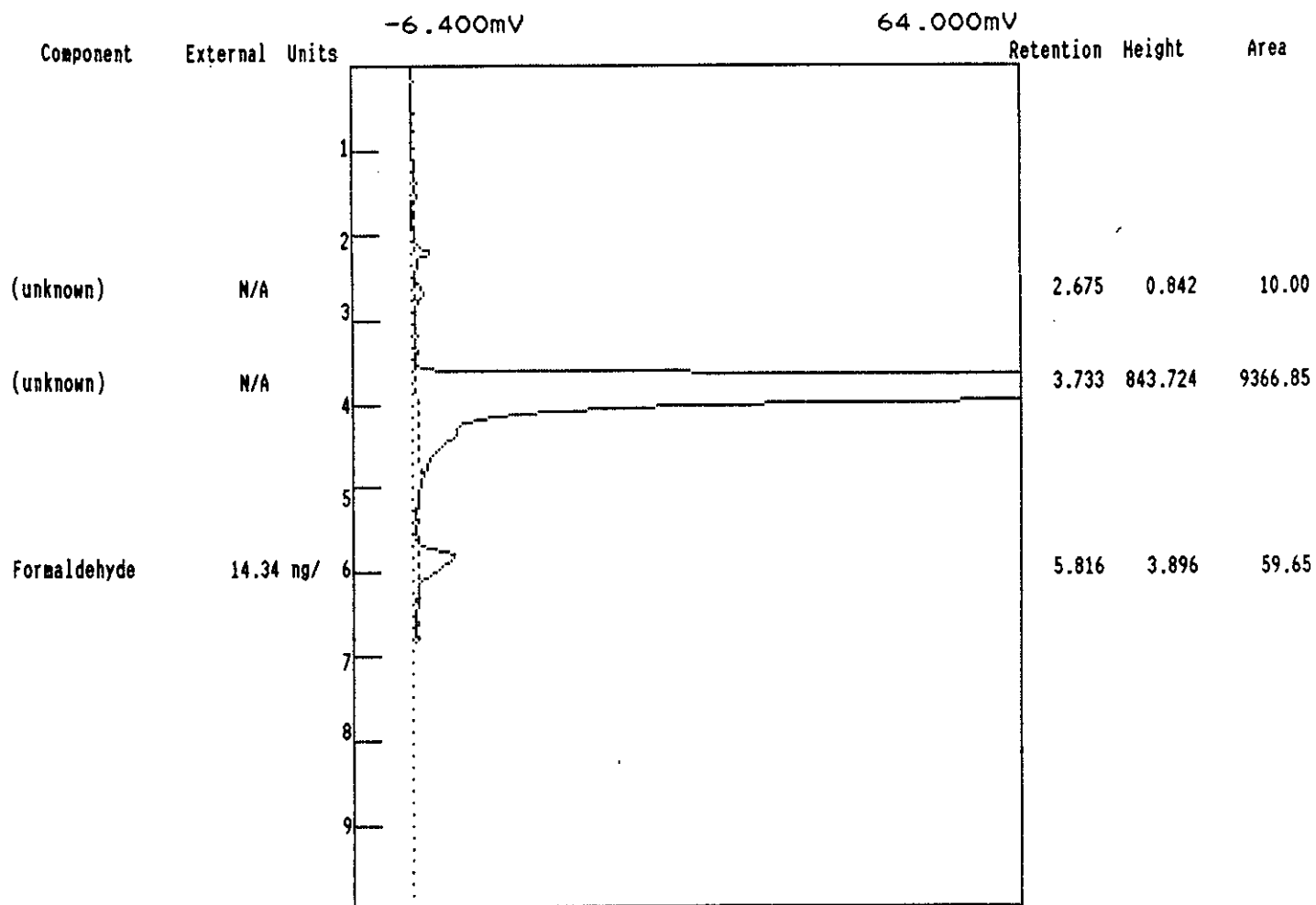
Description : Channel 1
 Conditions : Dryer RT0#2 Exhaust
 : Run 5
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 12:58:28



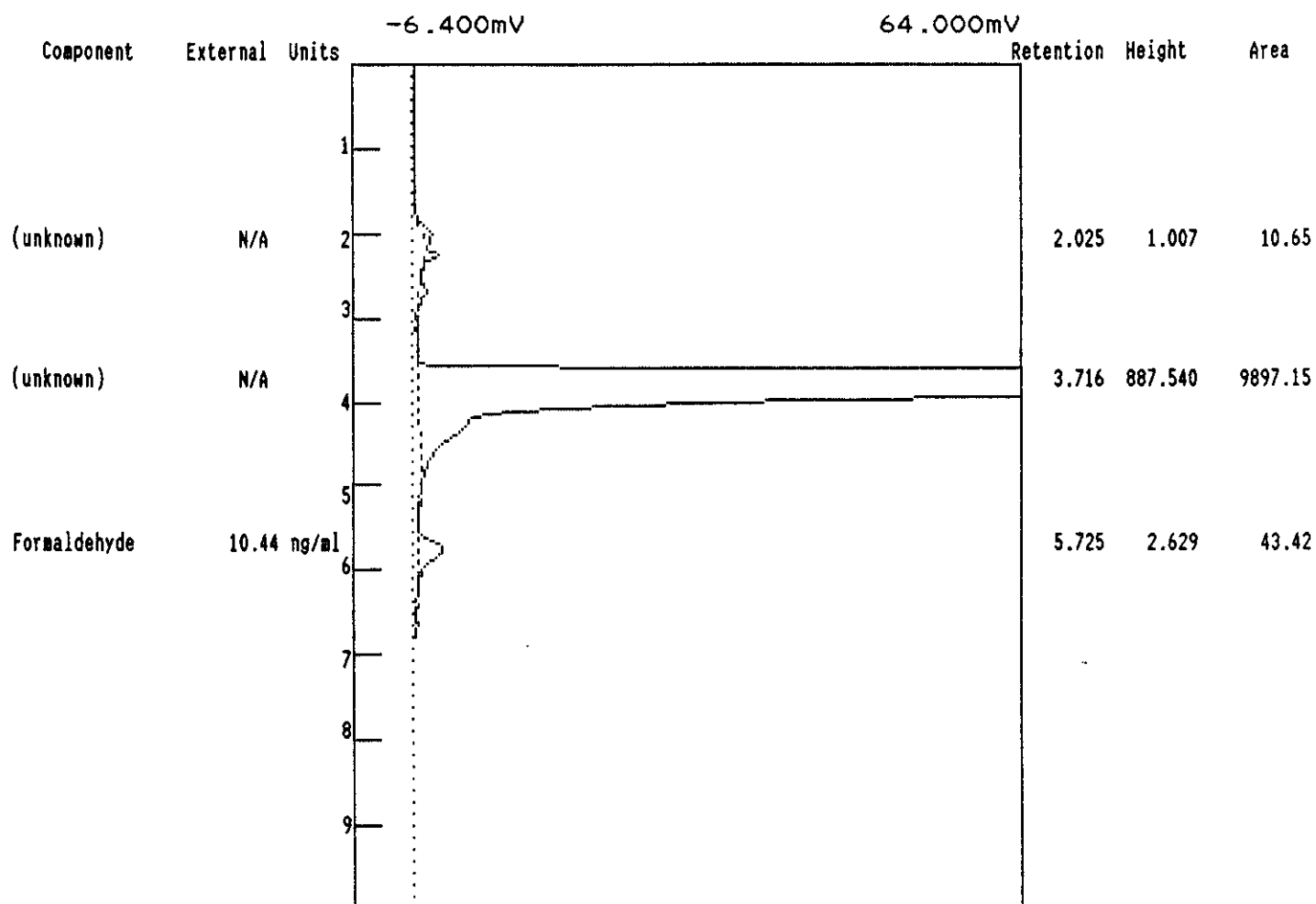
Description : Channel 1
 Conditions : Dryer RT0#2 Exhaust
 : Run 6
 : 250 mls 1/100 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 13:08:44



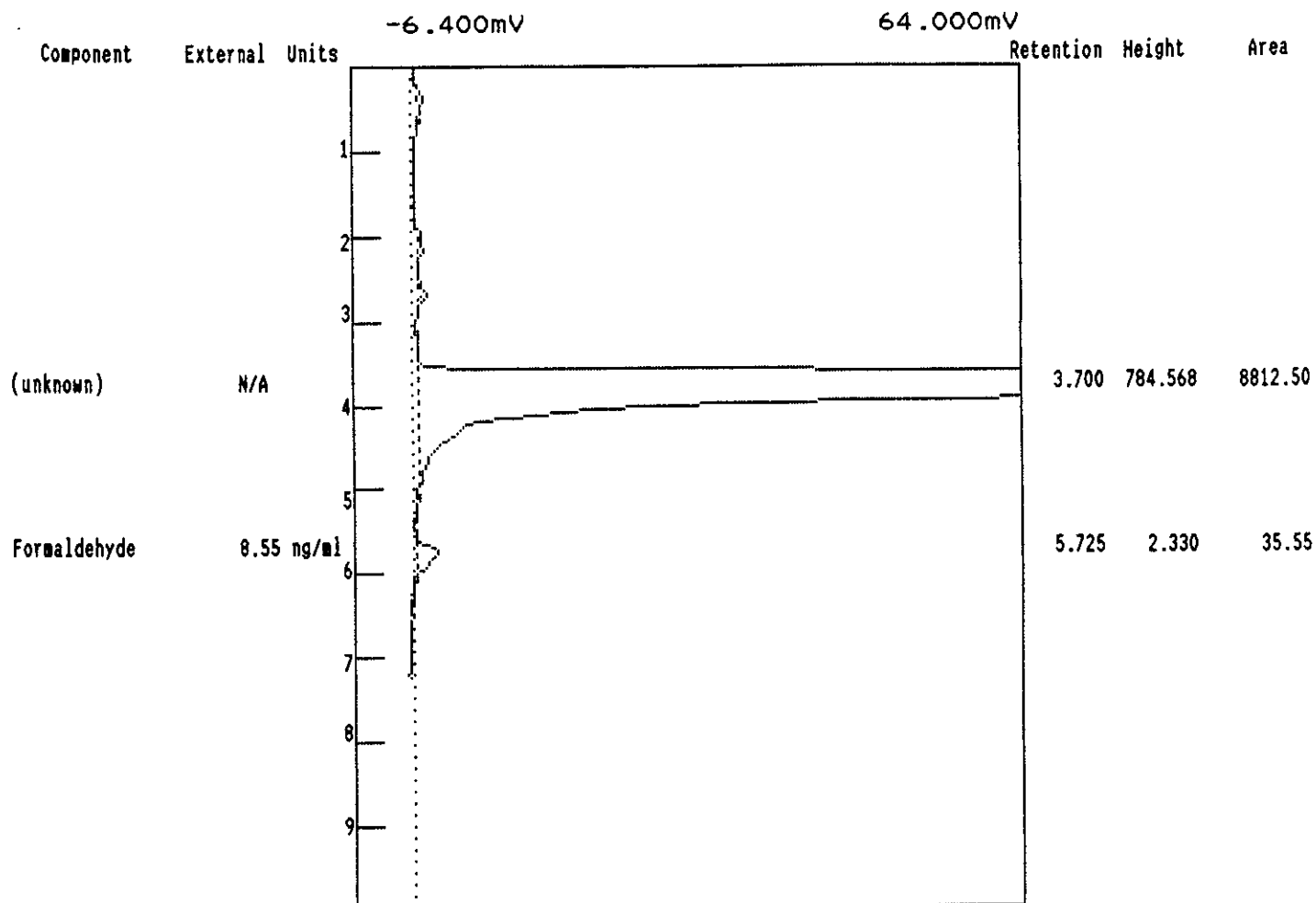
Description : Channel 1
 Conditions : Press RTO Exhaust
 : Run 1
 : 400 mls 1/25 dilution
 : 6/23/95
 Date : 07/01/1995
 Time : 13:38:33



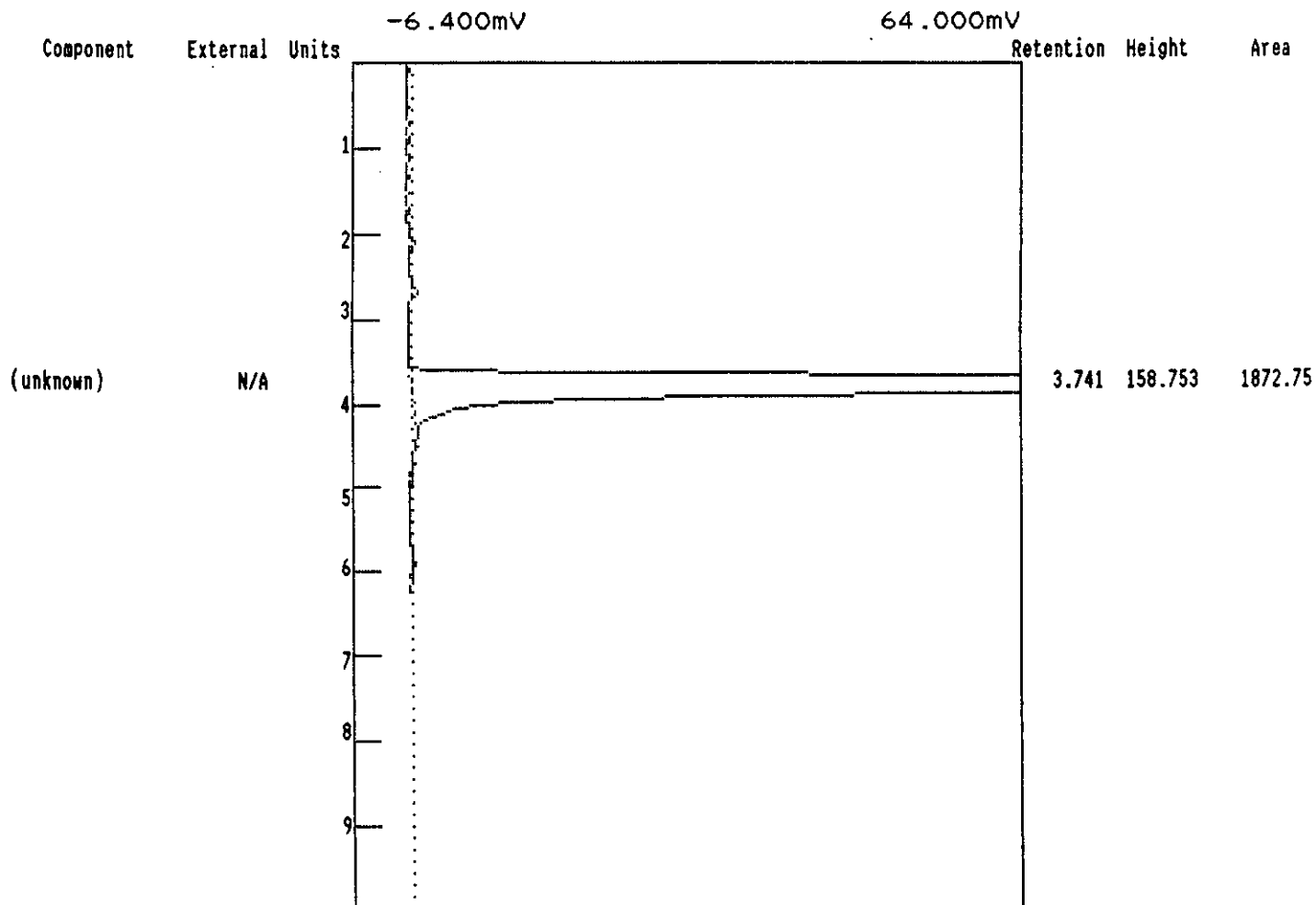
Description : Channel 1
 Conditions : Press RTO Exhaust
 : Run 2
 : 300 mls 1/25 dilution
 : 6/23/95
 Date : 07/01/1995
 Time : 13:47:30



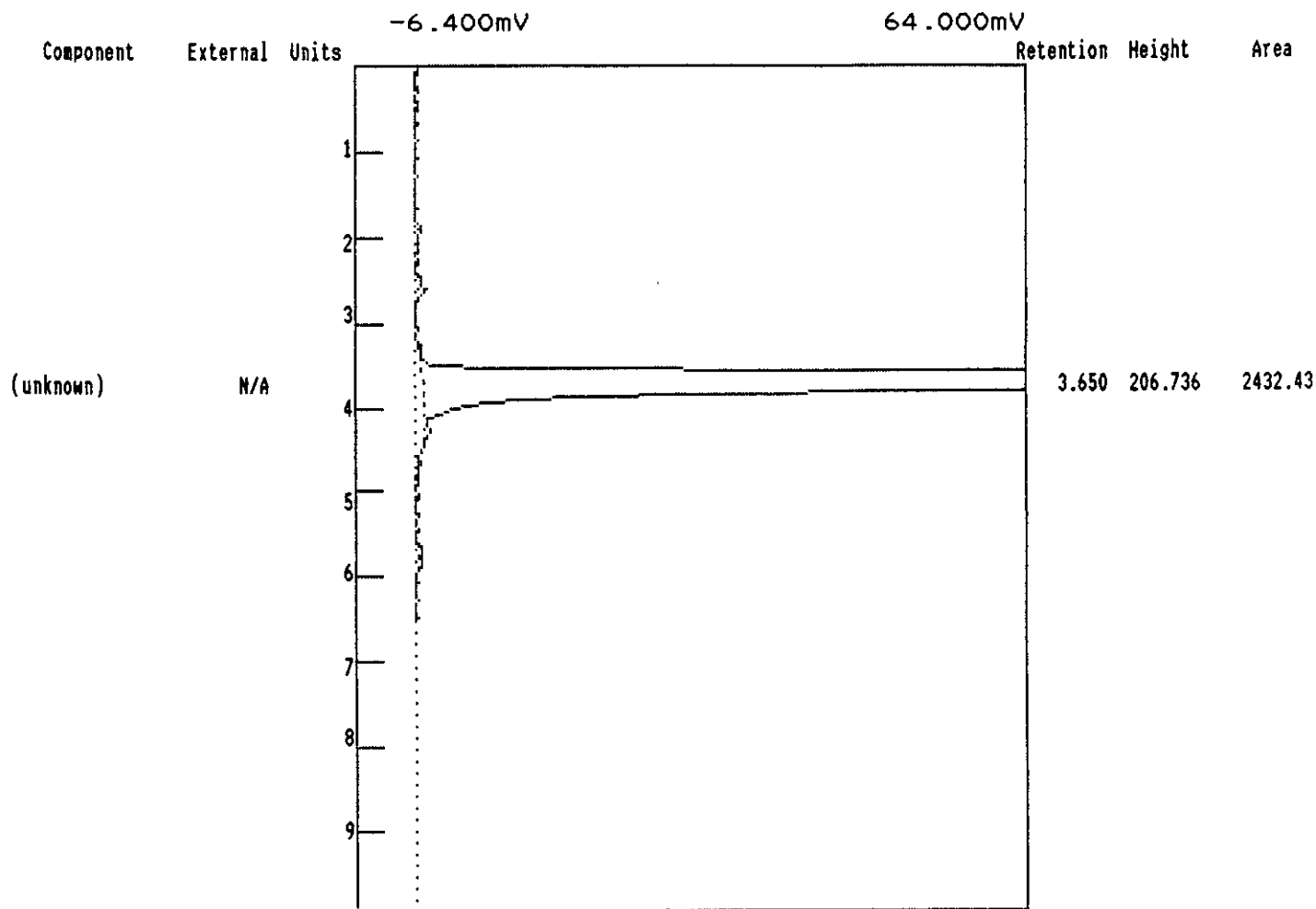
Description : Channel 1
 Conditions : Press RT0 Exhaust
 : Run 3
 : 350 mls 1/25 dilution
 : 6/23/95
 Date : 07/01/1995
 Time : 13:58:00



Description : Channel 1
 Conditions : Press RTO Exhaust
 : Blank
 : 250 mls 1/100 dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 14:13:35



Description : Channel 1
 Conditions : Press RT0 Exhaust
 : Blank
 : 250 mls 1/25 Dilution
 : 6/21/95
 Date : 07/01/1995
 Time : 14:43:48



PARTICULATE ANALYTICAL DATA FORM

Company: L.P., Athens, Ga
 Date: 6/22/95
 Location: RTO Exhaust

	Run 1	Run 2	Run 3
Density (Pa)	<u>.7850</u>	<u>.7850</u>	<u>.7850</u>
Blank Concentration (Ca)	<u>.00764 mg/g</u>	<u>.00764 mg/g</u>	<u>.00764 mg/g</u>
Rinse Volume (Vaw)	<u>260</u>	<u>130</u>	<u>220</u>
Residue in Rinse (Wa) = Ca * Vaw * Pa	<u>1.56 mg = .0016g</u>	<u>.78 mg = .0008g</u>	<u>1.32 mg = .0013g</u>
Date of Weighing	<u>7/3</u>	<u>7/3</u>	<u>7/3</u>
Gross Weight	<u>108.6073</u>	<u>104.5114</u>	<u>104.6944</u>
Date of Weighing	<u>7/3</u>	<u>7/3</u>	<u>7/3</u>
Gross Weight	<u>108.6076</u>	<u>104.5115</u>	<u>104.6942</u>
Average Gross Weight	<u>108.6075</u>	<u>104.5115</u>	<u>104.6943</u>
Less Blank Residue (Wa)	<u>108.6059</u>	<u>104.5107</u>	<u>104.6930</u>
Tare Weight	<u>108.5988</u>	<u>104.5057</u>	<u>104.6870</u>
Weight of Particulate in Rinse	<u>.0071</u>	<u>.0050</u>	<u>.0060</u>
Date of Weighing	<u>7/3</u>	<u>7/3</u>	<u>7/3</u>
Gross Filter Weight	<u>.4886</u>	<u>.4945</u>	<u>.4796</u>
Date of Weighing	<u>7/3</u>	<u>7/3</u>	<u>7/3</u>
Gross Filter Weight	<u>.4884</u>	<u>.4945</u>	<u>.4796</u>
Average Gross Weight	<u>.4884</u>	<u>.4945</u>	<u>.4796</u>
Filter Tare Weight	<u>.4881</u>	<u>.4936</u>	<u>.4794</u>
Weight of Particulate on Filter	<u>0.3 mg</u>	<u>0.9 mg</u>	<u>0.2 mg</u>
Total Weight of Particulate	<u>7.4 mg</u>	<u>5.9 mg</u>	<u>6.2 mg</u>

ACETONE BLANK ANALYTICAL DATA FORM

Blank Volume	<u>100 ml/s</u>
Date of Weighing	<u>7/3</u>
Gross Weight	<u>106.2910</u>
Date of Weighing	<u>7/3</u>
Gross Weight	<u>106.2910</u>
Average Gross Weight	<u>106.2910</u>
Tare Weight	<u>106.2904</u>
Weight of Blank (Ma)	<u>.0006 = .6 mg</u>
Ca = ma / (Va * Pa) = mg/g	<u>.00764 mg/g</u>

Note: In no case should a blank residue greater than 0.01 mg/g or 0.001% of the blank weight be subtracted from the sample weight.

PARTICULATE ANALYTICAL DATA FORM

Company: LP Athens
 Date: 6/22/95
 Location: RTD EX TAPS
CH₃Cl extraction layer
 Density (Pa)

	Run 1	Run 2	Run 3
Blank Concentration (Ca)			
Rinse Volume (Vaw)	<u>50</u>	<u>50</u>	<u>50</u>
Residue in Rinse (Wa) = Ca * Vaw * Pa			
Date of Weighing	<u>7/5</u>	<u>7/5</u>	
Gross Weight	<u>101.9775</u>	<u>96.2378</u>	<u>110.0001</u>
Date of Weighing	<u>7/5</u>	<u>7/5</u>	
Gross Weight	<u>101.9776</u>	<u>96.2378</u>	<u>109.9999</u>
Average Gross Weight	<u>101.9776</u>	<u>96.2378</u>	<u>110.0000</u>
Less Blank Residue (Wa)	<u>-</u>	<u>-</u>	<u>-</u>
Tare Weight	<u>101.9766</u>	<u>96.2367</u>	<u>109.9999</u>
Weight of Particulate in Rinse	<u>1.0</u>	<u>1.1</u>	<u>0.1</u>
Date of Weighing			
Gross Filter Weight			
Date of Weighing			
Gross Filter Weight			
Average Gross Weight			
Filter Tare Weight			
Weight of Particulate on Filter in H ₂ O	<u>2.2</u>	<u>0.43</u>	<u>2.4</u>
Total Weight of Particulate	<u>3.2</u>	<u>1.53</u>	<u>2.5</u>

ACETONE BLANK ANALYTICAL DATA FORM

Blank Volume 50
 Date of Weighing 7/5
 Gross Weight 115.2484
 Date of Weighing 7/5
 Gross Weight 115.2484
 Average Gross Weight 115.2484
 Tare Weight 115.2484
 Weight of Blank (Ma) 0
 Ca = ma / (Va * Pa) = mg/g

Note: In no case should a blank residue greater than 0.01 mg/g or 0.001% of the blank weight be subtracted from the sample weight.

PARTICULATE ANALYTICAL DATA FORM

Company: LPAIERS
 Date: 6/22/95
 Location: KTO EX Taps
H2O - 100% H2O

	Run 1	Run 2	Run 3
Density (Pa)			
Blank Concentration (Ca)			
Rinse Volume (Vaw)	<u>100/220</u>	<u>100/215</u>	<u>100/200</u>
Residue in Rinse (Wa) = $Ca \cdot Vaw \cdot Pa$			
Date of Weighing	<u>7/5/95</u>	<u>7/5/95</u>	<u>7/5/95</u>
Gross Weight	<u>112.7046</u>	<u>109.4275</u>	<u>101.3787</u>
Date of Weighing	<u>7/5/95</u>	<u>7/5/95</u>	<u>7/5/95</u>
Gross Weight	<u>112.7046</u>	<u>109.4275</u>	<u>101.3787</u>
Average Gross Weight	<u>112.7046</u>	<u>109.4275</u>	<u>101.3787</u>
Less Blank Residue (Wa)	<u>—</u>	<u>—</u>	<u>—</u>
Tare Weight	<u>112.7035</u>	<u>109.4273</u>	<u>101.3775</u>
Weight of Particulate in Rinse	<u>1.1 mg</u>	<u>0.2 mg</u>	<u>1.2 mg</u>
Date of Weighing			
Gross Filter Weight			
Date of Weighing			
Gross Filter Weight			
Average Gross Weight			
Filter Tare Weight			
Weight of Particulate on Filter			
Total Weight of Particulate $\times 2.2$	<u>2.2</u>	$\times 2.5$ <u>0.43</u>	$\times 2$ <u>2.4</u>

ACETONE BLANK ANALYTICAL DATA FORM

Blank Volume	<u>100/286</u>
Date of Weighing	<u>7/5</u>
Gross Weight	<u>96.8121</u>
Date of Weighing	<u>7/5</u>
Gross Weight	<u>96.8121</u>
Average Gross Weight	<u>96.8121</u>
Tare Weight	<u>96.8121</u>
Weight of Blank (Ma)	<u>0</u>
$Ca = ma / (Va \cdot Pa) = \text{mg/g}$	

Note: In no case should a blank residue greater than 0.01 mg/g or 0.001% of the blank weight be subtracted from the sample weight.

APPENDIX D

L.P. Athens G.A.

6/20/95

Dryer
~~Press~~ RTO

Co Inlet #2 Runs 1-3

EFFICIENCY LINE • 22-205



	1	2	3	4	5	6	7	8	9
1	Run #1			Run #2			Run #3		
2	4.5			4.5				6	
3	4.5			4.5				6	
4	4			5				6	
5	4			5				6.5	
6	4.5			5				6	
7	4.5			5				8	
8	4.5			4				6	
9	4.5			4				6	
10	4.5			4				6	
11	5			4				6	
12	4.5			4				5	
13	4.5			3.5				5.5	
14	4.5			4				5.5	
15	5			3.5				5.5	
16	5			4				5.5	
17	5			3.5				89.5	Total
18	73 Total			67.5 Total			5.96 Ave		
19	4.56 Ave			4.2 Ave			(5.5 ppm/unit		
20	(5 ppm/unit)			5.4 ppm/unit			32.78 ppm		
21	22.8 ppm			22.7 ppm					
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									

5.7 - end
6/20/95

Pryer
Press RTO

NOV - 1st # 3 Runs 1-3

	1	2	3	4	5	6	7	8	9
1									
2	Run # 1			Run # 2			Run # 3		
3								26	
4	22			20				26	
5	21			19.5				25.5	
6	21			17.5				24.5	
7	21			18				25	
8	21			20				25.5	
9	19.5			22				24	
10	18.5			20				24	
11	20			21				23.5	
12	18			22				27.5	
13	18			20				23	
14	18.5			20				25	
15	19			19				24.5	
16	19.5			239 Total				25	
17	20.5			19.9 Ave				25	
18	277.5 Total			1.02 ppm/wicks				26	
19	19.8 Ave			20 30 ppm				480 Total	
20	1.02 ppm/wicks							25 Ave	
21	20.20 ppm							1.96 ppm/wick	
22								24.19 ppm	
23									
24									
25									
26									
27									
28									
29									
30									
31									

L.P. # 6/20/05

Dryer
~~Press~~ RTO

Co Inlet # 3 Runs 1-3

	1	2	3	4	5	6	7	8	9
1									
2	<u>Run # 1</u>			<u>Run # 2</u>			<u>Run # 3</u>		
3		20.5			24.5			13	
4		21			24.5			15.5	
5		20			25			18	
6		21			25			18	
7		21.5			25			19	
8		21			26			20	
9		21			25			21	
10		21			26.5			20.5	
11		22			25.5			20	
12		22.5			25			19	
13		23.5			26			21	
14		21			25.5			12	
15		21			26			19	
16		24			29			19.5	
17		25			27			20	
18		326 Total			385.5 Total			19.5	
19		21.7 Ave			25.7 Ave			295 Total	
20		5 ppm/unit			5.4 ppm/unit			18.4 Ave	
21		108.5 ppm			138.9 ppm			5.8 ppm/unit	
22								107.4 ppm	
23									
24									
25									
26									
27									
28									
29									
30									
31									

L.P. Athens G.A.
6/20/95

Dryer
~~Press~~ RTO

Nox Inlets #2 Runs 1-3

EFFICIENCY LINE #22-206



	1	2	3	4	5	6	7	8	9
1	<u>Run #1</u>			<u>Run #2</u>				<u>Run #3</u>	
2	21			16				16	
3	23			16				15	
4	22.5			16.5				15	
5	20.5			18.5				15	
6	20			16.5				16.5	
7	19			17				17	
8	20			17				18	
9	21			15.5				18	
10	19			15				19	
11	18			15				19	
12	19			16				18	
13	17			17				18	
14	18			17				17.5	
15	17.5			17				17	
16	17			246 Total				239 Total	
17	14.5			17.57 Ave				17.07 Ave	
18	307 Total			(1.02 ppm/units)				(1.02 ppm/units)	
19	19.18 Ave.			17.9 ppm				17.4 ppm	
20	(1.02 ppm/units)								
21	19.6 ppm								
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									

Press RTO BX

Nax + Co.

Pg 1

Chart 2000/100

Press. RTO BY

Nor + CO

8.2

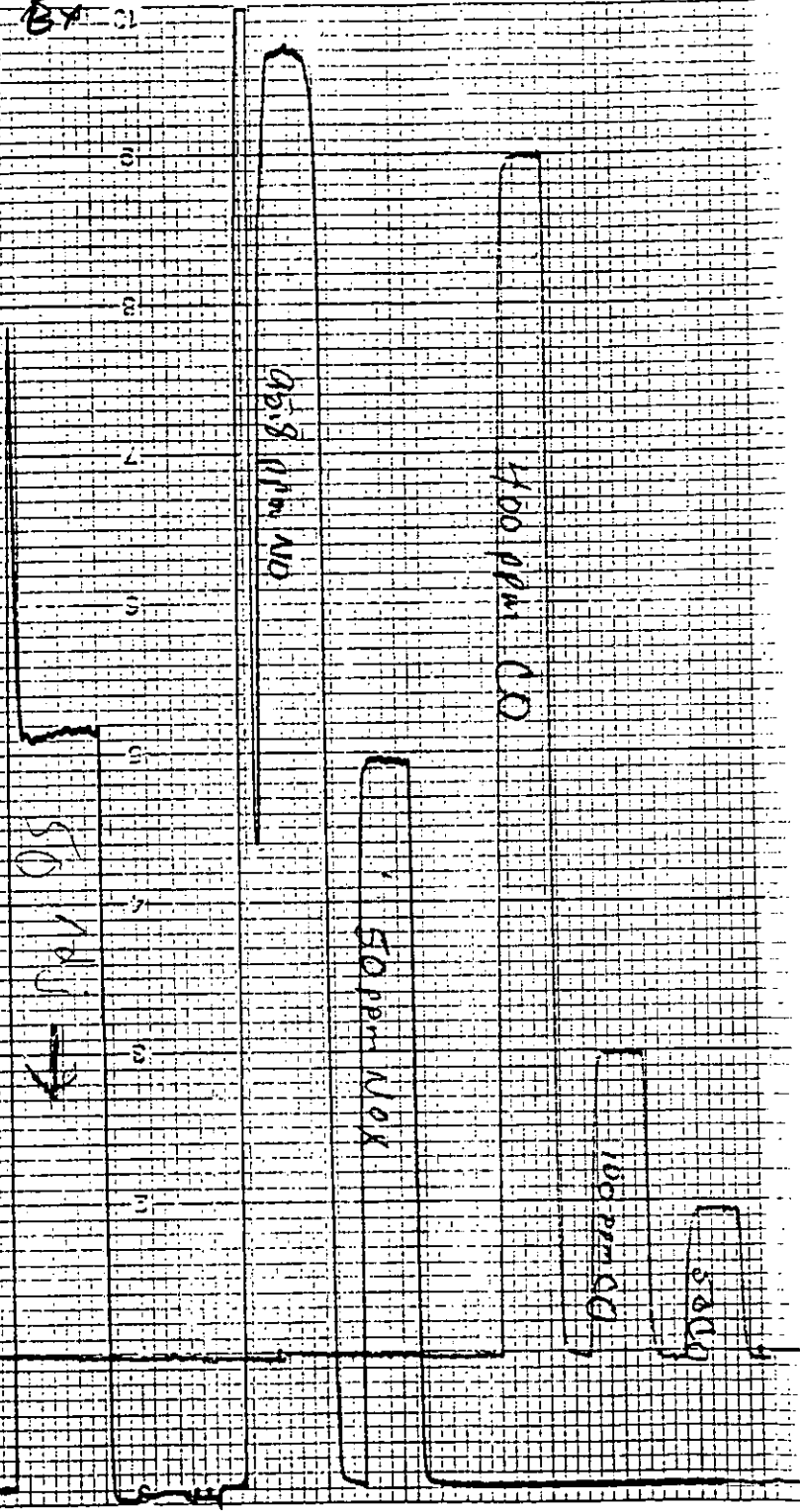
LP - Athens, GA

CO = 20-95

NOx = 0-100 ppm

CO = 0-500 ppm

PM10 = 1-4



Press RTO 6x
Nor + CO
Pg 3

3

2

3

2

7

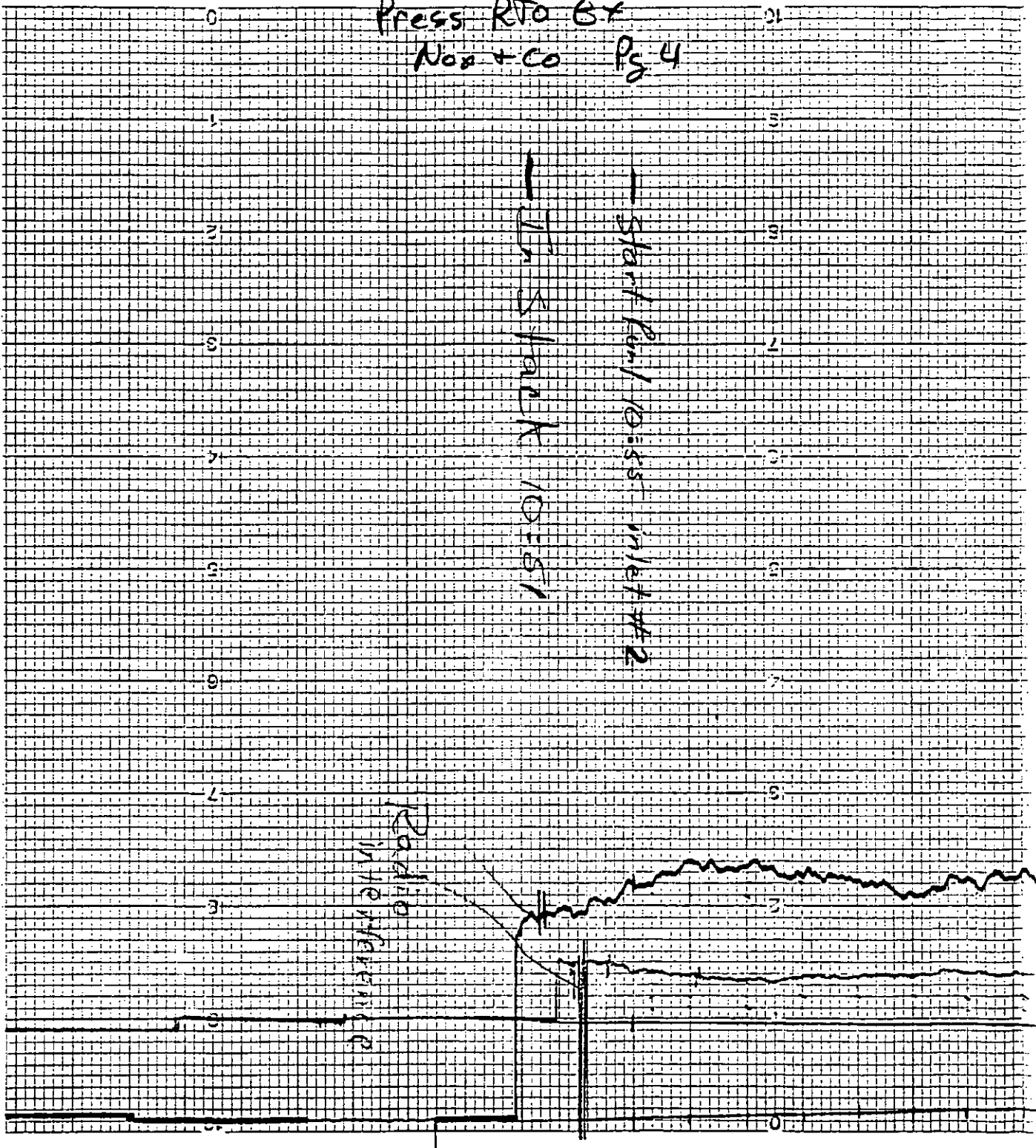
3

2

1

10

Press RTO Ex
 No. + CO Pg 4



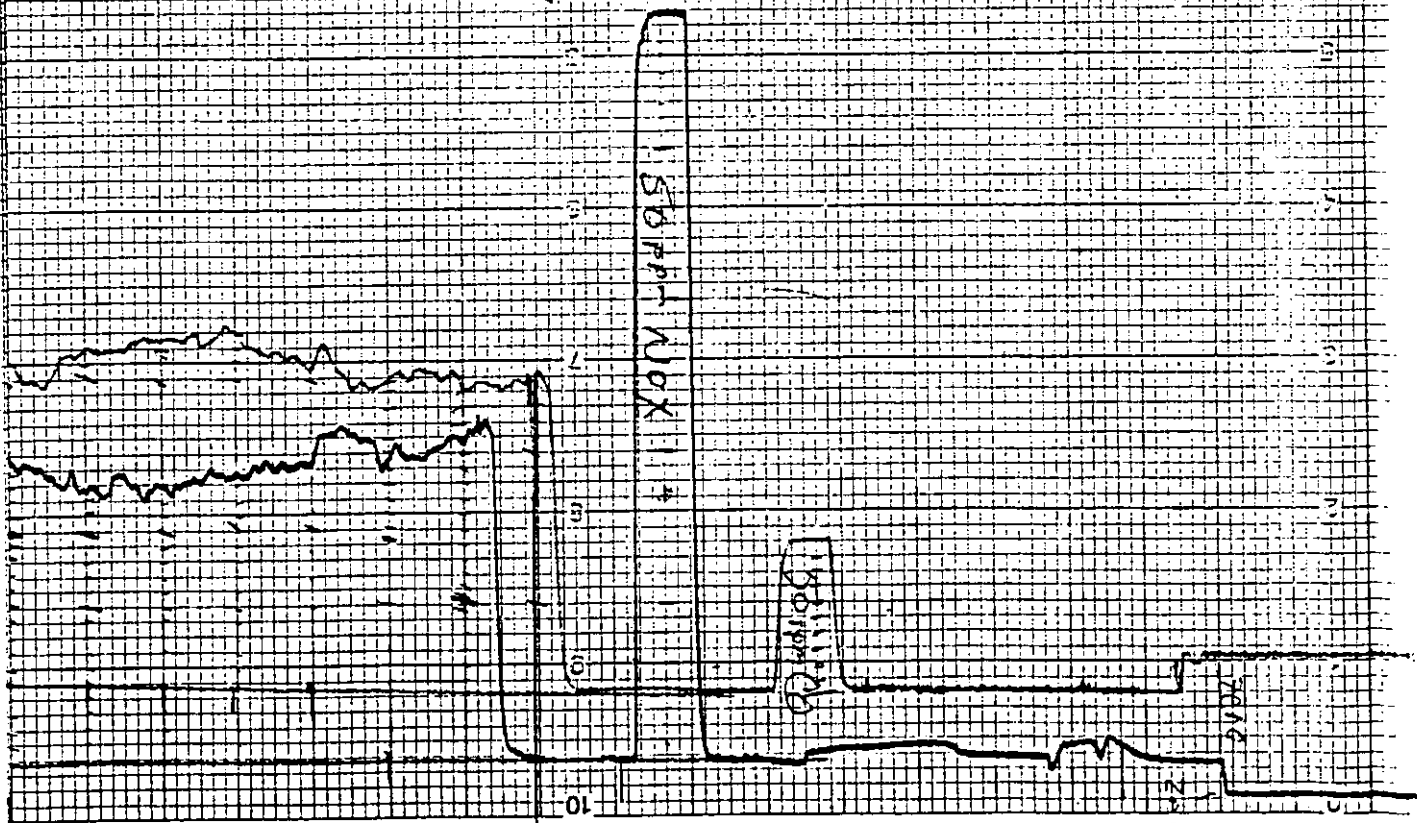
Press RFO
NOR + CO 25

Stop
Run
#3
11:27
End Run
#2
11:25



Process RTO 5x
 Nox + CO 1/6

End R1 # 5 11:57



Press Rtd. Ex
Nov + Co Pg 7

Start Run 2 #2 inlet
12:45

End 10

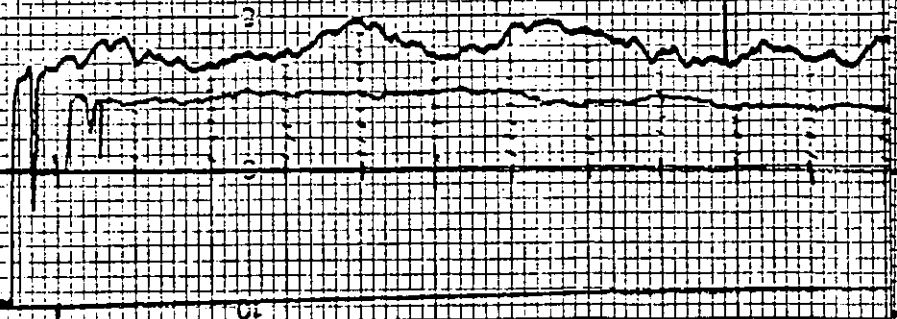


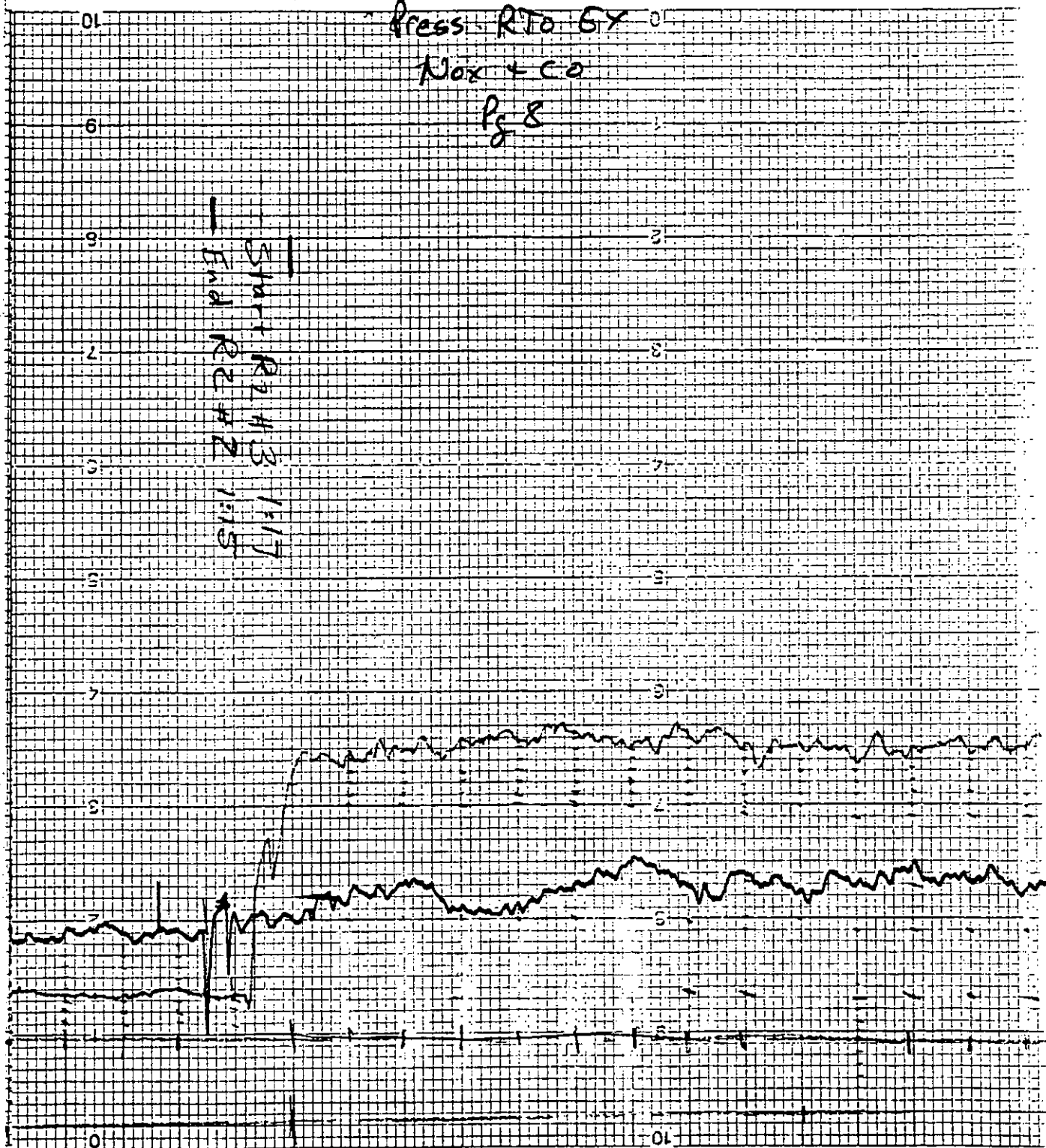
CHART NO. RC-3135

Press - RTO 6X

Nox + Co

Pg 8

Start RE #3 1:17
End RE #2 1:15

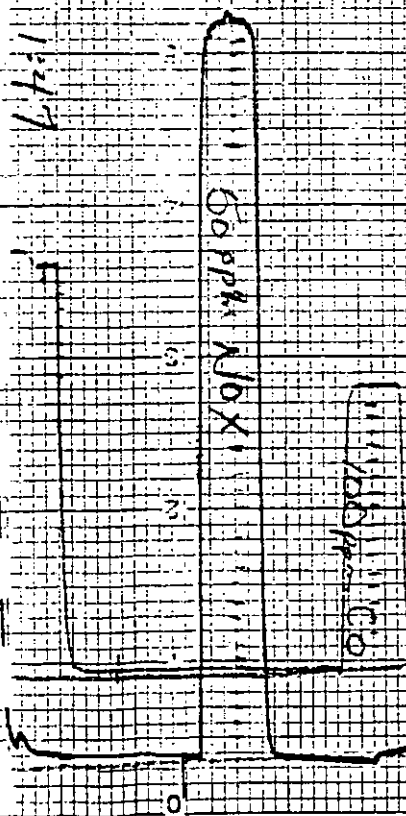


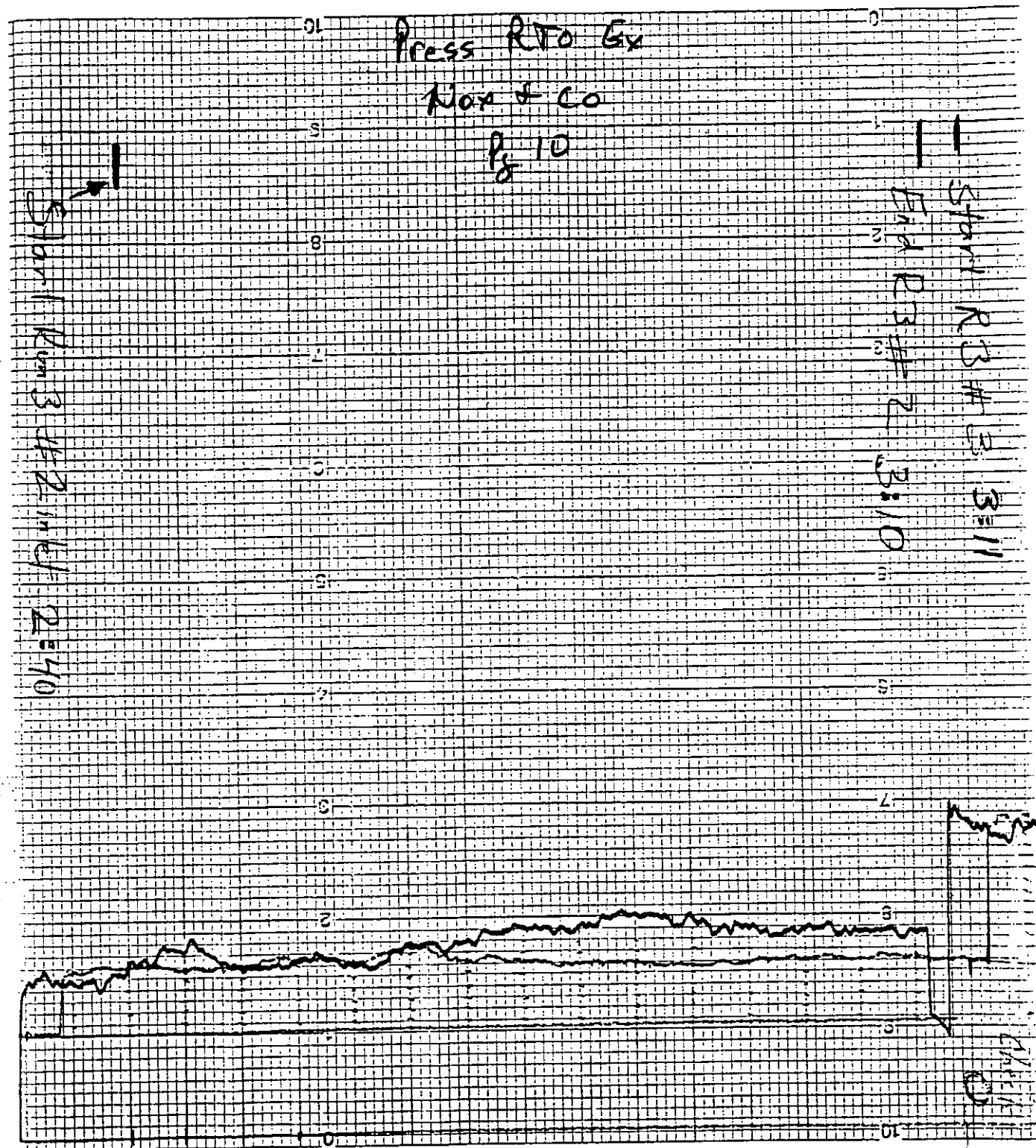
Kress RTO BX

NO. 1 CO

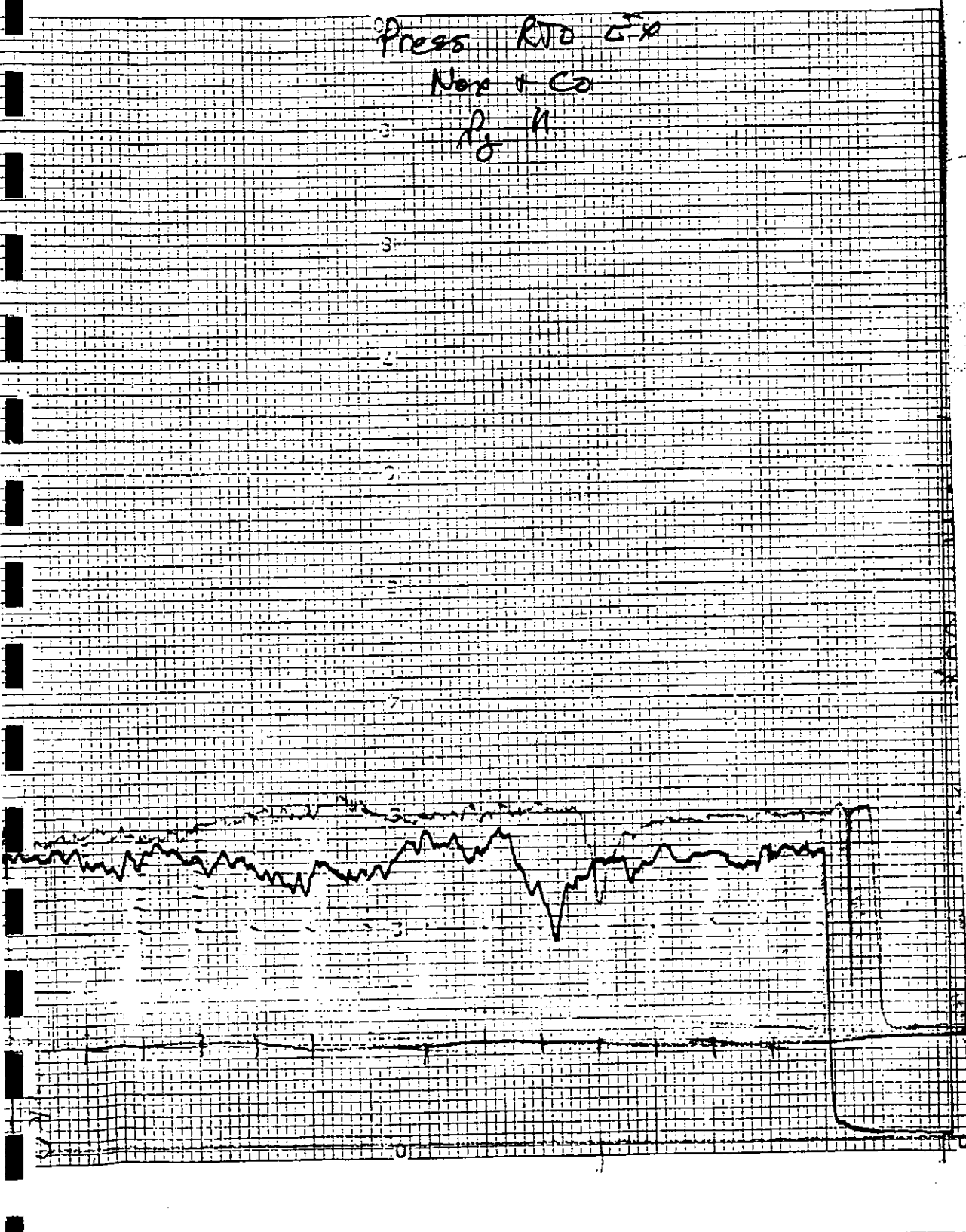
PS 9

End Run 2 # 3 1/4 7





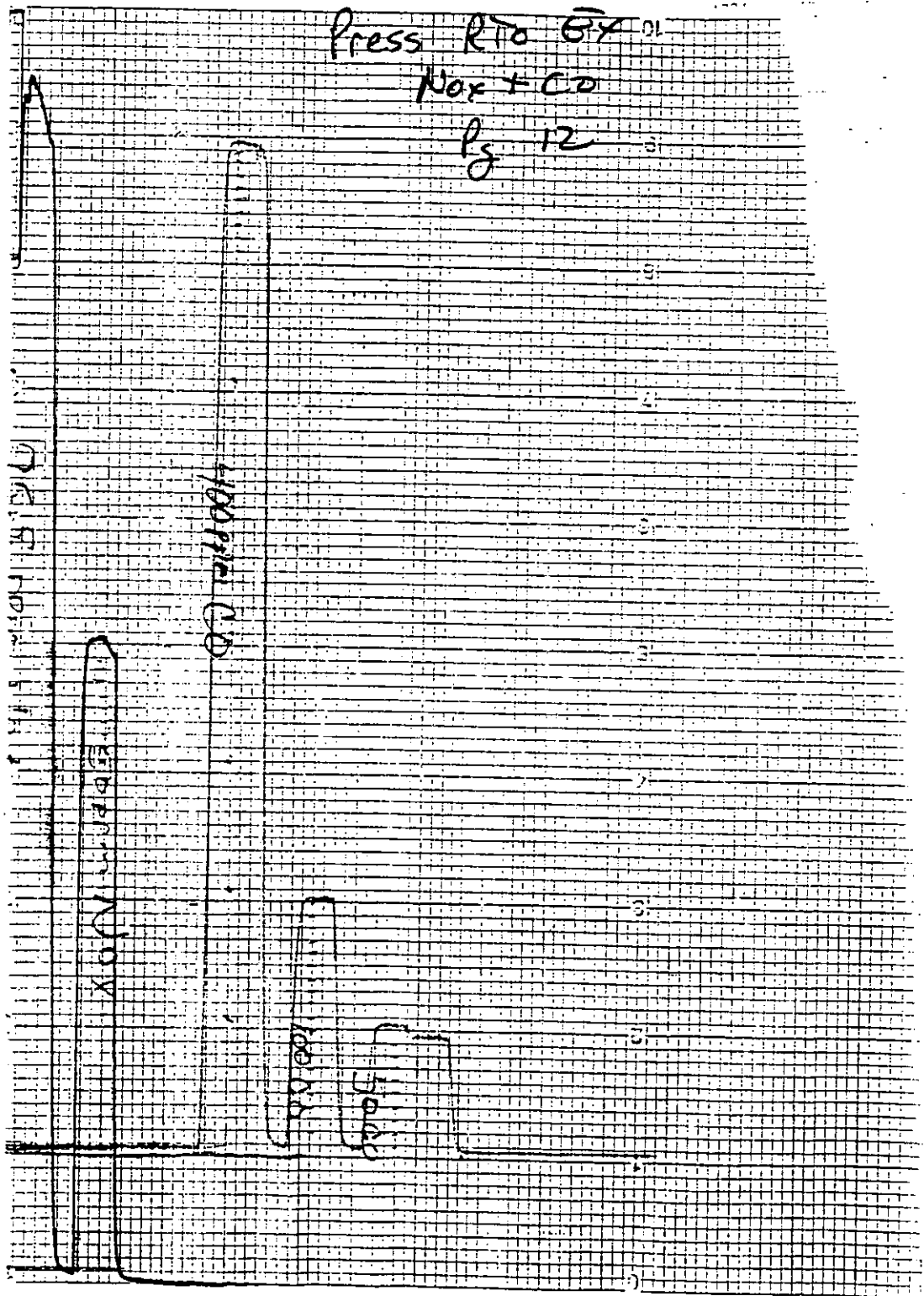
Press RTO GP
 New & Co
 P. H.



Press RTO 6X 01

NOx + CO

pg 12



FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	CO, ppm	2A Voltage 5 sec Volts	NOx, ppm
Start	1	0.1	59.0	2.0
Run 1	2	0.1	57.0	2.0
Dryer 4	3	0.1	58.0	2.0
10:55	4	0.1	58.0	1.9
	5	0.1	58.0	1.9
	6	0.1	58.0	1.9
	7	0.1	57.0	2.0
	8	0.1	57.0	1.9
	9	0.1	57.0	2.0
	10	0.1	57.0	2.0
	11	0.1	58.0	2.0
	12	0.1	58.0	2.0
	13	0.1	58.0	2.0
	14	0.1	58.0	2.0
	15	0.1	59.0	2.0
	16	0.1	59.0	2.0
	17	0.1	60.0	2.0
	18	0.1	61.0	2.0
	19	0.1	61.0	2.1
	20	0.1	62.0	2.1
	21	0.1	62.0	2.1
	22	0.1	63.0	2.1
	23	0.1	64.0	2.1
	24	0.1	65.0	2.1
	25	0.1	66.0	2.1
	26	0.1	67.0	2.1
	27	0.1	67.0	2.1
	28	0.1	67.0	2.1
	29	0.1	68.0	2.1
	30	0.1	68.0	2.1
	31	0.1	69.0	2.1
	32	0.1	69.0	2.1
	33	0.1	69.0	2.1
	34	0.1	69.0	2.1
	35	0.1	69.0	2.1
	36	0.1	69.0	2.0
	37	0.1	68.0	2.0
	38	0.1	68.0	2.0
	39	0.1	68.0	2.0
	40	0.1	68.0	2.0
	41	0.1	67.0	2.1
	42	0.1	67.0	2.1
	43	0.1	66.0	2.1
	44	0.1	65.0	2.0
	45	0.1	64.0	1.9
	46	0.1	64.0	1.9
	47	0.1	63.0	1.9
	48	0.1	62.0	1.9
	49	0.1	62.0	1.9
	50	0.1	62.0	1.9
	51	0.1	62.0	1.9
	52	0.1	63.0	2.0
	53	0.1	65.0	2.0
	54	0.1	66.0	2.0
	55	0.1	68.0	2.0
	56	0.1	70.0	2.0
	57	0.1	71.0	2.0
	58	0.1	72.0	2.1
	59	0.1	73.0	2.1
	60	0.1	72.0	2.1
	61	0.1	71.0	2.0
	62	0.1	70.0	2.0
	63	0.1	69.0	2.0
	64	0.1	70.0	2.0
	65	0.1	70.0	2.0
	66	0.1	70.0	2.0
	67	0.1	71.0	2.0
	68	0.1	72.0	2.0
	69	0.1	73.0	2.0
	70	0.1	75.0	2.0
	71	0.1	77.0	1.9
	72	0.1	78.0	1.9
	73	0.1	79.0	1.9
	74	0.1	81.0	1.9
	75	0.1	82.0	1.9
	76	0.1	82.0	1.9
	77	0.1	79.0	1.8
	78	0.1	77.0	1.8
	79	0.1	74.0	1.8
	80	0.1	72.0	1.8
	81	0.1	70.0	1.8
	82	0.1	69.0	1.8
	83	0.1	69.0	1.8
	84	0.1	72.0	1.9
	85	0.1	73.0	1.9
	86	0.1	74.0	1.9
	87	0.1	73.0	1.9
	88	0.1	73.0	1.9
	89	0.1	71.0	2.0
	90	0.1	69.0	2.0
	91	0.1	68.0	2.1
	92	0.1	67.0	2.1
	93	0.1	65.0	2.1

Stack #4

NOx - 18.26

CO - 76.7

RUN1-4

94	0.1	65.0	2.1	21.2
95	0.1	66.0	2.1	21.4
96	0.1	67.0	2.2	21.5
97	0.1	69.0	2.1	21.4
98	0.1	69.0	2.1	21.3
99	0.1	69.0	2.1	21.2
100	0.1	70.0	2.1	21.1
101	0.1	70.0	2.1	20.9
102	0.1	70.0	2.1	20.9
103	0.1	69.0	2.1	21.2
104	0.1	69.0	2.1	21.2
105	0.1	70.0	2.2	21.5
106	0.1	70.0	2.2	21.5
107	0.1	70.0	2.1	21.4
108	0.1	71.0	2.1	21.1
109	0.1	71.0	2.1	20.8
110	0.1	72.0	2.1	20.6
111	0.1	73.0	2.0	20.4
112	0.1	74.0	2.0	20.3
113	0.1	75.0	2.0	20.3
114	0.1	75.0	2.0	20.4
115	0.1	74.0	2.1	20.6
116	0.1	74.0	2.1	20.5
117	0.1	74.0	2.1	20.6
118	0.1	74.0	2.1	20.7
119	0.1	74.0	2.1	20.7
120	0.1	75.0	2.1	20.7
121	0.1	75.0	2.1	20.6
122	0.1	76.0	2.1	20.6
123	0.1	76.0	2.1	20.7
124	0.1	77.0	2.1	20.7
125	0.1	77.0	2.1	20.7
126	0.1	78.0	2.1	20.8
127	0.1	78.0	2.1	20.8
128	0.1	78.0	2.1	20.7
129	0.1	81.0	2.0	20.2
130	0.1	79.0	2.0	19.5
131	0.1	81.0	1.9	19.4
132	0.1	83.0	1.9	19.4
133	0.1	87.0	1.9	19.4
134	0.1	90.0	1.9	19.2
135	0.1	92.0	1.9	18.9
136	0.1	93.0	1.9	18.6
137	0.1	93.0	1.8	18.3
138	0.1	93.0	1.8	18.3
139	0.1	92.0	1.8	18
140	0.1	91.0	1.8	17.9
141	0.1	89.0	1.8	17.7
142	0.1	88.0	1.7	17.2
143	0.1	86.0	1.7	16.9
144	0.1	84.0	1.7	16.6
145	0.1	82.0	1.7	16.7
146	0.1	80.0	1.7	16.5
147	0.1	79.0	1.6	17.7
148	0.1	77.0	1.7	16.6
149	0.1	78.0	1.7	16.7
150	0.1	75.0	1.6	15.6
151	0.1	74.0	1.6	15.2
152	0.1	73.0	1.5	15
153	0.1	72.0	1.5	14.9
154	0.1	72.0	1.5	14.8
155	0.1	71.0	1.5	14.9
156	0.1	71.0	1.5	15.1
157	0.1	69.0	1.5	15.2
158	0.1	68.0	1.6	15.5
159	0.1	66.0	1.6	15.8
160	0.1	62.0	1.6	16
161	0.1	60.0	1.6	16.1
162	0.1	58.0	1.6	16.2
163	0.1	57.0	1.6	16
164	0.1	55.0	1.6	15.9
165	0.1	55.0	1.6	15.8
166	0.1	56.0	1.6	15.7
167	0.1	57.0	1.6	15.5
168	0.1	58.0	1.5	15.3
169	0.1	60.0	1.6	15.2
170	0.1	63.0	1.5	14.9
171	0.1	64.0	1.5	15
172	0.1	66.0	1.5	14.8
173	0.1	67.0	1.4	14.4
174	0.1	68.0	1.4	14
175	0.1	70.0	1.4	13.8
176	0.1	71.0	1.4	13.6
177	0.1	72.0	1.4	13.5
178	0.1	72.0	1.4	13.5
179	0.1	72.0	1.4	13.7
180	0.1	71.0	1.4	13.6
181	0.1	71.0	1.4	13.6
182	0.1	73.0	1.4	13.5
183	0.1	76.0	1.4	13.6
184	0.1	80.0	1.3	13.4
185	0.1	82.0	1.3	13.4
186	0.1	82.0	1.3	13.4
187	0.1	82.0	1.3	13.3
188	0.1	83.0	1.3	13.2
189	0.1	86.0	1.3	13.2
190	0.1	89.0	1.3	13.3
191	0.1	92.0	1.3	13.1
192	0.1	92.0	1.3	13.1
193	0.1	92.0	1.3	13.1
194	0.1	93.0	1.4	13.5
195	0.1	92.0	1.4	14
196	0.1	88.0	1.4	14.2

197	0.1	87.0	1.4	13.7
198	0.1	85.0	1.4	13.7
199	0.1	83.0	1.4	13.8
200	0.1	81.0	1.4	13.9
201	0.1	78.0	1.4	14.1
202	0.1	76.0	1.4	14.3
203	0.1	74.0	1.4	14.4
204	0.1	71.0	1.5	14.5
205	0.1	69.0	1.4	14.4
206	0.1	69.0	1.4	14.4
207	0.1	69.0	1.5	14.6
208	0.1	68.0	1.5	14.5
209	0.1	67.0	1.5	14.5
210	0.1	67.0	1.5	14.5
211	0.1	65.0	1.5	14.5
212	0.1	64.0	1.4	14.3
213	0.1	62.0	1.4	14.4
214	0.1	59.0	1.5	14.5
215	0.1	58.0	1.4	14.4
216	0.1	57.0	1.4	14.3
217	0.1	57.0	1.4	14.3
218	0.1	60.0	1.4	14.4
219	0.1	67.0	1.5	14.6
220	0.1	77.0	1.5	14.9
221	0.1	88.0	1.5	15.3
222	0.1	97.0	1.5	15.3
223	0.1	101.0	1.5	15.1
224	0.1	101.0	1.5	15.1
225	0.1	98.0	1.5	15
226	0.1	95.0	1.5	15
227	0.1	93.0	1.5	15.1
228	0.1	91.0	1.5	15.2
229	0.1	89.0	1.5	15.4
230	0.1	87.0	1.6	15.8
231	0.1	88.0	1.6	16.4
232	0.1	92.0	1.7	16.8
233	0.1	100.0	1.7	17.4
234	0.1	109.0	1.8	17.8
235	0.1	115.0	1.8	18.1
236	0.1	118.0	1.8	18.4
237	0.1	117.0	1.9	18.7
238	0.1	114.0	1.9	18.9
239	0.1	109.0	1.9	19.2
240	0.1	102.0	1.9	19.4
241	0.1	97.0	2.0	19.5
242	0.1	94.0	2.0	19.8
243	0.1	89.0	2.0	20
244	0.1	84.0	2.0	20.2
245	0.1	80.0	2.0	20.3
246	0.1	78.0	2.0	20.2
247	0.1	73.0	2.0	20
248	0.1	69.0	2.0	19.8
249	0.1	66.0	2.0	19.8
250	0.1	63.0	2.0	19.8
251	0.1	61.0	2.0	19.9
252	0.1	59.0	2.0	20.1
253	0.1	58.0	2.0	20.4
254	0.1	56.0	2.0	20.4
255	0.1	55.0	2.1	20.5
256	0.1	56.0	2.0	20.4
257	0.1	64.0	2.0	20.2
258	0.1	64.0	2.0	20.3
259	0.1	64.0	2.0	20.3
260	0.1	64.0	2.0	20.2
261	0.1	62.0	2.0	20.2
262	0.1	61.0	2.0	20.2
263	0.1	61.0	2.0	20.4
264	0.1	61.0	2.0	20.4
265	0.1	61.0	2.0	20.3
266	0.1	62.0	2.0	20.2
267	0.1	61.0	2.0	20.1
268	0.1	61.0	2.0	20.2
269	0.1	61.0	2.0	20.2
270	0.1	62.0	2.0	20.2
271	0.1	61.0	2.0	20.3
272	0.1	60.0	2.0	20.3
273	0.1	64.0	2.1	20.5
274	0.1	61.0	2.0	20.2
275	0.1	62.0	2.0	20.4
276	0.1	63.0	2.1	20.6
277	0.1	62.0	2.1	20.6
Average		71.7		18.2871

FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	2A Voltage 5 sec Volts	2B Voltage 5 sec Volts
1	0.0	42.0	1.7
2	0.0	40.0	1.9
3	0.0	44.0	2.1
4	0.0	49.0	2.3
5	0.1	56.0	2.4
6	0.1	61.0	2.5
7	0.1	66.0	2.6
8	0.1	69.0	2.6
9	0.1	70.0	2.7
10	0.1	72.0	2.7
11	0.1	73.0	2.7
12	0.1	76.0	2.7
13	0.1	78.0	2.8
14	0.1	81.0	2.8
15	0.1	84.0	2.8
16	0.1	87.0	2.8
17	0.1	89.0	2.8
18	0.1	91.0	2.8
19	0.1	92.0	2.9
20	0.1	93.0	2.8
21	0.1	93.0	2.8
22	0.1	94.0	2.8
23	0.1	95.0	2.7
24	0.1	95.0	2.7
25	0.1	95.0	2.7
26	0.1	96.0	2.7
27	0.1	98.0	2.7
28	0.1	98.0	2.7
29	0.1	97.0	2.7
30	0.1	96.0	2.7
31	0.1	95.0	2.7
32	0.1	93.0	2.7
33	0.1	91.0	2.7
34	0.1	91.0	2.7
35	0.1	89.0	2.7
36	0.1	87.0	2.7
37	0.1	86.0	2.7
38	0.1	85.0	2.7
39	0.1	85.0	2.7
40	0.1	85.0	2.8
41	0.1	86.0	2.8
42	0.1	85.0	2.8
43	0.1	86.0	2.8
44	0.1	84.0	2.8
45	0.1	82.0	2.8
46	0.1	81.0	2.8
47	0.1	80.0	2.8
48	0.1	78.0	2.8
49	0.1	76.0	2.8
50	0.1	74.0	2.8
51	0.1	73.0	2.8
52	0.1	71.0	2.8
53	0.1	70.0	2.8
54	0.1	71.0	2.8
55	0.1	72.0	2.8
56	0.1	73.0	2.8
57	0.1	74.0	2.8
58	0.1	72.0	2.8
59	0.1	73.0	2.9
60	0.1	73.0	2.9
61	0.1	73.0	2.9
62	0.1	73.0	2.9
63	0.1	74.0	2.9
64	0.1	74.0	2.9
65	0.1	74.0	2.9
66	0.1	74.0	2.9
67	0.1	76.0	2.9
68	0.1	75.0	2.9
69	0.1	74.0	3.0
70	0.1	74.0	3.0
71	0.1	73.0	3.0
72	0.1	73.0	3.0
73	0.1	72.0	3.0
74	0.1	72.0	3.0
75	0.1	71.0	3.0
76	0.1	70.0	3.0
77	0.1	70.0	3.0
78	0.1	69.0	3.0
79	0.1	69.0	3.0
80	0.1	69.0	3.0
81	0.1	69.0	3.0
82	0.1	69.0	3.0
83	0.1	70.0	3.0
84	0.1	70.0	3.0
85	0.1	71.0	3.0
86	0.1	73.0	3.0
87	0.1	74.0	3.0
88	0.1	73.0	3.0
89	0.1	73.0	3.0
90	0.1	72.0	3.0
91	0.1	72.0	3.0
92	0.1	71.0	3.0
93	0.1	70.0	3.0

Stack 5

CO - 85.3

NOx - 31.1

Start
Stack #5
Run #1
11:25

94	0.1	70.0	3.0	30.1
95	0.1	71.0	3.0	30.1
96	0.1	71.0	3.0	30
97	0.1	70.0	3.0	30
98	0.1	70.0	3.0	30.1
99	0.1	70.0	3.0	30
100	0.1	71.0	3.0	30.2
101	0.1	73.0	3.0	30.1
102	0.1	75.0	3.0	30.1
103	0.1	79.0	3.0	30.3
104	0.1	80.0	3.1	30.5
105	0.1	81.0	3.0	30.4
106	0.1	82.0	3.0	30.3
107	0.1	82.0	3.0	30.4
108	0.1	82.0	3.0	30.4
109	0.1	81.0	3.1	30.5
110	0.1	80.0	3.1	30.5
111	0.1	79.0	3.1	30.7
112	0.1	79.0	3.1	30.9
113	0.1	78.0	3.1	30.9
114	0.1	77.0	3.1	30.8
115	0.1	76.0	3.1	30.9
116	0.1	75.0	3.1	30.8
117	0.1	73.0	2.9	29.4
118	0.1	71.0	3.0	30.4
119	0.1	71.0	3.1	30.5
120	0.1	70.0	3.0	30.4
121	0.1	70.0	3.1	30.5
122	0.1	70.0	3.1	30.7
123	0.1	70.0	3.1	30.6
124	0.1	71.0	3.1	30.6
125	0.1	70.0	3.1	30.9
126	0.1	69.0	3.0	29.8
127	0.1	69.0	3.0	30
128	0.1	68.0	3.0	30
129	0.1	68.0	3.0	29.9
130	0.1	69.0	3.0	29.8
131	0.1	70.0	3.0	29.9
132	0.1	70.0	3.0	30.1
133	0.1	71.0	3.0	30.1
134	0.1	72.0	3.0	30.2
135	0.1	72.0	3.0	30.1
136	0.1	72.0	3.0	30.3
137	0.1	73.0	3.1	30.5
138	0.1	73.0	3.1	30.6
139	0.1	73.0	3.1	30.8
140	0.1	73.0	3.1	30.8
141	0.1	73.0	3.1	30.9
142	0.1	72.0	3.1	31
143	0.1	73.0	3.1	30.9
144	0.1	72.0	3.1	30.9
145	0.1	71.0	3.1	30.8
146	0.1	69.0	3.1	30.8
147	0.1	69.0	3.1	30.6
148	0.1	68.0	3.0	30.4
149	0.1	67.0	3.0	30.2
150	0.1	66.0	3.0	30.2
151	0.1	66.0	3.1	30.5
152	0.1	65.0	3.1	30.5
153	0.1	65.0	3.1	30.6
154	0.1	65.0	3.1	30.5
155	0.1	66.0	3.0	30.4
156	0.1	67.0	3.0	30.4
157	0.1	68.0	3.0	30.4
158	0.1	69.0	3.0	30.3
159	0.1	71.0	3.0	30.1
160	0.1	71.0	3.0	29.9
161	0.1	71.0	3.0	29.8
162	0.1	71.0	3.0	29.6
163	0.1	71.0	3.0	29.7
164	0.1	71.0	3.0	29.5
165	0.1	70.0	2.9	29.3
166	0.1	70.0	2.9	29.3
167	0.1	71.0	2.9	29.4
168	0.1	71.0	2.9	29.3
169	0.1	72.0	3.0	29.7
170	0.1	73.0	3.0	30.1
171	0.1	73.0	3.0	30.2
172	0.1	74.0	3.0	30.2
173	0.1	74.0	3.1	30.5
174	0.1	75.0	3.1	30.5
175	0.1	76.0	3.1	30.6
176	0.1	76.0	3.1	30.9
177	0.1	77.0	3.1	31.1
178	0.1	77.0	3.1	31.2
179	0.1	77.0	3.1	31.3
180	0.1	77.0	3.2	31.5
181	0.1	77.0	3.2	31.5
182	0.1	76.0	3.2	31.6
183	0.1	76.0	3.2	31.8
184	0.1	75.0	3.2	31.8
185	0.1	74.0	3.2	31.8
186	0.1	74.0	3.2	31.9
187	0.1	74.0	3.2	32
188	0.1	75.0	3.2	31.9
189	0.1	76.0	3.2	32
190	0.1	76.0	3.2	32
191	0.1	77.0	3.2	32.1
192	0.1	76.0	3.2	32.3
193	0.1	76.0	3.2	32.3
194	0.1	75.0	3.3	32.6
195	0.1	75.0	3.3	32.6
196	0.1	75.0	3.3	33

197	0.1	76.0	3.3	33.1
198	0.1	77.0	3.3	33.2
199	0.1	79.0	3.3	33.4
200	0.1	81.0	3.3	33.4
201	0.1	83.0	3.4	33.6
202	0.1	85.0	3.4	33.8
203	0.1	86.0	3.4	34
204	0.1	86.0	3.4	34.1
205	0.1	87.0	3.4	34.4
206	0.1	88.0	3.5	34.6
207	0.1	89.0	3.5	34.8
208	0.1	91.0	3.5	35.2
209	0.1	92.0	3.6	35.5
210	0.1	94.0	3.6	35.5
211	0.1	95.0	3.6	35.6
212	0.1	94.0	3.6	35.9
213	0.1	93.0	3.6	35.9
214	0.1	92.0	3.6	36.1
215	0.1	90.0	3.6	36.1
216	0.1	88.0	3.6	36.2
217	0.1	86.0	3.6	36.2
218	0.1	85.0	3.6	36.2
219	0.1	84.0	3.6	36.4
220	0.1	83.0	3.6	36.3
221	0.1	83.0	3.7	36.5
222	0.1	84.0	3.7	36.7
223	0.1	84.0	3.7	36.6
224	0.1	84.0	3.7	36.6
225	0.1	84.0	3.7	36.9
226	0.1	85.0	3.7	37
227	0.1	85.0	3.7	37.1
228	0.1	85.0	3.7	37.2
229	0.1	86.0	3.7	37.4
230	0.1	86.0	3.8	37.5
231	0.1	87.0	3.8	37.7
232	0.1	88.0	3.8	37.9
233	0.1	88.0	3.8	37.9
234	0.1	88.0	3.8	37.9
235	0.1	89.0	3.8	38.2
236	0.1	90.0	3.8	38.3
237	0.1	90.0	3.8	38.3
238	0.1	90.0	3.9	38.5
239	0.1	89.0	3.9	38.6
240	0.1	90.0	3.9	38.7
241	0.1	89.0	3.9	38.8
242	0.1	88.0	3.9	39
243	0.1	87.0	3.9	39.1
244	0.1	87.0	3.9	39.1
245	0.1	86.0	3.9	39.3
246	0.1	85.0	3.9	39.3
247	0.1	84.0	4.0	39.5
248	0.1	84.0	4.0	39.6
249	0.1	84.0	4.0	39.9
250	0.1	84.0	4.0	40
251	0.1	83.0	4.0	40.1
252	0.1	84.0	4.0	40.4
253	0.1	85.0	4.0	40.4
254	0.1	87.0	4.1	40.7
255	0.1	89.0	4.1	40.9
256	0.1	91.0	4.1	40.9
257	0.1	92.0	3.9	38.9
258	0.1	93.0	3.7	39.7
259	0.1	94.0	3.6	39.4
260	0.1	94.0	3.4	34
261	0.1	96.0	3.3	32.6
262	0.1	97.0	3.1	31
263	0.1	98.0	3.2	32.4
264	0.1	100.0	3.3	32.8
265	0.1	101.0	3.1	30.9
266	0.1	102.0	3.0	29.8
267	0.1	102.0	3.0	29.8
268	0.1	102.0	3.0	29.8
269	0.1	102.0	3.0	29.8
270	0.1	103.0	3.0	29.8
271	0.1	103.0	3.0	29.9
272	0.1	103.0	3.0	30
273	0.1	102.0	3.0	30.1
274	0.1	101.0	3.0	29.9
275	0.1	101.0	3.0	30.1
276	0.1	101.0	3.0	30.1
277	0.1	101.0	3.0	30.1
278	0.1	102.0	3.0	30.2
279	0.1	102.0	3.0	30.2
280	0.1	102.0	3.0	30.3
281	0.1	103.0	3.1	30.5
282	0.1	104.0	3.1	30.5
283	0.1	105.0	3.1	30.6
284	0.1	106.0	3.1	30.8
285	0.1	106.0	3.1	30.7
286	0.1	107.0	3.1	30.7
287	0.1	107.0	3.1	30.7
288	0.1	107.0	3.1	30.6
289	0.1	105.0	3.1	30.5
290	0.1	104.0	3.1	30.5
291	0.1	103.0	3.0	30.4
292	0.1	101.0	3.0	30.4
293	0.1	101.0	3.1	30.6
294	0.1	102.0	3.1	30.5
295	0.1	101.0	3.1	30.5
296	0.1	100.0	3.1	30.5
297	0.1	100.0	3.1	30.7
298	0.1	99.0	3.1	30.5
299	0.1	99.0	3.0	30.4

300	0.1	100.0	3.0	30.2
301	0.1	101.0	3.1	30.5
302	0.1	101.0	3.1	30.9
303	0.1	102.0	3.1	31
304	0.1	104.0	3.1	31.2
305	0.1	104.0	3.1	31.1
306	0.1	105.0	3.1	31.1
307	0.1	105.0	3.1	31.1
308	0.1	106.0	3.1	31.2
309	0.1	106.0	3.1	31.2
310	0.1	106.0	3.1	31.3
311	0.1	106.0	3.1	31.2
312	0.1	106.0	3.1	31.1
313	0.1	107.0	3.1	31.1
314	0.1	107.0	3.1	31.3
315	0.1	106.0	3.1	31.3
316	0.1	107.0	3.1	31.4
317	0.1	106.0	3.2	31.7
318	0.1	106.0	3.2	31.5
319	0.1	107.0	3.2	31.6
320	0.1	109.0	3.2	31.7
321	0.1	110.0	3.2	31.7
322	0.1	110.0	3.2	31.6
323	0.1	109.0	3.2	31.5
324	0.1	108.0	3.2	31.6
325	0.1	107.0	3.2	31.5
326	0.1	106.0	3.1	31.4
327	0.1	105.0	3.2	31.5
328	0.1	103.0	3.2	31.6
329	0.1	102.0	3.1	31.2
330	0.1	101.0	3.2	31.6
331	0.1	100.0	3.2	31.7
332	0.1	100.0	3.2	31.8
333	0.1	100.0	3.2	32
334	0.1	99.0	3.2	32
335	0.1	99.0	3.2	32
336	0.1	99.0	3.2	32.1
337	0.1	98.0	3.2	32.2
338	0.1	99.0	3.2	32
339	0.1	99.0	3.2	32
340	0.1	99.0	3.2	32.1
341	0.1	100.0	3.2	32.2
342	0.1	99.0	3.2	32.1
343	0.1	98.0	3.2	32.2
344	0.1	98.0	3.2	32.2
345	0.1	97.0	3.2	32.3
346	0.1	97.0	3.3	32.5
347	0.1	97.0	3.2	32.3
348	0.1	98.0	3.2	32.3
349	0.1	98.0	3.2	32.4
350	0.1	99.0	3.3	32.8
351	0.1	99.0	3.3	32.6
352	0.1	99.0	3.3	32.8
353	0.1	100.0	3.1	30.8
354	0.1	102.0	3.0	29.9
355	0.1	103.0	3.0	30
356	0.1	104.0	3.0	30.1
357	0.1	101.0	3.0	30.1
358	0.1	102.0	3.0	30.1
359	0.1	102.0	3.0	30.2
360	0.1	101.0	3.0	30.2
361	0.1	100.0	3.0	30.1
362	0.1	99.0	3.0	30
363	0.1	99.0	3.0	30
364	0.1	99.0	3.0	29.9
365	0.1	98.0	3.0	29.9
366	0.1	98.0	3.0	29.9
367	0.1	96.0	3.0	29.8
368	0.1	95.0	3.0	29.9
369	0.1	95.0	3.0	29.9
370	0.1	95.0	3.0	30
371	0.1	95.0	3.0	30
372	0.1	95.0	3.2	31.8
373	0.1	96.0	3.2	32
374	0.1	96.0	3.2	32.2
375	0.1	96.0	3.2	32.1
376	0.1	96.0	3.2	32.3
377	0.1	96.0	3.2	32.1
378	0.1	96.0	3.0	29.6
379	0.1	96.0	2.9	29.2
380	0.1	95.0	2.7	26.6
381	0.1	91.0	2.4	23.5
382	0.1	83.0	2.0	20.1

Stop
Run#1
Stack 6

Average		85.3		31.1225
383	0.1	71.0	1.7	17
384	0.1	61.0	1.4	14.2
385	0.1	51.0	1.2	12.2
386	0.0	41.0	1.1	10.5
387	0.0	33.0	0.9	8.9
388	0.0	26.0	0.8	7.9
389	0.0	21.0	0.7	6.9
390	0.0	17.0	0.6	6.1
391	0.0	13.0	0.5	5.3
392	0.0	9.0	0.5	4.7
393	0.0	7.0	0.4	4.2
394	0.0	4.0	0.4	3.8
395	0.0	2.0	0.3	3.4
396	0.0	-2.0	0.3	3
397	0.0	-4.0	0.3	2.8
398	0.0	-6.0	0.3	2.7
399	0.0	-6.0	0.2	2.4

400	0.0	-7.0	0.2	2.2
401	0.0	-8.0	0.2	2.1
402	0.0	-9.0	0.2	2
403	0.0	-9.0	0.2	2
404	0.0	-9.0	0.3	3.2
405	0.0	-9.0	0.7	6.6
406	0.0	-9.0	1.1	11
407	0.0	-11.0	1.6	15.4
408	0.0	-10.0	1.9	19.1
409	0.0	27.0	2.2	22.4
410	0.0	12.0	2.5	25.1
411	0.0	-42.0	2.8	27.6
412	-0.1	-61.0	3.0	29.8
413	0.0	27.0	3.2	31.6
414	0.0	17.0	3.3	33.2
415	0.0	-31.0	3.5	34.5
416	0.0	-9.0	3.6	35.8
417	0.0	12.0	3.7	36.8
418	0.0	11.0	3.8	38
419	0.0	9.0	3.9	38.6
420	0.0	3.0	3.9	39.2
421	0.0	-2.0	4.0	39.7
422	0.0	-4.0	4.0	40.2
423	0.0	-6.0	4.1	40.6
424	0.0	-6.0	4.1	40.9
425	0.0	-6.0	4.1	41
426	0.0	-7.0	4.2	42
427	0.0	-7.0	4.3	43
428	0.0	-8.0	4.4	44
429	0.0	-8.0	4.5	44.8
430	0.0	-8.0	4.5	45.4
431	0.0	-8.0	4.6	45.6
432	0.0	-8.0	4.6	45.6
433	0.0	-9.0	4.6	45.5
434	0.0	-7.0	4.6	45.6
435	0.0	-5.0	4.6	45.7
436	0.0	13.0	4.6	45.7
437	0.0	-11.0	4.6	45.5
438	0.0	-9.0	4.6	45.8
439	0.0	-3.0	4.6	45.6
440	0.0	8.0	4.6	45.5
441	0.0	7.0	4.6	45.7
442	0.0	7.0	4.6	45.6
443	0.0	7.0	4.5	44.8
444	0.0	8.0	4.6	45.2
445	0.0	8.0	4.6	46
446	0.0	7.0	4.6	45.8
447	0.0	7.0	4.6	45.5
448	0.0	7.0	4.5	44.8
449	0.0	8.0	4.3	42.9
450	0.0	8.0	3.9	38.6
451	0.0	8.0	3.3	32.5
452	0.0	8.0	2.5	25.2
453	0.0	8.0	1.8	18.2
454	0.0	10.0	1.3	13.3
455	0.0	17.0	1.0	10.2
456	0.0	29.0	0.9	8.5
457	0.0	43.0	0.7	7.2
458	0.1	54.0	0.6	6.3
459	0.1	62.0	0.6	5.6
460	0.1	69.0	0.5	5.1
461	0.1	78.0	0.5	4.6
462	0.1	80.0	0.4	4.1
463	0.1	84.0	0.4	3.8
464	0.1	88.0	0.4	3.5
465	0.1	92.0	0.3	3.2
466	0.1	95.0	0.3	3.1
467	0.1	97.0	0.3	2.9
468	0.1	99.0	0.3	2.8
469	0.1	100.0	0.3	2.6
470	0.1	102.0	0.3	2.5
471	0.1	103.0	0.3	2.5
472	0.1	103.0	0.3	2.5
473	0.1	104.0	0.3	2.5
474	0.1	105.0	0.3	2.5
475	0.1	105.0	0.2	2.4
476	0.1	105.0	0.2	2.3
477	0.1	105.0	0.2	2.3
478	0.1	105.0	0.2	2.2
479	0.1	106.0	0.2	2.2
480	0.1	107.0	0.2	2.2
481	0.1	108.0	0.2	2.1
482	0.1	108.0	0.2	2.1
483	0.1	108.0	0.2	2
484	0.1	108.0	0.2	2
485	0.1	108.0	0.2	2
486	0.1	108.0	0.2	1.9
487	0.1	108.0	0.2	1.9
488	0.1	108.0	0.2	1.9
489	0.1	108.0	0.2	1.9
490	0.1	108.0	0.2	1.9
491	0.1	105.0	0.2	1.8
492	0.1	107.0	0.2	1.9
493	0.1	105.0	0.2	1.9
494	0.1	104.0	0.2	1.8
495	0.1	106.0	0.2	1.8
496	0.1	105.0	0.2	1.8
497	0.1	104.0	0.2	1.8
498	0.1	100.0	0.2	1.9
499	0.1	91.0	0.2	1.9
500	0.1	78.0	0.2	1.9
501	0.1	61.0	0.2	1.9
502	0.0	47.0	0.2	1.8

RUN1-6

503	0.0	36.0	0.2	1.8
504	0.0	28.0	0.2	1.7
505	0.0	22.0	0.2	1.7
506	0.0	18.0	0.2	1.7
507	0.0	15.0	0.2	1.6
508	0.0	13.0	0.2	1.6
509	0.0	12.0	0.2	1.5
510	0.0	10.0	0.2	1.5
511	0.0	10.0	0.2	1.5
512	0.0	9.0	0.2	1.5
513	0.0	9.0	0.2	1.5
514	0.0	8.0	0.2	1.5
515	0.0	8.0	0.1	1.4
516	0.0	7.0	0.2	1.5
517	0.0	8.0	0.2	1.5
518	0.0	8.0	0.1	1.4
519	0.0	7.0	0.2	1.5
520	0.0	7.0	0.1	1.4
521	0.0	7.0	0.2	1.5
522	0.0	7.0	0.1	1.4

FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	Co	2A Voltage 5 sec Volts	Box
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29	0.0	19.0	0.7	7.4
30	0.0	23.0	0.9	9.4
31	0.0	31.0	1.1	11.3
32	0.0	37.0	1.3	12.8
33	0.0	42.0	1.4	13.9
34	0.0	46.0	1.5	14.6
35	0.0	49.0	1.5	15.4
36	0.1	52.0	1.6	16.0
37	0.1	54.0	1.6	16.4
38	0.1	56.0	1.7	16.7
39	0.1	57.0	1.7	16.9
40	0.1	58.0	1.7	17.1
41	0.1	58.0	1.7	17.3
42	0.1	58.0	1.8	17.6
43	0.1	57.0	1.8	17.8
44	0.1	57.0	1.7	17.4
45	0.1	56.0	1.6	16.2
46	0.1	57.0	1.6	16
47	0.1	57.0	1.7	17
48	0.1	58.0	1.8	17.6
49	0.1	58.0	1.8	18
50	0.1	57.0	1.8	18.2
51	0.1	56.0	1.9	18.5
52	0.1	55.0	1.9	18.6
53	0.1	53.0	1.9	18.7
54	0.1	52.0	1.9	18.7
55	0.1	52.0	1.9	18.8
56	0.1	52.0	1.9	18.8
57	0.1	51.0	1.9	18.9
58	0.1	52.0	1.9	18.9
59	0.1	51.0	1.9	18.9
60	0.1	51.0	1.9	18.9
61	0.1	51.0	1.9	18.8
62	0.1	50.0	1.9	18.8
63	0.1	50.0	1.9	18.9
64	0.0	48.0	1.9	18.9
65	0.0	48.0	1.9	19.1
66	0.0	46.0	1.9	19.3
67	0.0	44.0	2.0	19.5
68	0.0	44.0	2.0	19.6
69	0.0	43.0	2.0	19.6
70	0.0	43.0	2.0	19.6
71	0.0	43.0	2.0	19.7
72	0.0	43.0	2.0	19.8
73	0.0	42.0	2.0	19.9
74	0.0	41.0	2.0	19.9
75	0.0	41.0	1.9	18.9
76	0.0	41.0	1.9	18.6
77	0.0	41.0	1.8	18.6
78	0.0	40.0	1.8	18.6
79	0.0	41.0	1.9	18.6
80	0.0	41.0	1.9	18.6
81	0.0	42.0	1.9	18.7
82	0.0	42.0	1.9	18.8
83	0.0	42.0	1.9	18.9
84	0.0	41.0	1.9	18.9
85	0.0	41.0	1.9	19.2
86	0.0	40.0	1.9	19.2
87	0.0	40.0	1.9	19.3
88	0.0	40.0	1.9	19.4
89	0.0	40.0	1.9	19.4
90	0.0	41.0	1.9	19.4
91	0.0	41.0	1.9	19.4
92	0.0	41.0	2.0	19.6
93	0.0	41.0	2.0	19.6
94	0.0	41.0	2.0	19.5
95	0.0	41.0	2.0	19.6
96	0.0	42.0	2.0	19.6
97	0.0	41.0	2.0	19.6
98	0.0	41.0	2.0	19.7
99	0.0	40.0	2.0	19.7
100	0.0	40.0	1.9	19.2
101	0.0	39.0	1.9	19.1
102	0.0	39.0	1.9	19.1
103	0.0	38.0	1.9	19.1
104	0.0	39.0	1.9	19.1
105	0.0	38.0	1.9	19.2
106	0.0	38.0	1.9	19.1
107	0.0	37.0	1.9	19.1
108	0.0	37.0	1.9	19
109	0.0	37.0	1.9	19
110	0.0	37.0	1.9	19.1
111	0.0	37.0	1.9	19.2
112	0.0	37.0	1.9	18.9
113	0.0	38.0	1.9	18.8
114	0.0	38.0	1.9	18.6
115	0.0	39.0	1.9	18.5
116	0.0	39.0	1.9	18.5
117	0.0	40.0	1.9	18.6
118	0.0	40.0	1.9	18.8

Stack 4 Run #2

Co - 46.3
Box - 15.77

119	0.0	40.0	1.9	18.8
120	0.0	41.0	1.9	18.8
121	0.0	40.0	1.9	18.8
122	0.0	40.0	1.9	18.8
123	0.0	41.0	1.9	18.9
124	0.0	40.0	1.9	19
125	0.0	41.0	1.9	19.1
126	0.0	41.0	1.9	19.1
127	0.0	41.0	1.9	19.1
128	0.0	42.0	1.9	19.2
129	0.0	42.0	1.9	19.2
130	0.0	41.0	1.9	19.4
131	0.0	42.0	2.0	19.6
132	0.0	42.0	2.0	19.7
133	0.0	41.0	2.0	19.8
134	0.0	42.0	2.0	19.9
135	0.0	42.0	2.0	20
136	0.0	42.0	2.0	20.1
137	0.0	41.0	2.0	20.2
138	0.0	41.0	2.0	20
139	0.0	41.0	2.0	20
140	0.0	40.0	2.0	20
141	0.0	40.0	2.0	20
142	0.0	40.0	2.0	20
143	0.0	40.0	2.0	20.1
144	0.0	40.0	2.0	20.1
145	0.0	39.0	2.0	20
146	0.0	39.0	2.0	20
147	0.0	38.0	2.0	20
148	0.0	38.0	2.0	20
149	0.0	39.0	2.0	20.1
150	0.0	39.0	2.0	20.2
151	0.0	40.0	2.0	20.1
152	0.0	41.0	2.0	20.1
153	0.0	42.0	2.0	20.2
154	0.0	42.0	2.0	20.2
155	0.0	44.0	2.0	20.1
156	0.0	44.0	2.0	20.1
157	0.0	45.0	2.0	20.2
158	0.0	47.0	2.0	20.2
159	0.0	47.0	2.0	20.3
160	0.0	48.0	2.0	20.3
161	0.0	48.0	2.0	20.2
162	0.0	47.0	2.0	20.1
163	0.0	47.0	2.0	20.1
164	0.0	48.0	2.0	19.8
165	0.0	48.0	2.0	19.6
166	0.0	48.0	2.0	19.6
167	0.0	48.0	2.0	19.6
168	0.0	48.0	2.0	19.5
169	0.0	47.0	2.0	19.5
170	0.0	49.0	2.0	19.6
171	0.0	48.0	1.9	19.4
172	0.1	50.0	1.9	19.3
173	0.1	50.0	1.9	19.3
174	0.1	50.0	1.9	19.1
175	0.1	50.0	1.9	18.9
176	0.1	50.0	1.9	18.9
177	0.1	51.0	1.9	19.1
178	0.1	50.0	1.9	19.1
179	0.0	49.0	1.9	19.2
180	0.0	49.0	1.9	19.2
181	0.0	49.0	1.9	19.1
182	0.0	49.0	1.9	18.9
183	0.1	50.0	1.9	18.8
184	0.1	50.0	1.9	18.6
185	0.1	51.0	1.8	18.1
186	0.1	51.0	1.7	18.6
187	0.1	51.0	1.8	18.4
188	0.1	52.0	1.8	18.3
189	0.1	53.0	1.8	18.2
190	0.1	53.0	1.8	18.2
191	0.1	53.0	1.8	18.2
192	0.1	54.0	1.8	18.2
193	0.1	53.0	1.7	18.6
194	0.1	53.0	1.7	18.5
195	0.1	53.0	1.7	18.5
196	0.1	53.0	1.8	18.3
197	0.1	53.0	1.8	18.1
198	0.1	53.0	1.8	18
199	0.1	54.0	1.8	18
200	0.1	54.0	1.8	18
201	0.1	54.0	1.8	18.1
202	0.1	54.0	1.8	18.3
203	0.1	54.0	1.7	18.5
204	0.1	54.0	1.7	18.7
205	0.1	53.0	1.7	18.7
206	0.1	53.0	1.7	18.8
207	0.1	53.0	1.7	18.9
208	0.1	53.0	1.7	17
209	0.1	54.0	1.7	17.2
210	0.1	54.0	1.7	17.1
211	0.1	55.0	1.7	17.1
212	0.1	55.0	1.7	17.1
213	0.1	56.0	1.7	17.1
214	0.1	57.0	1.7	17.1
215	0.1	57.0	1.7	17.2
216	0.1	57.0	1.7	17.2
217	0.1	57.0	1.7	17.2
218	0.1	57.0	1.7	17.2
219	0.1	56.0	1.7	17.4
220	0.1	55.0	1.7	17.4
221	0.1	54.0	1.7	17.3

222	0.1	55.0	1.7	17.2
223	0.1	55.0	1.7	17
224	0.1	55.0	1.7	17.1
225	0.1	54.0	1.7	17.1
226	0.1	54.0	1.7	17.3
227	0.1	54.0	1.7	17.3
228	0.1	54.0	1.7	17.4
229	0.1	54.0	1.7	17.4
230	0.1	54.0	1.7	17.3
231	0.1	54.0	1.7	17.2
232	0.1	54.0	1.7	17.2
233	0.1	54.0	1.7	17.1
234	0.1	55.0	1.7	17
235	0.1	55.0	1.7	16.9
236	0.1	56.0	1.6	16.1
237	0.1	57.0	1.5	15
238	0.1	57.0	1.5	14.9
239	0.1	57.0	1.5	14.9
240	0.1	56.0	1.5	14.8
241	0.1	57.0	1.5	14.9
242	0.1	56.0	1.5	14.9
243	0.1	56.0	1.5	14.8
244	0.1	56.0	1.5	14.9
245	0.1	56.0	1.5	14.8
246	0.1	55.0	1.5	14.7
247	0.1	55.0	1.5	14.5
248	0.1	56.0	1.5	14.5
249	0.1	56.0	1.6	14.5
250	0.1	57.0	1.4	14.4
251	0.1	57.0	1.4	14.4
252	0.1	58.0	1.4	14.3
253	0.1	58.0	1.4	14.3
254	0.1	58.0	1.4	14.3
255	0.1	58.0	1.4	14.2
256	0.1	58.0	1.4	14.1
257	0.1	58.0	1.4	13.6
258	0.1	57.0	1.3	13
259	0.1	55.0	1.2	12.4
260	0.1	53.0	1.2	12
261	0.1	52.0	1.1	11.4
262	0.1	50.0	1.1	11.1
263	0.1	50.0	1.1	10.7
264	0.0	49.0	1.1	10.5
265	0.0	48.0	1.0	10.2
266	0.0	48.0	1.0	10.2
267	0.0	48.0	1.0	10.2
268	0.0	48.0	1.0	10.1
269	0.0	47.0	1.0	10.2
270	0.0	47.0	1.0	10.1
271	0.0	46.0	1.0	10.1
272	0.0	46.0	1.0	10.2
273	0.0	45.0	1.0	10.2
274	0.0	45.0	1.0	10.3
275	0.0	46.0	1.0	10.4
276	0.0	44.0	1.1	10.6
277	0.0	44.0	1.1	10.7
278	0.0	44.0	1.1	10.7
279	0.0	45.0	1.1	10.8
280	0.0	45.0	1.1	10.8
281	0.0	45.0	1.1	10.7
282	0.0	45.0	1.1	10.8
283	0.0	45.0	1.1	10.8
284	0.0	46.0	1.1	10.9
285	0.0	45.0	1.2	11.6
286	0.0	44.0	1.2	11.9
287	0.0	46.0	1.2	12
288	0.0	46.0	1.2	12.1
289	0.0	45.0	1.2	12
290	0.0	45.0	1.2	12
291	0.0	45.0	1.2	12
292	0.0	44.0	1.2	12.2
293	0.0	44.0	1.2	12.1
294	0.0	44.0	1.2	12.4
295	0.0	44.0	1.3	12.5
296	0.0	44.0	1.3	12.6
297	0.0	45.0	1.2	12.3
298	0.0	45.0	1.2	11.9
299	0.0	44.0	1.2	12
300	0.0	44.0	1.2	12.1
301	0.0	44.0	1.2	12.1
302	0.0	43.0	1.2	12.2
303	0.0	43.0	1.2	12.2
304	0.0	43.0	1.2	12.3
305	0.0	43.0	1.2	12.3
306	0.0	43.0	1.2	12.4
307	0.0	43.0	1.2	12.4
308	0.0	43.0	1.3	12.5
309	0.0	43.0	1.3	12.5
310	0.0	43.0	1.3	12.6
311	0.0	43.0	1.3	12.5
312	0.0	42.0	1.3	12.5
313	0.0	42.0	1.3	12.6
314	0.0	42.0	1.3	12.6
315	0.0	41.0	1.3	12.5
316	0.0	42.0	1.3	12.5
317	0.0	42.0	1.3	12.5
318	0.0	43.0	1.3	12.5
319	0.0	44.0	1.2	12.4
320	0.0	44.0	1.2	12.2
321	0.0	45.0	1.2	12.1
322	0.0	45.0	1.2	12
323	0.0	46.0	1.2	12
324	0.0	46.0	1.2	11.9

RUN2-4

325	0.0	46.0	1.2	11.8
326	0.0	47.0	1.2	11.8
327	0.0	46.0	1.2	12
328	0.0	46.0	1.2	12.1
329	0.0	46.0	1.2	12.1
330	0.0	46.0	1.2	12.1
331	0.0	46.0	1.2	11.9
332	0.0	46.0	1.2	12
333	0.0	46.0	1.2	12
334	0.0	44.0	1.2	11.9
335	0.0	44.0	1.2	11.8
336	0.0	43.0	1.2	11.8
337	0.0	43.0	1.2	11.8
338	0.0	42.0	1.2	11.8
339	0.0	43.0	1.2	11.5
340	0.0	42.0	1.1	11.4
341	0.0	42.0	1.1	11.3
342	0.0	42.0	1.1	11.1
343	0.0	42.0	1.1	11
344	0.0	42.0	1.1	11
345	0.0	42.0	1.1	10.9
346	0.0	41.0	1.1	10.8
347	0.0	41.0	1.1	10.7
348	0.0	41.0	1.1	10.7
349	0.0	41.0	1.1	10.8
350	0.0	41.0	1.1	10.9
351	0.0	42.0	1.1	11.1
352	0.0	41.0	1.1	11.1
353	0.0	41.0	1.1	11.2
354	0.0	41.0	1.2	11.5
355	0.0	40.0	1.2	11.8
356	0.0	40.0	1.2	11.9
357	0.0	40.0	1.2	12
358	0.0	40.0	1.1	11.2
359	0.0	39.0	1.1	11.2
360	0.0	39.0	1.1	11.1
361	0.0	39.0	1.1	11.1
362	0.0	39.0	1.1	11.1
363	0.0	38.0	1.1	11
364	0.0	38.0	1.1	11.1
365	0.0	38.0	1.1	11
366	0.0	38.0	1.1	11.1
367	0.0	38.0	1.1	11.1
368	0.0	38.0	1.1	11.2
369	0.0	39.0	1.1	11.2
370	0.0	38.0	1.1	11.2
371	0.0	38.0	1.1	11.3
372	0.0	38.0	1.1	11.2
373	0.0	38.0	1.1	11.4
374	0.0	38.0	1.1	11.3
375	0.0	38.0	1.1	11.4
376	0.0	37.0	1.1	11.4
377	0.0	37.0	1.1	11.3
378	0.0	37.0	1.1	11.3
379	0.0	37.0	1.1	11.3

Stop R2
Stack 4
1:15

Average	46.3	15.7696
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FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec	CO, ppm	2A Voltage 5 sec	NOx, ppm
Start R2	1	0.0	32.0	1.0
Stack 5	2	0.0	34.0	1.1
1:18	3	0.0	39.0	1.3
	4	0.0	48.0	1.4
	5	0.1	58.0	1.5
	6	0.1	69.0	1.5
	7	0.1	77.0	1.6
	8	0.1	85.0	1.7
	9	0.1	91.0	1.7
	10	0.1	97.0	1.8
	11	0.1	101.0	1.8
	12	0.1	104.0	1.8
	13	0.1	107.0	1.8
	14	0.1	108.0	1.8
	15	0.1	110.0	1.8
	16	0.1	110.0	1.8
	17	0.1	112.0	1.9
	18	0.1	113.0	1.9
	19	0.1	115.0	1.9
	20	0.1	116.0	1.9
	21	0.1	117.0	1.9
	22	0.1	118.0	1.9
	23	0.1	117.0	1.9
	24	0.1	117.0	1.9
	25	0.1	115.0	1.9
	26	0.1	115.0	1.9
	27	0.1	115.0	1.9
	28	0.1	113.0	2.0
	29	0.1	114.0	2.0
	30	0.1	113.0	2.0
	31	0.1	113.0	1.9
	32	0.1	114.0	1.9
	33	0.1	113.0	1.9
	34	0.1	113.0	1.9
	35	0.1	111.0	1.9
	36	0.1	111.0	1.9
	37	0.1	110.0	1.9
	38	0.1	108.0	1.9
	39	0.1	107.0	1.9
	40	0.1	107.0	1.9
	41	0.1	106.0	1.9
	42	0.1	107.0	1.9
	43	0.1	107.0	1.9
	44	0.1	108.0	1.9
	45	0.1	108.0	1.9
	46	0.1	107.0	1.9
	47	0.1	108.0	1.9
	48	0.1	109.0	2.0
	49	0.1	109.0	2.0
	50	0.1	109.0	2.0
	51	0.1	110.0	2.0
	52	0.1	110.0	2.0
	53	0.1	111.0	2.0
	54	0.1	110.0	2.0
	55	0.1	110.0	2.0
	56	0.1	110.0	2.0
	57	0.1	111.0	2.0
	58	0.1	111.0	2.0
	59	0.1	111.0	2.0
	60	0.1	111.0	2.0
	61	0.1	111.0	2.0
	62	0.1	111.0	2.0
	63	0.1	111.0	2.0
	64	0.1	111.0	2.0
	65	0.1	112.0	2.0
	66	0.1	112.0	2.0
	67	0.1	112.0	2.0
	68	0.1	111.0	2.0
	69	0.1	111.0	2.0
	70	0.1	111.0	2.0
	71	0.1	110.0	2.0
	72	0.1	110.0	2.0
	73	0.1	109.0	2.0
	74	0.1	109.0	2.0
	75	0.1	110.0	2.0
	76	0.1	109.0	2.0
	77	0.1	110.0	2.0
	78	0.1	110.0	2.0
	79	0.1	110.0	2.0
	80	0.1	111.0	2.0
	81	0.1	111.0	2.0
	82	0.1	112.0	2.0
	83	0.1	112.0	2.0
	84	0.1	113.0	2.0
	85	0.1	114.0	2.0
	86	0.1	114.0	2.0
	87	0.1	114.0	2.0
	88	0.1	114.0	1.9
	89	0.1	113.0	1.9
	90	0.1	114.0	1.9
	91	0.1	114.0	1.9
	92	0.1	114.0	1.9
	93	0.1	115.0	1.9

Run #2 Stack 5

NOx - 18.58 ppm

CO - 109.7 ppm

94	0.1	115.0	1.9	18.6
95	0.1	115.0	1.8	17.6
96	0.1	115.0	1.8	17.6
97	0.1	116.0	1.8	17.5
98	0.1	116.0	1.8	17.6
99	0.1	117.0	1.8	17.5
100	0.1	116.0	1.8	17.5
101	0.1	116.0	1.7	17.3
102	0.1	117.0	1.7	17.2
103	0.1	117.0	1.7	17.1
104	0.1	118.0	1.7	17.1
105	0.1	118.0	1.7	17.1
106	0.1	118.0	1.7	17.1
107	0.1	118.0	1.7	17.1
108	0.1	117.0	1.7	17.1
109	0.1	116.0	1.7	17.3
110	0.1	115.0	1.7	17.3
111	0.1	115.0	1.7	17.4
112	0.1	115.0	1.8	17.6
113	0.1	115.0	1.8	17.7
114	0.1	115.0	1.8	17.7
115	0.1	115.0	1.8	17.7
116	0.1	115.0	1.8	17.7
117	0.1	116.0	1.8	17.6
118	0.1	116.0	1.8	17.6
119	0.1	116.0	1.8	17.6
120	0.1	116.0	1.8	17.7
121	0.1	117.0	1.8	17.8
122	0.1	117.0	1.8	17.7
123	0.1	117.0	1.8	17.8
124	0.1	118.0	1.8	17.9
125	0.1	118.0	1.8	17.7
126	0.1	118.0	1.8	17.8
127	0.1	115.0	1.8	17.8
128	0.1	115.0	1.8	17.9
129	0.1	114.0	1.8	17.9
130	0.1	114.0	1.8	17.9
131	0.1	114.0	1.8	17.8
132	0.1	114.0	1.8	17.8
133	0.1	114.0	1.8	17.7
134	0.1	113.0	1.8	17.6
135	0.1	113.0	1.8	17.7
136	0.1	113.0	1.8	17.9
137	0.1	113.0	1.8	17.9
138	0.1	112.0	1.8	17.9
139	0.1	113.0	1.8	18.2
140	0.1	114.0	1.8	18.2
141	0.1	114.0	1.8	18.1
142	0.1	114.0	1.8	18
143	0.1	114.0	1.8	17.9
144	0.1	115.0	1.8	17.8
145	0.1	115.0	1.8	17.8
146	0.1	116.0	1.8	18
147	0.1	115.0	1.8	18
148	0.1	115.0	1.8	17.9
149	0.1	115.0	1.8	18
150	0.1	114.0	1.8	18
151	0.1	114.0	1.8	17.9
152	0.1	113.0	1.8	17.9
153	0.1	113.0	1.8	18
154	0.1	113.0	1.8	17.9
155	0.1	112.0	1.8	17.7
156	0.1	113.0	1.8	17.6
157	0.1	112.0	1.8	17.5
158	0.1	112.0	1.8	17.5
159	0.1	112.0	1.8	17.5
160	0.1	112.0	1.7	17.4
161	0.1	112.0	1.8	17.6
162	0.1	112.0	1.8	17.7
163	0.1	113.0	1.8	17.6
164	0.1	113.0	1.8	17.7
165	0.1	113.0	1.8	17.7
166	0.1	113.0	1.8	17.7
167	0.1	113.0	1.7	17.2
168	0.1	113.0	1.7	16.8
169	0.1	113.0	1.7	16.8
170	0.1	114.0	1.7	17.1
171	0.1	114.0	1.7	17.1
172	0.1	115.0	1.7	17.1
173	0.1	115.0	1.7	17.1
174	0.1	115.0	1.7	17.1
175	0.1	115.0	1.7	17.3
176	0.1	115.0	1.7	17.3
177	0.1	115.0	1.7	17.3
178	0.1	114.0	1.7	17.3
179	0.1	114.0	1.7	17.4
180	0.1	114.0	1.7	17.3
181	0.1	114.0	1.7	17.4
182	0.1	114.0	1.7	17.3
183	0.1	114.0	1.7	17.3
184	0.1	114.0	1.7	17.3
185	0.1	113.0	1.7	17.3
186	0.1	113.0	1.7	17.2
187	0.1	112.0	1.7	17.3
188	0.1	112.0	1.7	17.1
189	0.1	112.0	1.7	17
190	0.1	112.0	1.7	17.1
191	0.1	112.0	1.7	17.1
192	0.1	112.0	1.7	17.1
193	0.1	111.0	1.7	17.2
194	0.1	111.0	1.7	17.4
195	0.1	110.0	1.7	17.3
196	0.1	110.0	1.7	17.1

197	0.1	109.0	1.7	17.1
198	0.1	109.0	1.7	17.1
199	0.1	108.0	1.7	17
200	0.1	109.0	1.7	17
201	0.1	108.0	1.7	17.1
202	0.1	109.0	1.7	17.2
203	0.1	108.0	1.7	17.3
204	0.1	109.0	1.7	17.2
205	0.1	109.0	1.7	17.4
206	0.1	109.0	1.7	17.3
207	0.1	109.0	1.8	17.5
208	0.1	109.0	1.8	17.7
209	0.1	110.0	1.8	17.9
210	0.1	109.0	1.8	18
211	0.1	109.0	1.8	18
212	0.1	109.0	1.8	17.9
213	0.1	108.0	1.8	17.9
214	0.1	108.0	1.8	17.9
215	0.1	107.0	1.8	17.9
216	0.1	107.0	1.8	18
217	0.1	106.0	1.8	18.1
218	0.1	105.0	1.8	18.3
219	0.1	105.0	1.9	18.5
220	0.1	106.0	1.9	18.6
221	0.1	106.0	1.9	18.7
222	0.1	106.0	1.9	18.7
223	0.1	106.0	1.9	18.6
224	0.1	106.0	1.9	18.7
225	0.1	106.0	1.9	18.6
226	0.1	106.0	1.9	18.7
227	0.1	106.0	1.9	18.6
228	0.1	107.0	1.9	18.9
229	0.1	106.0	1.9	18.9
230	0.1	107.0	1.9	18.9
231	0.1	108.0	1.9	18.9
232	0.1	107.0	1.9	18.9
233	0.1	107.0	1.9	18.8
234	0.1	107.0	1.9	18.8
235	0.1	106.0	1.9	18.9
236	0.1	105.0	1.8	17.7
237	0.1	105.0	1.9	18.5
238	0.1	104.0	1.9	18.6
239	0.1	105.0	1.9	18.6
240	0.1	105.0	1.9	18.6
241	0.1	105.0	1.9	18.9
242	0.1	106.0	1.9	18.9
243	0.1	105.0	1.9	18.9
244	0.1	106.0	1.9	18.9
245	0.1	106.0	1.9	18.8
246	0.1	106.0	1.9	18.9
247	0.1	105.0	1.9	18.9
248	0.1	106.0	1.9	19
249	0.1	105.0	1.9	19.2
250	0.1	104.0	1.9	19.3
251	0.1	104.0	1.9	18.9
252	0.1	104.0	1.8	17.9
253	0.1	103.0	1.8	17.8
254	0.1	103.0	1.8	17.5
255	0.1	104.0	1.8	17.6
256	0.1	104.0	1.8	17.9
257	0.1	103.0	1.8	18
258	0.1	105.0	1.8	18.1
259	0.1	105.0	1.8	18.2
260	0.1	106.0	1.8	18.4
261	0.1	106.0	1.9	18.5
262	0.1	106.0	1.9	18.5
263	0.1	106.0	1.9	18.6
264	0.1	106.0	1.9	18.5
265	0.1	106.0	1.9	18.7
266	0.1	106.0	1.9	18.9
267	0.1	107.0	1.9	19
268	0.1	107.0	1.9	19.2
269	0.1	107.0	1.9	19.2
270	0.1	106.0	1.9	19.3
271	0.1	107.0	1.9	19.3
272	0.1	107.0	1.9	19.3
273	0.1	107.0	1.9	19.2
274	0.1	107.0	1.9	19.3
275	0.1	107.0	1.9	19.3
276	0.1	107.0	1.9	19.3
277	0.1	106.0	1.9	19.4
278	0.1	106.0	1.9	19.3
279	0.1	105.0	1.9	19.4
280	0.1	105.0	1.9	19.4
281	0.1	105.0	2.0	19.6
282	0.1	104.0	2.0	19.6
283	0.1	104.0	2.0	19.5
284	0.1	104.0	1.9	19.4
285	0.1	105.0	1.9	19.3
286	0.1	105.0	1.9	19.4
287	0.1	105.0	1.9	19.2
288	0.1	106.0	1.9	19
289	0.1	106.0	1.9	19.1
290	0.1	107.0	1.9	19
291	0.1	107.0	1.9	19
292	0.1	109.0	1.9	19.2
293	0.1	110.0	1.9	19.3
294	0.1	111.0	1.9	19.3
295	0.1	112.0	1.9	19.3
296	0.1	113.0	1.9	19.3
297	0.1	114.0	1.9	19.3
298	0.1	115.0	1.9	19.4
299	0.1	115.0	2.0	19.5

300	0.1	115.0	2.0	19.6
301	0.1	115.0	2.0	19.5
302	0.1	115.0	2.0	19.6
303	0.1	114.0	2.0	19.5
304	0.1	114.0	2.0	19.6
305	0.1	113.0	2.0	19.5
306	0.1	113.0	2.0	19.5
307	0.1	112.0	2.0	19.5
308	0.1	112.0	1.9	19.4
309	0.1	112.0	2.0	19.5
310	0.1	111.0	1.9	19.4
311	0.1	110.0	1.9	19.4
312	0.1	111.0	2.0	19.5
313	0.1	111.0	2.0	19.5
314	0.1	110.0	1.9	19.3
315	0.1	110.0	1.9	19.2
316	0.1	109.0	1.9	19.1
317	0.1	108.0	1.9	19.1
318	0.1	108.0	1.9	19
319	0.1	108.0	1.9	19
320	0.1	108.0	1.9	19
321	0.1	108.0	1.9	19.1
322	0.1	108.0	1.9	19.2
323	0.1	108.0	1.9	19.2
324	0.1	107.0	1.9	19.3
325	0.1	108.0	1.9	19.3
326	0.1	107.0	1.9	19.3
327	0.1	107.0	1.9	19.3
328	0.1	107.0	1.9	19.3
329	0.1	107.0	1.9	19.4
330	0.1	106.0	2.0	19.7
331	0.1	105.0	2.0	19.7
332	0.1	105.0	2.0	19.9
333	0.1	106.0	2.0	20
334	0.1	106.0	2.0	19.9
335	0.1	106.0	2.0	19.9
336	0.1	106.0	2.0	20.1
337	0.1	106.0	2.0	20.1
338	0.1	106.0	2.0	20.2
339	0.1	107.0	2.0	20.4
340	0.1	107.0	2.1	20.5
341	0.1	107.0	2.1	20.7
342	0.1	109.0	2.1	20.8
343	0.1	111.0	2.1	21.1
344	0.1	112.0	2.1	21.2
345	0.1	115.0	2.1	21.2
346	0.1	116.0	2.1	21.3
347	0.1	119.0	2.1	21.3
348	0.1	119.0	2.2	21.5
349	0.1	120.0	2.2	21.5
350	0.1	121.0	2.1	21.4
351	0.1	121.0	2.1	21.4
352	0.1	120.0	2.1	21.4
353	0.1	121.0	2.2	21.5
354	0.1	121.0	2.1	21.3
355	0.1	121.0	2.1	21.3
356	0.1	121.0	2.1	20.5
357	0.1	121.0	2.1	20.6
358	0.1	121.0	2.1	20.7
359	0.1	122.0	1.9	19.4
360	0.1	121.0	1.9	18.9
361	0.1	121.0	1.9	18.9
362	0.1	121.0	1.9	18.8
363	0.1	121.0	1.9	18.8
364	0.1	121.0	1.9	18.8
365	0.1	121.0	1.9	18.8
366	0.1	121.0	1.9	18.8
367	0.1	121.0	1.9	18.8
368	0.1	121.0	1.9	18.8
369	0.1	120.0	1.9	18.7
370	0.1	121.0	1.9	18.9
371	0.1	121.0	1.9	18.9
372	0.1	122.0	1.9	18.5
373	0.1	120.0	1.7	17.2
374	0.1	112.0	1.8	15.5
375	0.1	100.0	1.4	13.5

Stop R2
Stack 5
1:46

	Average	109.7	18.5848
376	0.1	88.0	1.1
377	0.1	78.0	1.0
378	0.1	66.0	0.9
379	0.1	57.0	0.8
380	0.1	50.0	0.7
381	0.0	42.0	0.6
382	0.0	37.0	0.5
383	0.0	32.0	0.5
384	0.0	27.0	0.4
385	0.0	18.0	0.4
387	0.0	19.0	0.3
388	0.0	17.0	0.3
389	0.0	16.0	0.3
390	0.0	13.0	0.3
391	0.0	13.0	0.3
392	0.0	11.0	0.3
393	0.0	10.0	0.2
394	0.0	10.0	0.2
395	0.0	10.0	0.2
396	0.0	9.0	0.2
397	0.0	9.0	0.2
398	0.0	9.0	0.2
399	0.0	9.0	0.2
400	0.0	8.0	0.2

401	0.0	8.0	0.2	1.8
402	0.0	8.0	0.2	1.8
403	0.0	8.0	0.2	1.8
404	0.0	8.0	0.2	1.7
405	0.0	7.0	0.2	1.7
406	0.0	7.0	0.2	1.7
407	0.0	8.0	0.2	1.7
408	0.0	8.0	0.2	1.6
409	0.0	7.0	0.2	1.6
410	0.0	7.0	0.2	1.6
411	0.0	7.0	0.2	1.6
412	0.0	6.0	0.2	1.6
413	0.0	6.0	0.2	1.6
414	0.0	7.0	0.2	1.6
415	0.0	6.0	0.2	1.6
416	0.0	6.0	0.2	1.6
417	0.0	6.0	0.2	1.6
418	0.0	6.0	0.2	1.6
419	0.0	6.0	0.2	1.7
420	0.0	7.0	0.2	1.7
421	0.0	6.0	0.2	1.6
422	0.0	6.0	0.2	1.7
423	0.0	6.0	0.2	1.7
424	0.0	6.0	0.2	1.7
425	0.0	7.0	0.2	1.6
426	0.0	7.0	0.2	1.5
427	0.0	7.0	0.2	1.5
428	0.0	7.0	0.2	1.5
429	0.0	8.0	0.1	1.4
430	0.0	7.0	0.1	1.4
431	0.0	7.0	0.2	1.5
432	0.0	7.0	0.2	1.5
433	0.0	7.0	0.2	1.5
434	0.0	7.0	0.3	3.4
435	0.0	7.0	0.8	7.6
436	0.0	7.0	1.3	12.7
437	0.0	7.0	1.7	17.2
438	0.0	7.0	2.1	21.4
439	0.0	7.0	2.5	24.7
440	0.0	7.0	2.8	27.9
441	0.0	7.0	3.1	30.8
442	0.0	7.0	3.3	33.1
443	0.0	7.0	3.5	35.4
444	0.0	6.0	3.8	37.5
445	0.0	6.0	3.9	39.2
446	0.0	6.0	4.1	40.6
447	0.0	6.0	4.2	41.9
448	0.0	6.0	4.3	42.9
449	0.0	6.0	4.4	43.7
450	0.0	5.0	4.5	44.5
451	0.0	5.0	4.5	45
452	0.0	6.0	4.5	45
453	0.0	5.0	4.5	45.3
454	0.0	6.0	4.6	46.4
455	0.0	6.0	4.7	47.3
456	0.0	6.0	4.8	47.7
457	0.0	6.0	4.8	48.3
458	0.0	6.0	4.8	48.4
459	0.0	6.0	4.8	48
460	0.0	6.0	4.8	48.1
461	0.0	6.0	4.8	48.4
462	0.0	7.0	4.8	47.9
463	0.0	7.0	4.8	47.9
464	0.0	7.0	4.8	47.7
465	0.0	7.0	4.8	47.7
466	0.0	6.0	4.8	47.6
467	0.0	7.0	4.8	47.9
468	0.0	6.0	4.8	47.8
469	0.0	6.0	4.8	47.7
470	0.0	7.0	4.8	47.8
471	0.0	6.0	4.8	47.9
472	0.0	6.0	4.8	47.7
473	0.0	6.0	4.8	47.8
474	0.0	6.0	4.8	47.9
475	0.0	6.0	4.8	47.9
476	0.0	5.0	4.8	47.7
477	0.0	6.0	4.8	47.9
478	0.0	6.0	4.8	47.6
479	0.0	5.0	4.8	47.6
480	0.0	6.0	4.7	47.4
481	0.0	6.0	4.7	47
482	0.0	6.0	4.8	46.4
483	0.0	6.0	4.7	47
484	0.0	6.0	4.8	48.2
485	0.0	7.0	4.8	48
486	0.0	6.0	4.7	46.9
487	0.0	6.0	4.4	43.6
488	0.0	7.0	3.7	36.6
489	0.0	9.0	2.8	27.7
490	0.0	16.0	2.1	20.7
491	0.0	25.0	1.6	16.1
492	0.0	37.0	1.3	13.1
493	0.0	48.0	1.1	11.1
494	0.1	57.0	0.9	9.4
495	0.1	64.0	0.8	8.1
496	0.1	71.0	0.7	6.9
497	0.1	78.0	0.6	6.1
498	0.1	81.0	0.5	5.3
499	0.1	84.0	0.5	4.5
500	0.1	88.0	0.4	4.1
501	0.1	91.0	0.4	3.7
502	0.1	94.0	0.3	3.3
503	0.1	96.0	0.3	3

RUN2-6

504	0.1	97.0	0.3	2.8
505	0.1	98.0	0.3	2.6
506	0.1	98.0	0.2	2.4
507	0.1	99.0	0.2	2.2
508	0.1	101.0	0.2	2
509	0.1	101.0	0.2	1.9
510	0.1	102.0	0.2	1.9
511	0.1	102.0	0.2	1.8
512	0.1	102.0	0.2	1.8
513	0.1	102.0	0.2	1.7
514	0.1	104.0	0.2	1.6
515	0.1	104.0	0.2	1.6
516	0.1	104.0	0.2	1.6
517	0.1	104.0	0.2	1.6
518	0.1	103.0	0.2	1.6
519	0.1	102.0	0.2	1.6
520	0.1	99.0	0.2	1.6
521	0.1	92.0	0.2	1.5
522	0.1	80.0	0.2	1.5
523	0.1	67.0	0.1	1.4
524	0.1	64.0	0.2	1.5
525	0.0	43.0	0.2	1.5
526	0.0	34.0	0.2	1.5
527	0.0	27.0	0.2	1.5
528	0.0	22.0	0.1	1.4
529	0.0	18.0	0.1	1.3
530	0.0	16.0	0.1	1.3
531	0.0	13.0	0.1	1.3
532	0.0	12.0	0.1	1.3

FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	CO, ppm	2A Voltage 5 sec Volts	NOx, ppm
40	0.0	12.0	0.7	8.8
41	0.0	18.0	1.0	9.9
Start R3 Stack 4 2:40				
42	0.0	25.0	1.3	12.5
43	0.0	31.0	1.5	14.6
44	0.0	35.0	1.6	16.1
45	0.0	38.0	1.7	17.2
46	0.0	41.0	1.8	18
47	0.0	42.0	1.8	18.4
48	0.0	43.0	1.9	18.9
49	0.0	43.0	1.9	19.2
50	0.0	43.0	1.9	19.4
51	0.0	43.0	2.0	19.7
52	0.0	43.0	2.0	19.8
53	0.0	42.0	2.0	19.8
54	0.0	43.0	2.0	19.9
55	0.0	42.0	2.0	20.1
56	0.0	43.0	2.0	20.1
57	0.0	43.0	2.0	20.3
58	0.0	43.0	2.0	20.4
59	0.0	43.0	2.1	20.5
60	0.0	43.0	2.1	20.5
61	0.0	44.0	2.1	20.6
62	0.0	43.0	2.1	20.7
63	0.0	44.0	2.1	20.7
64	0.0	43.0	2.1	20.8
65	0.0	44.0	2.1	20.8
66	0.0	43.0	2.1	20.9
67	0.0	43.0	2.1	21.1
68	0.0	43.0	2.1	21.2
69	0.0	43.0	2.1	21.3
70	0.0	43.0	2.1	21.3
71	0.0	43.0	2.1	21.2
72	0.0	43.0	2.1	21.3
73	0.0	43.0	2.1	21.3
74	0.0	44.0	2.2	21.6
75	0.0	45.0	2.2	21.6
76	0.0	45.0	2.2	21.7
77	0.0	46.0	2.2	21.6
78	0.0	46.0	2.2	21.5
79	0.0	46.0	2.0	20.2
80	0.0	46.0	2.0	19.7
81	0.0	47.0	2.0	19.6
82	0.0	47.0	2.0	19.5
83	0.0	47.0	2.0	19.5
84	0.0	48.0	1.9	19.4
85	0.1	50.0	1.9	19.4
86	0.1	50.0	1.9	19.3
87	0.1	50.0	1.9	19.3
88	0.0	49.0	1.9	19.1
89	0.0	49.0	1.9	18.9
90	0.1	50.0	1.9	18.8
91	0.0	49.0	1.9	18.6
92	0.1	50.0	1.8	18.3
93	0.1	51.0	1.8	18.3
94	0.1	55.0	1.8	18.1
95	0.1	52.0	1.8	17.9
96	0.1	53.0	1.8	17.7
97	0.1	54.0	1.7	17.4
98	0.1	54.0	1.7	17.2
99	0.1	55.0	1.7	17.1
100	0.1	57.0	1.7	17
101	0.1	58.0	1.7	16.9
102	0.1	59.0	1.7	17
103	0.1	59.0	1.7	17.1
104	0.1	58.0	1.7	17.2
105	0.1	58.0	1.7	17.1
106	0.1	57.0	1.7	17.1
107	0.1	56.0	1.7	17.2
108	0.1	53.0	1.7	17.1
109	0.1	54.0	1.7	16.9
110	0.1	54.0	1.7	16.8
111	0.1	54.0	1.7	16.7
112	0.1	54.0	1.7	16.6
113	0.1	55.0	1.7	16.5
114	0.1	55.0	1.6	16.2
115	0.1	56.0	1.6	16.2
116	0.1	57.0	1.6	16
117	0.1	57.0	1.6	16
118	0.1	58.0	1.6	15.9
119	0.1	59.0	1.6	15.9
120	0.1	60.0	1.6	15.9
121	0.1	60.0	1.6	15.9
122	0.1	59.0	1.6	15.8
123	0.1	60.0	1.6	15.8
124	0.1	60.0	1.6	15.7
125	0.1	61.0	1.6	15.6
126	0.1	61.0	1.6	15.6
127	0.1	61.0	1.6	15.6
128	0.1	61.0	1.6	15.7
129	0.1	61.0	1.6	15.6

Stack 4 R3

NOx - 17.93

CO - 65.7

130	0.1	62.0	1.6	15.5
131	0.1	62.0	1.6	15.4
132	0.1	62.0	1.6	15.5
133	0.1	62.0	1.6	15.5
134	0.1	63.0	1.6	15.5
135	0.1	63.0	1.5	15.4
136	0.1	62.0	1.5	15.2
137	0.1	62.0	1.5	15.1
138	0.1	63.0	1.5	14.9
139	0.1	63.0	1.5	14.7
140	0.1	64.0	1.5	14.6
141	0.1	65.0	1.4	14.4
142	0.1	66.0	1.4	14.3
143	0.1	66.0	1.4	14.3
144	0.1	67.0	1.4	14.4
145	0.1	68.0	1.4	14.3
146	0.1	69.0	1.4	14.2
147	0.1	71.0	1.4	14.2
148	0.1	72.0	1.4	14.2
149	0.1	74.0	1.4	14.3
150	0.1	74.0	1.4	14.4
151	0.1	76.0	1.4	14.3
152	0.1	76.0	1.4	14.4
153	0.1	78.0	1.4	14.2
154	0.1	77.0	1.4	14.2
155	0.1	77.0	1.4	13.9
156	0.1	78.0	1.4	13.9
157	0.1	77.0	1.4	13.9
158	0.1	77.0	1.4	13.9
159	0.1	78.0	1.4	13.8
160	0.1	79.0	1.4	13.8
161	0.1	81.0	1.4	13.8
162	0.1	82.0	1.4	13.9
163	0.1	82.0	1.4	13.9
164	0.1	82.0	1.4	13.9
165	0.1	82.0	1.4	14.1
166	0.1	80.0	1.4	14.1
167	0.1	80.0	1.4	14.2
168	0.1	80.0	1.4	14.2
169	0.1	79.0	1.4	14.2
170	0.1	79.0	1.4	14.3
171	0.1	80.0	1.5	14.5
172	0.1	80.0	1.5	14.5
173	0.1	80.0	1.4	14.4
174	0.1	80.0	1.4	14.4
175	0.1	80.0	1.4	14.4
176	0.1	80.0	1.4	14.3
177	0.1	80.0	1.4	14.4
178	0.1	81.0	1.5	14.5
179	0.1	83.0	1.4	14.3
180	0.1	84.0	1.4	14.2
181	0.1	85.0	1.4	14.3
182	0.1	87.0	1.4	14.2
183	0.1	89.0	1.4	14.1
184	0.1	90.0	1.4	13.9
185	0.1	92.0	1.3	13.2
186	0.1	93.0	1.3	13.1
187	0.1	94.0	1.3	13
188	0.1	95.0	1.3	13
189	0.1	96.0	1.3	12.8
190	0.1	97.0	1.3	12.7
191	0.1	98.0	1.3	12.7
192	0.1	99.0	1.3	12.7
193	0.1	98.0	1.3	12.7
194	0.1	98.0	1.3	12.7
195	0.1	99.0	1.3	12.7
196	0.1	99.0	1.3	12.6
197	0.1	100.0	1.3	12.7
198	0.1	100.0	1.3	12.7
199	0.1	100.0	1.3	12.8
200	0.1	101.0	1.3	12.8
201	0.1	102.0	1.3	12.8
202	0.1	102.0	1.3	12.7
203	0.1	102.0	1.3	12.6
204	0.1	103.0	1.3	12.6
205	0.1	105.0	1.3	12.5
206	0.1	106.0	1.3	12.5
207	0.1	108.0	1.3	12.5
208	0.1	110.0	1.3	12.6
209	0.1	109.0	1.3	12.6
210	0.1	109.0	1.3	12.6
211	0.1	108.0	1.3	12.8
212	0.1	107.0	1.3	13
213	0.1	108.0	1.3	13.1
214	0.1	108.0	1.3	13.2
215	0.1	108.0	1.3	13.1
216	0.1	108.0	1.3	13.3
217	0.1	105.0	1.3	13.4
218	0.1	108.0	1.4	13.5
219	0.1	105.0	1.4	13.5
220	0.1	105.0	1.4	13.5
221	0.1	106.0	1.3	13.4
222	0.1	106.0	1.3	13.4
223	0.1	107.0	1.3	13.3
224	0.1	107.0	1.3	13.3
225	0.1	107.0	1.3	13.2
226	0.1	106.0	1.3	13.2
227	0.1	105.0	1.3	13.3
228	0.1	105.0	1.3	13.4
229	0.1	105.0	1.3	13.4
230	0.1	105.0	1.3	13.4
231	0.1	105.0	1.4	13.5
232	0.1	106.0	1.3	13.4

233	0.1	107.0	1.4	13.5
234	0.1	107.0	1.4	13.6
235	0.1	106.0	1.4	13.7
236	0.1	105.0	1.4	13.8
237	0.1	104.0	1.4	13.9
238	0.1	104.0	1.4	13.9
239	0.1	103.0	1.4	14
240	0.1	103.0	1.4	14
241	0.1	102.0	1.4	13.9
242	0.1	102.0	1.4	13.9
243	0.1	103.0	1.4	14.1
244	0.1	103.0	1.4	13.9
245	0.1	103.0	1.4	13.8
246	0.1	102.0	1.3	12.8
247	0.1	101.0	1.2	12.3
248	0.1	99.0	1.2	12.2
249	0.1	98.0	1.3	12.5
250	0.1	97.0	1.3	12.6
251	0.1	96.0	1.4	13.6
252	0.1	96.0	1.4	14.4
253	0.1	97.0	1.4	14.4
254	0.1	97.0	1.4	13.7
255	0.1	97.0	1.3	13.4
256	0.1	96.0	1.3	13.4
257	0.1	96.0	1.4	13.5
258	0.1	96.0	1.4	13.5
259	0.1	96.0	1.4	13.5
260	0.1	96.0	1.4	13.5
261	0.1	96.0	1.4	13.6
262	0.1	97.0	1.4	13.6
263	0.1	96.0	1.4	13.7
264	0.1	99.0	1.4	13.7
265	0.1	99.0	1.4	13.8
266	0.1	99.0	1.4	13.8
267	0.1	99.0	1.4	14
268	0.1	98.0	1.4	14.1
269	0.1	98.0	1.4	14.2
270	0.1	98.0	1.4	14.2
271	0.1	99.0	1.4	14.4
272	0.1	101.0	1.4	14.4
273	0.1	103.0	1.4	14.3
274	0.1	106.0	1.4	14.4
275	0.1	112.0	1.5	14.5
276	0.1	115.0	1.5	14.5
277	0.1	116.0	1.5	14.8
278	0.1	116.0	1.5	15.1
279	0.1	115.0	1.5	15.3
280	0.1	111.0	1.6	15.5
281	0.1	108.0	1.6	15.7
282	0.1	105.0	1.6	15.8
283	0.1	100.0	1.6	15.8
284	0.1	97.0	1.6	16
285	0.1	94.0	1.6	16
286	0.1	90.0	1.6	16.2
287	0.1	87.0	1.6	16.4
288	0.1	85.0	1.7	16.5
289	0.1	83.0	1.7	16.6
290	0.1	81.0	1.7	16.7
291	0.1	78.0	1.7	16.9
292	0.1	76.0	1.7	17.1
293	0.1	74.0	1.7	17.2
294	0.1	73.0	1.7	17.3
295	0.1	72.0	1.7	17.2
296	0.1	72.0	1.7	17
297	0.1	70.0	1.7	17
298	0.1	70.0	1.7	17
299	0.1	68.0	1.7	17
300	0.1	67.0	1.7	17.1
301	0.1	66.0	1.7	17.1
302	0.1	65.0	1.7	17
303	0.1	64.0	1.7	17
304	0.1	64.0	1.7	17.2
305	0.1	62.0	1.7	17.3
306	0.1	61.0	1.7	17.4
307	0.1	59.0	1.8	17.6
308	0.1	58.0	1.8	17.8
309	0.1	57.0	1.8	17.9
310	0.1	56.0	1.8	18.1
311	0.1	55.0	1.8	18.3
312	0.1	54.0	1.9	18.5
313	0.1	54.0	1.9	18.5
314	0.1	53.0	1.9	18.6
315	0.1	54.0	1.9	18.6
316	0.1	54.0	1.9	18.9
317	0.1	54.0	1.9	19.1
318	0.1	55.0	1.9	19.4
319	0.1	55.0	2.0	19.6
320	0.1	55.0	2.0	19.8
321	0.1	54.0	2.0	20
322	0.1	54.0	2.0	20.2
323	0.1	52.0	2.0	20.4
324	0.1	51.0	2.1	20.7
325	0.0	48.0	2.1	20.9
326	0.0	48.0	2.1	21.2
327	0.0	45.0	2.1	21.4
328	0.0	43.0	2.1	21.4
329	0.0	42.0	2.1	21.4
330	0.0	41.0	2.2	21.7
331	0.0	40.0	2.2	22.1
332	0.0	40.0	2.2	22.2
333	0.0	39.0	2.2	22.4
334	0.0	38.0	2.3	22.6
335	0.0	38.0	2.3	22.5

336	0.0	38.0	2.3	22.8
337	0.0	38.0	2.3	22.9
338	0.0	38.0	2.3	23
339	0.0	38.0	2.3	23
340	0.0	38.0	2.3	23.1
341	0.0	38.0	2.3	23.2
342	0.0	37.0	2.3	23.4
343	0.0	37.0	2.4	23.5
344	0.0	37.0	2.3	22.5
345	0.0	37.0	2.2	22.1
346	0.0	37.0	2.2	22.1
347	0.0	37.0	2.2	22.1
348	0.0	37.0	2.2	22
349	0.0	37.0	2.2	22.3
350	0.0	38.0	2.2	22.4
351	0.0	39.0	2.2	22.4
352	0.0	39.0	2.2	22.4
353	0.0	39.0	2.2	22.4
354	0.0	38.0	2.3	22.6
355	0.0	38.0	2.3	22.7
356	0.0	38.0	2.3	22.9
357	0.0	37.0	2.3	23
358	0.0	37.0	2.3	23.2
359	0.0	37.0	2.3	23.1
360	0.0	37.0	2.3	23.2
361	0.0	37.0	2.3	23.2
362	0.0	37.0	2.3	23.2
363	0.0	37.0	2.3	23.2
364	0.0	37.0	2.3	23.1
365	0.0	37.0	2.3	22.9
366	0.0	37.0	2.3	23
367	0.0	37.0	2.3	22.9
368	0.0	36.0	2.3	22.8
369	0.0	36.0	2.3	22.8
370	0.0	37.0	2.3	22.8
371	0.0	37.0	2.3	22.7
372	0.0	37.0	2.3	22.8
373	0.0	37.0	2.3	22.9
374	0.0	38.0	2.3	23
375	0.0	38.0	2.3	23
376	0.0	38.0	2.3	23.1
377	0.0	38.0	2.3	23.2
378	0.0	38.0	2.3	23
379	0.0	38.0	2.3	23.1
380	0.0	39.0	2.3	23.1
381	0.0	38.0	2.3	23
382	0.0	38.0	2.3	22.9
383	0.0	38.0	2.3	22.8
384	0.0	39.0	2.2	22.4
385	0.0	39.0	2.2	22.3
386	0.0	39.0	2.2	22.2
387	0.0	39.0	2.2	22.1
388	0.0	39.0	2.2	22.1
389	0.0	39.0	2.2	22.2
390	0.0	39.0	2.2	22.2
391	0.0	39.0	2.2	22.1
392	0.0	39.0	2.2	22.1
393	0.0	39.0	2.2	22
394	0.0	40.0	2.2	21.9
395	0.0	40.0	2.2	21.8
396	0.0	40.0	2.2	21.9
397	0.0	40.0	2.2	21.7
398	0.0	40.0	2.2	21.7
399	0.0	40.0	2.2	21.9
400	0.0	40.0	2.2	22.1
401	0.0	40.0	2.2	22.2
402	0.0	39.0	2.3	22.5
403	0.0	39.0	2.3	22.6
404	0.0	38.0	2.3	22.5
405	0.0	39.0	2.2	22
406	0.0	38.0	2.1	20.6
407	0.0	38.0	2.0	20.1
408	0.0	38.0	2.0	20.1
409	0.0	38.0	2.0	20.2
410	0.0	39.0	2.0	19.6
411	0.0	36.0	1.9	19.1
412	0.0	35.0	2.0	19.7
413	0.0	36.0	2.2	21.5
414	0.0	37.0	2.2	21.8
415	0.0	41.0	2.2	22.4
416	0.0	44.0	2.3	23.1
417	0.0	48.0	2.4	23.7
418	0.1	50.0	2.4	24.2
419	0.1	52.0	2.5	24.7
420	0.1	53.0	2.5	25
421	0.1	54.0	2.5	25.2
422	0.1	55.0	2.6	25.5
423	0.1	54.0	2.6	25.8
424	0.1	55.0	2.6	25.9
425	0.1	55.0	2.6	26.2
426	0.1	55.0	2.7	26.5
427	0.1	54.0	2.7	26.6
428	0.1	55.0	2.7	26.8
429	0.1	56.0	2.7	27
430	0.1	57.0	2.7	27.2
431	0.1	58.0	2.7	27.3
432	0.1	60.0	2.8	27.6
433	0.1	59.0	2.8	27.8
434	0.1	59.0	2.8	27.8
435	0.1	58.0	2.8	27.6
436	0.1	55.0	2.8	27.6
437	0.1	59.0	2.8	27.8
438	0.1	59.0	2.8	27.8

RUN-4

Stop R3	439	0.1	60.0	2.8	27.9
Stack 4					
3:10		Average	65.7		17,9369

FILE NAME:

LOGGING SESSION:

START LOGGING @
LAST SAMPLE @

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	CO, ppm	2A Voltage 5 sec Volts	NOx, ppm
Start R3	1	0.1	58.0	2.8
Stack 5	2	0.1	58.0	2.8
3:11	3	0.1	58.0	2.8
	4	0.1	57.0	2.8
	5	0.1	57.0	2.8
	6	0.1	57.0	2.8
	7	0.1	58.0	2.8
	8	0.1	58.0	2.8
	9	0.1	58.0	2.8
	10	0.1	58.0	2.8
	11	0.1	55.0	2.8
	12	0.1	54.0	1.1
	13	0.0	28.0	0.0
	14	0.0	33.0	2.7
	15	0.1	50.0	2.7
	16	0.1	54.0	2.8
	17	0.1	58.0	2.8
	18	0.1	58.0	2.8
	19	0.1	58.0	2.8
	20	0.1	58.0	2.7
	21	0.1	57.0	2.7
	22	0.1	57.0	2.7
	23	0.1	57.0	2.7
	24	0.1	57.0	2.7
	25	0.1	57.0	2.7
	26	0.1	57.0	2.7
	27	0.1	57.0	2.7
	28	0.1	58.0	2.7
	29	0.1	58.0	2.7
	30	0.1	58.0	2.7
	31	0.1	55.0	2.7
	32	0.1	55.0	2.7
	33	0.1	58.0	2.7
	34	0.1	55.0	2.7
	35	0.1	55.0	2.8
	36	0.1	54.0	2.8
	37	0.1	54.0	2.8
	38	0.1	55.0	2.8
	39	0.1	58.0	2.7
	40	0.1	58.0	2.7
	41	0.1	58.0	2.7
	42	0.1	58.0	2.7
	43	0.1	58.0	2.6
	44	0.1	55.0	2.6
	45	0.1	55.0	2.6
	46	0.1	55.0	2.6
	47	0.1	55.0	2.6
	48	0.1	55.0	2.6
	49	0.1	55.0	2.6
	50	0.1	54.0	2.5
	51	0.1	54.0	2.5
	52	0.1	54.0	2.5
	53	0.1	54.0	2.5
	54	0.1	54.0	2.5
	55	0.1	54.0	2.5
	56	0.1	54.0	2.5
	57	0.1	54.0	2.5
	58	0.1	54.0	2.6
	59	0.1	55.0	2.6
	60	0.1	55.0	2.6
	61	0.1	55.0	2.6
	62	0.1	58.0	2.6
	63	0.1	55.0	2.6
	64	0.1	58.0	2.6
	65	0.1	55.0	2.6
	66	0.1	55.0	2.6
	67	0.1	58.0	2.6
	68	0.1	58.0	2.6
	69	0.1	57.0	2.6
	70	0.1	57.0	2.6
	71	0.1	57.0	2.6
	72	0.1	57.0	2.6
	73	0.1	57.0	2.6
	74	0.1	58.0	2.6
	75	0.1	58.0	2.6
	76	0.1	58.0	2.6
	77	0.1	58.0	2.6
	78	0.1	55.0	2.6
	79	0.1	55.0	2.6
	80	0.1	55.0	2.6
	81	0.1	55.0	2.6
	82	0.1	58.0	2.6
	83	0.1	58.0	2.6
	84	0.1	55.0	2.6
	85	0.1	58.0	2.6
	86	0.1	58.0	2.6
	87	0.1	58.0	2.6
	88	0.1	58.0	2.6
	89	0.1	58.0	2.6
	90	0.1	58.0	2.5
	91	0.1	58.0	2.6
	92	0.1	58.0	2.6
	93	0.1	55.0	2.6

Run 3 Stack 5

NOx - 25.04

CO - 54.7

94	0.1	55.0	2.6	25.6
95	0.1	55.0	2.6	25.7
96	0.1	55.0	2.6	25.8
97	0.1	54.0	2.6	25.9
98	0.1	55.0	2.6	25.9
99	0.1	55.0	2.6	26.1
100	0.1	54.0	2.6	26.1
101	0.1	55.0	2.6	26
102	0.1	55.0	2.6	26
103	0.1	56.0	2.6	26
104	0.1	55.0	2.6	26
105	0.1	55.0	2.6	25.9
106	0.1	55.0	2.6	25.9
107	0.1	55.0	2.6	25.6
108	0.1	55.0	2.6	25.6
109	0.1	55.0	2.6	25.5
110	0.1	55.0	2.5	25.4
111	0.1	55.0	2.5	24.7
112	0.1	56.0	2.5	24.6
113	0.1	54.0	2.5	24.6
114	0.1	55.0	2.5	24.6
115	0.1	55.0	2.5	24.8
116	0.1	55.0	2.5	24.7
117	0.1	56.0	2.5	24.8
118	0.1	56.0	2.5	24.8
119	0.1	56.0	2.5	24.8
120	0.1	56.0	2.5	24.9
121	0.1	56.0	2.5	24.8
122	0.1	56.0	2.5	24.8
123	0.1	56.0	2.5	24.8
124	0.1	56.0	2.5	24.7
125	0.1	56.0	2.5	24.7
126	0.1	56.0	2.5	24.5
127	0.1	56.0	2.4	24.2
128	0.1	57.0	2.4	24.1
129	0.1	57.0	2.4	24.1
130	0.1	57.0	2.4	24.2
131	0.1	58.0	2.4	24.3
132	0.1	59.0	2.4	24.3
133	0.1	69.0	2.4	24.4
134	0.1	58.0	2.4	24.4
135	0.1	58.0	2.5	24.6
136	0.1	58.0	2.5	24.6
137	0.1	58.0	2.5	24.8
138	0.1	58.0	2.5	24.8
139	0.1	58.0	2.5	24.9
140	0.1	58.0	2.5	24.9
141	0.1	58.0	2.5	25.1
142	0.1	58.0	2.5	25.1
143	0.1	58.0	2.5	25.2
144	0.1	57.0	2.5	25.3
145	0.1	58.0	2.6	25.5
146	0.1	57.0	2.5	25.4
147	0.1	57.0	2.5	25.4
148	0.1	57.0	2.6	25.5
149	0.1	57.0	2.5	25.4
150	0.1	58.0	2.5	25.3
151	0.1	57.0	2.5	25.3
152	0.1	57.0	2.5	25.2
153	0.1	56.0	2.5	25.2
154	0.1	58.0	2.5	25.3
155	0.1	58.0	2.5	25.2
156	0.1	58.0	2.5	25.3
157	0.1	58.0	2.5	25.4
158	0.1	58.0	2.5	25.4
159	0.1	58.0	2.5	25.3
160	0.1	57.0	2.5	25.4
161	0.1	58.0	2.6	25.5
162	0.1	58.0	2.6	25.6
163	0.1	57.0	2.6	25.8
164	0.1	57.0	2.6	25.8
165	0.1	57.0	2.6	25.8
166	0.1	58.0	2.6	25.7
167	0.1	57.0	2.6	25.6
168	0.1	56.0	2.6	25.9
169	0.1	57.0	2.6	25.8
170	0.1	56.0	2.6	25.8
171	0.1	57.0	2.6	26
172	0.1	56.0	2.6	26.3
173	0.1	56.0	2.7	26.5
174	0.1	56.0	2.7	26.7
175	0.1	56.0	2.7	26.8
176	0.1	55.0	2.7	26.7
177	0.1	55.0	2.7	26.7
178	0.1	55.0	2.7	26.7
179	0.1	55.0	2.7	26.7
180	0.1	55.0	2.7	26.6
181	0.1	55.0	2.7	26.7
182	0.1	56.0	2.7	26.6
183	0.1	56.0	2.6	26.4
184	0.1	56.0	2.6	26.3
185	0.1	56.0	2.6	26.3
186	0.1	56.0	2.6	26.2
187	0.1	57.0	2.6	26.2
188	0.1	57.0	2.6	26.3
189	0.1	56.0	2.5	25.2
190	0.1	57.0	2.5	25.2
191	0.1	57.0	2.5	25.2
192	0.1	56.0	2.5	25.1
193	0.1	56.0	2.5	25.2
194	0.1	56.0	2.5	25.4
195	0.1	56.0	2.6	25.6
196	0.1	56.0	2.6	25.6

197	0.1	55.0	2.5	25.4
198	0.1	55.0	2.5	25.3
199	0.1	54.0	2.5	25.3
200	0.1	53.0	2.5	25.3
201	0.1	53.0	2.5	25.3
202	0.1	53.0	2.5	25.3
203	0.1	53.0	2.5	25.1
204	0.1	53.0	2.5	25.1
205	0.1	53.0	2.5	25.1
206	0.1	53.0	2.5	25.1
207	0.1	52.0	2.5	25.2
208	0.1	52.0	2.5	25.2
209	0.1	52.0	2.5	25.2
210	0.1	52.0	2.5	25.2
211	0.1	52.0	2.5	25.3
212	0.1	52.0	2.6	25.6
213	0.1	53.0	2.6	25.6
214	0.1	52.0	2.5	25.3
215	0.1	53.0	2.5	25.4
216	0.1	53.0	2.5	25.4
217	0.1	53.0	2.5	25.4
218	0.1	52.0	2.6	25.5
219	0.1	52.0	2.6	25.5
220	0.1	52.0	2.6	25.5
221	0.1	53.0	2.5	25.2
222	0.1	54.0	2.5	25
223	0.1	53.0	2.5	24.8
224	0.1	54.0	2.5	24.7
225	0.1	54.0	2.5	24.8
226	0.1	53.0	2.5	24.8
227	0.1	53.0	2.5	24.8
228	0.1	53.0	2.5	24.7
229	0.1	53.0	2.5	24.9
230	0.1	53.0	2.5	25.1
231	0.1	54.0	2.5	25.3
232	0.1	55.0	2.5	25.1
233	0.1	54.0	2.5	25.2
234	0.1	55.0	2.5	25.2
235	0.1	55.0	2.5	25.4
236	0.1	55.0	2.5	25.3
237	0.1	55.0	2.6	25.5
238	0.1	55.0	2.6	25.5
239	0.1	55.0	2.6	25.4
240	0.1	55.0	2.5	25.4
241	0.1	55.0	2.5	25.2
242	0.1	55.0	2.5	25.1
243	0.1	55.0	2.5	24.8
244	0.1	55.0	2.4	24.4
245	0.1	55.0	2.4	24
246	0.1	55.0	2.4	23.6
247	0.1	55.0	2.4	23.6
248	0.1	55.0	2.4	23.6
249	0.1	55.0	2.3	23.1
250	0.1	54.0	2.3	23
251	0.1	53.0	2.3	22.7
252	0.1	52.0	2.3	22.5
253	0.1	52.0	2.3	22.5
254	0.1	51.0	2.2	22.4
255	0.1	51.0	2.3	22.5
256	0.1	51.0	2.2	22.4
257	0.1	50.0	2.3	22.7
258	0.1	51.0	2.3	22.9
259	0.1	50.0	2.3	22.9
260	0.1	50.0	2.3	23
261	0.1	50.0	2.3	23.1
262	0.1	50.0	2.3	23.1
263	0.1	50.0	2.3	23
264	0.1	50.0	2.3	22.9
265	0.1	50.0	2.3	22.6
266	0.1	51.0	2.3	22.6
267	0.1	51.0	2.3	23
268	0.1	51.0	2.3	23.1
269	0.1	51.0	2.3	23.2
270	0.1	51.0	2.3	23.3
271	0.1	52.0	2.4	23.5
272	0.1	52.0	2.4	23.5
273	0.1	52.0	2.4	23.6
274	0.1	52.0	2.4	23.7
275	0.1	51.0	2.4	23.9
276	0.1	51.0	2.4	23.9
277	0.1	52.0	2.4	23.9
278	0.1	52.0	2.4	24.1
279	0.1	52.0	2.4	24.3
280	0.1	53.0	2.4	24.3
281	0.1	54.0	2.4	24.2
282	0.1	54.0	2.4	24.1
283	0.1	54.0	2.4	24
284	0.1	55.0	2.4	24.1
285	0.1	54.0	2.4	24
286	0.1	54.0	2.4	24.1
287	0.1	54.0	2.4	24.1
288	0.1	55.0	2.4	24.2
289	0.1	54.0	2.4	24.2
290	0.1	54.0	2.4	24.3
291	0.1	54.0	2.5	24.5
292	0.1	54.0	2.5	24.7
293	0.1	54.0	2.5	24.7
294	0.1	54.0	2.5	24.8
295	0.1	54.0	2.5	24.8
296	0.1	54.0	2.5	24.9
297	0.1	53.0	2.5	25.2
298	0.1	53.0	2.5	25.4
299	0.1	53.0	2.5	25.3

300	0.1	53.0	2.6	25.5
301	0.1	53.0	2.6	25.5
302	0.1	53.0	2.6	25.5
303	0.1	53.0	2.5	25.3
304	0.1	53.0	2.5	25.2
305	0.1	53.0	2.5	24.9
306	0.1	53.0	2.5	24.9
307	0.1	53.0	2.5	24.9
308	0.1	54.0	2.5	24.8
309	0.1	54.0	2.5	24.8
310	0.1	53.0	2.5	24.7
311	0.1	54.0	2.5	24.6
312	0.1	54.0	2.5	24.6
313	0.1	53.0	2.4	24.4
314	0.1	54.0	2.4	24.4
315	0.1	55.0	2.4	24.2
316	0.1	53.0	2.4	24.2
317	0.1	53.0	2.4	24.1
318	0.1	53.0	2.4	23.9
319	0.1	53.0	2.4	23.9
320	0.1	53.0	2.4	23.8
321	0.1	53.0	2.4	23.7
322	0.1	53.0	2.4	23.5
323	0.1	53.0	2.4	23.5
324	0.1	53.0	2.4	23.6
325	0.1	53.0	2.4	23.7
326	0.1	53.0	2.4	24
327	0.1	52.0	2.4	24.1
328	0.1	53.0	2.4	24.4
329	0.1	53.0	2.5	24.6
330	0.1	53.0	2.5	24.8
331	0.1	53.0	2.5	24.9
332	0.1	53.0	2.5	25.1
333	0.1	54.0	2.5	25
334	0.1	54.0	2.5	25
335	0.1	54.0	2.5	25
336	0.1	54.0	2.5	25.1
337	0.1	54.0	2.5	25.2
338	0.1	54.0	2.5	25.3
339	0.1	54.0	2.5	25.3
340	0.1	54.0	2.5	25.2
341	0.1	55.0	2.5	25.1
342	0.1	55.0	2.5	24.9
343	0.1	56.0	2.5	24.7
344	0.1	56.0	2.5	24.6
345	0.1	57.0	2.5	24.6
346	0.1	58.0	2.5	24.8
347	0.1	58.0	2.5	24.8
348	0.1	58.0	2.5	24.8
349	0.1	61.0	2.5	24.8
350	0.1	61.0	2.5	24.9
351	0.1	62.0	2.5	25
352	0.1	62.0	2.5	24.7
353	0.1	61.0	2.5	24.6
354	0.1	61.0	2.5	24.6
355	0.1	62.0	2.5	24.5
356	0.1	60.0	2.5	24.6
357	0.1	60.0	2.5	24.6
358	0.1	60.0	2.4	23.6
359	0.1	57.0	2.2	21.5
360	0.1	52.0	1.9	18.9
361	0.0	46.0	1.6	16.1
362	0.0	40.0	1.4	13.5
363	0.0	36.0	1.1	11.3

Stop R3
Stack 5
3:41

Average		54.7		25.0444
364	0.0	30.0	1.0	9.5
365	0.0	26.0	0.8	7.8
366	0.0	22.0	0.6	6.3
367	0.0	20.0	0.5	5.3
368	0.0	17.0	0.5	4.5
369	0.0	16.0	0.4	3.9
370	0.0	14.0	0.4	3.5
371	0.0	13.0	0.3	3.2
372	0.0	12.0	0.3	3.1
373	0.0	11.0	0.3	2.8
374	0.0	11.0	0.3	2.5
375	0.0	11.0	0.2	2.2
376	0.0	10.0	0.2	1.9
377	0.0	10.0	0.2	1.7
378	0.0	9.0	0.2	1.5
379	0.0	9.0	0.1	1.4
380	0.0	10.0	0.1	1.2
381	0.0	28.0	0.1	1.1
382	0.1	66.0	0.1	1
383	0.1	108.0	0.1	0.9
384	0.1	147.0	0.1	0.8
385	0.2	181.0	0.1	0.8
386	0.2	211.0	0.1	0.7
387	0.2	237.0	0.1	0.7
388	0.3	260.0	0.1	0.6
389	0.3	283.0	0.1	0.6
390	0.3	305.0	0.1	0.5
391	0.3	323.0	0.1	0.5
392	0.3	337.0	0.1	0.5
393	0.4	351.0	0.0	0.4
394	0.4	361.0	0.0	0.4
395	0.4	370.0	0.0	0.4
396	0.4	378.0	0.1	0.5
397	0.4	384.0	0.0	0.4
398	0.4	389.0	0.0	0.4
399	0.4	394.0	0.0	0.3

RUNS-6

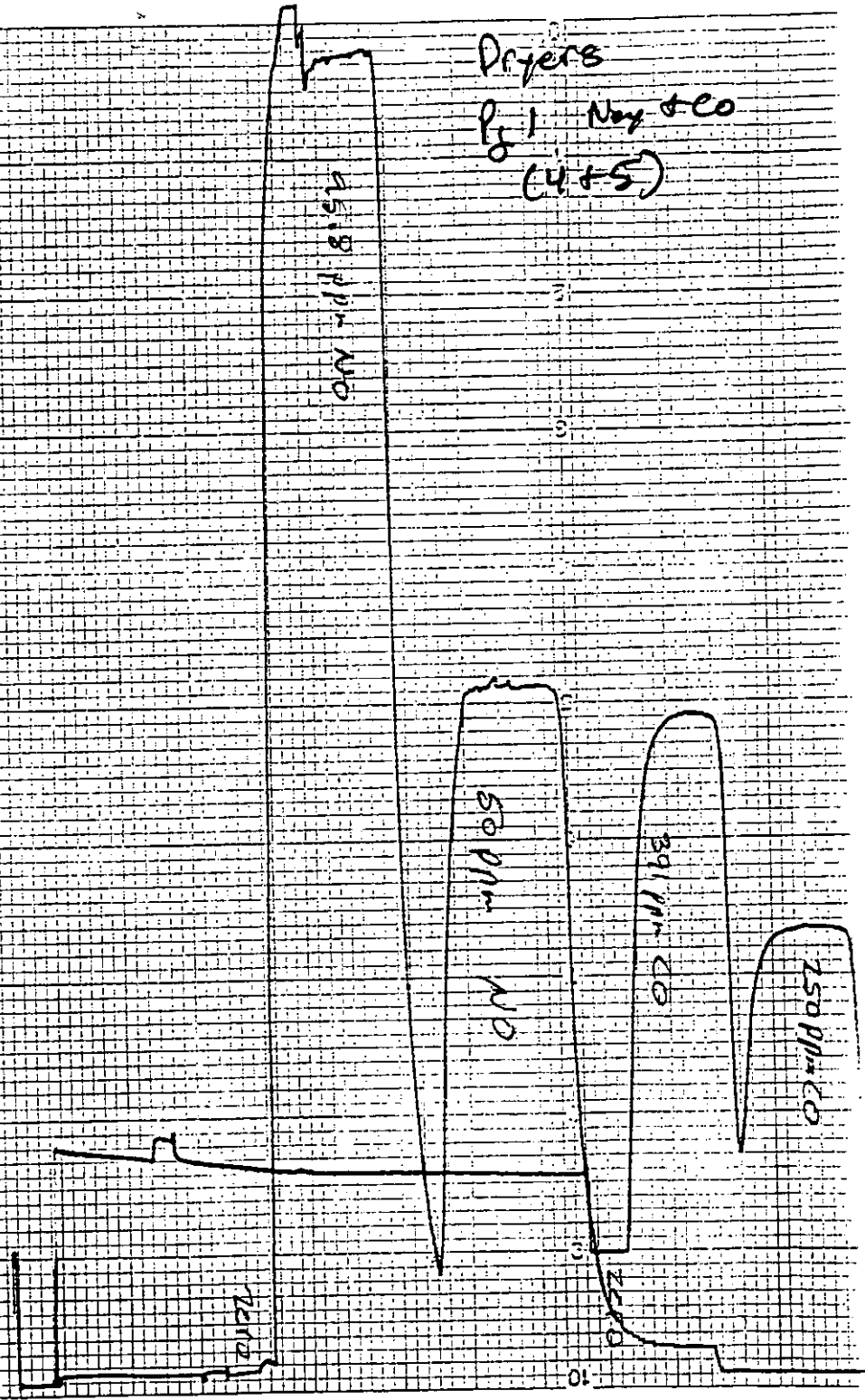
400	0.4	398.0	0.0	0.3
401	0.4	400.0	0.0	0.3
402	0.4	403.0	0.0	0.2
403	0.4	404.0	0.0	0.2
404	0.4	406.0	0.0	-0.1
405	0.4	407.0	0.0	-0.1
406	0.4	408.0	0.0	-0.2
407	0.4	409.0	0.0	-0.4
408	0.4	410.0	0.0	-0.3
409	0.4	410.0	-0.1	-0.5
410	0.4	410.0	0.0	-0.2
411	0.4	409.0	0.0	-0.1
412	0.4	408.0	0.0	0.1
413	0.4	408.0	0.0	0.1
414	0.4	410.0	0.0	0.1
415	0.4	410.0	0.0	0.1
416	0.4	409.0	0.0	0.1
417	0.4	410.0	0.0	0.1
418	0.4	405.0	0.0	0.1
419	0.4	407.0	0.0	0
420	0.4	406.0	0.0	0.1
421	0.4	409.0	0.0	0.1
422	0.4	409.0	0.0	0.1
423	0.4	408.0	0.0	0.1
424	0.4	406.0	0.0	0.1
425	0.4	398.0	0.0	0.1
426	0.4	377.0	0.0	0.1
427	0.3	334.0	0.0	0.1
428	0.3	270.0	0.0	0
429	0.2	209.0	0.0	-0.1
430	0.2	158.0	0.0	-0.1
431	0.1	115.0	0.0	-0.1
432	0.1	84.0	0.1	0.9
433	0.1	61.0	0.6	5.5
434	0.0	45.0	1.1	10.9
435	0.0	35.0	1.6	16.2
436	0.0	29.0	2.1	21.1
437	0.0	25.0	2.6	25.9
438	0.0	22.0	3.0	29.8
439	0.0	20.0	3.3	33.2
440	0.0	18.0	3.8	36.2
441	0.0	16.0	3.9	38.6
442	0.0	15.0	4.1	40.7
443	0.0	14.0	4.3	42.7
444	0.0	13.0	4.4	44.2
445	0.0	12.0	4.6	45.6
446	0.0	12.0	4.6	46.4
447	0.0	11.0	4.6	46.4
448	0.0	11.0	4.6	46.4
449	0.0	10.0	4.7	47.1
450	0.0	10.0	4.7	47.2
451	0.0	10.0	4.7	46.9
452	0.0	9.0	4.7	47
453	0.0	10.0	4.7	47.1
454	0.0	10.0	4.7	46.8
455	0.0	10.0	4.7	46.8
456	0.0	10.0	4.7	46.9
457	0.0	9.0	4.7	47
458	0.0	8.0	4.7	47.1
459	0.0	9.0	4.7	47.2
460	0.0	9.0	4.7	46.8
461	0.0	9.0	4.7	46.9
462	0.0	9.0	4.7	46.8
463	0.0	9.0	4.7	47.1
464	0.0	9.0	4.7	46.9
465	0.0	9.0	4.7	46.9
466	0.0	9.0	4.7	47
467	0.0	9.0	4.7	47
468	0.0	9.0	4.7	47.1
469	0.0	9.0	4.7	47.1
470	0.0	9.0	4.7	47.1
471	0.0	9.0	4.7	47.1
472	0.0	9.0	4.7	47.2
473	0.0	9.0	4.7	47.2
474	0.0	9.0	4.7	46.9
475	0.0	9.0	4.6	46.8
476	0.0	9.0	4.3	42.6
477	0.0	9.0	3.6	36.4
478	0.0	9.0	2.8	28.2
479	0.0	9.0	2.0	20.3
480	0.0	8.0	1.4	13.8
481	0.0	8.0	0.9	9.3
482	0.0	9.0	0.6	6.3
483	0.0	9.0	0.4	4.3

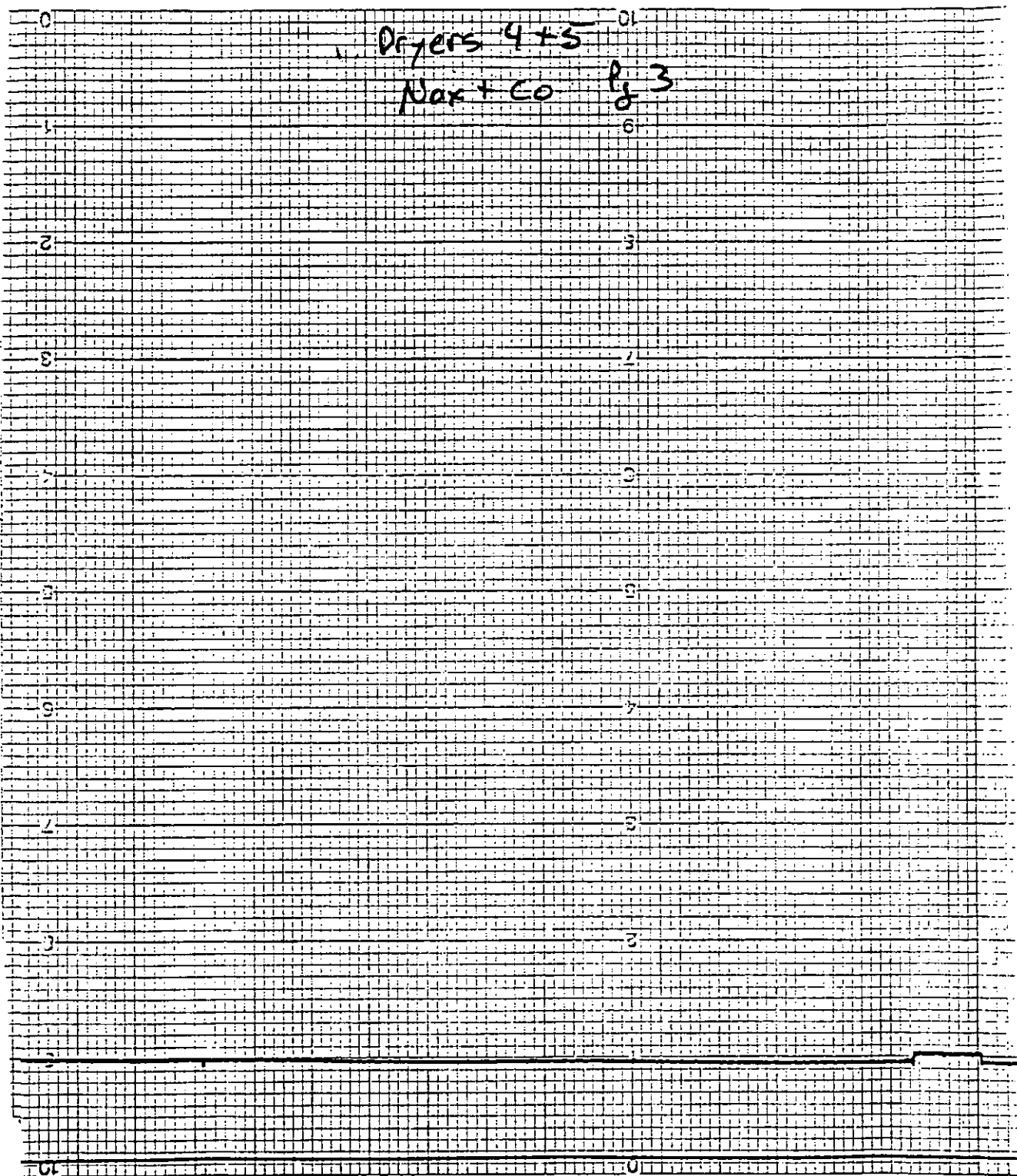
Dryers

Pg 1 Noy & Co
(4+5)

LP Athens Dryers #4 + 5 Rto Inlet

6/20/95





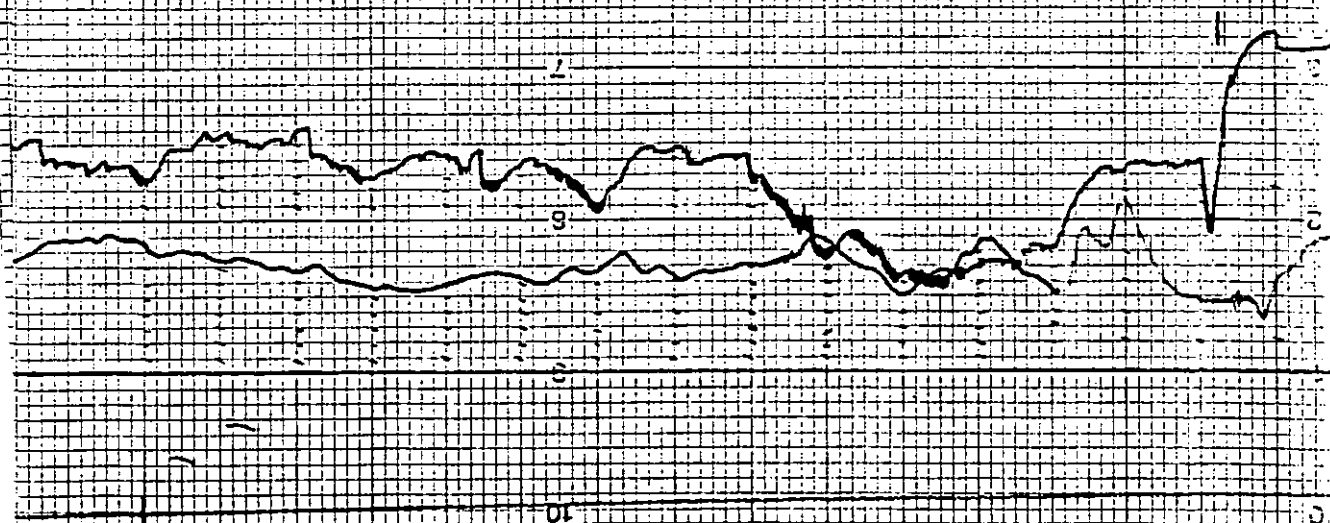
Pryers 4+5
Nox + Co Pg 4

10:50
IN STOCK
STOCK # 4

Dryers 4+5 Nox + Co
P. 5

Start Run #1 10:55 —

1:25 Effect 5

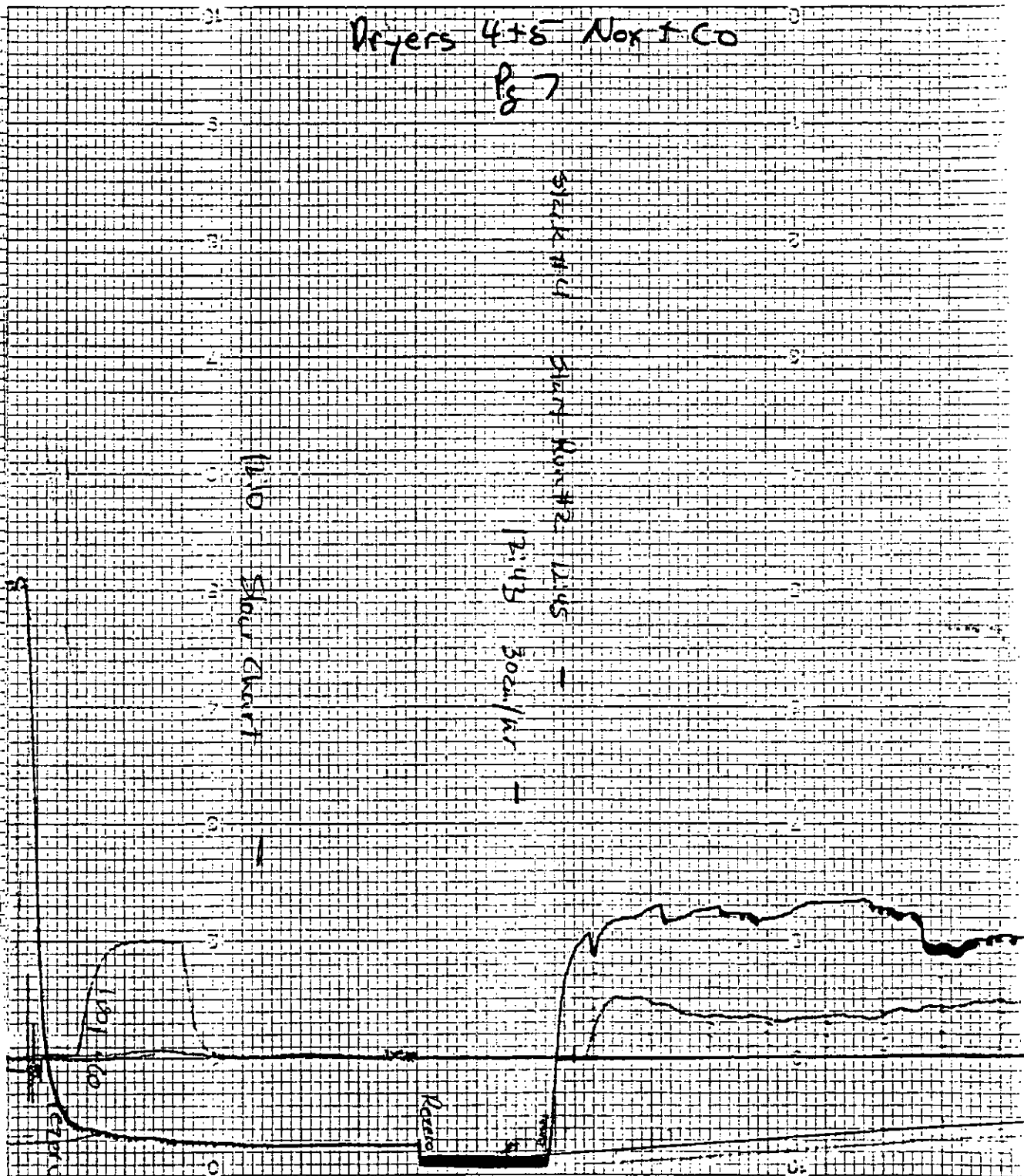


Ayers 4+5 Nov 160
Pg 6

MISS STOP KONT



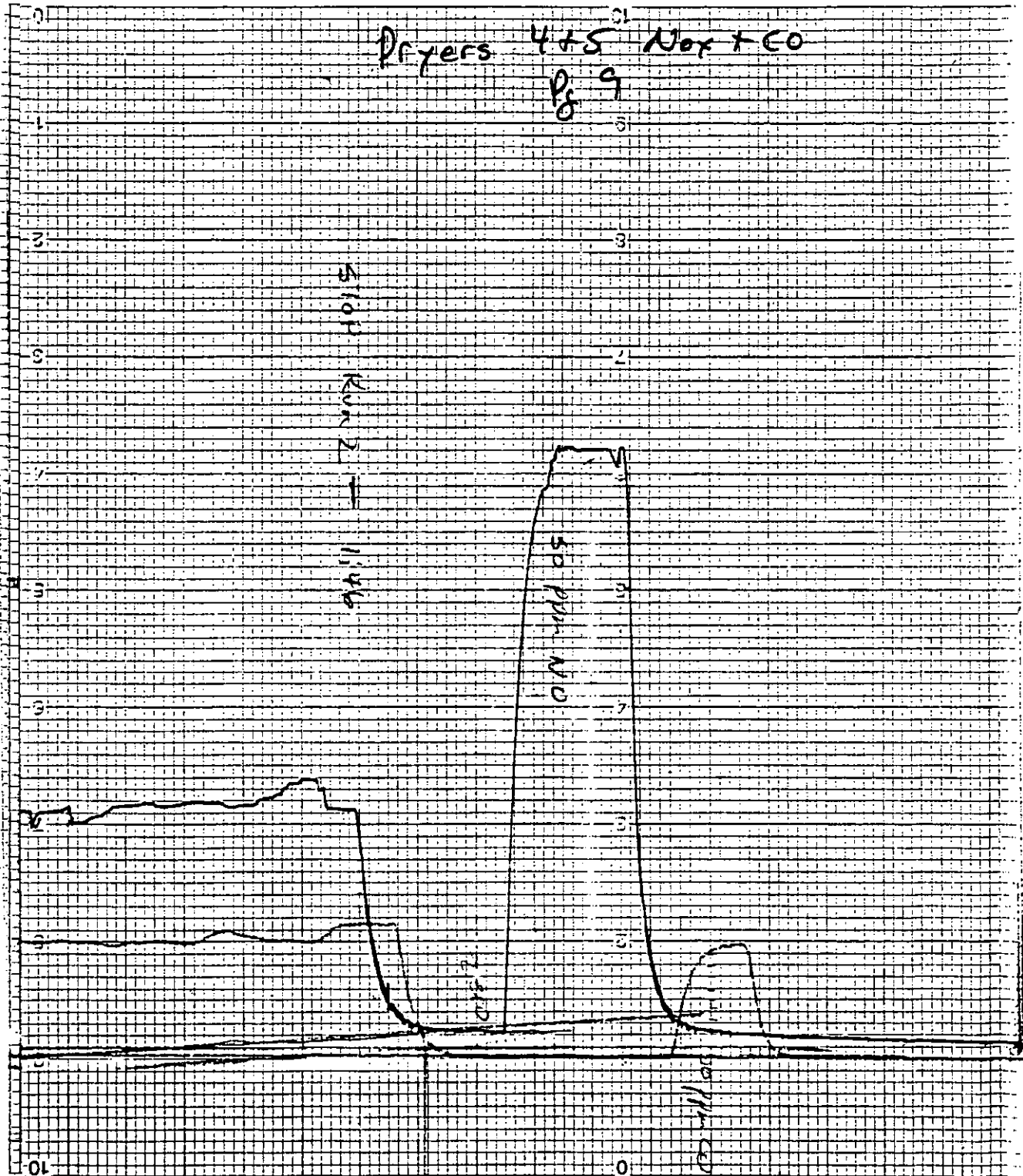
Dryers 4+5 Nox + Co
Pg 7



Dyers 4+5 Nox + Co
Pg 8

Stack 5
1/1/16





Dryers 8+8 Nox + Co
 p 10

SMALL #4 Start Run 13 210

Low Speed 2.38

45.8 ppm NO

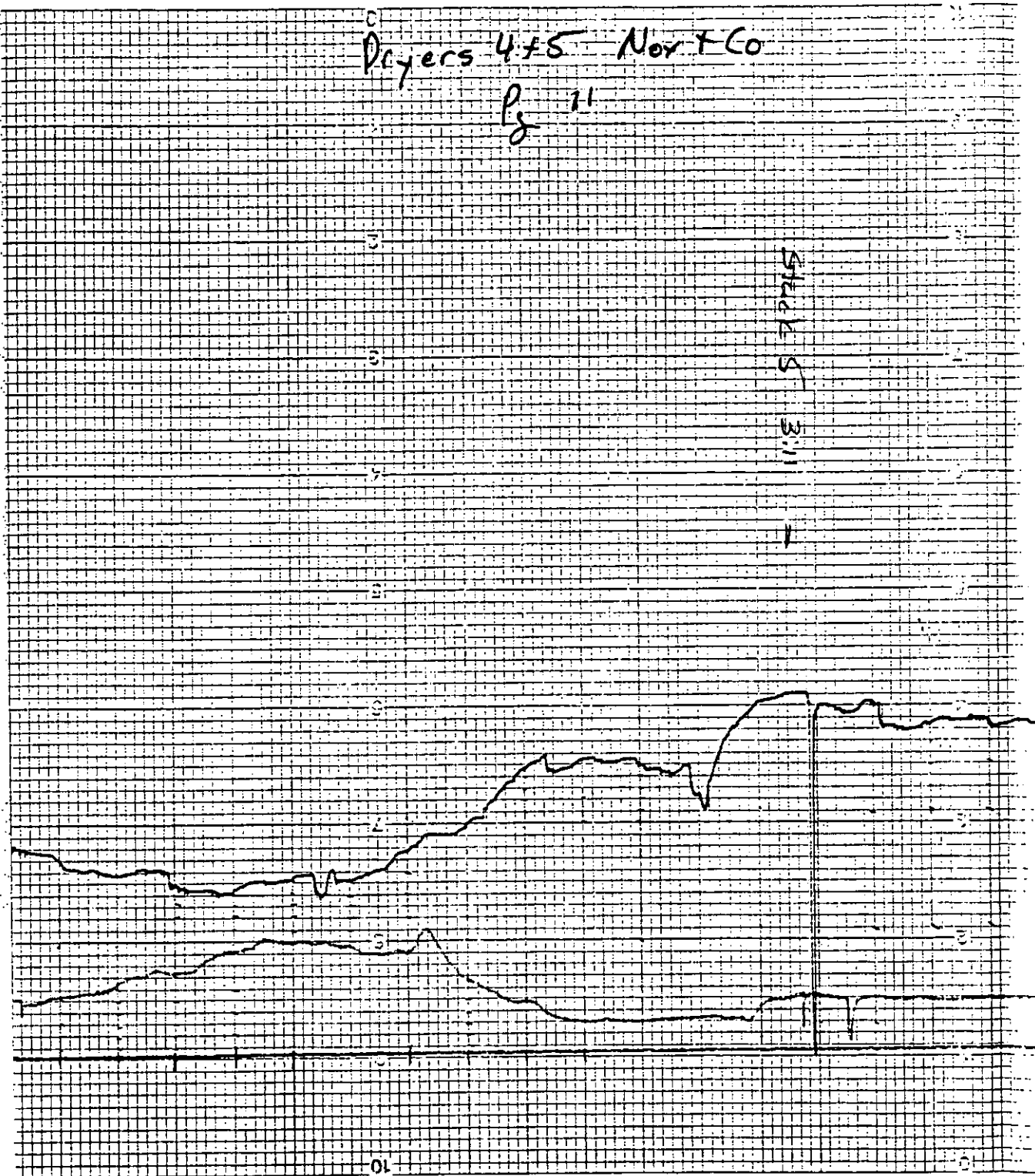
56.8 ppm NO

34.1 ppm CO

Start NOx
 2.458
 2.085

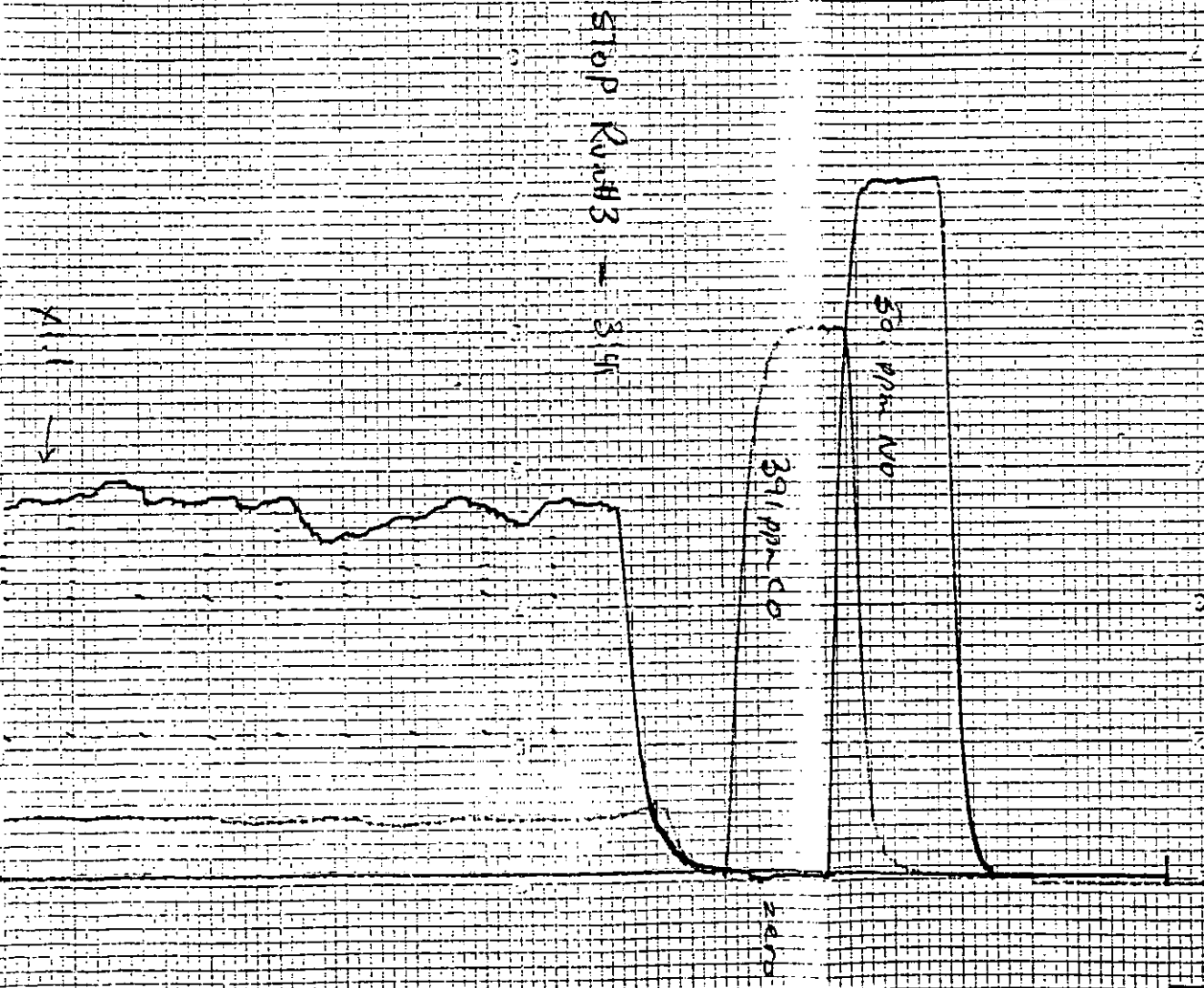
CHART NO. FC-3135

Peters 4+5 Nor + Co
Pg 11



Dryers 4+5 Nor & Co
Pg 12

Dryers 4+5⁰¹ Nor & Co
Pg 13



FILE NAM a:voc1

LOGGING 1

START LOGGING @ #####

LAST SAMPLE @ #####

ACTIVE C MODULE SAMPLE UNITS:	1A Voltage 15 sec Volts	1B Voltage 15 sec Volts	VOC #1 Inlet #2	VOC #2 Inlet #5	2A Voltage 15 sec Volts	VOC #3 Stack #4	2B Voltage 15 sec Volts	VOC #4 Stack #3
1	0.0	3.0	0.1	5.0	0.0	1.0	0.1	5
2	0.5	45.0	0.9	55.0	0.0	1.0	0.0	4
3	0.2	22.0	0.0	4.0	0.0	1.0	0.0	4
4	0.1	7.0	0.0	1.0	0.0	1.0	0.0	4
5	0.4	44.0	0.0	1.0	0.0	1.0	0.0	4
6	0.1	8.0	0.0	1.0	0.0	1.0	0.0	4
7	0.1	7.0	2.1	212.0	0.0	1.0	0.0	4
8	0.0	4.0	2.2	215.0	0.0	1.0	0.0	4
9	10.3	1029.0	2.1	213.0	0.0	1.0	0.0	4
10	9.7	973.0	2.1	211.0	0.0	1.0	0.0	4
11	9.5	953.0	2.2	219.0	0.0	1.0	0.0	4
12	9.2	921.0	2.2	217.0	0.0	2.0	0.0	4
13	8.9	891.0	2.2	220.0	0.0	1.0	0.0	3
14	9.1	907.0	2.2	223.0	0.0	1.0	0.1	9
15	8.9	891.0	2.1	208.0	0.0	1.0	0.1	6
16	8.7	870.0	2.1	209.0	0.0	2.0	0.1	6
17	8.6	862.0	2.1	214.0	2.5	253.0	0.1	6
18	8.6	860.0	2.1	211.0	2.7	273.0	0.1	7
19	8.9	887.0	2.2	216.0	2.8	277.0	0.1	6
20	8.9	892.0	2.1	213.0	2.7	268.0	0.1	6
21	9.0	897.0	2.1	214.0	2.7	268.0	2.4	244
22	9.1	908.0	2.2	221.0	2.4	241.0	2.8	282
23	8.7	873.0	2.3	228.0	2.4	239.0	2.9	293
24	8.9	888.0	2.3	231.0	2.4	237.0	3.0	300
25	8.8	878.0	2.2	224.0	2.4	238.0	3.1	309
26	8.7	873.0	2.2	220.0	2.4	236.0	3.1	313
27	8.7	874.0	2.1	214.0	2.4	235.0	3.0	299
28	8.4	838.0	2.1	211.0	2.3	233.0	2.8	284
29	7.9	786.0	2.1	213.0	2.3	233.0	3.0	295
30	7.8	776.0	2.3	225.0	2.3	234.0	2.9	285
31	7.5	745.0	2.2	224.0	2.4	237.0	2.9	286

Start Run#1
9:05

32	7.5	750.0	2.2	221.0	2.4	236.0	2.9	293
33	7.4	738.0	2.2	222.0	2.4	240.0	2.9	287
34	7.5	745.0	2.3	234.0	2.3	234.0	2.9	293
35	7.8	777.0	2.2	216.0	2.4	235.0	2.8	276
36	7.8	780.0	2.3	228.0	2.4	235.0	2.8	284
37	7.8	783.0	2.3	231.0	2.4	236.0	2.8	283
38	7.8	782.0	2.2	217.0	2.4	240.0	2.8	282
39	7.9	789.0	2.3	233.0	2.3	227.0	2.9	287
40	7.7	773.0	2.2	224.0	0.6	61.0	2.7	272
41	7.9	789.0	2.2	221.0	2.2	216.0	2.8	278
42	7.8	777.0	2.4	236.0	2.2	223.0	2.8	281
43	7.9	794.0	2.2	222.0	2.2	221.0	2.8	284
44	7.8	778.0	2.4	237.0	2.3	228.0	2.8	275
45	7.7	772.0	2.4	239.0	2.3	233.0	2.8	279
46	7.8	778.0	2.3	228.0	2.4	237.0	2.9	287
47	7.7	773.0	2.4	241.0	2.3	229.0	2.9	285
48	7.8	776.0	2.3	234.0	2.4	239.0	2.9	285
49	7.8	782.0	2.3	231.0	2.4	235.0	2.9	292
50	7.6	756.0	2.4	238.0	2.4	235.0	2.9	291
51	7.8	780.0	2.3	231.0	2.3	233.0	2.9	289
52	7.5	745.0	2.2	223.0	2.3	229.0	3.0	296
53	7.5	753.0	2.3	231.0	2.3	227.0	2.9	286
54	7.4	744.0	2.4	241.0	2.3	228.0	2.9	291
55	7.5	751.0	2.3	233.0	2.3	231.0	2.9	289
56	7.4	741.0	2.3	230.0	2.3	233.0	2.8	284
57	7.4	737.0	2.2	224.0	2.3	226.0	2.7	274
58	7.0	698.0	2.3	227.0	2.2	216.0	2.7	273
59	7.4	738.0	2.4	240.0	2.1	212.0	2.9	285
60	7.3	731.0	2.4	236.0	2.3	230.0	2.8	279
61	7.2	723.0	2.3	234.0	2.3	231.0	2.9	285
62	7.3	730.0	2.3	230.0	2.3	227.0	2.8	278
63	5.2	523.0	2.2	222.0	2.3	226.0	2.9	286
64	4.4	435.0	2.3	227.0	2.3	228.0	2.8	283
65	4.4	438.0	2.3	230.0	2.2	222.0	2.9	291
66	4.7	465.0	2.3	234.0	2.1	210.0	2.9	292
67	5.0	495.0	2.4	239.0	2.2	215.0	2.9	287
68	5.5	546.0	2.4	239.0	2.2	224.0	2.9	287
69	5.5	553.0	2.4	239.0	2.2	223.0	3.0	297
70	5.9	585.0	2.4	239.0	2.3	229.0	2.9	294
71	5.8	578.0	2.3	226.0	2.3	229.0	3.0	295
72	6.1	607.0	2.3	228.0	2.3	227.0	3.0	296
73	6.1	605.0	2.3	228.0	2.4	237.0	2.9	290
74	6.1	613.0	2.2	221.0	2.3	233.0	3.0	302
75	6.4	637.0	2.3	226.0	2.3	234.0	2.9	293
76	6.2	624.0	2.2	224.0	2.4	238.0	2.9	290
77	6.4	639.0	2.3	226.0	2.3	225.0	3.0	297
78	6.3	629.0	2.2	223.0	2.3	230.0	3.0	299
79	6.2	621.0	2.3	232.0	2.3	229.0	3.0	301
80	6.3	627.0	2.3	227.0	2.3	231.0	2.9	290
81	6.4	636.0	2.2	224.0	2.3	234.0	2.9	286
82	6.2	615.0	2.2	221.0	2.4	236.0	2.9	291
83	6.3	629.0	2.2	224.0	2.3	234.0	2.9	288
84	6.3	628.0	2.3	227.0	2.3	234.0	2.9	291
85	5.7	565.0	2.3	232.0	2.4	236.0	3.0	299
86	5.9	585.0	2.3	228.0	2.4	239.0	2.9	289
87	6.1	612.0	2.3	227.0	2.3	233.0	2.9	289
88	6.3	625.0	2.3	229.0	2.3	234.0	2.9	291
89	6.2	618.0	2.3	229.0	0.2	16.0	2.9	293
90	6.2	618.0	2.3	230.0	2.3	227.0	2.9	290

Run#1 Averages

Stack#2 602
 Stack#3 233.1
 Stack#4 239.4
 Stack#5 304.45

91	5.9	592.0	2.3	231.0	2.2	218.0	2.8	279
92	6.1	612.0	2.3	227.0	2.2	221.0	2.8	278
93	6.1	608.0	2.2	222.0	2.3	227.0	2.8	282
94	6.2	618.0	2.3	229.0	2.3	230.0	2.8	281
95	6.3	627.0	2.4	236.0	2.3	230.0	2.8	283
96	6.3	625.0	2.3	233.0	2.3	232.0	2.9	291
97	6.4	638.0	2.4	236.0	2.4	235.0	2.9	290
98	6.1	611.0	2.3	234.0	2.3	232.0	2.9	288
99	6.2	621.0	2.4	238.0	2.4	242.0	3.0	301
100	6.4	637.0	2.3	230.0	2.4	243.0	2.8	283
101	5.8	581.0	2.3	233.0	2.4	237.0	2.9	286
102	6.1	606.0	2.3	232.0	2.4	238.0	2.9	292
103	6.1	611.0	2.4	236.0	2.3	234.0	2.9	293
104	6.3	631.0	2.4	236.0	2.4	239.0	2.8	279
105	6.1	606.0	2.4	238.0	2.4	239.0	2.9	291
106	6.1	612.0	2.3	231.0	2.5	245.0	3.0	296
107	6.2	617.0	2.2	220.0	2.4	236.0	2.9	294
108	6.1	605.0	2.3	226.0	2.3	229.0	3.1	305
109	6.2	621.0	2.2	221.0	2.3	233.0	3.0	299
110	6.1	606.0	2.2	223.0	2.3	228.0	2.9	287
111	6.1	614.0	2.3	227.0	2.3	234.0	2.9	289
112	6.0	596.0	2.3	226.0	2.4	235.0	3.1	305
113	6.0	602.0	2.4	239.0	2.4	237.0	3.0	300
114	6.2	617.0	2.3	228.0	2.4	237.0	2.9	291
115	6.1	612.0	2.3	229.0	2.4	240.0	2.9	294
116	6.3	631.0	2.3	232.0	2.4	244.0	2.9	289
117	6.1	607.0	2.4	236.0	2.4	238.0	2.9	287
118	6.2	617.0	2.3	233.0	2.4	244.0	3.0	300
119	6.3	626.0	2.2	222.0	2.5	248.0	2.9	292
120	6.3	633.0	2.2	215.0	2.5	248.0	2.9	294
121	6.2	621.0	2.3	226.0	2.5	245.0	3.1	308
122	6.3	625.0	2.3	229.0	2.5	254.0	3.0	298
123	6.4	637.0	2.2	220.0	2.3	234.0	2.9	288
124	6.3	630.0	2.3	226.0	2.4	236.0	3.0	300
125	6.2	617.0	2.3	230.0	2.3	232.0	3.0	295
126	6.2	617.0	2.2	224.0	2.4	244.0	2.9	286
127	6.4	643.0	2.2	215.0	2.4	243.0	3.0	301
128	6.5	646.0	2.3	226.0	2.5	247.0	2.9	285
129	6.6	655.0	2.2	223.0	2.4	238.0	2.9	289
130	6.6	656.0	2.2	215.0	2.4	240.0	2.9	286
131	6.5	653.0	2.3	227.0	2.4	243.0	2.9	291
132	6.4	642.0	2.3	231.0	2.4	235.0	3.0	298
133	6.6	658.0	2.3	230.0	2.4	242.0	3.0	301
134	6.4	639.0	2.3	234.0	2.4	240.0	3.0	300
135	6.6	656.0	2.3	226.0	2.3	234.0	3.0	296
136	6.5	647.0	2.2	223.0	2.4	239.0	2.8	284
137	6.6	661.0	2.2	221.0	2.4	243.0	3.1	305
138	6.5	650.0	2.3	226.0	2.4	244.0	2.9	292
139	6.6	646.0	2.2	224.0	2.4	236.0	3.1	307
140	6.4	638.0	2.2	224.0	2.4	235.0	2.9	289
141	6.5	647.0	2.2	223.0	2.5	246.0	3.1	313
142	6.6	655.0	2.3	230.0	2.4	240.0	3.0	301
143	6.7	667.0	2.3	233.0	2.4	244.0	3.1	308
144	6.6	660.0	2.3	232.0	2.4	239.0	3.0	304
145	6.3	631.0	2.2	220.0	2.4	244.0	3.0	299
146	6.7	667.0	2.3	225.0	2.4	239.0	3.1	309
147	6.6	655.0	2.3	230.0	2.5	249.0	3.1	306
148	6.6	662.0	2.3	230.0	2.6	257.0	3.0	304
149	6.7	669.0	2.2	222.0	2.5	253.0	3.1	309
150	6.6	655.0	2.2	222.0	2.6	256.0	3.1	307
151	6.6	659.0	2.4	237.0	2.5	249.0	3.2	315
152	6.8	680.0	2.4	237.0	2.5	253.0	3.1	312
153	6.6	658.0	2.3	232.0	2.5	254.0	3.1	305
154	6.6	661.0	2.3	232.0	2.5	252.0	3.1	313
155	6.5	648.0	2.3	228.0	2.5	250.0	3.1	310
156	6.5	652.0	2.3	229.0	2.6	248.0	3.1	310
157	6.7	672.0	2.2	224.0	2.4	243.0	3.2	321
158	6.5	646.0	2.3	229.0	2.5	253.0	3.2	316
159	6.6	657.0	2.4	241.0	2.0	200.0	3.1	314
160	6.7	673.0	2.3	227.0	2.5	247.0	3.2	319
161	6.7	672.0	2.3	228.0	2.5	254.0	3.3	328
162	6.6	657.0	2.4	238.0	2.4	244.0	3.1	305
163	6.8	675.0	2.4	243.0	2.4	244.0	3.1	309
164	6.6	663.0	2.5	245.0	2.4	244.0	3.1	311
165	6.9	685.0	2.5	247.0	2.4	242.0	3.1	310
166	6.7	667.0	2.4	240.0	2.4	239.0	3.1	311
167	6.6	663.0	2.4	241.0	2.5	245.0	3.1	310
168	6.5	654.0	2.5	246.0	2.5	254.0	3.2	322
169	6.7	667.0	2.5	248.0	2.5	246.0	3.1	313
170	6.6	663.0	2.4	243.0	2.5	250.0	3.1	309
171	6.6	663.0	2.5	247.0	2.5	247.0	3.2	324
172	6.6	662.0	2.5	246.0	2.5	246.0	3.1	313
173	6.7	667.0	2.5	245.0	2.4	237.0	3.3	329
174	6.7	674.0	2.4	241.0	2.1	212.0	3.2	323
175	6.5	653.0	2.4	235.0	2.3	227.0	3.2	319
176	6.7	670.0	2.4	236.0	2.4	241.0	3.3	330
177	6.6	663.0	2.4	237.0	2.5	248.0	3.3	325
178	6.8	683.0	2.5	250.0	2.5	247.0	3.3	330
179	6.8	676.0	2.5	250.0	2.5	245.0	3.3	326
180	6.7	666.0	2.5	251.0	2.5	252.0	3.3	330
181	6.8	677.0	2.3	230.0	2.6	254.0	3.3	327
182	6.7	672.0	2.3	228.0	2.6	254.0	3.3	329
183	6.8	683.0	2.4	241.0	2.6	257.0	3.4	339
184	6.7	665.0	2.4	237.0	2.5	250.0	3.4	339
185	6.7	674.0	2.4	243.0	2.5	252.0	3.3	328
186	6.5	654.0	2.4	244.0	2.5	253.0	3.4	335
187	6.8	680.0	2.4	235.0	2.6	256.0	3.4	335
188	7.0	696.0	2.4	243.0	2.6	258.0	3.4	336
189	6.8	681.0	2.4	242.0	2.6	262.0	3.3	326
190	6.9	691.0	2.3	228.0	2.6	248.0	3.4	336
191	6.8	682.0	2.3	231.0	2.6	256.0	3.5	345
192	6.9	686.0	2.3	232.0	2.6	260.0	3.4	344
193	6.7	671.0	2.3	231.0	2.6	255.0	3.5	346

194	6.8	678.0	2.4	243.0	2.7	266.0	3.3	328
195	6.8	676.0	2.4	243.0	2.1	208.0	3.4	343
196	6.7	668.0	2.5	251.0	2.4	237.0	3.3	330
197	6.7	668.0	2.5	249.0	2.5	248.0	3.3	327
198	6.8	677.0	2.4	238.0	2.5	251.0	3.3	330
199	6.7	671.0	2.4	239.0	2.5	252.0	3.4	337
200	6.7	666.0	2.4	235.0	2.5	251.0	3.4	339
201	6.9	685.0	2.4	235.0	2.6	261.0	3.4	338
202	6.5	652.0	2.4	243.0	2.5	253.0	3.5	347
203	6.5	647.0	2.5	248.0	2.5	246.0	3.3	333
204	6.8	681.0	2.5	245.0	2.4	242.0	3.4	336
205	7.0	699.0	2.5	250.0	2.4	240.0	3.4	344
206	6.8	678.0	2.5	252.0	2.5	245.0	3.4	336
207	6.8	675.0	2.5	245.0	2.5	245.0	3.4	340
208	6.6	664.0	2.5	252.0	2.5	248.0	3.4	342
209	6.9	687.0	2.5	246.0	2.4	241.0	3.4	338
210	6.8	676.0	2.5	246.0	2.4	239.0	3.4	342
211	6.8	681.0	2.4	236.0	2.3	234.0	3.5	345
212	6.8	676.0	2.3	232.0	2.4	236.0	3.4	341
213	6.9	688.0	2.3	234.0	2.3	233.0	3.4	343
214	6.9	688.0	2.3	229.0	2.5	246.0	3.4	340
215	6.7	673.0	2.3	228.0	2.4	241.0	3.4	340
216	7.1	706.0	2.3	230.0	2.4	244.0	3.4	339
217	6.9	687.0	2.4	239.0	2.4	244.0	3.4	342
218	6.6	655.0	2.5	245.0	2.5	245.0	3.4	342
219	6.9	691.0	2.3	230.0	2.5	246.0	3.3	332
220	6.7	673.0	2.4	237.0	2.4	243.0	3.2	324
221	6.8	680.0	2.4	236.0	2.5	246.0	3.2	316
222	7.0	698.0	2.4	236.0	2.4	238.0	3.1	314
223	6.8	678.0	2.5	249.0	2.3	233.0	3.2	320
224	6.9	692.0	2.5	248.0	2.3	233.0	3.3	326
225	6.9	685.0	2.5	251.0	2.4	237.0	3.2	316
226	6.8	683.0	2.4	242.0	2.4	244.0	3.3	327
227	6.8	681.0	2.3	230.0	2.5	248.0	3.1	306
228	6.8	680.0	2.4	236.0	2.5	251.0	3.2	317
229	6.8	678.0	2.5	248.0	2.6	258.0	3.1	311
230	6.8	679.0	2.4	244.0	2.4	236.0	3.1	311
231	6.8	675.0	2.3	232.0	2.4	240.0	3.1	314
232	6.7	669.0	2.4	235.0	2.4	236.0	3.2	317
233	6.8	682.0	2.4	243.0	2.4	242.0	3.1	307
234	6.6	660.0	2.5	245.0	2.4	243.0	3.1	313
235	7.0	699.0	2.3	233.0	2.4	237.0	3.1	305
236	6.8	679.0	2.3	232.0	2.4	240.0	3.1	309
237	6.6	660.0	2.3	233.0	2.4	237.0	3.0	297
238	6.7	669.0	2.3	230.0	2.4	238.0	3.1	310
239	6.5	648.0	2.4	243.0	2.4	235.0	3.0	301
240	6.8	679.0	2.4	235.0	2.4	238.0	3.0	298
241	6.7	674.0	2.4	241.0	2.4	244.0	3.0	295
242	6.6	662.0	2.4	240.0	2.5	245.0	3.0	304
243	6.6	657.0	2.4	244.0	2.5	248.0	3.1	305
244	6.6	657.0	2.5	247.0	2.5	249.0	3.1	308
245	6.5	647.0	2.4	244.0	2.4	242.0	3.0	296
246	6.7	669.0	2.5	246.0	2.2	215.0	3.0	295
247	6.6	661.0	2.3	227.0	2.0	201.0	3.1	307
248	6.8	675.0	2.3	234.0	2.4	244.0	3.0	300
249	6.8	680.0	2.3	232.0	2.6	263.0	3.0	296
250	6.5	651.0	2.2	221.0	2.6	259.0	3.0	301
251	6.6	664.0	2.2	223.0	2.6	263.0	3.0	298
252	6.6	662.0	2.2	222.0	2.7	268.0	3.0	301
253	6.6	660.0	2.3	226.0	2.7	265.0	2.9	293
254	6.6	662.0	2.3	233.0	2.6	264.0	3.0	296
255	6.7	672.0	2.3	228.0	2.6	258.0	2.9	289
256	6.7	665.0	2.3	227.0	2.6	260.0	2.9	293
257	6.9	692.0	2.3	231.0	2.7	269.0	2.9	293
258	7.0	696.0	2.2	224.0	2.6	264.0	3.0	300
259	6.7	668.0	2.3	226.0	2.7	273.0	3.0	297
260	6.7	665.0	2.3	232.0	2.6	255.0	3.0	295
261	6.5	647.0	2.2	219.0	2.5	254.0	3.0	296
262	6.5	651.0	2.3	226.0	2.6	261.0	3.0	298
263	6.5	652.0	2.4	241.0	2.5	252.0	3.0	301
264	6.5	651.0	2.4	238.0	2.7	265.0	2.9	293
265	6.5	652.0	2.4	235.0	2.7	268.0	3.0	295
266	6.6	658.0	2.4	241.0	2.7	266.0	2.9	290
267	6.7	671.0	2.4	235.0	2.6	260.0	3.0	295
268	6.6	657.0	2.3	234.0	2.6	261.0	2.9	290
269	6.6	659.0	2.4	239.0	2.7	267.0	2.9	288
270	6.6	657.0	2.4	238.0	2.6	260.0	2.9	293
271	6.4	639.0	2.4	238.0	2.5	254.0	2.9	288

Stop Run #1	Average	Stack #2	Stack #5	Stack #4	Stack #3			
10:05		662.0	233.1	239.4	304.45			
272	6.1	613.0	2.3	232.0	2.5	250.0	2.9	285
273	6.5	647.0	2.4	239.0	2.5	246.0	2.8	284
274	6.5	651.0	2.5	245.0	1.4	137.0	2.9	289
275	6.4	643.0	2.4	239.0	0.3	26.0	2.8	283
276	6.2	622.0	2.4	236.0	0.2	17.0	2.9	288
277	6.3	633.0	2.4	236.0	0.1	14.0	0.4	44
278	0.3	33.0	2.4	244.0	0.1	12.0	0.4	36
279	0.2	24.0	2.5	246.0	0.1	9.0	0.3	29
280	0.2	20.0	0.3	26.0	0.1	6.0	0.3	27
281	0.2	19.0	0.2	17.0	0.1	6.0	0.3	25
282	0.2	18.0	0.1	13.0	0.1	7.0	0.2	22
283	0.2	17.0	0.2	21.0	0.1	7.0	0.2	21
284	0.2	16.0	0.1	13.0	0.1	6.0	0.2	21
285	0.2	16.0	0.1	12.0	0.1	6.0	0.2	20
286	0.2	16.0	0.1	14.0	0.1	5.0	0.2	19
287	0.2	15.0	1.0	95.0	0.1	5.0	0.2	20
288	0.5	46.0	0.9	89.0	0.1	5.0	0.2	19
289	0.1	13.0	0.8	82.0	0.1	5.0	0.2	18
290	0.1	13.0	0.2	16.0	0.1	5.0	0.2	19
291	0.1	12.0	0.2	16.0	0.0	4.0	0.2	20
292	0.1	12.0	3.2	318.0	0.1	5.0	0.2	19

VOC1

293	0.1	12.0	0.1	14.0	0.1	5.0	0.2	19
294	0.1	12.0	0.1	10.0	0.1	5.0	0.2	18
295	0.1	11.0	0.1	6.0	0.1	5.0	0.2	18
296	0.1	12.0	0.0	2.0	0.1	5.0	0.2	19
297	0.1	11.0	0.1	6.0	0.1	5.0	0.2	17
298	0.1	12.0	0.1	6.0	0.1	5.0	0.2	16
299	0.1	12.0	0.0	1.0	0.1	5.0	0.2	16
300	0.1	7.0	0.1	9.0	0.1	5.0	0.2	16
301	0.1	6.0	0.1	6.0	0.1	5.0	0.2	15
302	0.1	7.0	0.0	3.0	0.0	4.0	0.2	15
303	6.0	504.0	0.0	-1.0	0.0	4.0	0.2	15
304	5.1	505.0	0.0	0.0	0.1	5.0	0.1	14
305	0.1	13.0	0.1	6.0	0.1	5.0	0.1	14
306	0.1	12.0	0.2	15.0	0.1	5.0	0.1	14
307	0.1	11.0	0.1	8.0	0.0	4.0	0.1	7
308	0.1	12.0	0.1	9.0	0.0	4.0	0.1	5
309	0.1	11.0	0.0	2.0	0.0	4.0	0.1	5
310	0.1	11.0	0.0	-2.0	0.1	5.0	2.2	223
311	0.1	11.0	0.1	8.0	0.1	5.0	4.8	482
312	0.1	10.0	0.0	4.0	0.1	5.0	4.9	489
313	0.1	11.0	0.0	3.0	0.1	5.0	4.9	487
314	0.1	11.0	0.0	-3.0	0.1	5.0	0.5	46
315	0.1	11.0	0.0	-1.0	0.1	5.0	0.1	14
316	0.1	11.0	0.0	2.0	0.0	3.0	0.1	13
317	0.1	11.0	0.0	2.0	0.0	2.0	0.1	13
318	0.1	10.0	0.0	0.0	0.0	3.0	0.1	13
319	0.1	10.0	0.0	2.0	0.0	3.0	0.1	12
320	0.1	10.0	0.0	0.0	0.1	5.0	0.1	12
321	0.1	10.0	0.1	9.0	4.6	458.0	0.1	12
322	0.1	10.0	0.2	15.0	5.0	501.0	0.1	12
323	0.1	9.0	0.1	6.0	4.9	487.0	0.1	12
324	0.1	10.0	0.0	2.0	0.2	15.0	0.1	12
325	0.1	10.0	0.0	-2.0	0.1	5.0	0.1	12
326	0.3	28.0	0.1	12.0	0.0	4.0	0.1	12
327	0.1	10.0	0.0	2.0	0.0	3.0	0.1	12
328	0.1	10.0	0.0	-4.0	0.0	3.0	0.1	11
329	0.1	9.0	-0.1	-5.0	0.0	4.0	0.1	11
330	0.1	9.0	0.1	11.0	0.0	4.0	0.1	11
331	0.1	8.0	4.8	484.0	0.0	3.0	0.1	11
332	0.1	9.0	4.9	487.0	0.0	2.0	0.1	11
333	0.1	9.0	4.8	477.0	0.0	3.0	0.1	11
334	0.1	9.0	1.0	96.0	0.0	3.0	0.1	11
335	0.1	9.0	0.2	21.0	0.0	3.0	0.1	11
336	0.1	9.0	0.2	18.0	0.0	3.0	0.1	11
337	0.1	9.0	0.2	17.0	0.0	3.0	0.1	11
338	0.1	8.0	0.2	16.0	0.0	2.0	0.1	11
339	0.1	8.0	0.1	5.0	0.0	2.0	0.1	11
340	0.1	9.0	0.1	12.0	0.0	2.0	0.1	11
341	0.1	8.0	0.1	11.0	0.0	3.0	0.1	11
342	0.1	14.0	0.1	5.0	0.0	2.0	0.1	11
343	0.7	74.0	-0.1	-7.0	0.0	3.0	0.1	11
344	0.1	8.0	0.0	-3.0	0.0	3.0	0.1	10
345	0.1	8.0	-0.1	-7.0	0.0	2.0	0.1	10
346	0.1	8.0	0.0	-4.0	0.0	3.0	0.1	10
347	0.1	8.0	0.1	13.0	0.0	3.0	0.1	10
348	0.1	8.0	0.1	10.0	0.0	3.0	0.1	10
349	0.1	9.0	0.2	15.0	0.0	3.0	0.1	10
350	0.1	8.0	0.2	17.0	0.0	2.0	0.1	10
351	0.1	8.0	0.1	9.0	0.0	2.0	0.1	10
352	0.1	7.0	0.1	11.0	0.0	2.0	0.1	10
353	0.1	7.0	0.0	4.0	0.0	2.0	0.1	10
354	0.1	7.0	0.0	-4.0	0.0	3.0	0.1	10
355	0.1	7.0	0.0	3.0	0.0	3.0	0.1	10
356	0.1	7.0	0.0	-4.0	0.0	2.0	0.1	10
357	0.1	10.0	0.0	-4.0	0.0	3.0	0.1	9
358	0.1	8.0	-0.1	-5.0	0.0	3.0	0.1	9
359	0.1	8.0	0.0	0.0	0.0	3.0	0.1	9
360	0.1	13.0	0.0	-4.0	0.0	3.0	0.1	9
361	0.1	7.0	0.0	-4.0	0.0	1.0	0.1	9
362	0.1	7.0	-0.1	-5.0	0.0	1.0	0.1	9
363	0.1	7.0	0.1	8.0	0.0	3.0	0.1	9
364	0.1	7.0	0.0	3.0	0.0	3.0	0.1	9
365	0.1	8.0	0.1	7.0	0.0	3.0	0.1	9
366	0.1	8.0	0.1	12.0	0.0	2.0	0.1	9
367	0.1	8.0	0.2	15.0	0.0	2.0	0.1	9
368	0.1	7.0	0.2	16.0	0.0	1.0	0.1	9

FILE NAM s:\voc2

LOGGING 1

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C MODULE SAMPLE UNITS:	1A Voltage 15 sec Volts	VOC #1 Stack #2	1B Voltage 15 sec Volts	VOC #2 Stack #5	2A Voltage 15 sec Volts	VOC #3 Stack #4	2B Voltage 15 sec Volts	VOC #4 Stack #3
1	0.1	5.0	0.2	15.0	0.0	1.0	0.1	7
2	0.1	5.0	0.2	15.0	0.0	2.0	0.1	7
3	0.1	5.0	0.2	18.0	0.0	1.0	0.1	7
4	0.1	5.0	0.1	14.0	0.0	1.0	0.1	7
5	0.1	5.0	2.4	238.0	0.0	1.0	0.1	7
6	0.1	5.0	2.5	252.0	0.0	2.0	0.1	8
7	0.1	5.0	2.7	265.0	0.0	1.0	0.1	7
8	0.1	5.0	2.6	264.0	0.0	1.0	0.1	6
9	0.1	5.0	2.7	266.0	0.0	1.0	0.1	7
10	0.1	5.0	2.7	265.0	0.0	1.0	0.1	7
11	0.1	5.0	2.6	261.0	0.0	1.0	0.1	9
12	0.1	5.0	2.4	244.0	0.0	1.0	2.1	213
13	0.1	5.0	2.4	242.0	0.0	1.0	2.0	198
14	0.1	5.0	2.5	245.0	0.1	5.0	2.1	209
15	0.1	5.0	2.5	247.0	0.0	4.0	2.0	204
16	0.1	5.0	2.6	263.0	3.3	331.0	2.0	201
17	0.1	5.0	0.3	34.0	3.6	347.0	2.0	202
18	7.5	748.0	0.2	19.0	3.6	348.0	1.9	193
19	7.1	712.0	0.2	20.0	3.5	351.0	1.9	188
20	6.9	688.0	0.2	20.0	3.5	354.0	1.8	180
21	6.6	657.0	0.2	18.0	3.5	348.0	1.8	178
22	6.4	641.0	0.1	12.0	3.4	342.0	1.7	169
23	5.9	589.0	0.1	8.0	3.1	314.0	1.7	173
24	6.2	623.0	0.0	4.0	3.1	310.0	1.8	177
25	6.2	618.0	10.5	1047.0	3.1	309.0	1.7	174
26	6.0	601.0	9.4	942.0	3.0	303.0	1.8	178
27	5.8	580.0	9.2	920.0	3.1	308.0	1.7	171
28	5.6	564.0	8.8	879.0	3.1	306.0	1.8	178
29	5.3	532.0	8.3	832.0	3.1	307.0	1.7	170
30	5.3	534.0	8.0	798.0	3.1	312.0	1.6	162
31	5.0	502.0	8.1	807.0	3.2	319.0	1.7	168
32	4.8	482.0	7.9	788.0	3.2	316.0	1.4	143
33	4.6	460.0	7.8	777.0	3.1	313.0	1.3	128

Start Run#2
10:55

34	4.1	414.0	7.6	758.0	3.1	311.0	1.0	102
35	3.7	373.0	8.0	804.0	3.0	304.0	1.0	100
36	3.6	360.0	8.1	812.0	3.0	301.0	1.0	101
37	3.7	368.0	8.1	814.0	3.1	311.0	0.9	91
38	3.5	350.0	8.2	821.0	3.0	304.0	0.9	92
39	3.3	330.0	7.9	784.0	3.0	299.0	0.9	88
40	3.2	322.0	8.0	799.0	2.9	293.0	0.9	89
41	3.1	307.0	8.1	809.0	2.9	292.0	0.9	85
42	2.9	293.0	8.1	813.0	2.9	288.0	0.8	79
43	2.9	287.0	8.5	847.0	2.9	286.0	0.8	78
44	2.7	273.0	8.6	855.0	2.9	287.0	0.7	73
45	2.7	265.0	8.4	838.0	2.8	283.0	0.7	73
46	2.5	250.0	8.4	842.0	2.8	281.0	0.7	71
47	2.3	234.0	8.7	867.0	2.8	283.0	0.7	67
48	2.3	228.0	8.9	885.0	2.8	278.0	0.2	21
49	2.2	220.0	8.9	891.0	2.4	243.0	0.2	16
50	2.1	208.0	9.2	920.0	2.5	248.0	0.1	12
51	2.0	196.0	8.9	894.0	2.5	247.0	0.1	12
52	2.0	196.0	9.0	903.0	2.7	265.0	0.1	12
53	1.9	187.0	8.9	891.0	2.8	277.0	0.1	12
54	1.8	180.0	8.6	856.0	0.2	248.0	0.1	13
55	1.9	196.0	8.0	804.0	2.5	250.0	0.1	12
56	1.8	183.0	8.7	868.0	2.5	244.0	0.1	11
57	1.8	181.0	8.5	853.0	2.4	260.0	0.1	12
58	1.8	179.0	8.5	852.0	2.6	246.0	0.1	12
59	1.8	183.0	8.0	795.0	2.5	238.0	0.1	12
60	1.8	183.0	8.6	859.0	2.4	251.0	0.1	12
61	1.8	181.0	8.6	859.0	2.5	238.0	0.1	12
62	1.7	174.0	8.6	857.0	2.4	239.0	0.1	12
63	1.8	178.0	8.8	883.0	2.4	239.0	0.1	11
64	1.7	174.0	8.8	882.0	2.4	240.0	0.1	12
65	1.8	175.0	9.1	911.0	2.4	240.0	0.1	11
66	1.8	176.0	9.5	945.0	2.4	243.0	0.1	12
67	1.7	174.0	9.4	937.0	2.4	238.0	0.1	11
68	1.8	178.0	9.4	939.0	2.4	215.0	0.1	11
69	1.8	175.0	9.2	923.0	1.6	312.0	0.1	12
70	1.8	175.0	9.3	927.0	0.2	318.0	0.1	12
71	1.8	175.0	8.9	885.0	0.1	312.0	0.1	12
72	1.8	176.0	9.2	919.0	0.1	293.0	0.1	12
73	1.8	178.0	9.3	932.0	0.1	287.0	0.1	12
74	1.8	177.0	9.2	921.0	0.1	281.0	0.1	13
75	1.7	174.0	9.0	896.0	0.1	274.0	0.1	12
76	1.7	174.0	9.0	901.0	0.1	270.0	0.1	12
77	1.8	177.0	9.3	928.0	0.1	268.0	0.1	11
78	1.7	172.0	9.1	910.0	0.1	266.0	0.1	12
79	1.8	177.0	9.4	938.0	0.1	262.0	0.1	12
80	1.8	178.0	9.2	917.0	2.2	264.0	0.1	11
81	1.8	175.0	9.0	899.0	3.1	252.0	0.1	11
82	1.8	178.0	8.7	874.0	3.2	256.0	0.1	11
83	1.8	182.0	8.3	926.0	3.1	260.0	0.1	11
84	1.8	181.0	9.4	936.0	2.9	256.0	0.1	11
85	1.8	183.0	9.1	910.0	2.9	257.0	0.1	12
86	1.8	184.0	9.1	909.0	2.6	265.0	0.1	11
87	1.9	186.0	8.9	891.0	2.7	280.0	0.1	11
88	1.9	187.0	9.2	915.0	2.7	227.0	0.1	11
89	1.8	183.0	9.2	920.0	2.7	231.0	0.1	11
90	1.8	183.0	9.1	909.0	2.7	234.0	0.1	12

Average

Stack#2 - NM

#5 - 993.3

#4 - 249.3

#3 - 326.1

91	1.8	182.0	8.8	879.0	2.6	242.0	0.2	17
92	1.8	182.0	8.9	882.0	2.6	244.0	0.1	11
93	1.9	185.0	9.0	901.0	2.5	237.0	0.1	11
94	1.9	189.0	9.1	908.0	2.6	245.0	0.1	12
95	1.9	187.0	9.2	916.0	2.6	239.0	0.1	12
96	1.9	187.0	8.9	893.0	2.6	254.0	0.1	12
97	1.9	192.0	9.2	921.0	2.6	225.0	0.1	12
98	1.9	192.0	9.3	930.0	2.6	236.0	0.1	12
99	1.9	187.0	9.1	910.0	2.6	236.0	0.1	11
100	1.9	188.0	9.2	917.0	2.3	246.0	0.1	12
101	1.9	189.0	9.0	901.0	2.3	253.0	0.1	11
102	1.9	188.0	8.9	888.0	2.3	258.0	0.1	11
103	1.9	189.0	9.0	904.0	2.4	229.0	0.1	11
104	1.9	189.0	8.9	894.0	2.4	227.0	0.1	11
105	1.9	188.0	8.8	879.0	2.4	244.0	0.2	15
106	1.9	185.0	9.2	917.0	2.5	254.0	0.1	12
107	1.9	186.0	9.0	895.0	2.4	249.0	0.1	11
108	1.9	188.0	8.9	891.0	2.5	250.0	0.1	11
109	1.8	184.0	9.1	907.0	2.3	249.0	0.1	12
110	1.8	182.0	9.1	908.0	2.4	259.0	3.5	Start Run#1
111	1.8	177.0	9.1	913.0	2.4	260.0	3.6	11:12
112	1.8	176.0	9.0	901.0	2.5	263.0	3.7	
113	1.9	187.0	8.6	859.0	2.5	270.0	3.6	350
114	1.7	171.0	9.0	899.0	2.6	270.0	3.5	358
115	1.7	169.0	8.8	875.0	2.3	274.0	3.5	365
116	1.7	170.0	8.6	861.0	2.3	269.0	3.5	364
117	1.7	169.0	8.4	842.0	2.4	270.0	3.5	362
118	1.7	171.0	8.7	871.0	2.5	266.0	3.5	351
119	1.7	170.0	8.8	883.0	2.5	242.0	3.5	348
120	1.7	171.0	8.7	873.0	2.5	237.0	3.3	348
121	1.7	173.0	8.8	875.0	2.5	239.0	3.2	347
122	1.7	168.0	8.8	876.0	2.6	245.0	2.6	353
123	1.7	171.0	8.5	854.0	2.6	222.0	2.9	327
124	1.7	170.0	8.7	868.0	2.6	223.0	2.8	315
125	1.7	171.0	8.6	859.0	2.7	236.0	2.9	282
126	1.7	170.0	9.0	899.0	2.7	231.0	3.1	287
127	1.8	177.0	9.1	909.0	2.7	237.0	3.2	284
128	1.7	173.0	9.1	909.0	2.7	239.0	3.3	287
129	1.7	174.0	9.0	900.0	2.7	241.0	3.2	306
130	1.8	175.0	8.8	881.0	2.7	245.0	3.2	315
131	1.7	173.0	9.4	937.0	2.4	240.0	3.1	331
132	1.7	173.0	9.0	903.0	2.4	236.0	3.2	318
133	1.7	172.0	8.9	886.0	2.4	242.0	3.4	320
134	1.7	173.0	8.6	864.0	2.5	242.0	3.3	312
135	1.8	178.0	8.9	887.0	2.2	237.0	3.2	319
136	1.8	177.0	8.9	894.0	2.2	240.0	3.3	336
137	1.7	173.0	8.8	882.0	2.4	247.0	3.2	328
138	1.7	169.0	8.6	863.0	2.3	248.0	3.3	323
139	1.7	171.0	8.7	866.0	2.4	244.0	3.3	327
140	1.7	170.0	8.6	860.0	2.4	249.0	3.3	321
141	1.7	171.0	8.9	885.0	2.4	250.0	3.3	332
142	1.7	174.0	8.7	869.0	2.5	250.0	3.4	334
143	1.7	167.0	8.7	872.0	2.4	214.0	3.3	330
144	1.7	167.0	8.7	866.0	2.4	238.0	3.2	329
145	1.7	167.0	8.7	871.0	2.4	240.0	3.2	335
146	1.7	169.0	8.5	854.0	2.4	240.0	3.2	325
147	1.7	167.0	8.7	872.0	2.4	236.0	3.3	323
148	1.7	168.0	8.7	872.0	2.4	235.0	3.3	324
149	1.7	168.0	8.6	861.0	2.5	226.0	3.3	324
150	1.7	165.0	8.8	882.0	2.5	237.0	3.3	326
151	1.7	166.0	8.8	882.0	2.4	227.0	3.4	330
152	1.7	168.0	8.7	865.0	2.5	224.0	3.4	326
153	1.6	163.0	8.6	857.0	2.5	234.0	3.2	327
154	1.7	165.0	8.3	829.0	2.5	228.0	3.2	335
155	1.7	166.0	8.4	842.0	2.1	236.0	3.2	338
156	1.7	165.0	8.5	845.0	2.4	231.0	3.3	316
157	1.7	165.0	8.3	833.0	2.4	234.0	3.2	323
158	1.6	163.0	8.5	854.0	2.4	234.0	3.2	324
159	1.6	163.0	8.4	842.0	2.4	240.0	3.2	326
160	1.8	160.0	8.3	830.0	2.4	245.0	3.3	319
161	1.8	162.0	8.4	835.0	2.3	242.0	3.2	324
162	1.8	160.0	8.5	854.0	2.4	219.0	3.2	320
163	1.7	168.0	8.4	842.0	2.3	244.0	3.2	328
164	1.7	165.0	8.3	830.0	2.2	244.0	3.1	323
165	1.6	163.0	8.6	855.0	2.3	240.0	3.2	317
166	1.7	169.0	8.5	852.0	2.3	247.0	3.2	317
167	1.6	161.0	8.4	841.0	2.4	248.0	3.3	310
168	1.7	166.0	8.2	821.0	2.3	221.0	3.3	320
169	1.7	167.0	8.2	816.0	2.3	230.0	3.3	321
170	1.7	165.0	7.9	791.0	2.3	229.0	3.3	331
171	1.6	164.0	7.8	783.0	2.4	236.0	3.3	332
172	1.7	166.0	8.1	810.0	2.5	244.0	3.3	332
173	1.8	162.0	7.9	787.0	2.4	247.0	3.4	327
174	1.7	166.0	7.6	760.0	2.2	249.0	3.4	326
175	1.6	161.0	7.5	750.0	2.4	255.0	3.3	332
176	1.7	169.0	8.0	801.0	2.4	220.0	3.3	342
177	1.7	167.0	7.9	765.0	2.4	249.0	3.3	335
178	1.7	165.0	7.4	741.0	2.5	247.0	3.3	334
179	1.7	168.0	7.7	770.0	2.5	250.0	3.2	326
180	1.7	166.0	7.7	768.0	2.2	246.0	3.2	329
181	1.7	167.0	7.6	760.0	0.2	249.0	3.3	327
182	1.5	147.0	7.7	774.0	0.1	256.0	3.3	321
183	1.5	151.0	7.7	771.0	1.9	205.0	3.4	318
184	1.5	153.0	7.5	753.0	2.3	236.0	3.3	330
185	1.5	151.0	7.7	774.0	2.3	209.0	3.3	331
186	1.5	151.0	7.6	781.0	2.3	219.0	3.3	339
187	1.5	149.0	7.5	752.0	2.4	217.0	3.3	334
188	1.5	146.0	7.6	767.0	2.4	230.0	3.4	326
189	1.5	162.0	7.6	768.0	2.5	236.0	3.4	329
190	1.5	153.0	7.6	756.0	2.5	237.0	3.3	329
191	1.6	166.0	7.6	764.0	2.6	235.0	3.5	335
192	1.5	151.0	7.7	765.0	2.2	233.0	3.5	342
193	1.5	152.0	7.5	751.0	2.5	229.0	3.5	328

194	1.5	149.0	7.6	760.0	2.5	247.0	3.5	348
195	1.5	150.0	7.7	768.0	2.5	250.0	3.3	347
196	1.5	152.0	7.4	740.0	2.5	252.0	3.5	346
197	1.5	151.0	7.4	736.0	2.5	241.0	3.5	349
198	1.5	149.0	7.2	721.0	2.6	251.0	3.4	327
199	1.5	150.0	7.4	742.0	2.1	245.0	3.5	353
200	1.5	151.0	7.3	734.0	2.4	242.0	3.5	346
201	1.5	151.0	7.4	735.0	2.1	217.0	3.5	336
202	1.5	151.0	7.3	729.0	2.2	244.0	3.4	347
203	1.5	151.0	7.4	735.0	2.2	242.0	3.4	350
204	1.5	150.0	7.4	735.0	2.3	201.0	3.5	354
205	1.4	143.0	7.3	727.0	2.4	248.0	3.4	337
206	1.5	145.0	7.0	699.0	2.4	245.0	3.5	339
207	1.5	145.0	7.0	699.0	2.4	245.0	3.4	346
208	1.5	147.0	7.1	706.0	2.3	253.0	3.5	335
209	0.2	21.0	7.1	714.0	2.3	238.0	3.4	347
210	0.1	10.0	7.3	727.0	2.5	241.0	3.3	337
211	0.1	9.0	7.6	761.0	2.5	236.0	3.3	346
212	0.1	7.0	7.3	725.0	2.5	236.0	3.3	341
213	0.1	6.0	7.5	745.0	2.4	230.0	3.2	325
214	1.3	127.0	7.4	742.0	2.5	239.0	3.2	325
215	1.3	127.0	7.5	748.0	2.5	240.0	3.4	332
216	1.3	129.0	7.2	723.0	2.4	236.0	3.2	323
217	1.3	128.0	7.2	722.0	2.2	236.0	3.4	321
218	1.3	127.0	7.2	721.0	2.4	238.0	3.3	336
219	1.4	137.0	7.1	712.0	2.4	241.0	3.3	315
220	0.7	71.0	7.1	711.0	2.0	238.0	3.4	341
221	0.3	33.0	7.0	702.0	2.5	237.0	3.4	325
222	0.2	23.0	6.7	670.0	2.5	236.0	3.2	330
223	0.2	17.0	6.9	693.0	2.5	238.0	3.3	337
224	0.2	15.0	7.0	695.0	2.5	239.0	3.4	337
225	0.1	13.0	7.1	708.0	2.4	229.0	3.3	323
226	0.1	12.0	7.2	715.0	2.4	236.0	3.4	326
227	0.1	11.0	7.0	700.0	2.4	197.0	3.4	343
228	0.1	11.0	7.0	697.0	2.4	243.0	3.3	333
229	0.1	11.0	7.2	720.0	2.3	247.0	3.4	342
230	0.1	8.0	7.1	710.0	2.4	250.0	3.4	336
231	0.1	10.0	7.0	703.0	2.4	262.0	3.3	331
232	0.1	8.0	6.8	678.0	2.4	256.0	3.4	337
233	0.1	10.0	6.8	679.0	2.4	261.0	3.4	342
234	0.1	9.0	6.9	693.0	2.4	259.0	3.4	334
235	0.1	9.0	7.0	695.0	2.4	262.0	3.3	335
236	0.1	8.0	6.9	692.0	2.4	256.0	3.3	339
237	0.1	7.0	7.0	700.0	2.4	257.0	3.4	335
238	0.1	7.0	6.9	696.0	2.4	261.0	3.4	330
239	0.1	7.0	6.8	677.0	2.4	259.0	3.4	332
240	0.1	8.0	6.7	674.0	2.4	253.0	3.4	340
241	0.1	7.0	6.5	654.0	2.3	219.0	3.5	342
242	0.1	7.0	6.7	658.0	2.4	229.0	3.6	344
243	0.1	6.0	6.9	685.0	2.0	244.0	3.6	343
244	0.1	7.0	6.8	683.0	2.4	245.0	3.5	351
245	0.1	6.0	7.0	699.0	2.5	248.0	3.5	355
246	0.1	6.0	6.8	679.0	2.5	252.0	3.6	358
247	0.1	6.0	6.9	689.0	2.6	252.0	3.5	345
248	0.1	6.0	6.7	667.0	2.6	251.0	3.5	351
249	0.1	6.0	6.6	662.0	2.6	250.0	3.6	359
250	0.1	6.0	6.8	658.0	2.6	248.0	3.5	348
251	0.1	6.0	6.9	685.0	2.6	251.0	3.5	348
252	0.1	7.0	6.7	674.0	2.6	261.0	3.5	357
253	0.1	6.0	6.9	688.0	2.6	248.0	3.4	352
254	0.1	6.0	6.8	675.0	2.6	272.0	3.5	352
255	0.1	6.0	6.8	676.0	2.6	277.0	3.5	353
256	0.1	6.0	7.1	705.0	2.5	277.0	3.4	340
257	0.1	5.0	6.6	660.0	2.2	262.0	3.4	345
258	0.1	6.0	6.5	654.0	2.3	263.0	3.5	346
259	0.1	6.0	6.8	677.0	2.4	257.0	3.4	343
260	0.1	6.0	7.3	725.0	2.5	254.0	3.3	342
261	0.1	5.0	7.0	697.0	2.5	255.0	3.3	347
262	0.1	5.0	7.0	703.0	2.5	252.0	3.3	342
263	0.1	5.0	7.0	698.0	2.5	254.0	3.3	332
264	0.1	6.0	7.1	709.0	2.5	260.0	3.2	331
265	0.1	6.0	6.8	677.0	2.5	276.0	3.2	327
266	0.1	5.0	6.8	676.0	2.5	278.0	3.2	330
267	0.1	5.0	6.8	679.0	2.5	285.0	3.2	324
268	0.1	6.0	6.8	677.0	2.6	291.0	3.2	324
269	0.1	5.0	6.8	683.0	2.5	288.0	3.1	323
270	0.1	5.0	6.8	680.0	2.7	205.0	3.0	324
271	0.1	5.0	6.8	678.0	2.6	200.0	3.1	323
272	0.1	6.0	6.7	668.0	2.6	237.0	3.0	310
273	0.1	5.0	6.4	641.0	2.6	255.0	2.9	297
274	0.1	5.0	6.6	657.0	2.6	261.0	2.9	309
275	0.1	5.0	6.8	677.0	2.6	264.0	3.0	297
276	0.1	5.0	6.9	686.0	2.5	270.0	3.0	292
277	0.1	5.0	6.9	692.0	2.6		3.1	293
278	0.1	5.0	6.9	693.0	2.5	Average	3.1	297
279	0.1	5.0	7.0	698.0	2.5	249.3	3.2	296
280	0.1	5.0	6.7	670.0	2.6		3.1	307
281	0.1	5.0	6.8	675.0	2.8	261.0	3.1	311
282	0.1	5.0	6.7	670.0	2.8	137.0	3.1	315
283	0.1	5.0	6.6	663.0	2.9	22.0	3.1	313
284	0.0	4.0	7.0	697.0	2.9	16.0	3.1	310
285	0.1	5.0	6.8	682.0	2.9	11.0	3.2	306
286	0.1	5.0	6.8	677.0	2.1	8.0	3.1	308
287	0.1	5.0	6.4	638.0	2.0	8.0	3.1	312
288	0.1	5.0	6.6	655.0	0.1	7.0	3.2	315
289	0.1	5.0	6.5	646.0	1.7	7.0	3.2	312
290	0.1	5.0	6.4	640.0	2.4	7.0	3.2	311
291	0.1	5.0	6.5	654.0	2.6	7.0	3.1	321
292	0.1	5.0	6.5	648.0	2.6	5.0	3.0	323
293	0.1	5.0	6.6	659.0	2.6	5.0	3.1	315
294	0.1	5.0	6.4	644.0	2.7	5.0	3.2	314
295	0.1	5.0	6.4	640.0	2.6	6.0	3.1	302
296	0.1	5.0	6.2	619.0	1.4	6.0	3.2	310

297	0.1	5.0	6.5	652.0	0.2	6.0	3.1	315
298	0.0	4.0	6.5	646.0	0.2	492.0	3.1	313
299	0.0	4.0	6.6	662.0	0.1	494.0	3.1	315
300	0.0	4.0	0.4		0.1	485.0	3.2	307
301	0.0	4.0	0.5	Average	0.1	6.0	3.2	313
302	0.0	4.0	0.4	793.3	0.1	5.0	3.2	312
303	0.0	4.0	0.3		0.1	4.0	3.1	317
304	0.0	4.0	0.3	40.0	0.1	4.0	3.2	315
305	0.0	4.0	0.4	46.0	0.1	4.0	3.2	315
306	0.1	5.0	0.4	36.0	0.1	4.0	3.2	311
307	0.1	5.0	0.4	28.0	0.1	4.0	3.3	315
308	0.1	5.0	2.3	27.0	0.1	5.0	3.2	315
309	0.0	4.0	2.1	41.0	0.1	5.0	3.2	319
310	0.0	3.0	0.4	42.0	0.1	4.0	3.1	332
311	0.0	3.0	0.3	41.0	0.1	4.0	3.1	323
312	0.0	4.0	0.2	231.0	4.9	4.0	3.1	315
313	0.0	4.0	0.3	214.0	4.9	4.0	3.1	312
314	0.1	5.0	0.3	40.0	4.9	4.0	3.2	313
315	0.0	4.0	0.3	25.0	0.1	4.0	3.0	312
316	0.0	4.0	0.3	24.0	0.1	5.0	3.1	314
317	0.0	4.0	0.2	32.0	0.0	5.0	3.2	318
318	0.0	3.0	0.2	31.0	0.0	4.0	3.2	302
319	0.0	3.0	0.2	29.0	0.0	4.0	3.1	313
320	0.0	4.0	5.0	26.0	0.0	4.0	3.2	322
321	0.0	4.0	5.1	22.0	0.0	4.0	3.2	315
322	0.0	4.0	5.1	19.0	0.1	3.0	3.2	312
323	0.0	4.0	4.9	16.0	0.1	4.0	3.1	316
324	0.1	5.0	0.2	498.0	0.0	3.0	3.2	317
325	0.0	4.0	0.2	513.0	0.0	4.0	3.1	316
326	0.0	4.0	0.2	509.0	0.0	3.0	3.1	312
327	0.0	4.0	0.2	490.0	0.0	3.0	3.1	315
328	0.0	4.0	0.3	20.0	0.0	3.0	3.1	311
329	0.0	4.0	0.2	20.0	0.0	3.0	3.1	312
330	0.0	4.0	0.2	17.0	0.1	4.0	3.1	311
331	0.0	4.0	0.2	16.0	0.1	4.0	3.0	310
332	0.0	4.0	0.3	27.0	0.0	4.0	3.1	307
333	0.1	7.0	0.2	18.0	0.0	4.0	3.0	312
334	0.0	3.0	0.2	18.0	0.0	4.0	2.9	301
335	0.0	4.0	0.3	17.0	0.0	4.0	3.0	305
336	0.0	3.0	0.3	28.0	0.0	4.0	3.0	299
337	0.0	4.0	0.3	19.0	0.0	3.0	3.0	293
338	0.0	3.0	0.3	21.0	0.0	2.0	2.9	295
339	0.0	3.0	0.3	28.0	0.0	3.0	0.7	298
340	0.0	3.0	0.2	31.0	0.0	2.0	0.5	296
341	0.0	3.0	0.3	31.0	0.0	3.0	0.5	287
342	0.0	4.0	0.3	31.0	0.0	3.0	0.4	
343	0.0	3.0	0.2	30.0	0.0	4.0	0.4	Average
344	0.0	3.0	0.1	20.0	0.0	3.0	0.3	325.061
345	0.0	3.0	0.1	28.0	0.0	3.0	0.3	
346	0.0	4.0	0.1	25.0	0.0	3.0	0.3	71
347	0.0	3.0	0.1	22.0	0.0	3.0	0.2	48
348	0.0	3.0	0.3	12.0	0.0	3.0	0.6	45
349	0.0	3.0	0.3	13.0	0.0	4.0	0.5	40
350	0.0	2.0	0.3	12.0	0.0	2.0	0.2	35
351	0.0	3.0	0.3	13.0	0.0	3.0	0.2	28
352	0.0	3.0	0.2	28.0	0.0	3.0	0.2	28
353	0.0	3.0	0.3	25.0	0.0	2.0	0.2	25
354	0.0	4.0	0.2	29.0	0.0	2.0	0.2	22
355	0.0	3.0	0.1	28.0	0.0	2.0	0.2	57
356	0.0	3.0	0.2	22.0	0.0	3.0	0.2	46
357	0.0	3.0	0.1	25.0	0.0	4.0	0.2	19
358	0.0	3.0	0.1	18.0	0.0	3.0	0.2	20
359	0.0	3.0	0.1	12.0	0.0	3.0	0.2	19
360	0.0	3.0	0.3	15.0	0.0	3.0	0.2	19
361	0.0	4.0	0.2	10.0	0.0	3.0	0.1	19
362	0.0	3.0	0.2	12.0	0.0	3.0	0.1	18
363	0.0	3.0	0.2	14.0	0.0	3.0	0.1	18
364	0.0	3.0	0.3	26.0	0.0	3.0	0.1	17
365	0.0	3.0	0.3	22.0	0.0	3.0	0.1	17
366	0.0	2.0	0.3	24.0	0.0	3.0	0.1	17
367	0.0	3.0	0.3	23.0	0.0	3.0	0.1	17
368	0.0	3.0	0.2	27.0	0.0	3.0	4.6	9
369	0.0	3.0	0.2	26.0	0.0	2.0	4.9	9
370	0.0	3.0	0.2	26.0	0.0	3.0	5.0	9
371	0.0	3.0	0.1	27.0	0.0	3.0	5.0	10
372	0.0	2.0	0.1	17.0	0.0	3.0	5.1	10
373	0.0	4.0	0.1	24.0	0.0	3.0	0.2	10
374	0.0	4.0	0.2	21.0	0.0	-1.0	0.2	9
375	0.0	3.0	0.3	14.0	0.0	-1.0	0.2	460
376	0.0	2.0	0.2	10.0	0.0	-1.0	0.2	491
377	0.0	2.0	0.2	8.0	0.0	-1.0	0.2	500
378	0.0	3.0	0.1	16.0	0.0	-1.0	0.2	501
379	0.0	3.0	0.1	25.0	0.0	-1.0	0.2	505
380	0.0	3.0	0.2	18.0	0.0	-1.0	0.2	20
381	0.0	3.0	0.2	21.0	0.0	-1.0	0.2	17
382	0.0	3.0	0.3	13.0	0.0	-1.0	0.2	17
383	0.0	2.0	0.2	8.0	0.0	-1.0	0.2	17
384	0.0	2.0	0.1	23.0	0.0	-1.0	0.2	17
385	0.0	2.0	0.1	23.0	0.0	-1.0	0.1	16
386	0.0	3.0	0.2	25.0	0.0	-1.0	0.2	16
387	0.0	3.0	0.2	18.0	0.0	-1.0	0.2	16
388	0.0	3.0	0.1	9.0	0.0	-1.0	0.0	15
389	0.0	2.0	0.1	9.0	0.0	-1.0	0.0	15
390	0.0	0.0	0.0	16.0	0.0	-1.0	0.0	15
391	0.0	-3.0	-0.1	21.0	0.0	-1.0	0.0	15
392	0.0	-4.0	0.1	13.0	0.0	-1.0	0.0	14
393	0.0	-4.0	0.1	14.0	0.0	-1.0	0.0	16
394	-0.1	-5.0	0.1	2.0	0.0	-1.0	0.0	16
395	-0.1	-5.0	0.0	-7.0	0.0	-1.0	0.0	3
396	-0.1	-5.0	-0.1	10.0	0.0	-1.0	0.0	-1
397	-0.1	-5.0	-0.1	7.0	0.0	-1.0	0.0	-1
398	-0.1	-5.0	-0.1	9.0	0.0	-1.0	0.0	-1
399	0.0	-4.0	-0.1	4.0	0.0	-1.0	0.0	-1

VOC2

400	-0.1	-5.0	0.1	-11.0	0.0	-1.0	0.0	-1
401	-0.1	-5.0	0.1	-11.0	0.0	-1.0	0.0	-1
402	-0.1	-5.0	0.1	-11.0	0.0	-1.0	0.0	-1
403	-0.1	-5.0	0.1	-8.0	0.0	-1.0	0.0	-1
404	-0.1	-5.0	-0.1	8.0	0.0	-1.0	0.0	-1
405	-0.1	-5.0	-0.1	6.0	0.0	-1.0	0.0	-1
406	-0.1	-5.0	-0.1	9.0	0.0	-1.0	0.0	-1
407	-0.1	-5.0	-0.1	8.0	0.0	-1.0	0.0	-1
408	0.0	-4.0	0.1	-9.0	0.0	-1.0	0.0	-1
409	0.0	-4.0	0.1	-5.0	0.0	-1.0	0.0	-1
410	-0.1	-5.0	0.0	-11.0	0.0	-1.0	0.0	-1
411	-0.1	-5.0	-0.1	-10.0	0.0	-1.0	0.0	-1
412	-0.1	-5.0	0.1	9.0	0.0	-1.0	0.0	-1
413	-0.1	-5.0	0.1	9.0	0.0	-1.0	0.0	-1
414	-0.1	-5.0	0.1	4.0	0.0	-1.0	0.0	-1
415	-0.1	-5.0	-0.1	-10.0	0.0	-1.0	0.0	-1
416	0.0	-4.0	0.1	5.0	0.0	-1.0	0.0	-1
417	-0.1	-5.0	0.1	7.0	0.0	-1.0	0.0	-1
418	-0.1	-5.0	0.0	6.0	0.0	-1.0	0.0	-1
419	-0.1	-5.0	-0.1	-10.0	0.0	-1.0	0.0	-1
420	-0.1	-5.0	0.0	8.0	0.0	-1.0	0.0	-1
421	-0.1	-5.0	-0.1	10.0	0.0	-1.0	0.0	-1
422	0.2	21.0	0.1	-3.0	0.0	-1.0	0.0	-1
423	0.2	19.0	0.1	-11.0	0.0	-1.0	0.0	-1
424	-0.2	-18.0	0.0	1.0	0.0	-1.0	0.0	-1
425	-0.1	-14.0	0.0	-5.0	0.0	-1.0	0.0	-1
426	-0.2	-24.0	0.0	5.0	0.0	-1.0	0.0	-1
427	-0.2	-24.0	-0.1	8.0	0.0	-1.0	0.0	-1
428	0.1	6.0	-0.1	2.0	0.0	-1.0	0.0	-1
429	0.0	1.0	-0.1	4.0	0.0	-1.0	0.0	-1
430	0.2	19.0	0.0	-4.0	0.0	-1.0	0.0	-1
431	0.2	19.0	0.1	-8.0	0.0	-1.0	0.0	-1
432	-0.2	-22.0	0.0	-11.0	0.0	-1.0	0.0	-1
433	-0.1	-14.0	0.0	-11.0	0.0	-1.0	0.0	-1
434	-0.1	-5.0	-0.1	0.0	0.0	-1.0	0.0	-1
435	0.0	4.0	-0.1	8.0	0.0	-1.0	0.0	-1
436	-0.1	-7.0	0.1	-1.0	0.0	-1.0	0.0	-1
437	-0.1	-9.0	-0.1	-1.0	0.0	-1.0	0.0	-1
438	0.0	-1.0	-0.1	-10.0	0.0	-1.0	0.0	-1
439	0.1	6.0	0.0	-10.0	0.0	-1.0	0.0	-1
440	-0.1	-5.0	0.1	5.0	0.0	-1.0	0.0	-1
441	-0.1	-5.0	0.1	-5.0	0.0	-1.0	0.0	-1
442	-0.1	-7.0	-0.1	-11.0	0.0	-1.0	0.0	-1
443	0.1	7.0	0.0	2.0	0.0	-1.0	0.0	-1
444	-0.1	-9.0	0.0	8.0	0.0	-1.0	0.0	-1
445	-0.1	-9.0	-0.1	6.0	0.0	-1.0	0.0	-1
446	0.0	-3.0	-0.1	-11.0	0.0	-1.0	0.0	-1
447	0.1	8.0	0.0	-3.0	0.0	2.0	0.0	-1
448	-0.1	-8.0	0.1	2.0	0.0	3.0	0.0	-1
449	-0.1	-9.0	0.0	-7.0	0.0	3.0	0.0	-1
450	-0.1	-5.0	-0.1	-11.0	0.0	4.0	0.0	-1
451	0.1	5.0	-0.1	0.0	0.0	4.0	0.0	-1
452	0.0	-2.0	0.1	6.0	0.0	4.0	0.0	-1
453	-0.1	-5.0	0.1	1.0	0.0	4.0	0.0	-1
454	-0.1	-9.0	-0.1	-11.0	0.0	2.0	0.0	-1

FILENAME:

LOGGING SESSION:

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 15 sec Volts	VOC #2 Stack #3	2A Voltage 15 sec Volts	VOC #3 Stack #2	2B Voltage 15 sec Volts	VOC #4 Stack #4	Stack #5
1	0.0	1.0	0.0	2.0	0.1	10	10
2	0.1	8.0	0.0	3.0	0.1	10	10
3	0.0	1.0	0.0	3.0	0.1	10	10
4	0.2	18.0	0.0	3.0	0.1	10	10
5	0.2	19.0	0.0	3.0	0.1	10	10
6	9.1	907.0	0.0	3.0	0.1	11	11
7	9.1	909.0	0.0	2.0	0.1	10	10
8	9.1	914.0	0.0	3.0	0.1	11	11
9	8.7	885.0	0.0	3.0	0.1	11	11
10	2.7	296.0	0.0	2.0	0.1	11	11
11	0.1	10.0	0.0	3.0	0.0	2	2
12	0.2	18.0	0.0	2.0	0.0	3	3
13	0.1	12.0	0.0	3.0	0.0	3	3
14	0.0	1.0	0.0	3.0	2.0	200	200
15	0.2	15.0	0.0	3.0	5.3	528	528
16	0.0	3.0	0.0	3.0	5.1	506	506
17	0.0	1.0	0.0	3.0	4.9	494	494
18	0.2	18.0	0.0	3.0	4.1	407	407
19	0.1	8.0	0.0	1.0	0.1	12	12
20	0.1	13.0	0.0	1.0	0.1	11	11
21	0.2	18.0	0.0	1.0	0.1	11	11
22	0.1	5.0	4.9	489.0	11	11	11
23	0.1	10.0	4.9	485.0	11	11	11
24	0.1	8.0	0.3	25.0	0.1	11	11
25	0.0	1.0	0.0	4.0	0.1	11	11
26	0.1	12.0	0.0	3.0	0.1	11	11
27	0.2	15.0	0.0	3.0	0.1	11	11
28	0.0	0.0	0.0	3.0	0.1	11	11
29	0.0	1.0	0.0	3.0	0.1	11	11
30	0.1	12.0	0.0	3.0	0.1	11	11
31	0.2	18.0	0.0	3.0	0.1	11	11
32	0.1	5.0	0.0	2.0	0.1	11	11
33	0.1	5.0	0.0	3.0	0.1	11	11
34	0.0	4.0	0.0	3.0	0.1	11	11
35	0.1	14.0	0.0	3.0	0.1	11	11
36	0.1	9.0	0.0	3.0	0.1	11	11
37	0.0	4.0	0.0	2.0	0.1	11	11
38	0.1	5.0	0.0	3.0	0.1	10	10
39	0.2	17.0	0.0	3.0	0.1	11	11
40	0.0	3.0	0.0	3.0	0.1	11	11
41	0.0	2.0	0.0	3.0	0.1	11	11
42	0.1	7.0	0.0	3.0	0.1	11	11
43	0.2	18.0	0.0	3.0	0.1	11	11
44	0.0	1.0	0.0	2.0	0.1	11	11
45	0.0	2.0	0.0	3.0	0.1	10	10
46	0.2	18.0	0.0	3.0	0.1	11	11
47	0.1	13.0	0.0	2.0	0.1	11	11
48	0.0	2.0	2.0	204.0	0.1	11	11
49	1.2	124.0	2.0	201.0	0.1	11	11
50	0.2	18.0	2.0	201.0	0.1	11	11
51	0.0	2.0	2.0	196.0	0.1	10	10
52	0.2	17.0	1.9	191.0	0.1	10	10

Start Run#3
1:57

53	3.6	359.0	1.9	189.0	4.6	485	458
54	3.7	366.0	1.9	189.0	4.7	493	469
55	3.9	392.0	1.9	188.0	4.8	499	477
56	3.6	363.0	1.9	186.0	4.6	515	464
57	3.7	369.0	1.9	186.0	4.8	515	476
58	3.6	357.0	1.9	185.0	4.7	510	466
59	3.6	362.0	1.9	185.0	4.6	515	475
60	3.5	351.0	1.8	184.0	4.6	522	464
61	3.5	353.0	1.9	185.0	4.7	516	465
62	3.6	358.0	1.9	188.0	4.6	515	458
63	3.6	361.0	1.9	188.0	4.4	512	439
64	3.5	347.0	1.9	187.0	4.3	509	433
65	3.5	345.0	1.9	187.0	4.2	514	418
66	3.6	355.0	1.9	190.0	4.1	507	412
67	3.6	361.0	1.9	187.0	3.9	513	391
68	3.4	342.0	1.9	188.0	3.7	515	370
69	3.4	344.0	1.9	188.0	3.8	513	377
70	3.5	351.0	1.9	190.0	3.8	517	378
71	3.6	357.0	1.9	192.0	3.8	508	381
72	3.7	370.0	1.9	190.0	3.8	511	381
73	3.8	376.0	1.9	190.0	3.8	516	379
74	3.8	377.0	2.0	201.0	3.9	508	388
75	3.7	371.0	2.0	197.0	0.8	473	377
76	3.7	370.0	2.0	197.0	4.9	482	383
77	3.8	375.0	2.0	198.0	4.9	486	383
78	3.7	374.0	2.0	201.0	6.0	493	388
79	3.6	357.0	2.0	200.0	5.2	498	381
80	3.6	362.0	2.0	202.0	5.2	506	392
81	3.6	359.0	2.1	205.0	5.1	510	386
82	3.6	364.0	2.1	207.0	5.2	512	378
83	3.6	364.0	2.0	202.0	5.2	510	378
84	3.7	367.0	2.1	205.0	5.2	527	378
85	3.7	369.0	2.1	206.0	5.2	528	386
86	3.6	354.0	2.1	206.0	5.1	529	382
87	3.6	358.0	2.1	210.0	5.1	535	380
88	3.8	384.0	2.1	208.0	5.1	529	378
89	3.8	378.0	2.1	208.0	5.1	540	377
90	3.7	370.0	0.8	153.0	6.1	660	338

Average

Stack 2 - 275.8

Stack 3 - 371.4

Stack 4 - 467.8

Stack 5 - 340.1

91	3.8	375.0	1.5	155.0	5.2	559	339
92	3.8	364.0	1.6	161.0	5.1	563	335
93	3.6	360.0	1.6	163.0	5.2	562	324
94	3.7	367.0	1.8	197.0	5.1	556	328
95	3.6	363.0	2.0	204.0	5.1	551	343
96	3.8	381.0	2.0	202.0	6.2	543	354
97	3.6	364.0	2.0	202.0	5.1	537	344
98	3.7	368.0	2.0	202.0	3.8	535	344
99	3.6	364.0	2.0	199.0	3.8	455	340
100	3.5	353.0	2.0	196.0	3.8	467	342
101	3.5	353.0	2.0	192.0	3.9	473	334
102	3.7	365.0	1.9	189.0	3.8	477	325
103	3.7	371.0	1.9	189.0	3.9	475	335
104	3.6	358.0	1.9	184.0	3.9	481	327
105	3.6	359.0	1.8	184.0	3.8	488	328
106	3.7	372.0	1.8	256.0	3.8	487	329
107	3.7	369.0	2.6	257.0	3.8	490	326
108	3.8	382.0	2.6	254.0	3.9	490	328
109	3.8	380.0	2.5	249.0	3.8	495	324
110	3.8	379.0	2.5	251.0	3.8	481	324
111	3.7	372.0	2.5	248.0	3.8	481	247
112	3.6	363.0	2.5	245.0	3.8	472	348
113	3.8	364.0	2.5	241.0	3.4	480	347
114	3.8	379.0	2.4	242.0	4.7	480	350
115	3.9	388.0	2.4	239.0	4.8	480	338
116	3.9	394.0	2.4	237.0	4.9	480	336
117	3.9	390.0	2.4	236.0	4.9	481	332
118	3.8	384.0	2.4	232.0	5.0	428	331
119	3.9	390.0	2.3	236.0	5.1	428	327
120	3.9	393.0	2.4	239.0	5.1	437	321
121	4.0	398.0	2.4	236.0	5.1	437	325
122	4.1	408.0	2.4	236.0	5.1	439	321
123	4.0	395.0	2.4	231.0	5.3	435	316
124	3.9	393.0	2.3	235.0	5.3	430	320
125	3.9	388.0	2.4	240.0	5.3	449	316
126	3.8	384.0	2.4	236.0	5.4	487	311
127	3.9	388.0	2.4	234.0	5.3	479	300
128	3.9	391.0	2.3	236.0	5.4	470	314
129	3.9	388.0	2.4	241.0	5.5	481	307
130	3.9	390.0	2.4	241.0	5.6	498	310
131	3.9	389.0	2.4	238.0	5.6	491	303
132	3.8	384.0	2.4	240.0	5.6	446	313
133	3.8	384.0	2.4	241.0	5.6	437	321
134	3.8	380.0	2.4	240.0	5.5	440	322
135	3.7	371.0	2.4	234.0	5.4	428	314
136	3.7	371.0	2.3	234.0	5.4	451	317
137	3.7	372.0	2.3	234.0	5.4	445	322
138	3.7	372.0	2.3	237.0	1.7	444	315
139	3.8	377.0	2.4	237.0	3.4	448	309
140	3.6	356.0	2.4	240.0	3.4	459	304
141	3.6	362.0	2.4	240.0	3.2	452	308
142	3.7	365.0	2.4	240.0	3.3	445	311
143	3.7	365.0	2.4	245.0	3.4	442	309
144	3.8	379.0	2.5	247.0	3.5	441	299
145	3.8	377.0	2.5	247.0	3.4	441	299
146	3.7	367.0	2.5	253.0	3.4	445	300
147	3.6	362.0	2.5	253.0	3.4	446	311
148	3.7	373.0	2.5	256.0	3.4	443	307
149	3.7	368.0	2.6	253.0	3.3	422	305
150	3.6	361.0	2.5	256.0	3.3	427	304
151	3.7	366.0	2.6	257.0	3.4	418	296
152	3.8	376.0	2.6	255.0	3.3	400	305
153	3.8	379.0	2.6	259.0	3.3	401	294
154	3.8	376.0	2.6	262.0	3.3	408	292
155	3.6	367.0	0.7	264.0	3.3	412	284
156	3.8	379.0	0.2	292.0	3.3	411	293
157	3.8	377.0	0.2	296.0	3.2	410	288
158	3.7	374.0	0.5	304.0	3.2	402	283
159	3.6	362.0	0.8	305.0	2.6	402	280
160	3.6	364.0	1.0	306.0	4.6	401	268
161	3.8	377.0	1.2	308.0	4.7	400	279
162	3.7	370.0	1.3	307.0	4.7	412	274
163	3.7	368.0	1.3	308.0	4.8	412	278
164	3.6	363.0	1.4	314.0	4.8	403	278
165	3.7	366.0	1.4	317.0	4.8	404	279
166	3.7	372.0	1.5	317.0	4.9	416	279
167	3.7	374.0	1.9	317.0	4.9	412	279
168	3.6	359.0	2.6	317.0	4.9	412	273
169	3.6	364.0	2.6	318.0	4.9	418	273
170	3.8	381.0	2.9	318.0	5.0	417	275
171	3.8	376.0	3.0	315.0	4.8	407	273
172	3.8	381.0	3.0	317.0	4.8	403	277
173	3.8	382.0	3.1	320.0	4.7	399	271
174	3.8	381.0	3.1	321.0	4.8	391	270
175	3.8	380.0	3.1	321.0	4.8	390	268
176	3.8	383.0	3.1	325.0	4.8	397	365
177	3.7	368.0	3.1	322.0	4.8	398	389
178	3.6	363.0	3.1	324.0	4.8	391	
179	3.6	364.0	3.2	324.0	4.3	389	
180	3.8	382.0	3.2	323.0	3.5	402 Average	
181	3.7	366.0	3.2	322.0	3.5	340.152	
182	3.7	373.0	3.2	320.0	3.5	Average	
183	3.7	369.0	3.2	320.0	3.4	487.797	70
184	3.8	379.0	3.2	322.0	3.4		55
185	3.8	381.0	3.2	364.0	3.3	70	43
186	3.8	384.0	3.2	317.0	3.3	55	36
187	3.9	388.0	3.2	328.0	3.3	43	31
188	3.7	372.0	3.2	325.0	3.2	36	29
189	3.7	372.0	3.2	329.0	3.3	31	27
190	3.8	378.0	3.3	329.0	3.2	29	37
191	3.9	387.0	3.2	329.0	3.2	27	35
192	4.0	396.0	3.2	330.0	3.2	37	34
193	3.9	387.0	3.2	327.0	3.2	35	34

VOC3

194	3.9	393.0	3.2	328.0	3.1	34	32
195	3.8	378.0	3.2	329.0	3.0	34	31
196	3.9	389.0	3.2	331.0	3.1	32	30
197	3.7	374.0	3.2	330.0	3.1	31	29
198	3.9	385.0	3.2	329.0	3.1	30	29
199	3.9	394.0	1.2	324.0	3.0	29	28
200	3.8	378.0	0.4	323.0	3.1	29	27
201	3.9	389.0	0.2	323.0	0.8	28	15
202	3.8	380.0	0.1	322.0	4.3	27	14
203	3.9	386.0	0.2	322.0	4.4	15	13
204	3.9	388.0	0.1	324.0	4.4	14	13
205	3.9	385.0	0.2	325.0	4.4	13	13
206	3.9	386.0	0.2	331.0	4.4	13	12
207	3.9	388.0	0.2	334.0	4.3	13	12
208	3.7	374.0	0.1	337.0	4.5	12	12
209	3.8	381.0	0.1	337.0	4.9	12	21
210	3.8	384.0	0.2	335.0	4.8	12	22
211	3.8	381.0	0.3	338.0	4.7	21	21
212	3.8	378.0	0.5	335.0	4.8	22	20
213	3.8	377.0	0.7	337.0	5.0	21	20
214	3.8	380.0	1.0	336.0	4.9	20	178
215	3.8	381.0	1.3	335.0	3.2	20	446
216	3.7	374.0	1.6	338.0	3.2	178	497
217	3.8	383.0	1.7	340.0	3.1	446	496
218	3.8	379.0	1.9	343.0	3.2	497	496
219	3.8	383.0	2.0	343.0	3.2	496	497
220	3.7	371.0	2.0	291.0	3.2	496	77
221	3.8	376.0	2.2	329.0	3.1	497	31
222	3.7	370.0	2.5	337.0	3.0	77	28
223	3.8	369.0	3.0	339.0	3.1	31	26
224	3.7	366.0	3.2	308.0	3.1	28	25
225	3.7	368.0	3.3	338.0	3.1	28	25
226	3.7	369.0	3.3	334.0	3.0	25	25
227	3.7	369.0	3.3	334.0	3.0	25	24
228	3.7	365.0	3.3	336.0	3.0	25	24
229	3.6	364.0	3.3	340.0	3.1	24	17
230	3.7	365.0	3.3	342.0	3.1	24	17
231	3.7	372.0	3.3	341.0	3.1	17	18
232	3.7	372.0	3.3	340.0	3.0	17	17
233	3.7	371.0	3.3	337.0	3.0	18	17
234	3.9	385.0	3.3	339.0	1.1	17	18
235	3.8	379.0	3.3	334.0	4.6	17	18
236	3.7	373.0	3.3	332.0	4.4	18	18
237	3.8	378.0	3.2	329.0	4.4	18	19
238	3.8	379.0	3.2	330.0	4.3	18	19
239	3.7	369.0	3.2	331.0	4.8	19	20
240	3.7	371.0	3.2	334.0	4.5	19	19
241	3.7	367.0	3.2	334.0	4.4	20	19
242	3.6	359.0	3.2	338.0	4.5	19	19
243	3.6	363.0	3.3	342.0	4.6	19	20
244	3.7	372.0	3.3	339.0	4.5	19	20
245	3.7	365.0	3.3	336.0	4.5	20	19
246	3.7	368.0	3.4	338.0	4.4	20	20
247	3.7	367.0	3.4	336.0	4.4	19	19
248	3.6	359.0	3.4	334.0	4.4	20	20
249	3.7	370.0	3.4	331.0	4.6	19	20
250	3.7	368.0	3.4	330.0	4.5	20	20
251	3.6	360.0	3.4	330.0	4.4	20	20
252	3.6	358.0	3.4	328.0	4.2	20	21
253	3.6	358.0	3.4	332.0	4.3	20	22
254	3.5	354.0	3.4	335.0	4.2	21	22
255	3.6	362.0	3.4	336.0	3.1	22	24
256	3.5	351.0	3.4	338.0	2.9	22	25
257	3.5	349.0	3.4	336.0	2.9	24	25
258	3.6	356.0	1.7	335.0	2.8	25	25
259	3.6	358.0	0.4	333.0	2.9	25	24
260	3.5	348.0	0.4	329.0	2.9	25	22
261	3.6	356.0	0.9	331.0	2.8	24	30
262	3.7	366.0	1.3	331.0	2.8	22	25
263	3.7	366.0	1.5	331.0	2.7	30	22
264	3.7	368.0	1.7	329.0	2.8	25	250
265	3.6	362.0	1.8	324.0	2.7	22	274
266	3.6	358.0	1.9	323.0	2.8	250	275
267	3.4	344.0	2.0	325.0	2.8	274	62
268	3.6	358.0	2.4	325.0	2.8	275	494
269	3.7	365.0	2.9	324.0	2.8	62	500
270	3.8	378.0	3.3	317.0	2.8	494	
271	3.8	378.0	3.4	322.0	2.7	500	
272	3.8	381.0	3.4	319.0	2.7		
273	3.7	372.0	3.1	321.0	2.8		
274	3.7	371.0	3.4		2.7		
275	3.7	369.0	3.3	Average	2.8		
276	3.7	367.0	3.3	275.6	2.7		
277	3.8	382.0	3.4		2.7		
278	3.7	374.0	3.4	90.0	2.7		
279	3.9	386.0	3.4	48.0	3.7		
280	3.7	374.0	3.4	38.0	3.9		
281	3.8	379.0	3.4	31.0	4.0		
282	3.9	385.0	3.4	29.0	4.0		
283	3.7	374.0	3.4	27.0	4.1		
284	3.8	377.0	3.3	25.0	4.1		
285	3.7	368.0	3.3	23.0	4.1		
286	3.6	363.0	3.3	22.0	4.1		
287	3.6	363.0	3.3	20.0	4.0		
288	3.7	369.0	3.3	19.0	4.0		
289	3.7	373.0	3.3	18.0	4.0		
290	3.7	368.0	3.3	17.0	4.0		
291	3.6	359.0	3.4	13.0	4.1		
292	3.6	361.0	3.4	14.0	4.1		
293	3.5	354.0	3.4	14.0	4.0		
294	3.6	364.0	3.4	12.0	4.0		
295	3.7	367.0	3.4	14.0	4.2		
296	3.7	370.0	3.4	14.0	4.1		

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297	3.8	379.0	3.3	13.0	4.1
298	3.7	372.0	3.3	13.0	4.2
299	3.6	364.0	3.3	13.0	4.2
300	0.4		3.3	13.0	4.1
301	0.2	Average	3.3	12.0	4.0
302	0.2	371.4	3.3	12.0	4.0
303	0.3		3.4	11.0	3.9
304	0.3	39.0	3.4	9.0	3.9
305	0.3	20.0	3.4	10.0	4.0
306	0.3	21.0	3.4	13.0	4.0
307	0.3	28.0	3.4	19.0	3.9
308	0.2	30.0	3.3	31.0	3.9
309	0.2	25.0	3.3	19.0	4.0
310	0.1	29.0	3.3	36.0	0.7
311	0.1	29.0	3.3	22.0	0.6
312	0.1	20.0	3.3	22.0	0.4
313	0.2	20.0	3.3	22.0	0.4
314	0.2	13.0	3.2	18.0	0.3
315	0.3	11.0	3.2	19.0	0.3
316	3.2	5.0	26.0	56.0	0.3
317	5.2	16.0	3.3	290.0	0.4
318	5.2	22.0	3.2	392.0	0.4
319	5.2	25.0	3.2	417.0	0.3
320	5.1	318.0	3.2	452.0	0.3
321	4.7	520.0	3.2	136.0	0.3
322	0.3	523.0	3.2	30.0	0.3
323	0.1	524.0	3.2	18.0	0.3
324	0.1	506.0	0.5	56.0	0.3
325	0.1	473.0	0.4	412.0	0.3
326	0.1	31.0	0.3	497.0	0.3
327	0.1	11.0	0.3	475.0	0.3
328	0.2	9.0	0.3	486.0	0.2
329	0.1	8.0	0.3	143.0	0.1
330	0.1	8.0	0.2	28.0	0.1
331	0.1	8.0	0.2	15.0	0.1
332	0.1	16.0	0.2	14.0	0.1
333	0.1	7.0	0.2	13.0	0.1
334	0.1	7.0	0.2	13.0	0.1
335	0.1	7.0	0.2	13.0	0.1
336	0.2	11.0	0.1	13.0	0.2
337	0.1	6.0	0.1	13.0	0.2
338	0.1	8.0	0.1	12.0	0.2
339	0.1	9.0	0.1	13.0	0.2
340	0.1	19.0	0.1	8.0	0.2
341	0.1	11.0	0.1	11.0	1.8
342	0.1	11.0	0.1	248.0	4.6
343	0.1	14.0	0.1	282.0	5.0
344	0.1	12.0	0.1	311.0	5.0
345	0.1	7.0	0.1	342.0	5.0
346	0.1	8.0	0.1	359.0	5.0
347	0.1	9.0	0.1	359.0	0.8
348	0.1	6.0	0.1	364.0	0.3
349	0.1	7.0	0.1	373.0	0.3
350	0.1	6.0	0.1	272.0	0.3
351	0.1	6.0	0.1	67.0	0.3
352	0.1	10.0	0.2		0.3
353	0.1	6.0	0.3		0.3
354	0.1	5.0	0.2		0.2
355	0.1	6.0	0.4		0.2
356	0.1	11.0	0.2		0.2
357	0.1	6.0	0.2		0.2
358	0.1	6.0	0.2		0.2
359	0.1	6.0	0.2		0.2
360	0.1	6.0	0.2		0.2
361	0.1	6.0	0.6		0.2
362	0.1	6.0	2.9		0.2
363	0.1	5.0	3.9		0.2
364	0.1	5.0	4.2		0.2
365	0.1	9.0	4.5		0.2
366	0.2	10.0	1.4		0.2
367	0.2	9.0	0.3		0.2
368	0.1	8.0	0.2		0.2
369	0.2	13.0	0.6		0.2
370	0.1	16.0	4.1		0.2
371	0.1	15.0	5.0		0.2
372	0.1	9.0	4.8		0.2
373	0.1	18.0	4.9		0.2
374	0.1	13.0	1.4		0.2
375	0.2	10.0	0.3		0.2
376	0.1	6.0	0.2		0.2
377	0.1	5.0	0.1		0.2
378	0.1	13.0	0.1		0.2
379	0.1	22.0	0.1		0.2
380	0.2	9.0	0.1		0.2
381	0.2	11.0	0.1		0.2
382	0.2	5.0	0.1		0.2
383	0.2	5.0	0.1		0.3
384	0.1	20.0	0.1		0.3
385	0.2	17.0	0.1		0.3
386	0.2	29.0	0.1		0.2
387	0.2	21.0	2.5		0.2
388	0.1	11.0	2.8		0.3
389	0.1	16.0	3.1		0.3
390	0.1	16.0	3.4		0.2
391	0.1	15.0	3.6		2.5
392	0.1	6.0	3.6		2.7
393	0.1	11.0	3.6		2.8
394	0.1	7.0	3.7		0.6
395	0.2	6.0	2.7		4.9
396	0.2	12.0	0.7		8.0
		6.0			
		6.0			
		16.0			

26.0

495

495

VOC3

19.0

FILE NAM a:\vocal

LOGGING 1

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C MODULE SAMPLE UNITS:	1A Voltage 15 sec Volts	1B Voltage 15 sec Volts	2A Voltage 15 sec Volts	2B Voltage 15 sec Volts	
	VOC #1	VOC #2	VOC #3	VOC #4	
1	0.1	8.0	0.0	-2.0	0.1
2	0.1	8.0	0.0	-2.0	0.1
3	0.1	9.0	0.0	-1.0	0.1
4	0.0	2.0	0.0	-2.0	0.1
5	-0.1	-6.0	0.0	-1.0	0.1
6	-0.1	-6.0	0.0	-2.0	0.1
7	0.0	-4.0	0.0	-2.0	0.1
8	0.0	-4.0	0.0	-2.0	0.1
9	0.0	-4.0	0.0	-2.0	0.1
10	0.0	-4.0	0.0	-2.0	0.1
11	0.0	-4.0	0.0	-2.0	0.1
12	0.0	-3.0	0.0	-2.0	0.1
13	0.0	-4.0	0.0	-2.0	0.1
14	0.0	3.0	0.0	-2.0	0.1
15	0.0	2.0	0.0	-2.0	0.1
16	0.0	1.0	0.0	-2.0	0.1
17	0.0	1.0	0.0	-2.0	0.1
18	0.0	3.0	0.0	-2.0	0.1
19	0.0	3.0	0.0	-2.0	0.1
20	0.0	3.0	0.0	-2.0	0.1
21	8.7	898.0	0.0	-2.0	0.1
22	8.8	851.0	0.0	-2.0	0.1
23	9.1	910.0	0.0	-2.0	0.1
24	9.2	919.0	0.0	-2.0	0.1
25	9.0	898.0	0.0	-2.0	0.1
26	0.1	7.0	0.0	-2.0	0.1
27	0.1	5.0	0.0	-2.0	0.1
28	0.1	5.0	0.0	-2.0	0.1
29	2.0	202.0	0.0	-2.0	0.1
30	2.0	203.0	0.0	-2.0	0.1
31	2.0	201.0	0.0	-2.0	0.1
32	2.0	201.0	0.0	-2.0	0.1
33	2.0	199.0	0.0	-2.0	0.1
34	0.0	4.0	0.0	-2.0	0.1
35	0.1	5.0	0.0	-2.0	0.1
36	0.0	4.0	0.0	-2.0	0.1
37	5.0	502.0	0.0	-2.0	0.1
38	5.1	506.0	0.0	-2.0	0.1
39	5.1	505.0	0.0	-2.0	0.1
40	5.1	507.0	0.0	-3.0	0.1
41	5.0	503.0	0.0	-2.0	0.1
42	0.1	6.0	0.0	-2.0	0.1
43	0.0	4.0	0.0	-3.0	0.1
44	0.0	4.0	0.0	-3.0	0.1
45	0.0	4.0	0.0	-3.0	0.1
46	0.0	3.0	0.0	-3.0	0.1
47	0.0	4.0	0.0	-3.0	0.1
48	0.0	4.0	0.0	-3.0	0.0
49	0.0	4.0	0.0	-3.0	0.0
50	0.0	3.0	0.0	-3.0	0.0
51	0.0	4.0	0.0	-3.0	0.0
52	0.0	4.0	0.0	-3.0	0.0
53	0.0	3.0	0.0	-3.0	0.0
54	0.0	3.0	0.0	-3.0	0.0
55	0.0	4.0	0.0	-3.0	0.0
56	0.0	4.0	0.0	-3.0	0.0
57	0.0	4.0	0.0	-3.0	0.0
58	0.0	4.0	0.0	-3.0	0.0
59	0.0	4.0	0.0	-3.0	0.0
60	0.0	3.0	0.0	-3.0	0.0
61	0.0	3.0	0.0	-1.0	0.0
62	0.0	3.0	0.0	-1.0	0.0
63	0.0	4.0	0.0	-1.0	0.0
64	0.0	4.0	0.0	0.0	0.0
65	0.0	4.0	0.0	0.0	0.0
66	0.0	3.0	0.0	-3.0	0.0
67	0.0	4.0	0.0	-3.0	0.0
68	0.0	3.0	0.0	-3.0	0.0
69	0.0	3.0	0.0	-3.0	0.0
70	0.0	3.0	0.0	-3.0	0.0
71	0.0	4.0	0.0	-3.0	0.0
72	0.0	4.0	0.0	-3.0	0.0
73	0.0	4.0	0.0	-3.0	0.0
74	0.0	4.0	0.0	-3.0	0.0
75	0.0	3.0	0.0	-3.0	0.0
76	0.0	3.0	0.0	-3.0	0.0
77	0.0	3.0	0.0	-3.0	0.0
78	0.0	4.0	0.0	-3.0	0.0
79	0.0	3.0	0.0	-3.0	0.0
80	0.0	3.0	0.0	-3.0	0.0
81	0.0	4.0	0.0	-3.0	0.0
82	0.0	3.0	0.0	-3.0	0.0
83	0.0	3.0	0.0	-1.0	0.0
84	0.0	3.0	0.0	-3.0	0.0
85	0.0	4.0	0.0	-3.0	0.0
86	0.0	4.0	0.0	-1.0	0.0
87	0.0	3.0	0.0	0.0	0.0
88	0.0	4.0	0.0	-1.0	0.0
89	0.0	4.0	0.0	-1.0	0.0
90	0.0	4.0	0.0	-1.0	0.0
91	0.0	3.0	0.0	-1.0	0.0
92	0.0	4.0	0.0	-4.0	0.0
93	0.0	4.0	0.0	-4.0	0.0

909 ppm

200 ppm

495 ppm

VOC #1

94	0.0	3.0	0.0	-4.0	0.0	-1.0	0.1	9
95	0.0	4.0	0.0	-4.0	0.0	-1.0	0.1	9
96	0.0	4.0	0.0	-4.0	10.0	999.0	0.1	9
97	0.1	5.0	0.0	-4.0	10.0	999.0	0.1	9
98	0.0	4.0	0.0	-4.0	10.0	999.0	0.1	9
99	0.0	4.0	0.0	-4.0	0.0	4.0	0.1	9
100	0.0	4.0	0.0	-4.0	10.0	999.0	0.1	9
101	-0.1	-5.0	0.0	-1.0	10.0	999.0	0.1	9
102	-0.1	-5.0	0.0	-4.0	10.0	999.0	0.1	9
103	-0.1	-5.0	0.0	-4.0	9.1	908.0	0.1	9
104	-0.1	-5.0	0.0	-4.0	9.1	908.0	0.1	9
105	-0.1	-5.0	0.0	-4.0	8.7	871.0	0.1	9
106	-0.1	-5.0	0.0	-4.0	0.0	-1.0	0.1	9
107	-0.1	-5.0	0.0	-4.0	0.0	-1.0	0.1	9
108	-0.1	-5.0	0.0	-4.0	4.8	475.0	0.1	9
109	-0.1	-5.0	0.0	-4.0	4.8	478.0	0.1	9
110	-0.1	-5.0	0.0	-4.0	4.8	478.0	0.1	9
111	-0.1	-5.0	0.0	-4.0	4.8	478.0	0.1	9
112	-0.1	-5.0	0.0	-4.0	4.8	478.0	0.1	9
113	-0.1	-5.0	0.0	-4.0	4.7	474.0	0.1	9
114	-0.1	-5.0	0.0	-4.0	0.2	22.0	0.1	9
115	-0.1	-5.0	0.0	-4.0	0.0	-1.0	0.1	9
116	-0.1	-5.0	0.0	-4.0	8.7	889.0	0.1	10
117	0.0	-4.0	0.0	-4.0	8.9	890.0	0.1	9
118	-0.1	-5.0	0.0	-4.0	9.1	911.0	0.1	9
119	-0.1	-5.0	0.0	-4.0	9.1	910.0	0.1	9
120	-0.1	-5.0	0.0	-4.0	9.1	908.0	0.1	9
121	-0.1	-5.0	0.0	-3.0	0.0	3.0	0.1	9
122	-0.1	-5.0	0.0	-2.0	0.0	-1.0	0.1	9
123	-0.1	-5.0	0.0	-4.0	0.0	-1.0	0.1	9
124	-0.1	-5.0	0.4	36.0	0.0	-1.0	0.1	9
125	-0.1	-5.0	0.0	2.0	0.0	-1.0	0.1	8
126	-0.1	-5.0	-0.1	-0.0	0.0	-1.0	0.1	8
127	-0.1	-5.0	-0.1	-5.0	0.0	-1.0	0.1	8
128	-0.1	-5.0	0.0	-2.0	0.0	-1.0	0.1	8
129	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	8
130	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	8
131	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	8
132	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	8
133	-0.1	-5.0	0.0	-1.0	5.1	510.0	0.1	9
134	-0.1	-5.0	0.0	-1.0	5.1	512.0	0.1	9
135	-0.1	-5.0	0.0	-1.0	5.1	512.0	0.1	7
136	-0.1	-5.0	0.0	-2.0	5.1	511.0	0.1	6
137	-0.1	-5.0	2.8	258.0	0.0	-1.0	0.1	6
138	-0.1	-5.0	2.7	265.0	0.0	-1.0	0.1	6
139	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
140	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
141	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
142	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
143	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
144	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
145	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
146	-0.1	-5.0	0.0	-1.0	0.0	-1.0	0.1	6
147	0.0	-1.0	0.0	-1.0	0.0	-1.0	0.1	6
148	0.0	-1.0	0.0	-1.0	0.0	-1.0	0.1	6
149	0.0	1.0	0.0	-1.0	0.0	1.0	0.1	6
150	0.0	3.0	0.0	-1.0	0.0	1.0	0.1	6
151	0.0	2.0	0.0	-1.0	0.0	1.0	0.1	6
152	0.0	2.0	0.0	-1.0	1.9	187.0	0.1	6
153	0.0	3.0	0.0	-1.0	2.0	198.0	0.1	6
154	0.0	2.0	0.0	-1.0	2.0	198.0	0.1	6
155	0.0	2.0	0.0	-1.0	2.0	198.0	0.1	6
156	0.0	2.0	0.0	-1.0	2.0	198.0	0.1	6
157	0.0	2.0	0.0	-1.0	2.0	198.0	0.0	4
158	0.0	2.0	0.0	-1.0	2.0	195.0	0.0	2
159	0.0	2.0	0.0	-2.0	0.1	10.0	0.0	2
160	0.0	2.0	0.0	-2.0	0.0	1.0	0.0	-1
161	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	-1
162	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	-1
163	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	-1
164	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	-1
165	0.0	2.0	6.2	623.0	0.0	1.0	0.0	2
166	0.0	2.0	0.0	-1.0	0.0	1.0	7.2	722
167	0.0	2.0	0.0	-1.0	0.0	1.0	7.5	754
168	0.0	2.0	0.0	-1.0	0.0	1.0	9.1	911
169	0.0	2.0	0.0	-1.0	0.0	1.0	9.1	908
170	0.0	3.0	9.9	994.0	0.0	1.0	7.9	791
171	0.0	3.0	9.9	994.0	0.0	1.0	10	10
172	0.0	3.0	9.0	899.0	0.0	1.0	0.1	6
173	0.0	3.0	8.9	888.0	0.0	1.0	0.1	6
174	0.0	3.0	8.8	879.0	0.0	1.0	8.8	878
175	0.0	3.0	8.3	834.0	0.0	2.0	8.9	891
176	0.0	3.0	5.0	5.0	0.0	3.0	9.1	910
177	0.0	3.0	0.0	1.0	0.0	3.0	9.1	910
178	0.0	3.0	4.7	473.0	0.1	5.0	9.0	896
179	0.0	3.0	4.7	474.0	0.0	4.0	3.8	383
180	0.0	3.0	4.7	474.0	0.0	2.0	0.1	8
181	0.0	3.0	4.7	473.0	0.0	1.0	0.1	6
182	0.0	3.0	4.7	468.0	0.0	1.0	5.2	520
183	0.0	3.0	0.0	1.0	0.0	1.0	5.2	522
184	0.0	3.0	1.8	184.0	0.0	1.0	5.2	522
185	0.0	3.0	1.8	179.0	0.0	1.0	5.2	520
186	0.0	3.0	1.8	179.0	0.0	1.0	4.9	493
187	0.0	3.0	1.8	178.0	0.0	1.0	0.1	13
188	0.0	3.0	0.0	1.0	0.0	1.0	1.8	177
189	0.0	3.0	0.0	-1.0	0.0	1.0	2.1	213
190	0.0	3.0	0.0	-1.0	0.0	1.0	2.1	213
191	0.0	3.0	0.0	-2.0	0.0	1.0	2.1	213
192	0.0	3.0	0.0	-1.0	0.0	1.0	2.1	211
193	0.0	3.0	0.0	-1.0	0.0	1.0	0.1	7
194	0.0	3.0	0.0	-1.0	0.0	1.0	0.1	6
195	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
196	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4

909 ppm

909 ppm

495 ppm

200 ppm

909 ppm

495 ppm

200 ppm

VOCCAL

197	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	4
198	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
199	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
200	0.0	2.0	0.0	-1.0	0.0	0.0	0.0	4
201	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
202	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
203	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
204	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
205	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	3
206	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	4
207	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	3
208	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	3
209	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
210	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
211	0.0	3.0	0.0	-2.0	0.0	1.0	0.0	3
212	0.0	3.0	0.0	-1.0	0.0	-1.0	0.0	3
213	0.0	3.0	0.0	-1.0	0.0	1.0	0.0	3
214	0.0	2.0	0.0	-2.0	0.0	1.0	0.0	3
215	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
216	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
217	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
218	0.0	3.0	0.0	-2.0	0.0	1.0	0.0	3
219	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
220	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
221	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
222	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
223	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
224	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
225	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
226	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
227	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
228	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
229	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
230	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
231	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
232	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
233	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
234	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
235	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	3
236	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
237	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
238	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
239	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
240	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
241	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	3
242	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
243	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
244	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
245	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
246	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
247	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
248	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
249	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
250	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
251	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
252	0.0	2.0	0.0	-1.0	0.0	1.0	0.0	2
253	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
254	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
255	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
256	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
257	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2
258	0.0	2.0	0.0	-1.0	0.0	-1.0	0.0	2

FILE NAME:

LOGGING SESSION: #####
#####ACTIVE CHANNELS: 2B
MODULE TYPE: Voltage
SAMPLE RATE: 16 sec
UNITS: Volts Stack #2

Start			
Run#4	1	4.7	472
322	2	4.5	451
	3	4.5	449
	4	4.5	452
	5	4.5	450
	6	4.7	456
	7	4.5	452
	8	4.5	453
	9	4.5	446
	10	4.5	445
	11	4.5	445
	12	4.3	432
	13	4.3	432
	14	4.4	438
	15	4.4	436
	16	4.3	428
	17	4.4	437
	18	4.3	433
	19	4.4	435
	20	4.3	429
	21	4.3	429
	22	4.3	432
	23	4.3	434
	24	4.3	430
	25	4.4	442
	26	4.5	445
	27	4.4	442
	28	4.5	448
	29	4.5	448
	30	4.5	447
	31	4.5	447
	32	4.4	435
	33	4.3	427
	34	4.3	427
	35	4.3	429
	36	4.3	429
	37	4.3	425
	38	4.3	431
	39	4.4	438
	40	4.4	437
	41	4.5	453
	42	4.5	452
	43	4.5	450
	44	4.5	445
	45	4.5	445
	46	4.3	428
	47	4.3	427
	48	4.5	447
	49	4.4	443
	50	4.3	428
	51	4.3	427
	52	4.5	446
	53	4.4	441
	54	4.3	432
	55	4.3	429
	56	4.4	442
	57	4.4	435
	58	4.3	428
	59	4.3	427
	60	4.3	427
	61	4.3	432
	62	4.2	419
	63	4.5	445
	64	4.4	436
	65	4.3	432
	66	4.4	437
	67	4.4	443
	68	4.4	439
	69	4.3	427
	70	4.4	439
	71	4.3	433
	72	4.5	445
	73	4.5	452
	74	4.4	441
	75	4.4	444
	76	4.7	474
	77	4.5	445
	78	4.5	446
	79	4.5	454
	80	4.8	459
	81	4.5	445
	82	4.9	485
	83	4.8	477
	84	4.8	477
	85	4.8	477
	86	4.8	478
	87	5.0	495
	88	4.9	482
	89	4.9	489
	90	5.1	506
	91	5.0	497
	92	5.0	497
	93	5.2	515

Stack #2 Average 520.66

94	5.1	505
95	5.1	506
96	5.0	502
97	5.1	511
98	5.2	522
99	5.2	524
100	5.2	521
101	5.3	527
102	5.1	506
103	5.1	514
104	5.4	540
105	5.4	540
106	5.2	519
107	5.3	528
108	5.4	536
109	5.2	519
110	5.1	512
111	5.2	524
112	5.2	523
113	5.2	518
114	5.1	508
115	5.2	523
116	5.4	536
117	5.3	533
118	5.2	518
119	5.3	531
120	5.4	536
121	5.2	520
122	5.4	540
123	5.5	545
124	5.4	536
125	5.4	536
126	5.4	539
127	5.3	533
128	5.3	525
129	5.3	531
130	5.4	540
131	5.4	544
132	5.4	536
133	5.4	540
134	5.5	546
135	5.5	553
136	5.5	549
137	5.4	535
138	5.3	528
139	5.3	530
140	5.4	540
141	5.4	536
142	5.3	529
143	5.3	531
144	5.3	533
145	5.4	539
146	5.4	544
147	5.5	550
148	5.6	556
149	5.6	561
150	5.6	559
151	5.6	567
152	5.6	561
153	5.7	565
154	5.6	563
155	5.7	567
156	5.7	571
157	5.8	575
158	5.7	574
159	5.8	582
160	5.7	573
161	5.8	581
162	5.9	590
163	5.9	589
164	6.0	597
165	6.1	606
166	6.1	607
167	6.0	600
168	6.0	599
169	6.1	611
170	6.1	611
171	6.2	619
172	6.2	615
173	6.1	612
174	6.1	606
175	6.0	604
176	6.0	598
177	6.0	600
178	6.1	606
179	6.1	605
180	6.0	601
181	5.9	599
182	6.0	597
183	5.9	588
184	5.9	593
185	5.9	590
186	5.8	583
187	5.8	575
188	5.8	578
189	5.7	566
190	5.7	569
191	5.6	564
192	5.7	571
193	5.7	569
194	5.9	585
195	5.8	584
196	5.8	576

197	5.8	580
198	6.0	588
199	5.9	584
200	6.0	588
201	6.0	603
202	6.2	619
203	6.1	607
204	6.0	601
205	6.0	602
206	6.1	610
207	6.0	603
208	6.1	606
209	6.1	606
210	6.1	611
211	6.1	614
212	6.1	606
213	5.9	592
214	6.0	601
215	6.0	601
216	6.0	600
217	6.0	599
218	6.0	601
219	6.1	605
220	6.2	618
221	6.1	607
222	6.2	615
223	6.1	614
224	6.2	618
225	6.2	621
226	6.1	611
227	6.1	608
228	6.0	602
229	6.0	601
230	6.0	598
231	6.1	610
232	6.0	604
233	6.1	610
234	6.1	611
Stop		
Run#4		520.662
422		
235	2.2	224
236	1.6	166
237	1.2	124
238	1.3	127
239	1.2	123
240	1.2	116
241	1.1	106
242	1.0	98
243	0.9	86
244	0.8	79
245	0.7	71
246	0.6	64
247	0.6	59
248	0.5	54
249	0.5	50
250	0.5	47
251	0.4	44
252	0.4	41
253	0.4	39
254	0.4	38
255	0.4	37
256	0.4	35
257	0.3	34
258	0.3	33
259	0.3	32
260	0.3	32
261	0.2	19
262	0.2	16
263	0.2	16
264	0.3	27
265	0.3	27
266	0.3	26
267	0.3	26
268	0.3	26
269	0.3	25
270	3.8	380
271	4.4	442
272	4.4	442
273	4.5	445
274	0.4	42
275	0.3	32

Dryer VOC #1+2

Pg 1

Start Run #1 9:05

VOC #1 Stack 2

VOC #1 In Stack #2

VOC #2 In Stack #5

VOC #3 In Stack #3 #2 VOC 200

VOC #4 In Stack #4 VOC 200

VOC #1 HRS

VOC #1 VOC #2

703 VOC #1+2

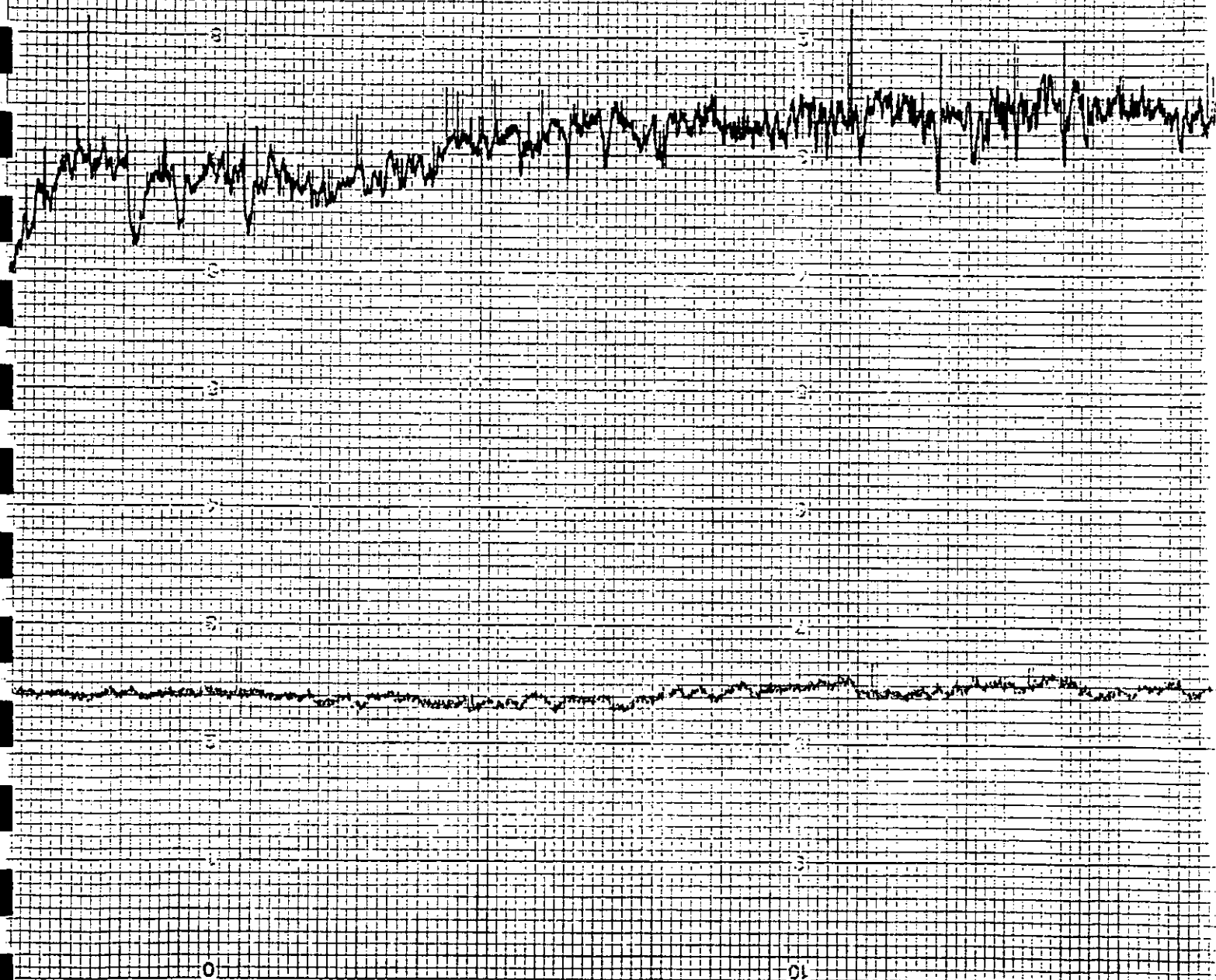
LP HRS

6/24/95

Depts # 2, #5, VOC

VOC #1+2 Stack 5

Pryer doc #1+2
Pg 2



Pryer Voc #1 + 2
Pg 3

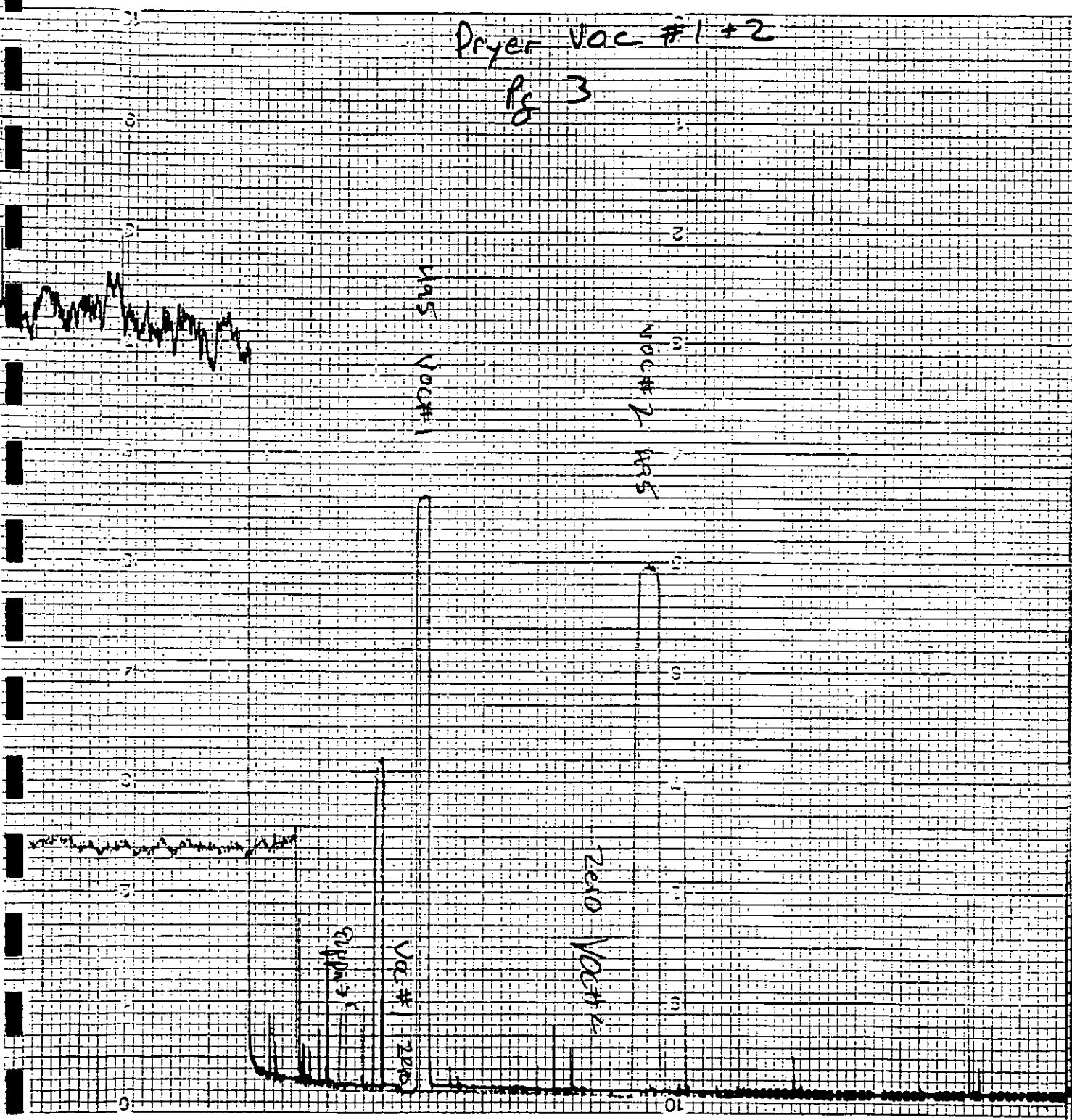
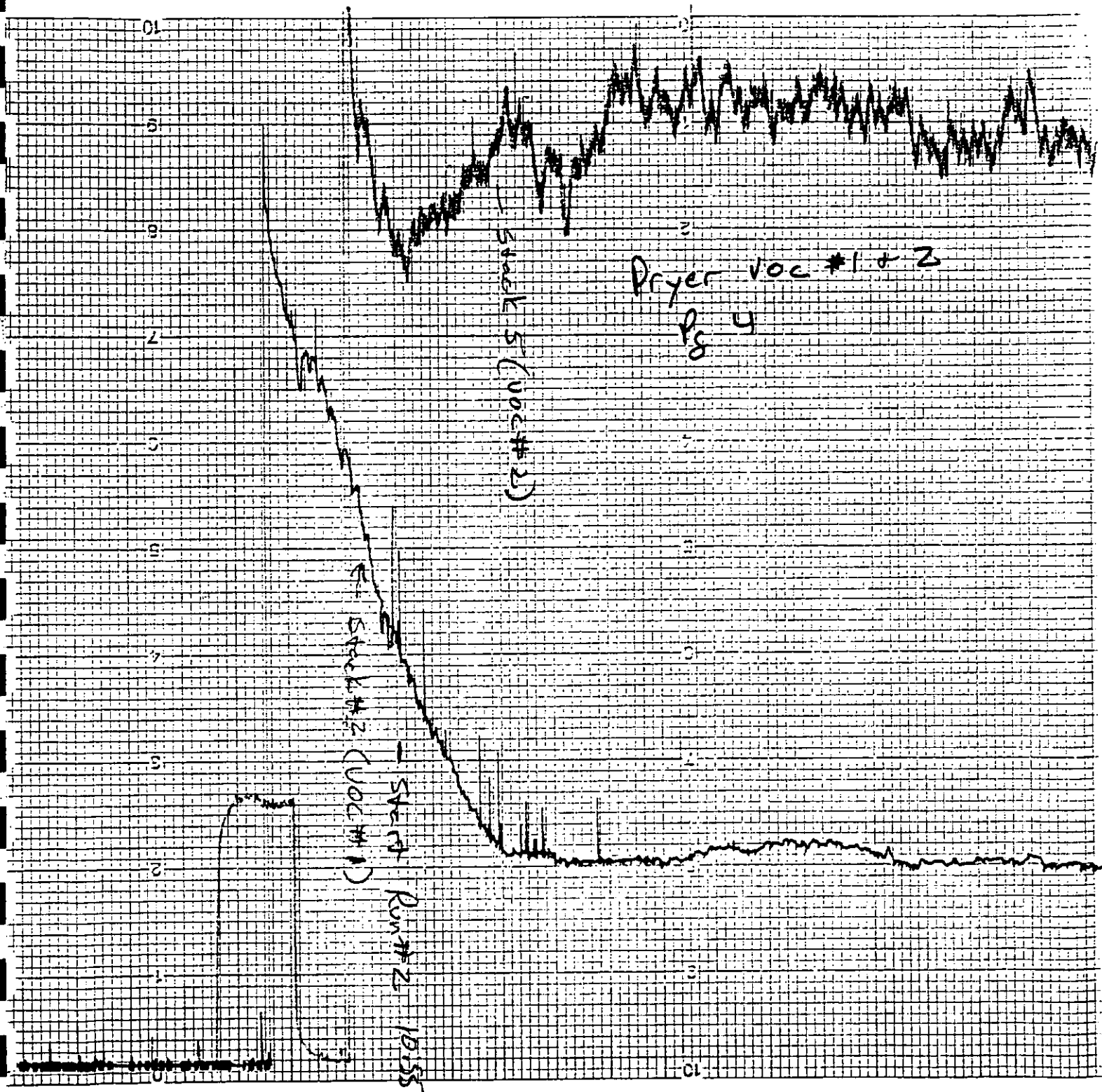
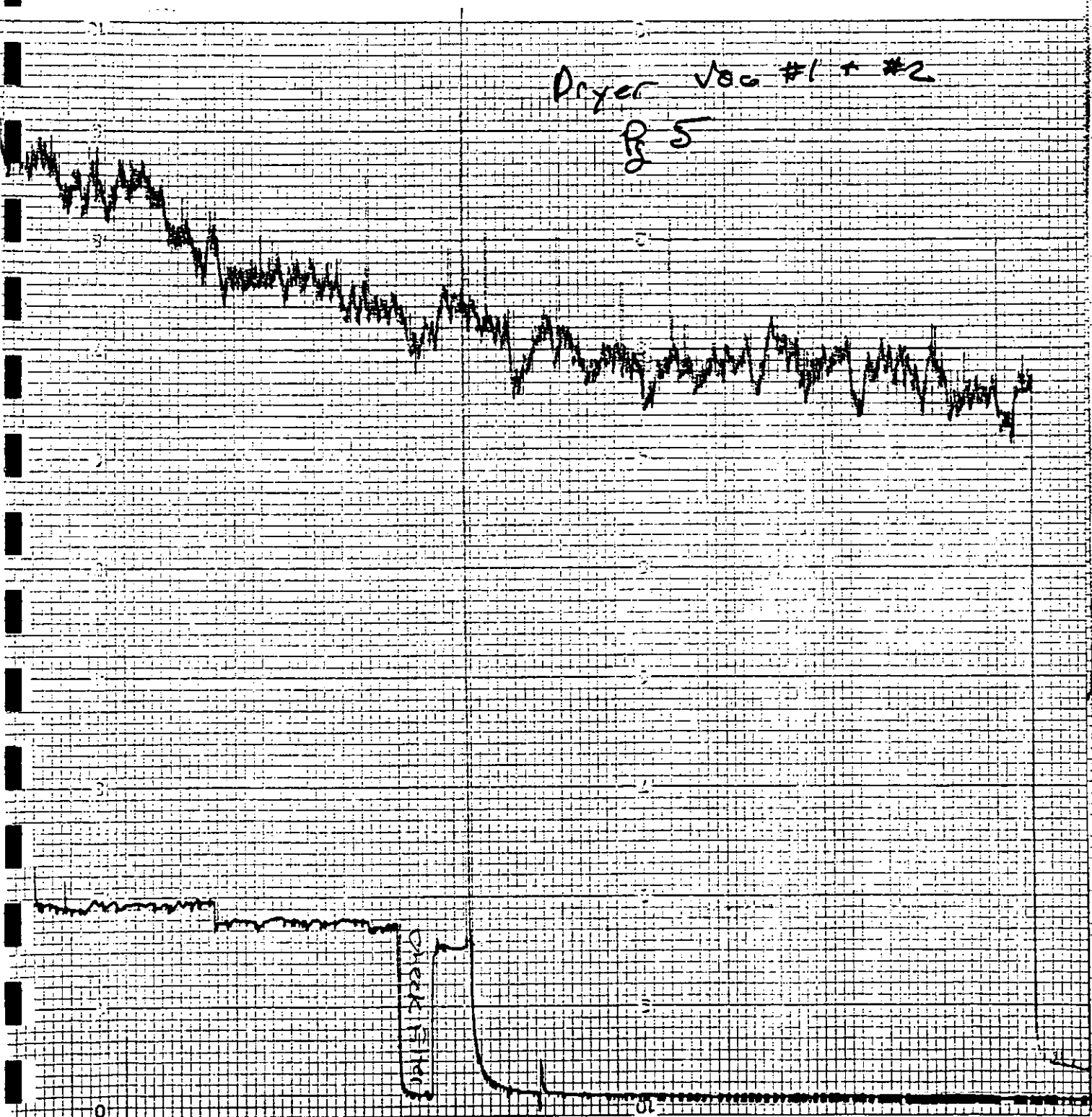


CHART NO. RC-3105



Dryer V_{ac} #1 + #2
P 5



Dryer V.O.C. #1 + #2
Pg 6

VOC #2

USE PREVIOUS

VOC #2 zero

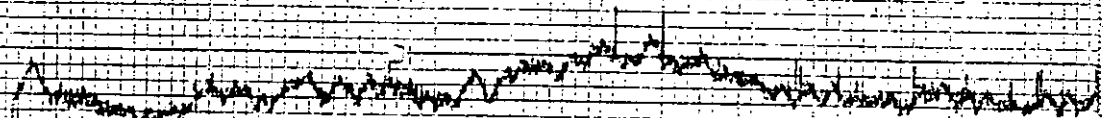
CHART NO. AO-3125

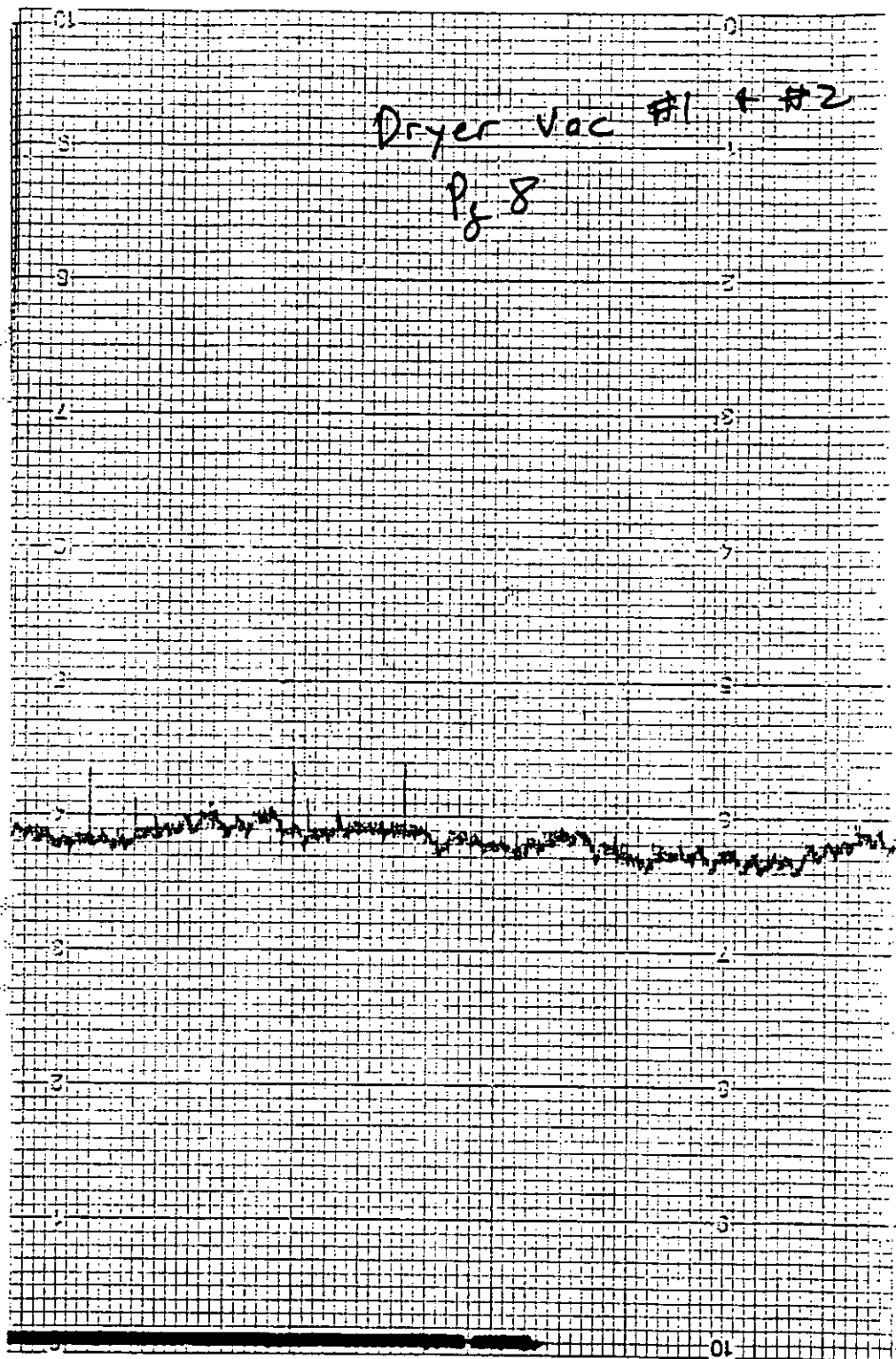
Stack #3

Pryer Doc #1 + #2
Pg 7

Stack Runs 1:57

—





Dryer Voc #3 + #4

pg 1

909 Voc #4

909 Voc #3

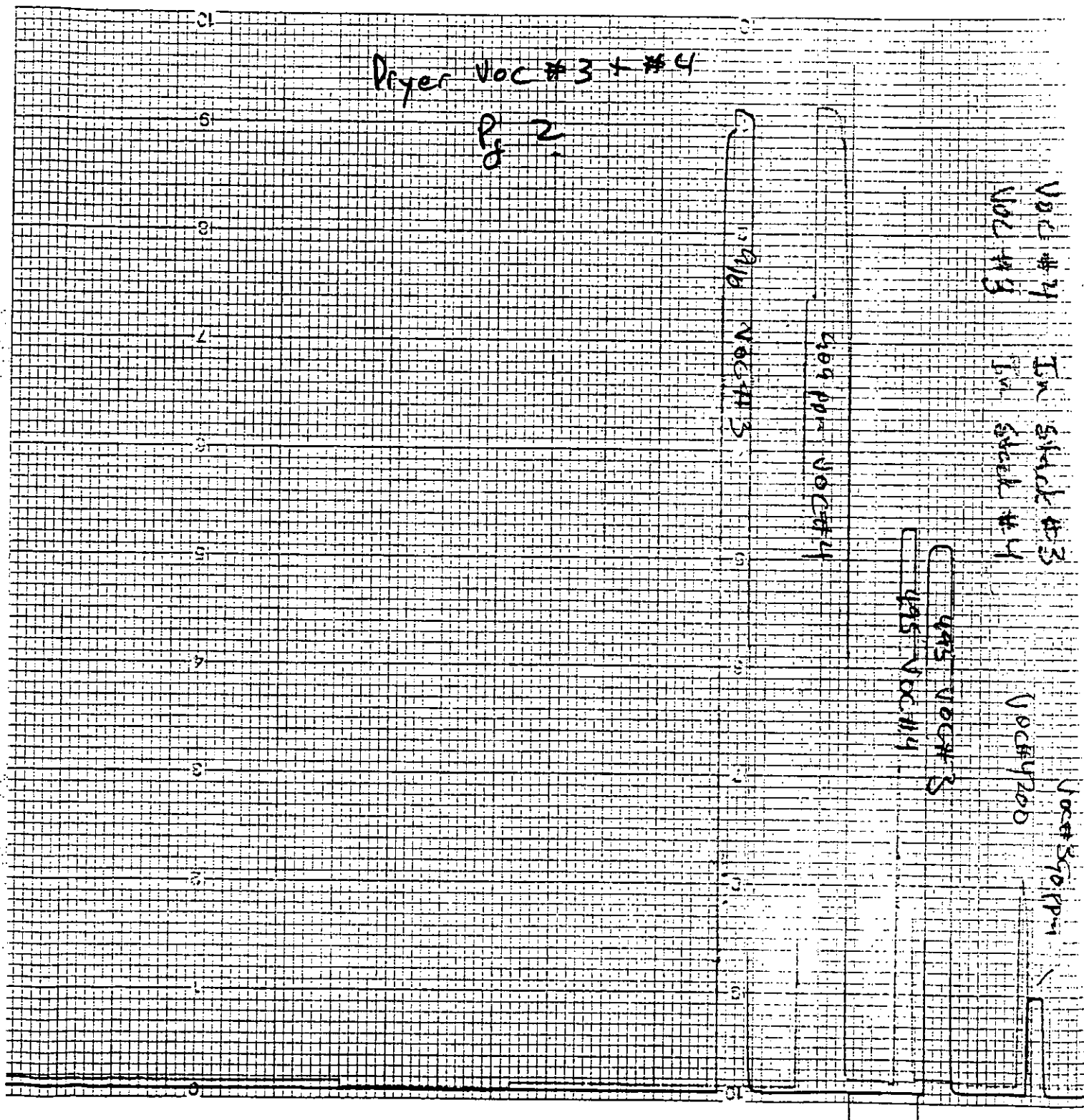
495 Voc #3

495 Voc #4

200 Voc #3

200 Voc #4

Voc #4 200



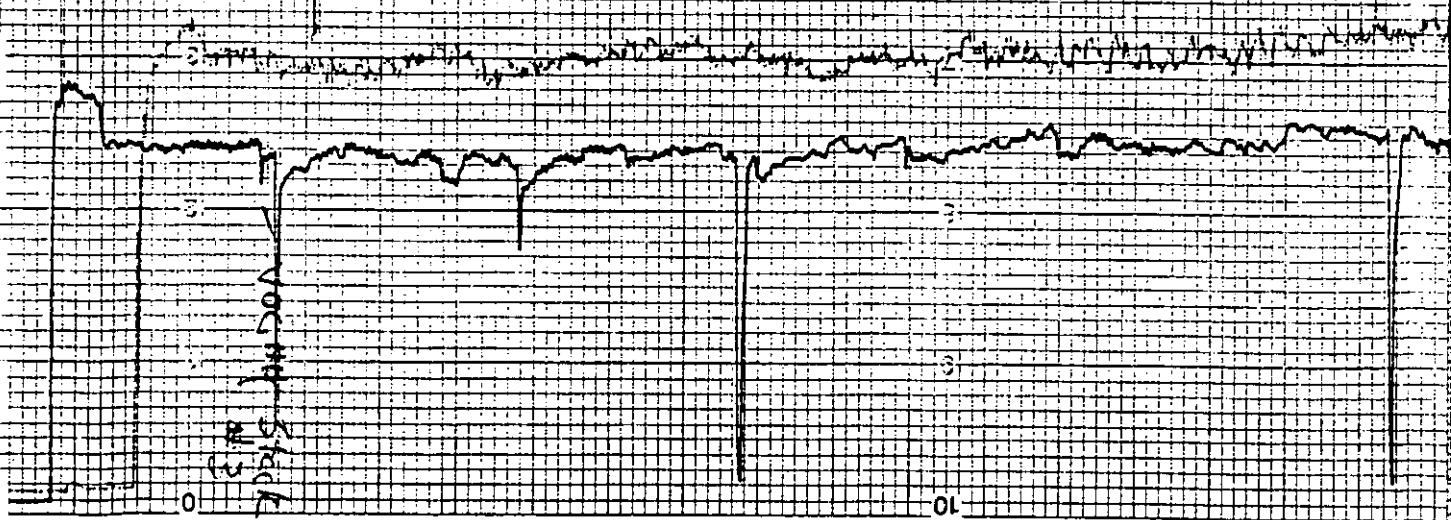
Dryer VOC #3 + #4

Pg 3

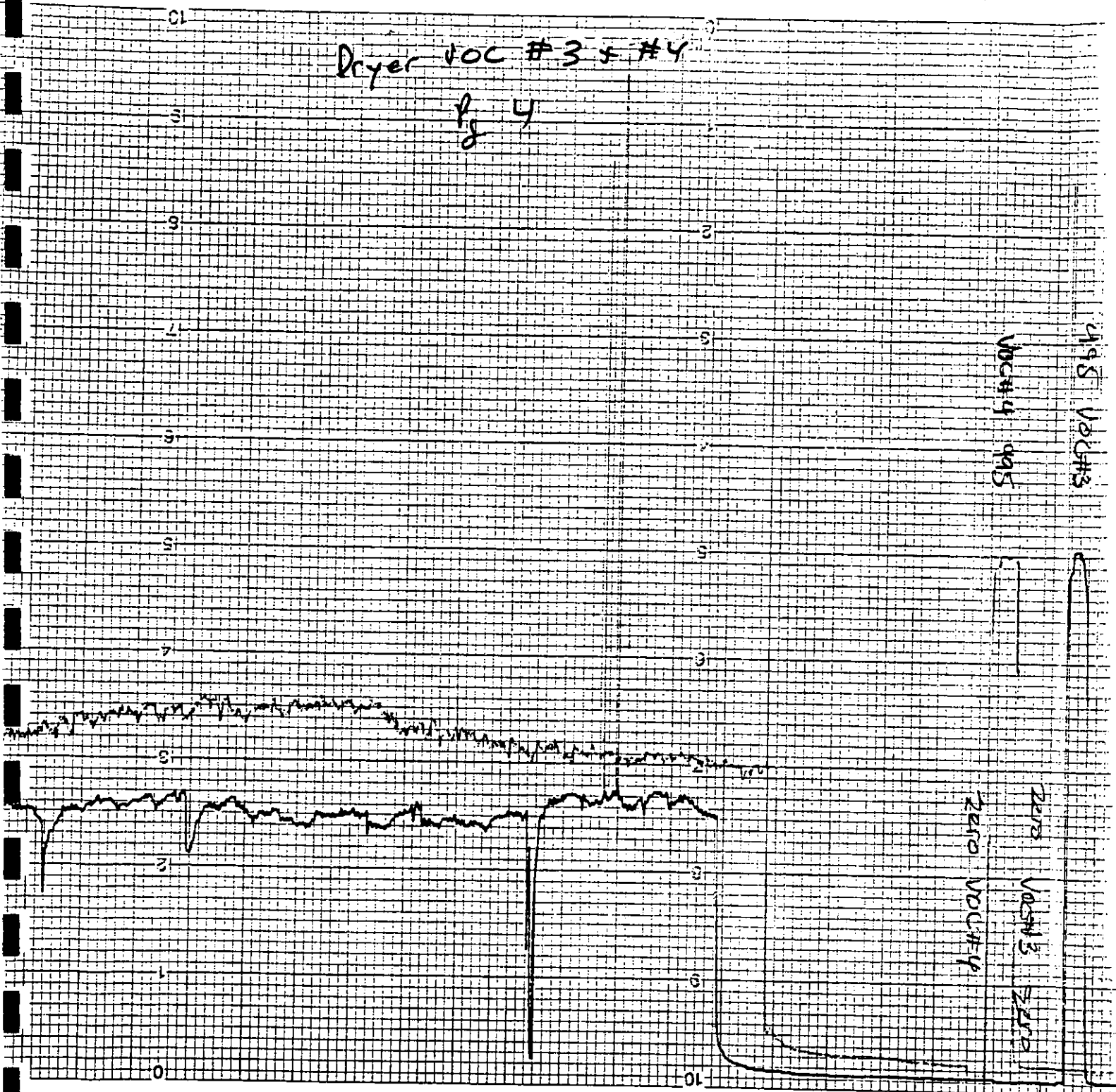
Run #1 Start 9:05

VOC #1 Stack #1

VOC #4 Stack #2

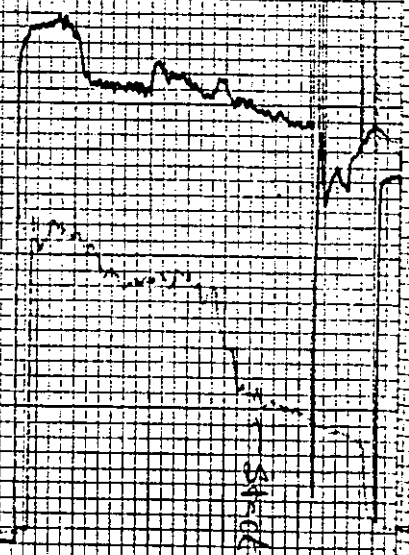


Dryer VOC #3 & #4
Pg 4



Dryer voc #3 + #4
Pg 5

SPAIN Run #2 10:35



Dyer Voc #3 + #4

Pg 6

Wind Shift Stack #3
(Voc #4)

Stack #4
(Voc #3)

OUT OF STACK

Dryer VOC #3 + #4

P 7

510P Dryer

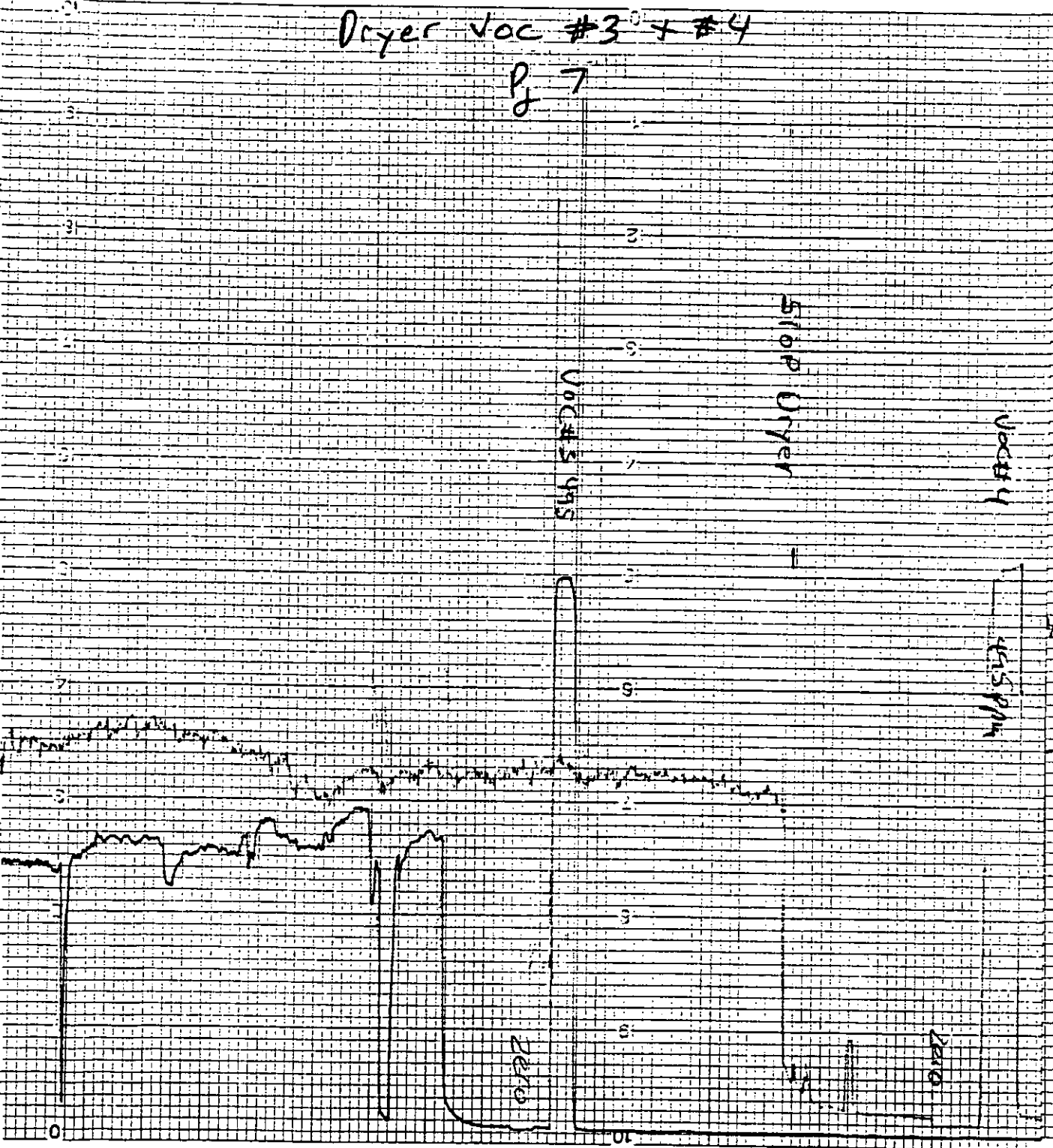
VOC #4

455 ppm

VOC #3 495

ZERO

ZERO



Dryer Voc #3 + #4

Pg 8

Voc #3 - Stack #2
Voc #4 - Stack #4 + #5

1.57 Start Run #3

Stack #4 202

Stack #5

495 PM C808

496 PM C818

498 PM C818

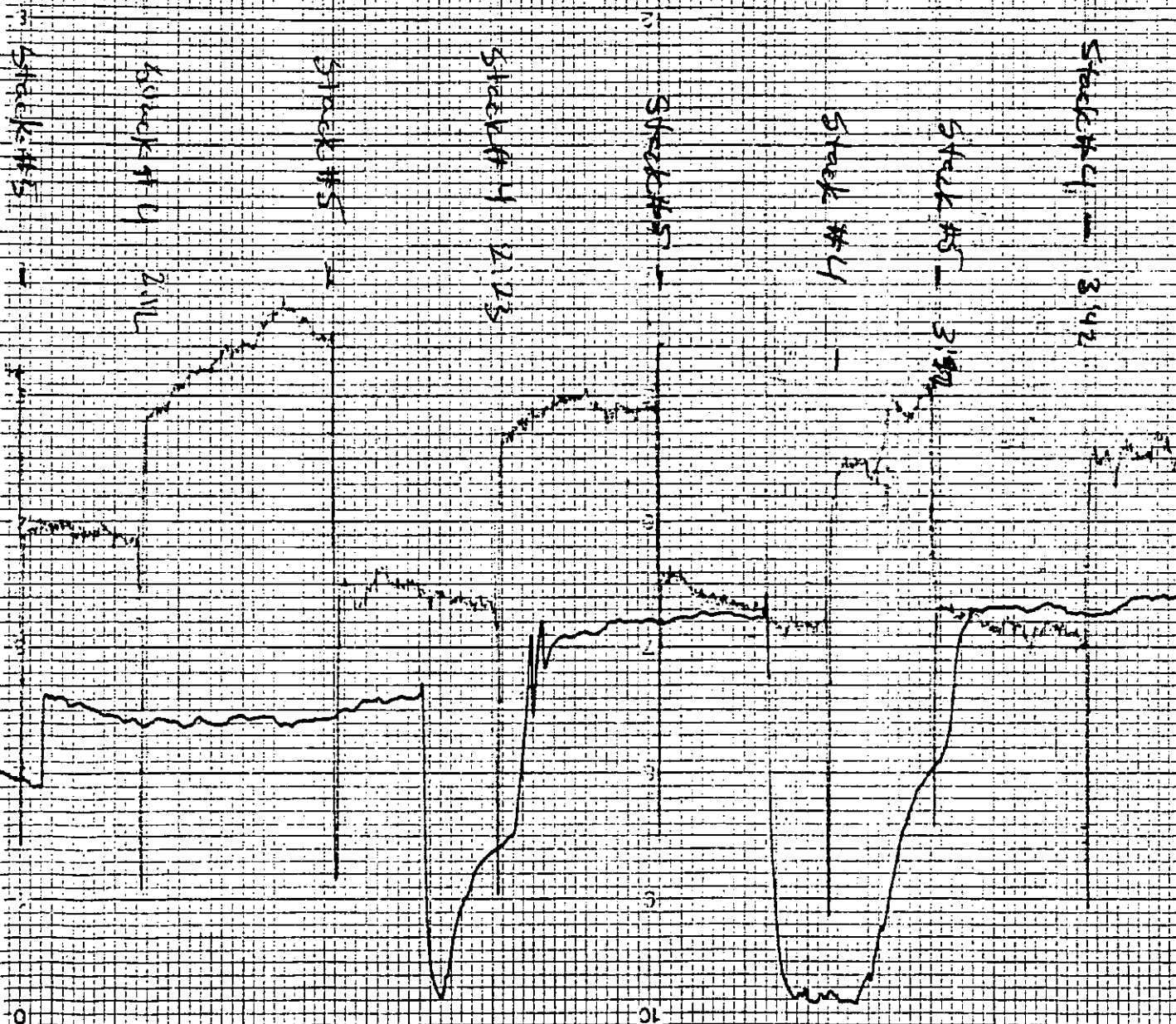
498 PM C818

Stack #2

2.107

Dryer VOC #3 + #4

P 9



Dryer VOC #3 + #4
Pg 10

Stop Run #3 = 2:58

Stack #4

Stack #5 3:47

3:22 Start Stack #2

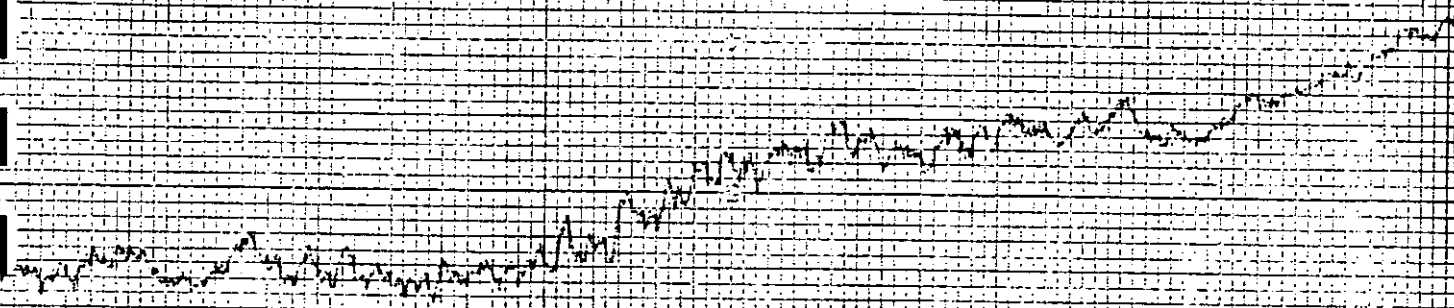
Stack #2 Start



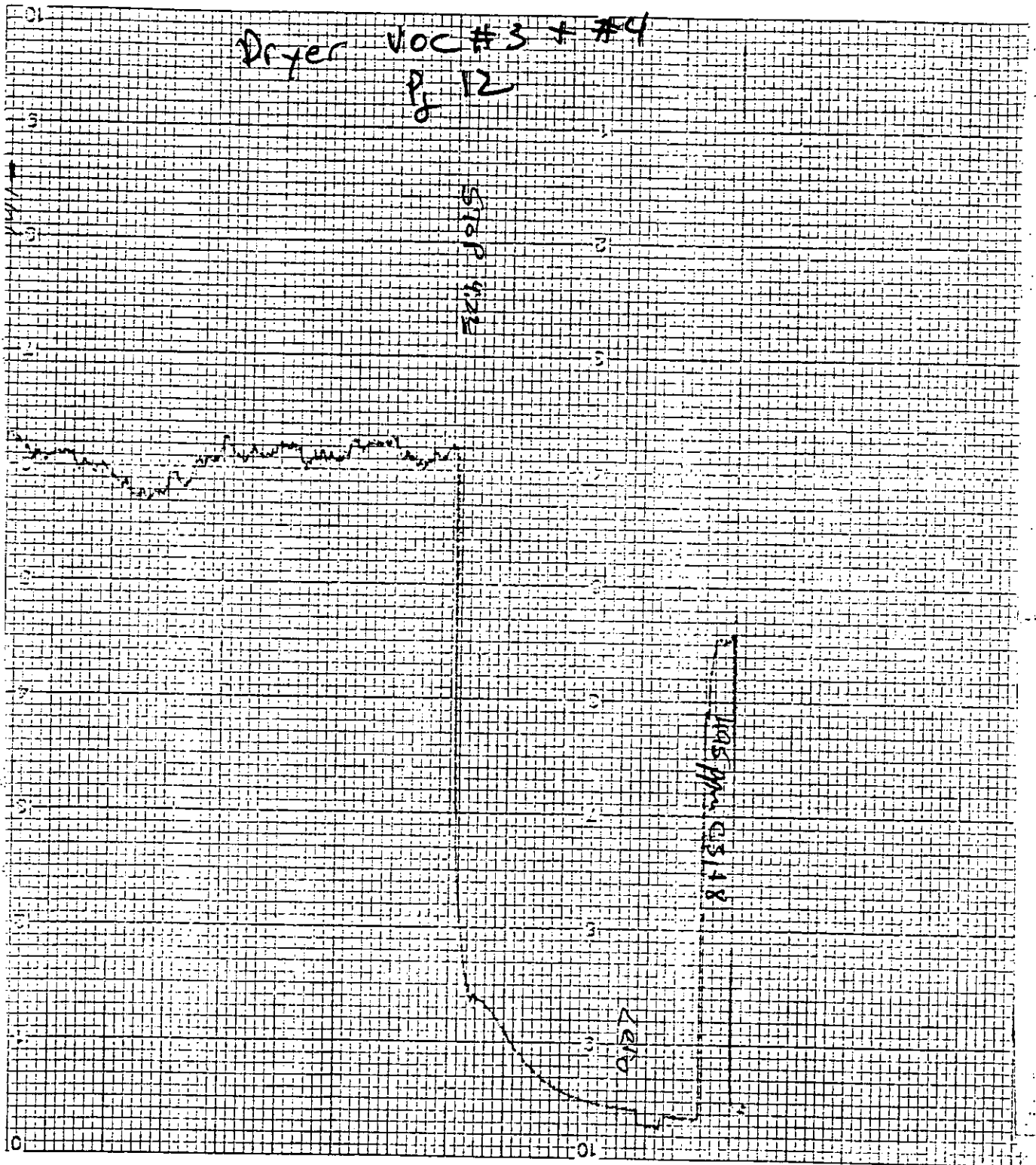
Payer Voc # 3 + # 4

P 11
J

5:40



Dryer VOC #3 + #4
Pg 12



LP Athens, GA
6/22/95 NO_x

	Run #1 Stack #1	Run #1 Stack #2	Run #2 Stack #1	Run #2 Stack #2	Run #3 Stack #1	Run #3 Stack #2
	1.0	3.0	1.0	2.0	4.0	1.5
	1.5	3.0	1.5	1.5	4.0	2.0
	1.5	2.5	2.0	2.0	4.0	3.0
	2.0	2.5	2.5	1.5	4.0	3.0
	2.0	2.5	2.5	1.5	4.0	3.0
	2.5	2.5	3.0	1.5	4.5	3.5
	2.5	2.5	3.0	2.0	4.5	3.5
UNITS	2.5	3.0	3.5	1.5	4.5	3.5
	3.0	3.5	3.0	2.0	4.5	4.0
	3.0	3.0	3.0	1.5	4.5	4.0
	3.0	3.0	3.0	1.5	4.5	4.5
	3.0	3.0	3.0	2.0	4.0	4.5
	3.0	3.0	3.0	2.0	4.0	4.0
	3.0	3.0	3.4	2.0	4.0	
	3.0	3.5		2.0	3.5	
	3.0	3.0		26.5	3.0	
	3.0	46.5			2.5	
	42.5				68	
Average	2.5	2.9	2.6	1.8	4.0	3.3
ppm/unit	.874	.874	.900	.900	.914	.914
Average ppm NO _x	2.1	2.5	2.3	1.6	3.7	3.0

LP JH - 3.7
6/22/95
UD

EFFICIENCY LINE = 22.206



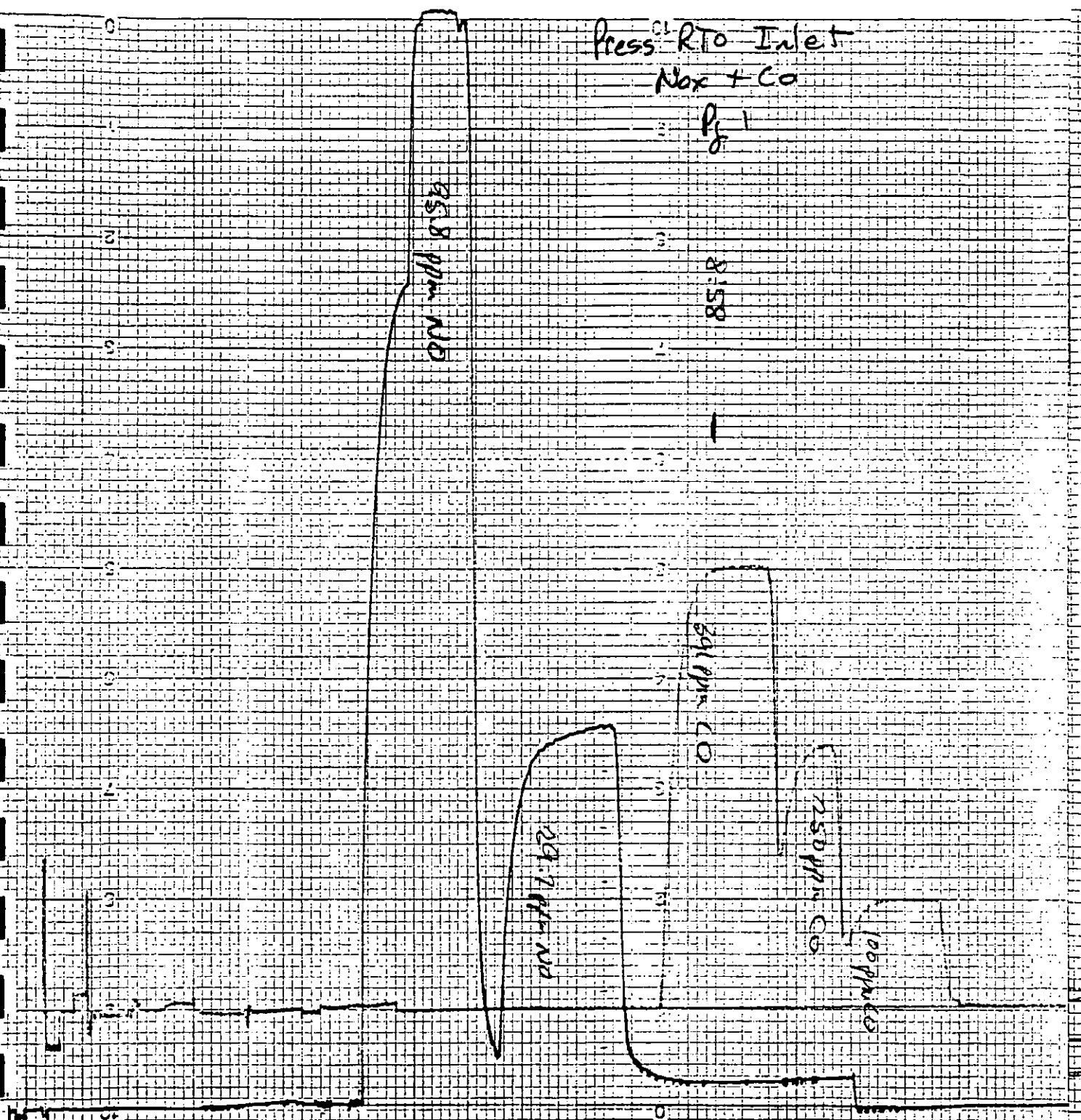
	1	2	3	4	5	6	7	8	9
1	Run #1		Run #1		Run #2		Run #2		
2	Stack #1		Stack #2		Stack #1		Stack #2		
3	1		1			.5		1	
4	1		1			.5		.5	
5	1		1			.5		.5	
6	1		.5			.5		.5	
7	1		.5			.5		.5	
8	1		.5			.5		.5	
9	1		.5			.5		.5	
10	1		.5			.5		.5	
11	1		.5			.5		.5	
12	1		.5			.5		.5	
13	1		.5			.5		.5	
14	1		.5			.5		.5	
15	1		.5			.5		.5	
16	1		.5			.5		.5	
17	1		.5			.5		.5	
18	1		.5			.5		.5	
19	1		9.5	Total		.033	Total	.5	Ave
20	17 total		.59	Ave		.5	Ave	10.52	ppm
21	1 Ave		10.52	ppm/units		5.55	ppm	5.24	ppm
22	10.52 ppm/units		6.24	ppm					
23	10.52 ppm								
24	1								
25									
26									
27									
28									
29									
30									
31									

CO

EFFICIENCY LINE # 22-206



	1	2	3	4	5	6	7	8	9
1	Run # 3				Run # 3				
2	Still # 1				Still # 3				
3	.5					.5			
4	.5					.5			
5	.5					.5			
6	.5					.5			
7	.5					.5			
8	.5					.5			
9	.5					.5			
10	.5					.5			
11	.5					.5			
12	.5					.5			
13	.5					.5			
14	.5					.5			
15	.5					.5			
16	6.5 Total					.5			
17	.5 Ave.					.5			
18	1.02 ppm/unit					.5			
19	5.1 ppm					.5			
20						8.5	Total		
21						5.6	Ave		
22						11.1	ppm/unit		
23						6.2	12 ppm		
24									
25									
26									
27									
28									
29									
30									
31									



Press RTD Inlet's

Nox + Co

Ag 2

10. 11. 1977

Press Rto Intels, Nov + Co²¹ Pg 3

Start Run #1 - 10:24

10:36

0

Press RTo Inlets Max 7 Co Pg 4

10:58

SWITCH

Stack #2

STOP

R5W#1

11:30

100 ft

0

Press RTO Inlets Nox + Co Pg 5

Stack 1201 #2

29.7 ppm NO_x

29.7 ppm

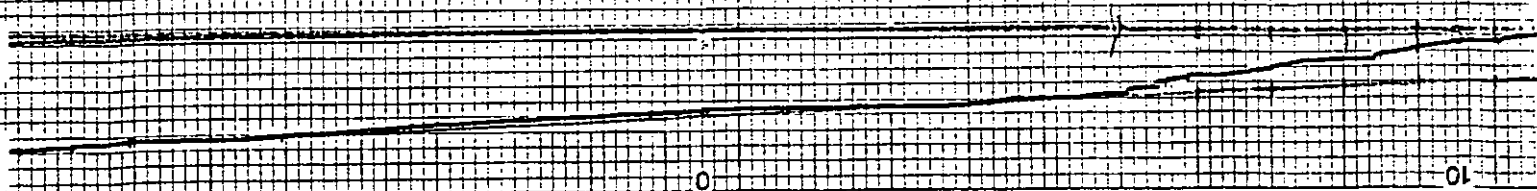
Press Rto Intels Nor + Co Pgb

Stack #1

12:50

Start Run #2

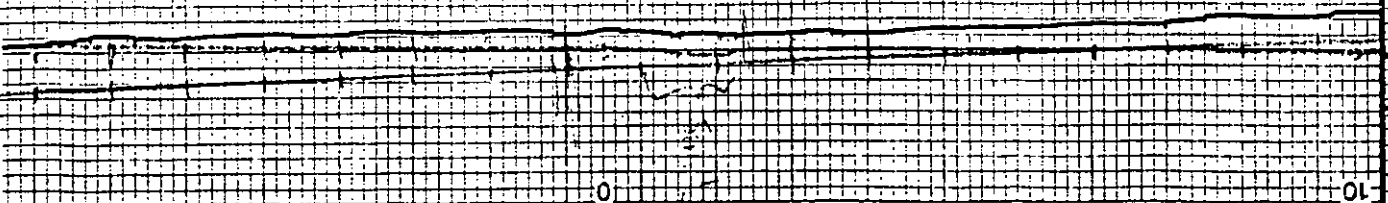
1



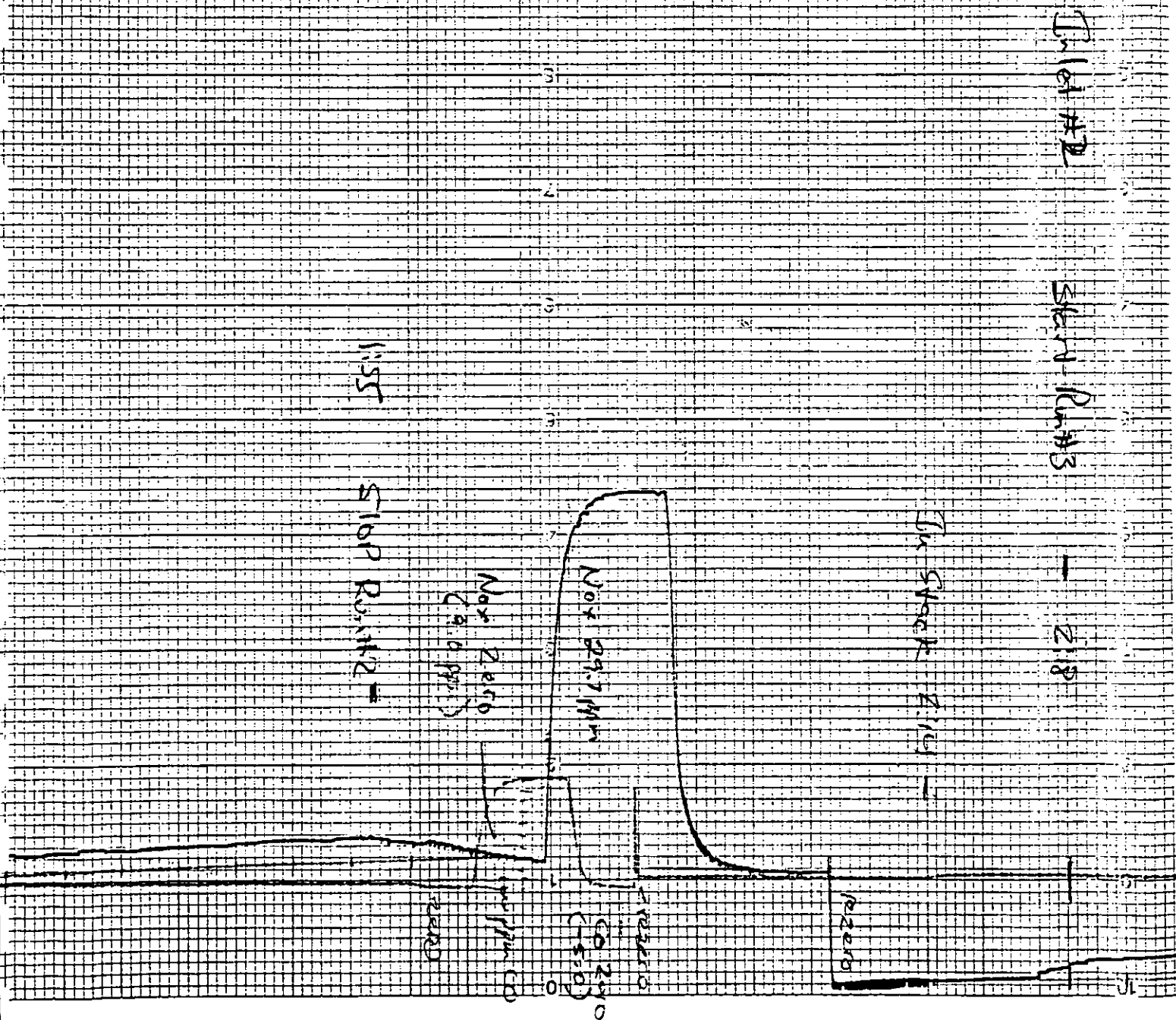
Press RTO Inlets Non FCO Pg 7

Stack #2

Stack #1



Press RTO Inlets: $\text{NO}_x + \text{CO}$ 8-8



THE RECORDER Co. P.O. BOX 8, San Marcos, Tx 78667 Tel. 512-6291400

Pressure RTO Inlets Norxco B-9

2.44

Switch State #1

Press RTA Inlets: NOx & CO

P 10

45.8 ppm NO

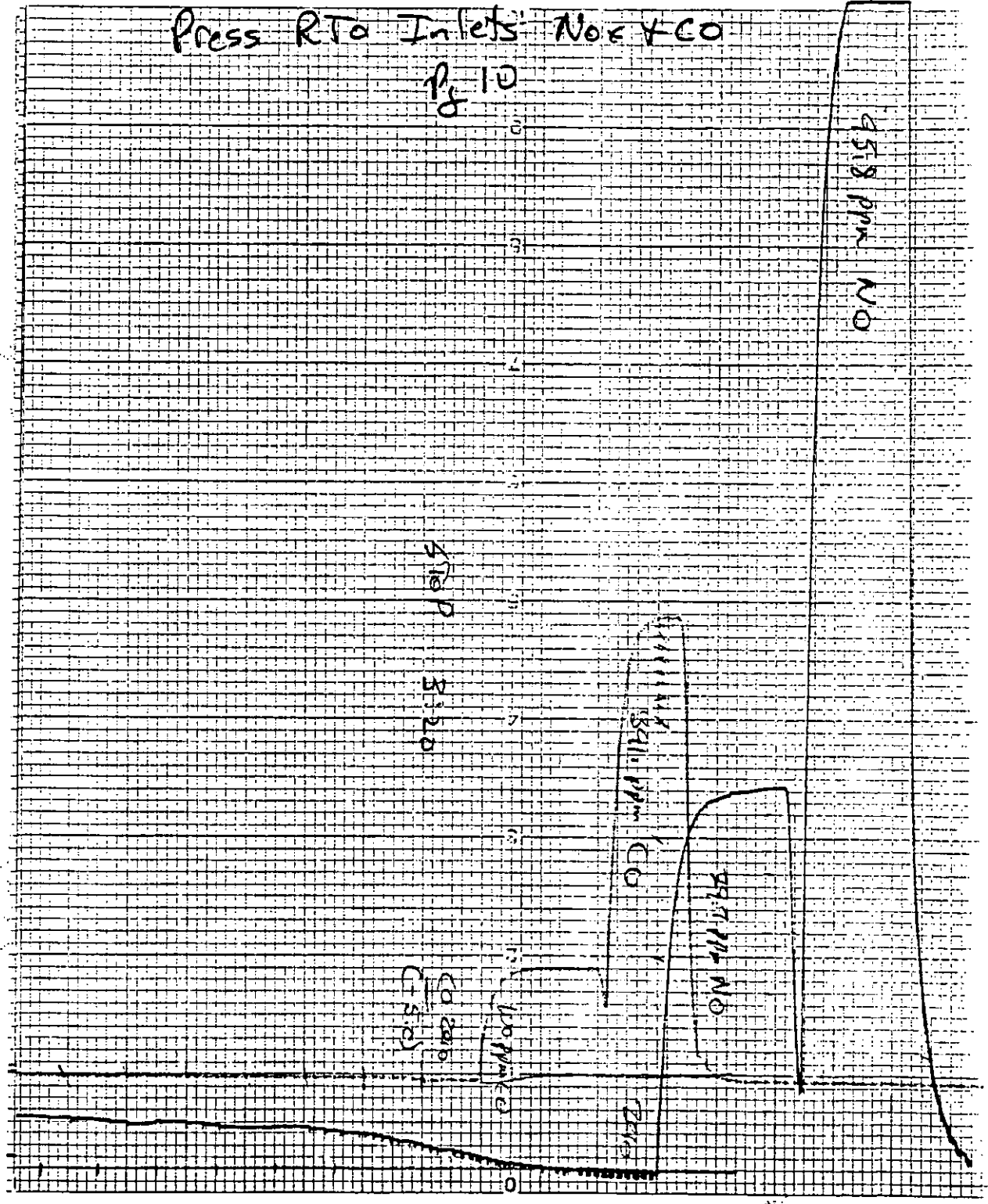
5:10 P 5:20

34.1 ppm CO

29.7 ppm NO

CO 24.0 (S.O.)

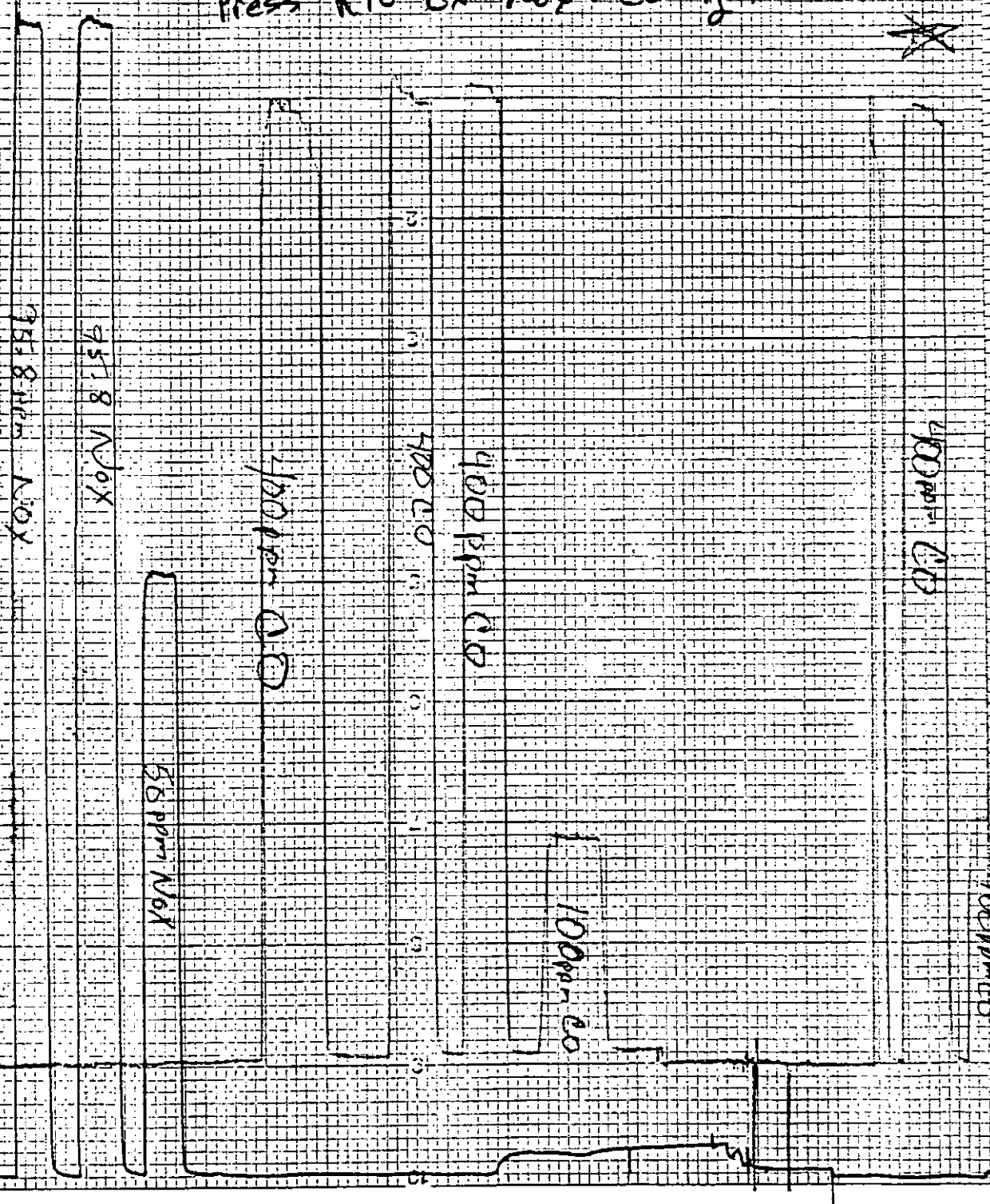
10 ppm CO



Summary of NOx & CO Continuous Strip Charts									
Plant:	LP, Athens								
Location:	Press RTO Exhaust								
Run #1			Run#2			Run #3			
Start 10:22am			Start 12:50pm			Start 2:20 pm			
Stop 11:22 am			Stop 1:50 pm			Stop 3:20 pm			
NOx		CO	NOx		CO	NOx		CO	
6		0	7		2	10		0	
7		10	8		5	8		0	
18		2	10		15	8		33	
8		2	18		5	8		10	
6		2	9		3	11		5	
18		12	7		3	19		2	
12		25	11		3	9.5		2	
6		10	19		3	7		2	
7		5	10		12	9		40	
18		5	10		5	20		0	
9		2	26		5	10		3	
6		2	15		5	7.5		2	
8		52	8.5		3	21		3	
17		3	10		34	14		25	
8.5		5	22		40	8		0	
6.5		5	11		3	7		5	
20		2	8		5	27		2	
12		33	10		5	13		4	
6		3	18		3	8		2	
8		3	10		15	9		5	
21		5	7		5	23		0	
9		5	19		3	11		0	
6		5	13		5	7.5		0	
8		3	7		3	10		30	
18		3	9		3	18		0	
8		3	19		10	10		0	
6		5	11		3	7.5		0	
9		40	7		5	8.5		0	
13		3	9		10	21		28	
6		3	19		20	10		10	
7		2	10		3	7		2	
20		2	8		5	10		5	
12		22	8		3	18		2	
6.5		10	24		3	8		0	
5.5		5	12		22	8		28	
8.5		5	7		3	28		0	
19		10	9		5	13		5	
9		0	20		3	8		0	
6.5		35	9		3	9		5	
8		5	7		3	24		0	
14		5	9.5		43	12		0	
7		0	17		5	7		0	
7		5	8		5	7		0	
18		45	7		5	28		10	
11		5	19		5	13		0	
7		2	12		32	8		0	
8		7	7		5	10		0	
20		5	8		5	21		0	
10		0	20		5	10		0	
7		0	9		5	7		0	
8.5		0	7		5	10		2	
18		0	9		10	19		0	
9		25	17		5	9		0	
7		5	8		5	8		35	
			8.5		10	28		30	
Average	10.37963	8.481481		21	5	15		0	
				12	5	8		5	
				8	5	9		2	
				7	5	22		0	
				23	5	12		20	
				10	25	8		0	
				6.5	5				
						Average	12.36885	5.967213	
			Average	11.72581	8.048387				

Press RTO Ex NOx + CO P_g 1

X



9518 ppm NOx

9518 ppm NOx

400 ppm CO

400 ppm CO

100 ppm CO

58 ppm NOx

400 ppm CO

100 ppm CO

6-22-95

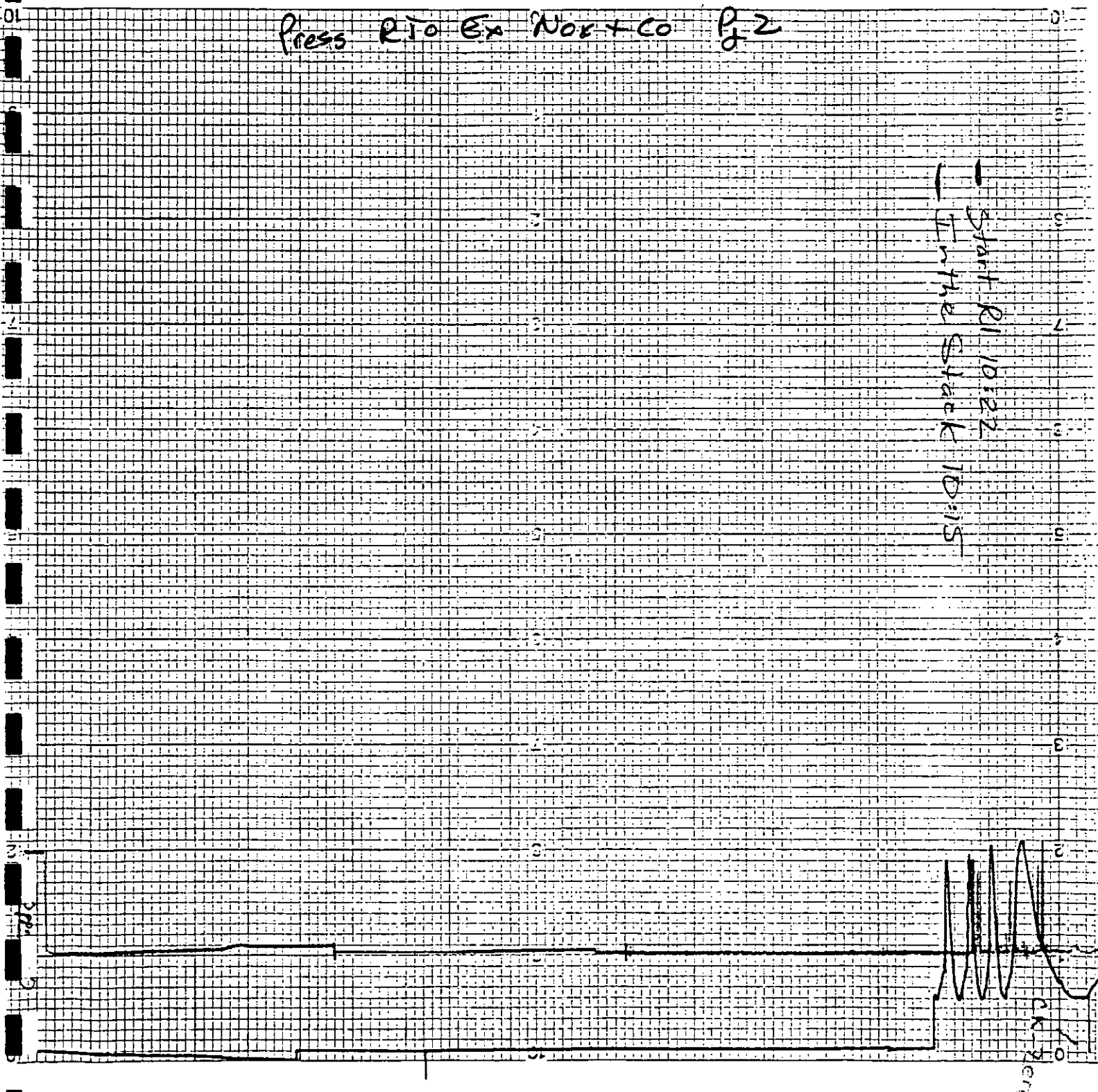
J. J. J. J. J.

6 H.

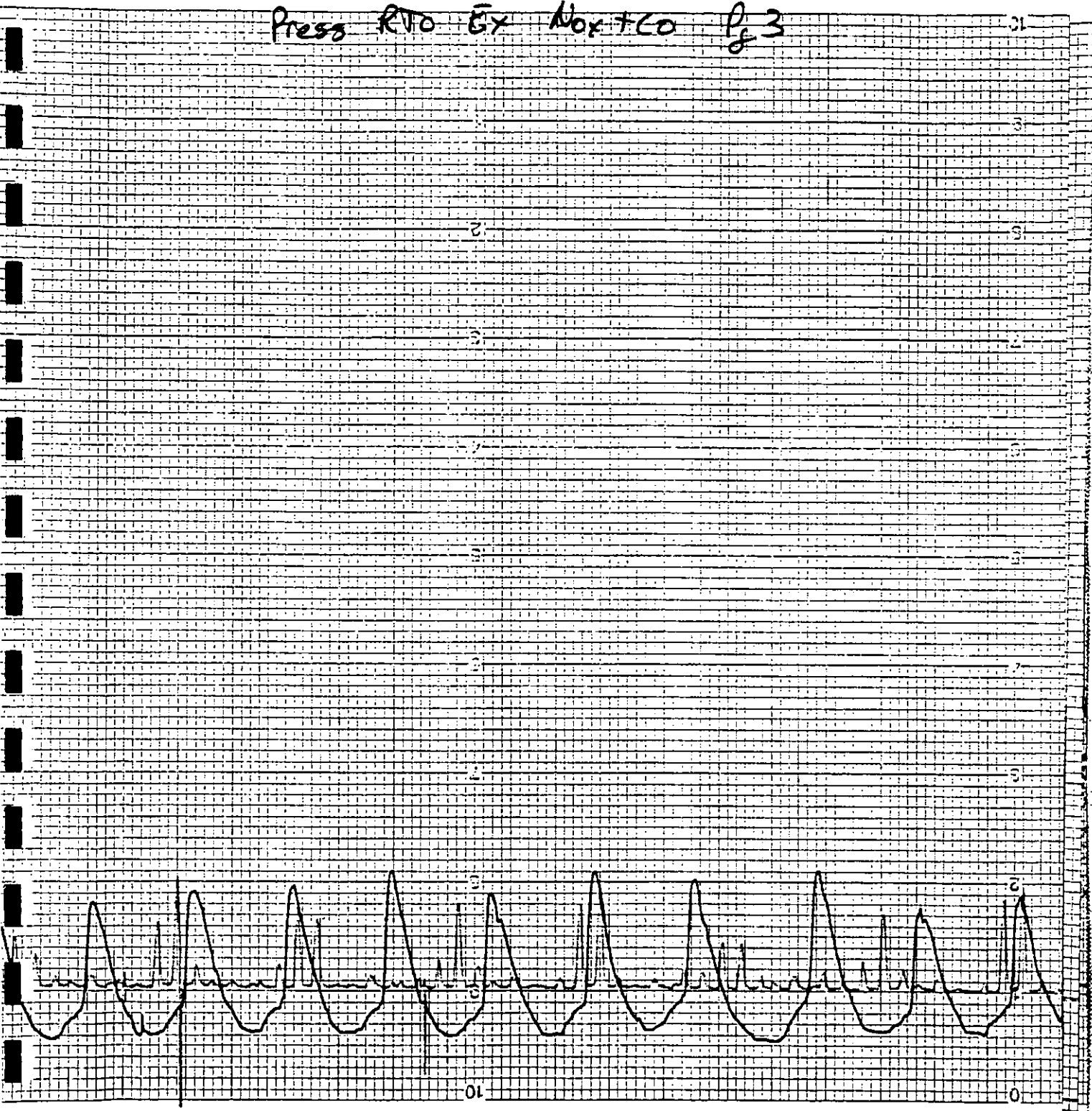
CHART NO. RC-3135

Press RIO Ex Nor + Co P. 2

Start R1 10:22
In the Stack 10:15



Press RTO Ex Nox + CO Pg 3



Press RTo Gx Max t Co Pg 4

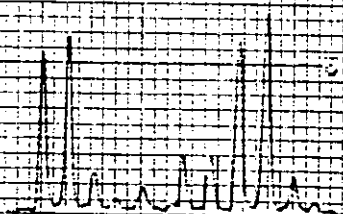
END 21/1/22



Press RTO Ex Nox+CO Pg 5

Start RZ 12:17
RTO Ex.

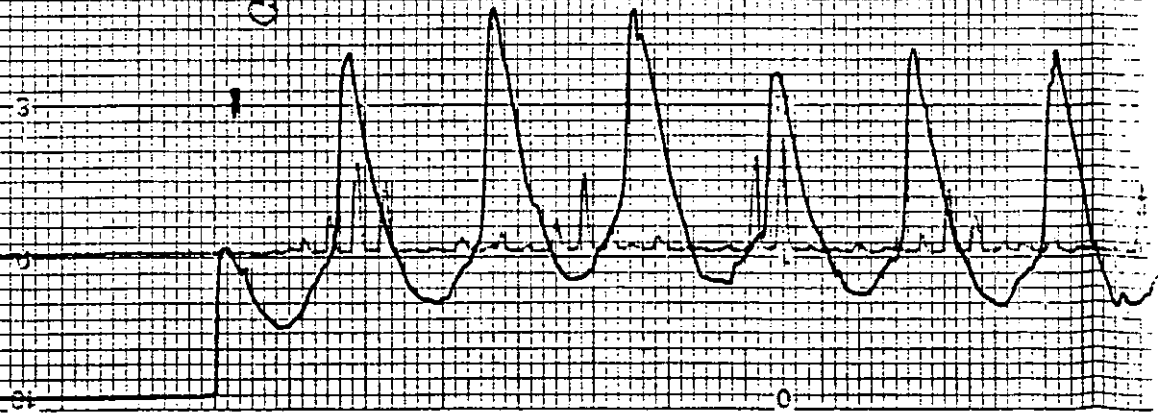
10/14/05
11:40
11:40



Press: RTo Ex Nox + Co Pg 6 Cl

1/1/8

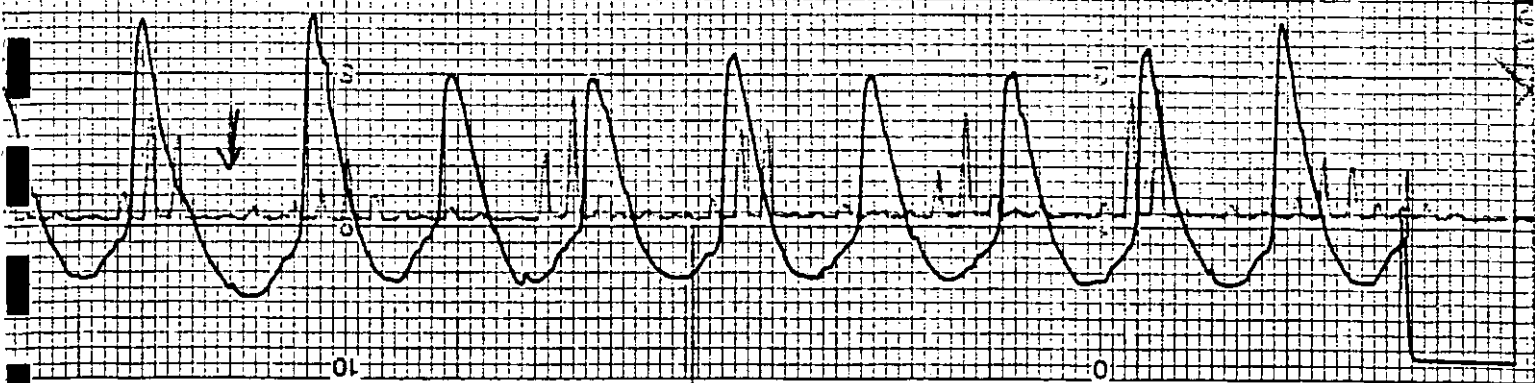
Blk + Pz W:SD
EX



Press RTo Ex Nox & CO Pg 7

1.215

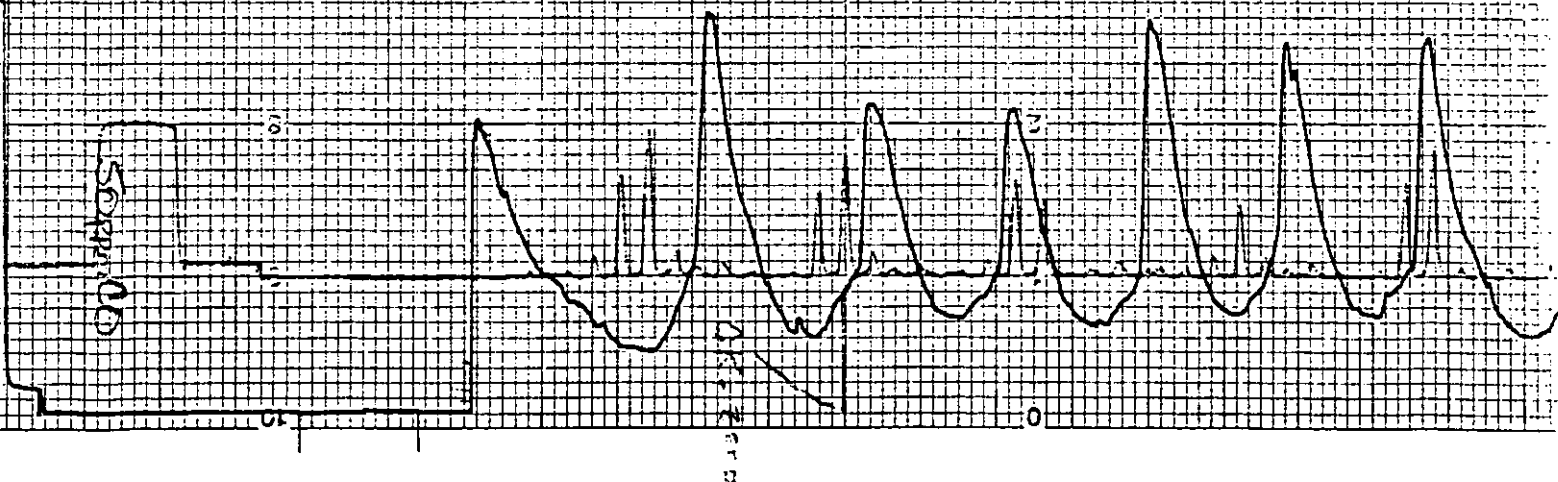
END R2 1:50



Press RTO Ex Nox + Co. Pg 8

Start RS 2:20

2:27



Press RTA Ex Nox x Co Pg

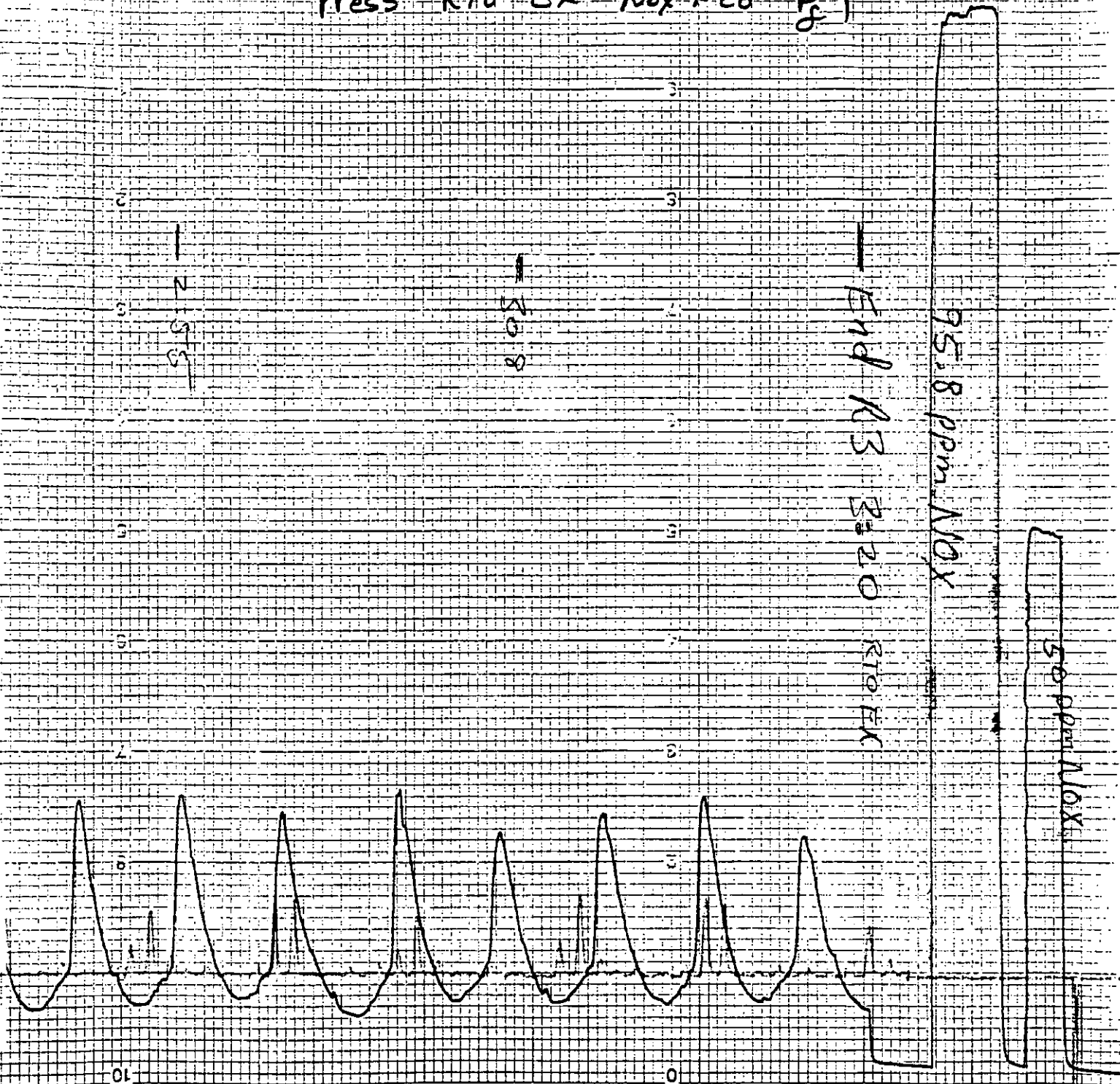
12.56

30.8

End R3 3:20 RTA EX

95.8 ppm NOx

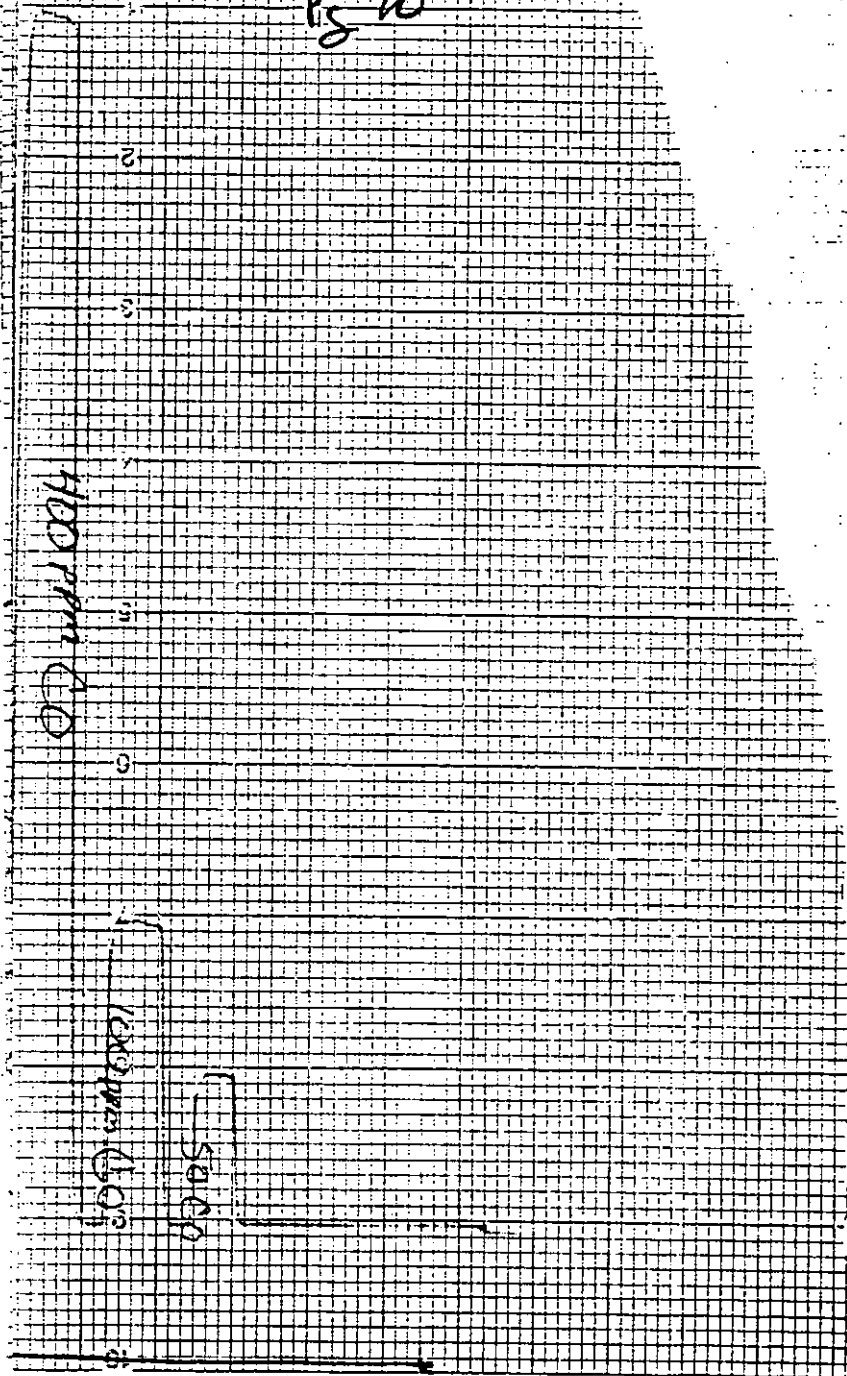
50 ppm NOx



Press RTO Ex = 1000 1000 1000

Max + Co

15 10



FILE NAME:

LOGGING SESSION:

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	VOC #2 RTO Ex	2A Voltage 5 sec Volts	VOC #3 Inlet #1	2B Voltage 5 sec Volts	VOC #4 Inlet #2
1	0.4	4.4	0.0	3.0	0.0	3
2	0.5	4.5	0.0	3.0	0.0	3
3	0.5	4.5	0.0	3.0	0.0	3
4	0.5	4.5	0.0	2.0	0.0	3
5	0.2	2.1	0.0	3.0	0.0	3
6	0.2	2.2	0.0	3.0	0.0	3
7	0.2	2.2	0.0	3.0	0.0	3
8	0.2	2.2	0.0	3.0	0.0	3
9	0.2	2.2	0.0	3.0	0.0	3
10	0.2	2.3	0.0	2.0	0.0	3
11	0.2	2.3	0.0	3.0	0.0	3
12	0.2	2.3	0.0	3.0	0.0	3
13	0.2	2.3	0.0	3.0	0.0	3
14	0.2	2.3	0.0	3.0	0.0	3
15	8.9	58.9	0.0	3.0	0.0	3
16	9.5	55.3	0.0	3.0	0.0	3
17	9.5	55.8	0.0	3.0	0.0	3
18	9.5	55.1	0.0	3.0	0.0	3
19	9.4	54.4	0.0	3.0	0.0	3
20	9.4	53.9	0.0	3.0	0.0	3
21	9.3	53.3	0.0	3.0	0.0	3
22	9.3	52.9	0.0	3.0	0.0	3
23	9.3	52.7	0.0	3.0	0.0	3
24	7.3	72.6	0.0	3.0	0.0	3
25	0.3	2.9	0.0	3.0	0.0	3
26	0.2	2.1	0.0	3.0	0.0	3
27	0.2	2.0	0.0	3.0	0.0	3
28	0.2	2.1	0.0	3.0	0.0	3
29	0.2	1.9	0.0	3.0	0.0	3
30	0.2	1.9	0.0	3.0	0.0	3
31	0.2	1.9	0.0	3.0	0.0	3
32	0.2	2.0	0.0	3.0	0.0	3
33	0.2	2.0	0.0	3.0	0.0	3
34	0.2	2.0	0.0	3.0	0.0	3
35	0.2	2.0	0.0	3.0	0.0	3
36	0.2	1.9	0.0	3.0	0.0	3
37	0.2	1.9	0.0	2.0	0.0	3
38	0.2	2.0	0.0	3.0	0.0	3
39	0.2	2.0	0.0	3.0	0.0	3
40	0.2	2.0	0.0	2.0	0.0	3
41	0.2	1.9	0.0	3.0	0.0	3
42	0.2	2.0	0.0	3.0	0.0	3
43	0.2	2.0	0.0	3.0	0.0	3
44	0.2	1.9	0.0	3.0	0.0	3
45	0.2	2.0	0.0	3.0	0.0	3
46	0.2	1.9	0.0	3.0	0.0	3
47	0.2	2.0	0.0	2.0	0.0	3
48	0.2	1.9	0.0	3.0	0.0	3
49	0.2	2.0	0.0	3.0	0.0	2
50	0.2	1.9	0.0	2.0	0.0	0
51	0.2	1.9	0.0	3.0	0.0	0
52	0.2	1.9	0.0	2.0	0.0	0
53	0.2	1.9	0.0	2.0	0.0	0
54	0.2	2.0	0.0	3.0	0.0	0
55	0.2	2.0	0.0	3.0	0.0	-1
56	0.2	1.9	0.0	2.0	0.0	-1
57	0.2	1.9	0.0	2.0	0.0	-1
58	0.2	1.9	0.0	2.0	0.0	-1
59	0.2	2.0	0.0	2.0	0.0	-1
60	0.2	1.9	0.0	2.0	0.0	-1
61	0.2	2.0	0.0	2.0	0.0	1
62	0.2	2.0	0.0	3.0	0.0	1
63	0.2	1.9	0.0	3.0	0.0	1
64	0.2	1.9	0.0	3.0	0.0	1
65	0.2	1.9	0.0	3.0	0.0	1
66	0.2	1.9	0.0	2.0	0.0	1
67	0.2	1.9	0.0	3.0	0.0	1
68	0.2	2.0	0.0	3.0	0.0	1
69	0.2	2.1	0.0	3.0	0.0	1
70	0.2	2.2	0.0	3.0	0.0	1
71	0.2	2.0	0.0	3.0	5.5	554
72	0.2	2.0	0.0	3.0	8.1	811
73	0.2	2.1	0.0	3.0	8.3	827
74	0.2	2.1	0.0	3.0	8.3	831
75	0.2	2.1	0.0	3.0	8.3	833
76	0.2	2.0	0.0	2.0	9.1	912
77	0.2	2.0	0.0	3.0	9.1	913
78	0.2	2.1	0.0	3.0	9.1	914
79	0.2	2.1	0.0	2.0	9.2	916
80	0.2	2.0	0.0	3.0	9.2	923
81	0.2	2.1	0.0	3.0	4.5	448
82	0.2	2.1	0.0	2.0	0.4	40
83	0.2	2.0	0.0	2.0	0.1	10
84	0.2	2.0	0.0	3.0	0.1	7
85	0.2	2.0	0.0	2.0	0.1	5
86	0.2	2.0	0.0	2.0	0.1	5
87	0.2	2.1	0.0	3.0	0.0	4
88	0.2	2.1	0.0	3.0	0.0	4
89	0.2	2.1	0.0	2.0	0.1	8
90	0.2	2.1	0.0	3.0	2.9	294
91	0.2	2.1	0.0	3.0	5.0	499
92	0.2	2.1	0.0	2.0	5.0	504
93	0.2	2.1	0.0	3.0	5.1	505

Press RTO R4

Ex - 3.0 ppm

Inlet #1 - 120.2

Inlet #2 - 71.48

PRESVOC4

94	0.2	2.0	0.0	3.0	5.1	507
95	0.2	2.1	0.0	2.0	5.1	507
96	0.2	2.0	0.0	3.0	5.1	508
97	0.2	2.1	0.0	3.0	5.1	508
98	0.2	2.1	0.0	2.0	5.1	509
99	0.2	2.1	0.0	2.0	5.1	509
100	0.2	2.1	0.0	3.0	5.1	509
101	0.2	2.1	0.0	3.0	5.1	509
102	0.2	2.1	0.0	3.0	5.1	509
103	0.2	2.1	0.0	2.0	5.1	509
104	0.2	2.1	0.0	3.0	5.1	508
105	0.2	2.1	0.0	3.0	5.1	508
106	0.2	2.1	0.0	3.0	5.0	503
107	0.2	2.1	0.0	3.0	4.9	488
108	0.2	2.0	0.0	3.0	3.8	383
109	0.2	2.1	0.0	3.0	0.3	34
110	0.2	2.1	0.0	2.0	0.1	8
111	0.2	2.1	0.0	3.0	0.1	5
112	0.2	2.0	0.0	3.0	0.1	5
113	0.2	2.1	0.0	2.0	0.0	4
114	0.2	2.1	0.0	2.0	0.0	4
115	0.2	2.1	0.0	2.0	0.0	4
116	0.2	2.1	0.0	3.0	0.3	32
117	0.2	2.1	0.0	2.0	0.9	68
118	0.2	2.0	0.0	3.0	0.9	63
119	0.2	2.0	0.0	2.0	0.9	64
120	0.2	2.0	0.0	3.0	0.9	94
121	0.2	2.1	0.0	2.0	0.9	94
122	0.2	2.0	0.0	2.0	0.9	94
123	0.2	2.0	0.0	3.0	0.9	94
124	0.2	2.1	0.0	3.0	1.0	95
125	0.2	2.1	0.0	2.0	0.5	52
126	0.2	2.1	0.0	3.0	0.1	7
127	0.2	2.0	0.0	3.0	0.0	3
128	0.2	2.0	0.0	3.0	0.0	3
129	0.2	2.0	0.0	3.0	0.0	3
130	0.2	2.1	0.0	3.0	0.0	3
131	0.2	2.0	0.0	3.0	0.0	3
132	0.2	2.1	0.0	3.0	0.0	3
133	0.2	2.0	0.0	2.0	0.0	3
134	0.2	2.0	0.0	3.0	0.0	3
135	0.2	1.9	0.0	3.0	0.0	2
136	0.2	2.0	0.0	3.0	0.0	2
137	0.2	1.9	0.0	1.0	0.0	2
138	0.2	1.9	0.0	1.0	0.0	2
139	0.2	1.9	0.0	1.0	0.0	2
140	0.2	1.9	0.0	1.0	0.0	2
141	0.2	2.0	0.0	1.0	0.0	2
142	0.2	1.9	0.0	1.0	0.0	2
143	0.2	1.9	0.0	0.0	0.0	2
144	0.2	2.0	0.0	1.0	0.0	2
145	0.2	1.9	0.0	0.0	0.0	2
146	0.2	2.0	0.0	-1.0	0.0	2
147	0.2	1.9	0.0	-1.0	0.0	2
148	0.2	2.0	0.0	-1.0	0.0	2
149	0.2	2.0	0.0	-1.0	0.0	2
150	0.2	1.9	0.0	-1.0	0.0	2
151	0.2	2.0	0.0	1.0	0.0	2
152	0.2	1.9	0.0	1.0	0.0	2
153	0.2	1.9	0.0	1.0	0.0	2
154	0.2	2.1	0.0	0.0	0.0	2
155	0.2	2.1	0.0	1.0	0.0	2
156	0.2	2.0	1.5	148.0	0.0	3
157	0.2	2.1	8.4	840.0	0.0	3
158	0.2	2.1	8.7	865.0	0.0	2
159	0.2	2.0	8.7	869.0	0.0	2
160	0.2	2.0	8.7	871.0	0.0	2
161	0.2	2.1	9.1	910.0	0.0	2
162	0.2	2.1	9.1	910.0	0.0	2
163	0.2	2.0	9.1	909.0	0.0	2
164	0.2	2.1	9.1	908.0	0.0	2
165	0.2	2.1	9.1	907.0	0.0	2
166	0.2	2.1	9.1	905.0	0.0	2
167	0.2	2.0	5.4	543.0	0.0	2
168	0.2	2.0	0.4	41.0	0.0	2
169	0.2	2.1	0.1	8.0	0.0	2
170	0.2	2.1	0.0	3.0	0.0	2
171	0.2	2.2	0.0	2.0	0.0	2
172	0.2	2.2	1.9	193.0	0.0	2
173	0.2	2.2	4.9	489.0	0.0	2
174	0.2	2.3	5.0	500.0	0.0	3
175	0.2	2.1	5.0	502.0	0.0	2
176	0.2	2.2	5.0	502.0	0.0	2
177	0.2	2.2	5.0	502.0	0.0	2
178	0.2	2.2	5.0	502.0	0.0	2
179	0.2	2.2	5.0	502.0	0.0	2
180	0.2	2.2	5.0	501.0	0.0	2
181	0.2	2.1	3.4	342.0	0.0	2
182	0.2	2.2	0.2	19.0	0.0	2
183	0.2	2.0	0.1	5.0	0.0	2
184	0.2	2.1	0.0	2.0	0.0	2
185	0.2	2.1	0.0	2.0	0.0	2
186	0.2	2.1	0.0	1.0	0.0	2
187	0.2	2.1	0.0	1.0	0.0	2
188	0.2	2.1	0.0	1.0	0.0	2
189	0.2	2.0	0.0	1.0	0.0	2
190	0.2	2.0	0.0	1.0	0.0	2
191	0.2	2.0	0.3	34.0	0.0	2
192	0.2	2.1	0.9	87.0	0.0	2
193	0.2	2.0	0.9	90.0	0.0	2
194	0.2	2.1	0.9	91.0	0.0	2
195	0.2	2.1	0.9	91.0	0.0	2
196	0.2	2.0	0.9	91.0	0.0	2

PRESVOC4

197	0.2	2.0	0.9	91.0	0.0	2
198	0.2	2.0	0.9	91.0	0.0	2
199	0.2	2.1	0.9	91.0	0.0	2
200	0.2	2.1	0.9	91.0	0.0	2
201	0.2	2.1	0.9	91.0	0.0	2
202	0.2	2.1	0.9	91.0	0.0	2
203	0.2	2.0	0.2	18.0	0.0	2
204	0.2	2.1	0.0	3.0	0.0	2
205	0.2	2.0	0.0	2.0	0.0	2
206	0.2	2.1	0.0	1.0	0.0	2
207	0.2	2.0	0.0	1.0	0.0	2
208	0.2	2.0	0.0	1.0	0.0	2
209	0.2	2.1	0.0	1.0	0.0	2
210	0.2	2.0	0.0	1.0	0.0	2
211	0.2	1.9	0.0	1.0	0.0	2
212	0.2	1.9	0.0	1.0	0.0	2
213	0.2	1.9	0.0	1.0	0.0	2
214	0.2	1.9	0.0	1.0	0.0	2
215	0.2	2.0	0.0	1.0	0.0	2
216	0.2	1.9	0.0	1.0	0.0	2
217	0.2	2.0	0.0	1.0	0.0	2
218	0.2	2.0	0.0	1.0	0.0	2
219	0.2	1.9	0.0	1.0	0.0	2
220	0.2	2.0	0.0	1.0	0.0	2
221	0.2	2.0	0.0	1.0	0.0	2
222	0.2	1.9	0.0	1.0	0.0	2
223	0.2	2.0	0.0	1.0	0.0	2
224	0.2	2.0	0.0	1.0	0.0	2
225	0.2	1.9	0.0	1.0	0.0	2
226	0.2	1.9	0.0	1.0	0.0	2
227	0.2	2.0	0.0	1.0	0.0	2
228	0.2	2.0	0.0	1.0	0.0	2
229	0.2	2.0	0.0	1.0	0.0	2
230	0.2	2.0	0.0	1.0	0.0	2
231	0.2	1.9	0.0	1.0	0.0	2
232	0.2	2.0	0.0	1.0	0.0	2
233	0.2	1.8	0.0	1.0	0.0	2
234	0.2	1.9	0.0	0.0	0.0	2
235	0.2	1.9	0.0	1.0	0.0	2
236	0.2	1.9	0.0	1.0	0.0	2
237	0.2	1.8	0.0	1.0	0.0	2
238	0.2	1.8	0.0	1.0	0.0	2
239	0.2	1.8	0.0	1.0	0.0	2
240	0.2	1.9	0.0	1.0	0.0	2
241	0.2	1.9	0.0	1.0	0.0	2
242	0.2	1.9	0.0	1.0	0.0	2
243	0.2	1.8	0.0	1.0	0.0	2
244	0.2	1.9	0.0	1.0	0.0	2
245	0.2	1.9	0.0	1.0	0.0	2
246	0.2	1.9	0.0	1.0	0.0	2
247	0.2	1.8	0.0	1.0	0.0	2
248	0.2	1.8	0.0	1.0	0.0	2
249	0.2	1.8	0.0	1.0	0.0	2
250	0.2	1.8	0.0	1.0	0.0	2
251	0.2	1.8	0.0	1.0	0.0	2
252	0.2	1.9	0.0	0.0	0.0	2
253	0.2	1.8	0.0	1.0	0.0	2
254	0.2	1.9	0.0	1.0	0.0	2
255	0.2	1.8	0.0	1.0	0.0	2
256	0.2	1.8	0.0	1.0	0.0	2
257	0.2	1.8	0.0	1.0	0.0	2
258	0.2	1.8	0.0	1.0	0.0	2
259	0.2	1.8	0.0	1.0	0.0	2
260	0.2	1.8	0.0	1.0	0.0	2
261	0.2	1.9	0.0	1.0	0.0	2
262	0.2	1.9	0.0	1.0	0.0	2
263	0.2	1.8	0.0	1.0	0.0	2
264	0.2	1.9	0.0	1.0	0.0	2
265	0.2	1.8	0.0	1.0	0.0	2
266	0.2	1.8	0.0	1.0	0.0	2
267	0.2	1.8	0.0	1.0	0.0	2
268	0.2	1.8	0.0	1.0	0.0	2
269	0.2	1.9	0.0	0.0	0.0	2
270	0.2	1.8	0.0	1.0	0.0	2
271	0.2	1.9	0.0	1.0	0.0	2
272	0.2	1.8	0.0	1.0	0.0	2
273	0.2	1.9	0.0	1.0	0.0	2
274	0.2	1.9	0.0	1.0	0.0	2
275	0.2	1.7	0.0	1.0	0.0	2
276	0.2	1.7	0.0	1.0	0.0	2
277	0.2	1.7	0.0	1.0	0.0	2
278	0.2	1.8	0.0	1.0	0.0	2
279	0.2	1.7	0.0	1.0	0.0	2
280	0.2	1.8	0.0	1.0	0.0	2
281	0.2	1.7	0.0	1.0	0.0	2
282	0.2	1.7	0.0	1.0	0.0	2
283	0.2	1.8	0.0	1.0	0.0	2
284	0.2	1.8	0.0	1.0	0.0	2
285	0.2	1.7	0.0	1.0	0.0	2
286	0.2	1.7	0.0	1.0	0.0	2
287	0.2	1.8	0.0	1.0	0.0	2
288	0.2	1.7	0.0	1.0	0.0	2
289	0.2	1.7	0.0	1.0	0.0	1
290	0.2	1.8	0.0	1.0	0.0	2
291	0.2	1.8	0.0	1.0	0.0	1
292	0.2	1.7	0.0	1.0	0.0	1
293	0.2	1.8	0.0	1.0	0.0	1
294	0.2	1.7	0.0	1.0	0.0	1
295	0.2	1.8	0.0	1.0	0.0	1
296	0.2	1.8	0.0	1.0	0.0	1
297	0.2	1.7	0.0	1.0	0.0	1
298	0.2	1.8	0.0	1.0	0.0	1
299	0.2	1.7	0.0	1.0	0.0	1

PRESVOC4

300	0.2	1.7	0.0	1.0	0.0	1
301	0.2	1.8	0.0	1.0	0.0	1
302	0.2	1.7	0.0	1.0	0.0	1
303	0.2	1.7	0.0	1.0	0.0	1
304	0.2	1.7	0.0	1.0	0.0	1
305	0.2	1.7	0.0	1.0	0.0	1
306	0.2	1.8	0.0	1.0	0.0	1
307	0.2	1.8	0.0	1.0	0.0	2
308	0.2	1.8	0.0	1.0	0.0	2
309	0.2	1.8	0.0	1.0	0.0	3
310	0.2	1.8	0.0	1.0	0.0	3
311	0.2	1.8	0.0	1.0	0.0	2
312	0.2	1.8	0.0	1.0	0.0	2
313	0.2	1.8	0.0	1.0	0.0	2
314	0.2	1.7	0.0	1.0	0.0	2
315	0.2	1.8	0.0	1.0	0.0	2
316	0.2	1.8	0.0	1.0	0.0	2
317	0.2	1.7	0.0	1.0	0.0	2
318	0.2	1.6	0.0	1.0	0.0	2
319	0.2	1.7	0.0	1.0	0.0	2
320	0.2	1.7	0.0	1.0	0.0	2
321	0.2	1.7	0.0	1.0	0.0	2
322	0.2	1.7	0.0	1.0	0.0	2
323	0.2	1.7	0.0	1.0	0.0	2
324	0.2	1.7	0.0	1.0	0.0	2
325	0.2	1.7	0.0	1.0	0.0	2
326	0.2	1.7	0.0	1.0	0.0	2
327	0.2	1.5	0.0	1.0	0.0	2
328	0.3	2.8	0.0	1.0	0.0	2
329	0.2	1.9	0.0	1.0	0.2	17
330	0.2	1.9	0.0	1.0	0.2	21
331	0.2	1.9	0.0	1.0	0.2	21
332	0.2	2.1	0.0	1.0	0.2	22
333	0.3	2.8	0.0	1.0	0.2	21
334	0.3	3.4	0.0	1.0	0.2	22
335	0.4	4.2	0.0	1.0	0.2	22
336	0.5	4.5	0.0	1.0	0.2	22
337	0.5	4.9	0.0	1.0	0.2	22
338	0.5	4.7	0.0	1.0	0.2	24
339	0.5	4.5	0.0	1.0	0.2	24
340	0.9	8.3	0.0	1.0	0.3	25
341	0.5	4.5	0.0	1.0	0.3	25
342	0.4	4.3	0.0	1.0	0.3	25
343	0.4	4.4	0.0	1.0	0.3	25
344	0.5	4.5	0.0	1.0	0.3	26
345	0.5	4.5	0.0	1.0	0.3	26
346	0.5	4.5	0.0	1.0	0.3	27
347	0.4	4.2	0.0	1.0	0.3	31
348	0.7	6.7	0.0	1.0	0.4	39
349	0.7	8.9	0.0	1.0	0.4	43
350	0.4	4.0	0.0	1.0	0.5	47
351	0.4	3.7	0.0	1.0	0.5	48
352	0.4	3.9	0.0	1.0	0.5	50
353	0.4	4.0	0.0	1.0	0.6	55
354	0.4	4.1	0.0	0.0	0.6	59
355	0.4	3.6	0.0	1.0	0.6	69
356	0.3	3.2	0.0	1.0	0.6	63
357	0.6	5.9	0.0	1.0	0.7	67
358	0.4	3.5	0.0	1.0	1.7	170
359	0.3	3.3	0.0	1.0	2.3	230
360	0.4	3.5	0.0	1.0	1.9	194
361	0.3	3.3	0.0	1.0	1.7	165
362	0.3	3.4	0.0	1.0	1.4	142
363	0.4	3.5	0.0	1.0	1.2	118
364	0.6	5.6	0.0	1.0	1.0	101
365	0.4	3.8	0.0	1.0	0.9	89
366	0.4	3.6	0.0	1.0	0.8	81
367	0.7	6.5	0.0	1.0	0.8	77
368	0.4	4.1	0.0	1.0	0.7	72
369	0.4	3.6	0.0	1.0	0.7	68
370	0.4	3.5	0.0	1.0	0.6	64
371	0.3	3.4	0.0	1.0	0.6	60
372	0.4	3.5	0.0	1.0	0.6	59
373	0.4	4.1	0.0	1.0	0.6	57
374	0.4	3.7	0.0	1.0	0.6	54
375	0.4	3.7	0.0	1.0	0.5	47
376	0.4	3.7	0.0	1.0	0.4	42
377	0.4	3.5	0.0	1.0	0.4	38
378	0.3	3.4	0.0	1.0	0.3	34
379	0.3	3.3	0.0	1.0	0.3	32
380	0.3	3.3	0.0	1.0	0.3	31
381	0.4	3.6	0.0	0.0	0.3	31
382	0.5	4.9	0.0	3.0	0.3	29
383	0.6	5.9	0.0	3.0	0.3	29
384	0.4	4.1	0.0	2.0	0.3	28
385	0.3	3.2	0.0	2.0	0.3	29
386	0.3	3.1	0.0	3.0	0.3	29
387	0.3	3.0	0.0	3.0	0.3	29
388	0.3	2.9	0.0	4.0	0.3	29
389	0.3	2.7	0.0	3.0	0.3	29
390	0.3	3.3	0.0	3.0	0.3	29
391	0.6	5.5	0.0	4.0	0.3	29
392	0.6	6.3	0.0	4.0	0.3	31
393	0.4	3.5	0.0	4.0	0.3	30
394	0.3	2.7	0.4	36.0	0.3	32
395	0.3	2.8	0.5	47.0	0.3	33
396	0.3	2.5	0.5	53.0	0.3	34
397	0.3	2.5	0.6	63.0	0.4	38
398	0.2	2.3	0.7	71.0	0.4	43
399	0.3	3.0	0.8	79.0	0.5	47
400	0.3	2.7	0.9	91.0	0.5	51

Start R4
4:35

401	0.3	2.6	1.0	102.0	0.6	57
402	1.0	9.7	1.1	111.0	0.6	60
403	0.6	4.5	1.2	115.0	0.6	62
404	0.3	2.6	1.3	127.0	0.7	65
405	0.3	2.6	1.4	136.0	0.7	69
406	0.3	2.6	1.3	128.0	0.7	72
407	0.3	2.5	1.4	139.0	0.7	70
408	0.3	3.2	2.4	243.0	1.0	96
409	0.3	2.8	2.7	266.0	1.5	152
410	0.3	2.8	2.3	232.0	1.3	134
411	1.6	15.5	2.1	210.0	1.3	128
412	0.3	3.1	2.0	199.0	1.2	122
413	0.3	2.8	1.9	188.0	1.2	117
414	0.3	2.6	1.7	174.0	1.0	103
415	0.3	2.6	1.7	174.0	0.9	89
416	0.3	2.7	1.7	165.0	0.8	78
417	0.3	2.8	1.5	151.0	0.7	71
418	0.2	2.3	1.4	141.0	0.7	65
419	0.2	2.3	1.3	127.0	0.6	61
420	0.3	3.3	1.2	117.0	0.6	60
421	0.2	2.2	1.1	107.0	0.6	58
422	0.2	2.3	1.0	99.0	0.5	53
423	0.2	2.4	1.0	97.0	0.5	47
424	0.3	2.5	0.9	88.0	0.4	43
425	0.3	2.6	0.9	85.0	0.4	38
426	0.4	4.3	0.9	86.0	0.4	36
427	0.3	3.3	0.8	81.0	0.4	36
428	0.3	2.7	0.7	71.0	0.4	35
429	0.3	2.7	0.7	72.0	0.3	34
430	0.5	4.9	0.7	66.0	0.3	33
431	0.3	2.9	0.6	62.0	0.3	33
432	0.3	2.9	0.6	60.0	0.3	33
433	0.3	2.9	0.6	58.0	0.3	34
434	0.3	2.9	0.6	56.0	0.3	34
435	0.4	3.6	0.6	56.0	0.3	34
436	0.3	3.2	0.6	56.0	0.3	34
437	0.3	3.3	0.6	56.0	0.4	35
438	0.3	3.0	0.6	56.0	0.4	35
439	0.3	2.9	0.6	56.0	0.4	36
440	0.3	2.9	0.6	59.0	0.4	37
441	0.3	2.9	0.6	63.0	0.4	39
442	0.3	2.8	0.7	71.0	0.4	43
443	0.3	2.8	0.7	74.0	0.5	46
444	0.4	3.5	0.8	81.0	0.5	60
445	0.5	5.1	1.0	97.0	0.5	62
446	0.4	4.2	1.0	98.0	0.6	66
447	0.3	2.9	1.1	105.0	0.6	61
448	0.3	2.6	1.1	111.0	0.6	63
449	0.3	2.6	1.1	111.0	0.7	65
450	0.3	2.6	1.2	117.0	0.7	70
451	0.3	2.5	1.2	123.0	0.7	74
452	0.3	2.6	1.6	159.0	0.8	76
453	0.3	3.0	2.6	255.0	1.5	147
454	0.3	2.9	2.9	291.0	1.8	182
455	0.3	2.7	2.5	250.0	1.5	164
456	0.3	3.3	2.3	227.0	1.4	140
457	0.2	2.4	2.2	217.0	1.3	134
458	0.2	2.3	2.2	218.0	1.2	121
459	0.2	2.3	2.1	205.0	1.0	102
460	0.2	2.3	1.9	190.0	0.9	82
461	0.3	2.5	1.8	182.0	0.8	83
462	0.3	2.6	1.6	161.0	0.8	76
463	0.2	2.4	1.4	144.0	0.7	72
464	0.3	2.5	1.3	130.0	0.7	70
465	0.6	5.6	1.2	122.0	0.7	67
466	0.3	2.5	1.1	114.0	0.6	61
467	0.2	2.3	1.1	106.0	0.6	56
468	0.2	2.2	1.0	98.0	0.5	51
469	0.2	2.2	0.9	90.0	0.5	46
470	0.3	2.7	0.9	89.0	0.4	41
471	0.3	2.8	0.9	87.0	0.4	38
472	0.3	2.5	0.8	80.0	0.4	37
473	0.6	6.4	0.7	68.0	0.4	36
474	0.4	4.1	0.6	64.0	0.4	37
475	0.3	2.5	0.7	65.0	0.4	37
476	0.2	2.3	0.7	66.0	0.4	36
477	0.3	2.6	0.6	64.0	0.4	37
478	0.3	2.7	0.6	60.0	0.4	38
479	0.3	2.8	0.6	60.0	0.4	39
480	0.2	2.2	0.6	60.0	0.4	38
481	0.2	2.0	0.6	59.0	0.4	40
482	0.5	5.0	0.8	60.0	0.4	40
483	0.2	2.0	0.6	62.0	0.4	41
484	0.2	2.0	0.7	66.0	0.4	43
485	0.2	2.0	0.7	69.0	0.4	44
486	0.2	2.1	0.8	79.0	0.5	47
487	0.2	2.1	0.9	85.0	0.5	49
488	0.3	2.6	1.0	95.0	0.5	53
489	0.4	3.9	1.0	98.0	0.6	59
490	0.3	2.5	1.0	102.0	0.6	60
491	0.3	2.5	1.1	111.0	0.7	65
492	0.6	5.7	1.1	114.0	0.7	67
493	0.3	2.9	1.2	124.0	0.7	70
494	0.3	2.6	1.3	128.0	0.7	72
495	0.3	2.6	1.2	122.0	0.7	73
496	0.3	2.5	1.6	160.0	0.9	85
497	0.3	2.8	2.6	256.0	1.6	164
498	0.3	3.3	2.8	280.0	1.9	189
499	0.3	3.0	2.5	250.0	1.6	163
500	0.3	2.9	2.2	221.0	1.4	143
501	0.3	2.9	2.2	216.0	1.4	141

PRESVOC4

502	0.3	2.8	2.0	204.0	1.4	138
503	0.3	3.0	2.0	198.0	1.2	119
504	0.3	2.8	1.9	187.0	1.0	99
505	0.3	2.7	1.8	175.0	0.9	87
506	0.3	3.1	1.6	166.0	0.8	81
507	0.3	3.2	1.4	144.0	0.8	75
508	0.3	3.3	1.3	128.0	0.7	71
509	0.3	2.8	1.2	115.0	0.6	64
510	0.3	2.5	1.1	110.0	0.6	61
511	0.3	2.6	1.1	106.0	0.6	55
512	0.3	2.5	1.0	103.0	0.5	50
513	0.3	2.5	1.0	97.0	0.5	46
514	0.2	2.3	0.9	91.0	0.4	43
515	0.3	2.9	0.9	89.0	0.4	41
516	0.4	3.7	0.9	85.0	0.4	40
517	0.5	4.6	0.8	78.0	0.4	41
518	0.3	3.1	0.8	78.0	0.4	39
519	0.2	2.3	0.7	73.0	0.4	39
520	0.2	2.2	0.7	67.0	0.4	38
521	0.2	2.1	0.6	64.0	0.4	37
522	0.2	2.0	0.6	62.0	0.4	36
523	0.2	2.0	0.6	59.0	0.4	37
524	0.3	2.6	0.6	57.0	0.4	38
525	0.3	2.5	0.6	57.0	0.4	39
526	0.3	2.5	0.6	56.0	0.4	40
527	1.1	10.8	0.6	56.0	0.4	40
528	0.3	2.5	0.6	56.0	0.4	42
529	0.2	2.2	0.6	61.0	0.4	41
530	0.2	2.1	0.6	64.0	0.4	43
531	0.2	2.3	0.7	69.0	0.5	46
532	0.3	2.5	0.8	76.0	0.5	48
533	0.3	2.9	0.8	80.0	0.5	53
534	0.3	2.5	1.0	96.0	0.6	57
535	0.3	2.5	1.0	97.0	0.6	58
536	1.1	11.1	1.1	105.0	0.6	64
537	0.3	2.6	1.1	109.0	0.7	70
538	0.2	2.3	1.1	111.0	0.7	73
539	0.2	2.3	1.2	117.0	0.8	75
540	0.3	2.7	1.5	146.0	0.8	78
541	0.3	2.6	2.6	259.0	1.2	121
542	0.2	2.4	2.9	291.0	2.2	223
543	0.2	2.0	2.6	256.0	1.9	194
544	0.2	2.0	2.6	250.0	1.7	173
545	0.3	2.8	2.3	231.0	1.5	148
546	0.2	2.1	2.3	225.0	1.5	146
547	0.2	2.1	2.1	214.0	1.3	126
548	0.2	2.1	2.1	206.0	1.1	105
549	0.2	2.1	2.0	197.0	0.9	93
550	0.2	2.1	1.8	178.0	0.9	88
551	0.4	4.2	1.6	159.0	0.8	82
552	0.3	2.9	1.4	144.0	0.8	79
553	0.3	2.6	1.4	135.0	0.7	74
554	0.3	2.7	1.2	122.0	0.7	69
555	0.4	3.9	1.1	112.0	0.6	61
556	0.3	2.7	1.0	103.0	0.6	55
557	0.3	2.6	1.0	95.0	0.5	50
558	0.3	2.5	0.9	88.0	0.5	47
559	0.3	2.5	0.9	87.0	0.5	45
560	0.3	3.3	0.8	80.0	0.4	43
561	0.3	2.9	0.8	76.0	0.4	42
562	0.3	2.9	0.7	74.0	0.4	42
563	0.3	2.9	0.7	68.0	0.4	42
564	0.3	2.8	0.7	67.0	0.4	42
565	0.3	2.8	0.7	68.0	0.4	43
566	0.3	2.6	0.7	65.0	0.4	42
567	0.3	2.6	0.6	62.0	0.4	42
568	0.3	2.7	0.6	63.0	0.4	43
569	0.3	3.4	0.6	64.0	0.4	43
570	0.5	4.5	0.6	64.0	0.4	44
571	0.4	4.2	0.7	66.0	0.4	44
572	0.3	2.7	0.7	67.0	0.5	45
573	0.3	2.6	0.7	73.0	0.5	48
574	0.3	2.5	0.8	80.0	0.5	51
575	0.3	2.5	0.9	86.0	0.6	55
576	0.3	2.5	0.9	90.0	0.6	57
577	0.3	2.6	0.9	94.0	0.6	61
578	0.4	3.6	1.0	104.0	0.6	62
579	0.4	3.7	1.1	111.0	0.7	68
580	0.3	3.1	1.2	119.0	0.7	70
581	0.3	2.8	1.2	115.0	0.7	74
582	0.2	2.3	1.2	124.0	0.8	77
583	0.2	2.3	1.3	129.0	0.8	80
584	0.2	2.2	1.5	162.0	0.8	82
585	0.2	2.1	3.1	314.0	1.4	142
586	0.3	2.5	2.9	293.0	1.9	190
587	0.3	2.5	2.5	250.0	1.6	161
588	0.2	2.3	2.3	233.0	1.5	153
589	0.3	2.8	2.1	205.0	1.4	142
590	0.4	4.0	2.0	200.0	1.4	136
591	0.2	2.2	1.9	194.0	1.2	121
592	0.2	2.2	1.9	189.0	1.0	104
593	0.2	2.3	1.8	178.0	0.9	92
594	0.2	2.1	1.7	167.0	0.9	88
595	0.3	2.8	1.5	153.0	0.8	79
596	0.3	2.6	1.4	138.0	0.7	73
597	0.3	2.5	1.2	123.0	0.7	71
598	1.1	10.8	1.2	115.0	0.7	66
599	0.4	3.6	1.1	110.0	0.6	60
600	0.3	2.5	1.0	103.0	0.6	55
601	0.2	2.3	1.0	96.0	0.5	51
602	0.3	2.5	1.0	99.0	0.5	47
603	0.3	2.5	1.0	97.0	0.4	44
604	0.3	2.7	0.9	87.0	0.4	42

PRESVOC4

605	0.2	2.1	0.9	65.0	0.4	41
606	0.2	2.1	0.8	79.0	0.4	41
607	0.5	4.7	0.6	76.0	0.4	40
608	0.2	2.0	0.7	71.0	0.4	40
609	0.2	1.9	0.7	66.0	0.4	40
610	0.2	2.0	0.7	65.0	0.4	41
611	0.2	2.1	0.6	64.0	0.4	42
612	0.2	2.1	0.6	63.0	0.4	41
613	0.3	2.7	0.7	66.0	0.4	42
614	0.4	3.7	0.7	67.0	0.4	43
615	0.3	2.5	0.7	70.0	0.5	45
616	0.3	2.5	0.7	72.0	0.5	47
617	0.6	6.4	0.8	76.0	0.6	49
618	0.3	2.6	0.8	80.0	0.5	52
619	0.3	2.6	0.9	91.0	0.5	56
620	0.3	2.6	1.0	103.0	0.5	61
621	0.3	2.5	1.1	108.0	0.5	64
622	0.3	2.8	1.1	110.0	0.7	66
623	0.3	3.0	1.2	123.0	0.7	69
624	0.3	3.0	1.3	126.0	0.7	72
625	0.3	3.1	1.4	137.0	0.7	71
626	0.3	3.0	1.4	142.0	0.7	74
627	0.3	2.8	1.4	136.0	0.8	75
628	0.3	2.6	1.9	167.0	0.8	84
629	0.3	2.6	2.7	206.0	1.5	150
630	0.3	2.6	2.9	288.0	1.7	170
631	0.3	3.2	2.5	251.0	1.5	151
632	0.3	3.2	2.4	239.0	1.4	141
633	0.3	3.1	2.2	220.0	1.3	130
634	0.3	2.9	2.1	207.0	1.3	125
635	0.3	2.7	2.0	195.0	1.1	110
636	0.3	2.6	1.9	189.0	0.9	93
637	0.3	2.5	1.8	180.0	0.8	83
638	0.3	2.5	1.6	164.0	0.8	80
639	0.2	2.4	1.5	147.0	0.8	75
640	0.3	3.0	1.3	130.0	0.7	71
641	0.3	3.1	1.2	117.0	0.7	66
642	0.3	3.2	1.1	108.0	0.6	63
643	0.3	3.2	1.0	102.0	0.6	59
644	0.2	2.2	1.0	98.0	0.6	55
645	0.2	2.1	0.9	90.0	0.5	50
646	0.2	2.1	0.9	89.0	0.5	45
647	0.2	2.0	0.9	87.0	0.4	42
648	0.2	2.1	0.8	83.0	0.4	40
649	0.3	2.5	0.8	77.0	0.4	40
650	0.2	2.3	0.7	71.0	0.4	40
651	0.2	2.3	0.7	69.0	0.4	40
652	1.0	10.3	0.7	66.0	0.4	39
653	0.3	2.5	0.6	63.0	0.4	36
654	0.2	2.3	0.6	61.0	0.4	37
655	0.2	2.4	0.6	60.0	0.4	37
656	0.2	2.3	0.6	60.0	0.4	37
657	0.3	2.6	0.6	60.0	0.4	37
658	0.3	2.9	0.6	60.0	0.4	38
659	0.3	2.5	0.6	61.0	0.4	39
660	0.3	2.5	0.7	65.0	0.4	41
661	1.0	9.8	0.7	69.0	0.4	43
662	0.3	2.6	0.7	74.0	0.5	47
663	0.2	2.2	0.8	77.0	0.5	51
664	0.3	2.5	0.8	84.0	0.6	55
665	0.3	2.6	0.9	93.0	0.6	59
666	0.3	2.9	1.1	105.0	0.6	62
667	0.2	2.4	1.1	112.0	0.6	64
668	0.2	2.1	1.2	116.0	0.7	70
669	0.2	2.3	1.2	121.0	0.7	71
670	0.2	2.4	1.3	126.0	0.7	74
671	0.2	1.9	1.3	131.0	0.8	76
672	0.2	1.9	1.6	160.0	0.8	79
673	0.2	2.0	2.6	258.0	1.5	150
674	0.2	2.0	3.0	298.0	1.9	190
675	0.2	2.0	2.6	255.0	1.7	171
676	0.4	4.4	2.4	241.0	1.6	157
677	0.3	2.8	2.4	241.0	1.4	143
678	0.3	2.6	2.2	224.0	1.4	137
679	0.3	3.0	2.2	217.0	1.2	118
680	0.4	3.5	2.0	203.0	1.0	103
681	0.3	2.7	1.9	187.0	1.0	97
682	0.3	2.6	1.7	173.0	0.9	91
683	0.3	2.6	1.6	155.0	0.8	81
684	0.3	2.6	1.4	141.0	0.8	76
685	0.3	3.4	1.3	129.0	0.7	72
686	0.3	2.9	1.1	114.0	0.7	66
687	0.3	3.0	1.1	110.0	0.6	60
688	0.3	2.9	1.0	103.0	0.6	53
689	0.3	2.6	1.0	95.0	0.5	48
690	0.3	2.7	0.9	91.0	0.5	47
691	0.3	2.6	0.9	87.0	0.5	45
692	0.3	2.5	0.8	81.0	0.4	43
693	0.3	2.7	0.8	78.0	0.4	43
694	0.4	3.5	0.7	71.0	0.4	42
695	0.5	4.8	0.7	65.0	0.4	41
696	0.4	3.8	0.6	64.0	0.4	40
697	0.3	2.6	0.6	64.0	0.4	40
698	0.3	2.5	0.6	63.0	0.4	40
699	0.3	2.5	0.6	59.0	0.4	40
700	0.3	2.5	0.6	60.0	0.4	40
701	0.2	2.3	0.6	62.0	0.4	41
702	0.3	2.7	0.6	63.0	0.4	42
703	0.4	3.6	0.6	62.0	0.4	42
704	0.5	4.8	0.6	64.0	0.4	44
705	0.3	3.3	0.6	55.0	0.5	45
706	0.3	2.9	0.2	16.0	0.5	47
707	0.2	2.3	0.1	9.0	0.5	49

708	0.2	2.2	0.2	15.0	0.5	53
709	0.2	2.1	0.8	78.0	0.6	58
710	0.2	2.1	0.9	91.0	0.6	60
711	0.3	2.5	0.9	94.0	0.6	61
712	0.2	2.3	1.0	104.0	0.6	64
713	0.2	2.2	1.2	115.0	0.7	66
714	0.5	4.9	1.2	115.0	0.7	70
715	0.3	3.3	1.2	122.0	0.7	71
716	0.2	2.3	1.3	133.0	0.8	78
717	0.2	2.2	2.6	261.0	1.2	115
718	0.2	2.2	3.1	312.0	2.2	223
719	0.2	2.3	2.9	293.0	2.0	197
720	0.3	3.0	2.6	256.0	1.7	166
721	0.3	2.5	2.3	233.0	1.4	142
722	0.3	2.5	2.1	212.0	1.5	148
723	1.6	15.7	2.0	197.0	1.3	125
724	0.3	3.3	2.0	199.0	1.1	109
725	0.3	2.5	1.9	189.0	1.0	96
726	0.2	2.4	1.8	177.0	0.9	89
727	0.3	2.5	1.6	159.0	0.8	83
728	0.3	2.5	1.4	143.0	0.8	79
729	0.3	2.6	1.3	130.0	0.7	74
730	0.2	2.2	1.2	118.0	0.7	72
731	0.2	2.0	1.1	108.0	0.7	70
732	0.4	4.3	1.1	108.0	0.6	62
733	0.2	1.9	1.0	102.0	0.6	56
734	0.2	2.0	1.0	100.0	0.5	52
735	0.2	1.9	1.0	98.0	0.5	50
736	0.2	1.9	0.9	91.0	0.5	50
737	0.2	2.1	0.9	87.0	0.5	48
738	0.3	3.1	0.8	79.0	0.5	47
739	0.3	3.2	0.7	74.0	0.5	46
740	0.2	2.3	0.7	69.0	0.5	45
741	0.2	2.4	0.7	68.0	0.5	45
742	0.6	5.5	0.7	68.0	0.5	45
743	0.3	2.6	0.7	68.0	0.5	45
744	0.3	2.5	0.7	65.0	0.5	47
745	0.3	2.5	0.6	64.0	0.5	49
746	0.3	2.5	0.6	64.0	0.5	49
747	0.3	2.9	0.6	64.0	0.5	50
748	0.3	2.9	0.7	65.0	0.5	51
749	0.3	2.9	0.7	66.0	0.5	53
750	0.3	2.7	0.7	72.0	0.5	53
751	0.3	2.7	0.8	81.0	0.5	52
752	0.3	2.7	0.9	85.0	0.5	52
753	0.3	2.6	0.9	89.0	0.6	56
754	0.3	2.5	1.0	101.0	0.6	60
755	0.3	2.5	1.1	112.0	0.6	63
756	0.3	3.0	1.2	124.0	0.7	70
757	0.3	3.4	1.2	119.0	0.7	65
758	0.4	3.7	1.3	129.0	0.7	72
759	0.3	2.7	1.2	120.0	0.7	72
760	0.3	2.5	1.3	134.0	0.8	76
761	0.3	2.5	2.3	232.0	1.0	103
762	0.2	2.4	3.4	337.0	2.1	211
763	0.2	2.4	2.8	278.0	2.0	196
764	0.2	2.4	2.4	239.0	1.8	177
765	0.3	2.9	2.2	218.0	1.5	163
766	0.3	2.6	2.0	202.0	1.6	155
767	0.3	2.5	2.0	201.0	1.4	136
768	0.3	3.4	1.9	193.0	1.2	119
769	0.2	2.3	1.8	178.0	1.0	103
770	0.2	2.2	1.7	166.0	0.9	93
771	0.2	2.0	1.5	154.0	0.9	87
772	0.2	2.0	1.4	142.0	0.8	81
773	0.2	2.0	1.3	128.0	0.8	79
774	0.3	2.5	1.2	120.0	0.7	74
775	0.2	2.2	1.1	113.0	0.7	68
776	0.2	2.2	1.1	108.0	0.6	61
777	0.9	8.7	1.0	101.0	0.6	56
778	0.2	2.4	1.0	97.0	0.5	52
779	0.2	2.2	0.9	91.0	0.5	49
780	0.2	2.2	0.9	87.0	0.5	46
781	0.2	2.0	0.8	84.0	0.4	43
782	0.2	2.4	0.8	78.0	0.4	43
783	0.3	2.7	0.7	71.0	0.4	43
784	0.2	2.4	0.7	67.0	0.4	42
785	0.3	2.9	0.7	65.0	0.4	42
786	0.6	6.2	0.7	67.0	0.4	44
787	0.2	2.4	0.7	67.0	0.5	46
788	0.2	2.2	0.6	64.0	0.5	45
789	0.2	2.2	0.6	59.0	0.4	44
790	0.3	2.6	0.6	58.0	0.5	45
791	0.3	2.7	0.6	58.0	0.5	45
792	0.2	2.2	0.6	58.0	0.5	46
793	0.2	1.8	0.6	62.0	0.5	48
794	0.3	3.1	0.7	67.0	0.5	49
795	0.2	2.1	0.8	76.0	0.5	51
796	0.2	1.8	0.8	79.0	0.6	55
797	0.2	1.9	0.9	87.0	0.6	58
798	0.2	1.9	1.0	95.0	0.6	62
799	0.2	2.0	1.0	102.0	0.6	63
800	0.2	2.0	1.1	106.0	0.7	70
801	0.4	4.1	1.2	117.0	0.7	73
802	0.2	2.3	1.2	123.0	0.7	73
803	0.2	2.3	1.3	125.0	0.8	77
804	0.4	3.9	1.4	137.0	0.8	78
805	0.3	3.0	2.1	210.0	0.9	94
806	0.3	2.5	3.3	327.0	2.0	196
807	0.3	2.5	2.8	278.0	2.0	197
808	0.3	2.5	2.6	255.0	1.8	178
809	0.3	2.5	2.3	225.0	1.6	164
810	0.3	3.3	2.2	218.0	1.5	162

PRESVOC4

811	0.3	2.8	2.1	214.0	1.4	139
812	0.3	2.8	2.1	211.0	1.2	118
813	0.3	2.9	1.9	191.0	1.1	105
814	0.3	2.5	1.8	177.0	1.0	96
815	0.3	2.8	1.6	163.0	0.9	88
816	0.3	2.5	1.4	143.0	0.8	82
817	0.3	2.5	1.3	125.0	0.8	82
818	0.3	2.6	1.2	119.0	0.8	77
819	0.3	3.1	1.1	112.0	0.7	70
820	0.4	3.5	1.0	104.0	0.6	61
821	0.3	2.9	1.0	101.0	0.6	67
822	0.3	2.8	1.0	98.0	0.5	62
823	0.3	2.5	0.9	91.0	0.5	46
824	0.3	2.5	0.8	83.0	0.4	44
825	0.3	2.5	0.8	79.0	0.4	43
826	0.2	2.4	0.8	78.0	0.4	43
827	0.3	2.7	0.7	71.0	0.4	42
828	0.4	4.3	0.7	67.0	0.4	43
829	0.6	5.5	0.7	71.0	0.4	43
830	0.3	3.0	0.7	69.0	0.4	42
831	0.3	2.5	0.7	65.0	0.4	41
832	0.2	2.3	0.6	64.0	0.4	40
833	0.2	2.2	0.6	62.0	0.4	41
834	0.2	2.2	0.6	62.0	0.4	42
835	0.2	2.1	0.6	61.0	0.4	43
836	0.3	2.7	0.6	62.0	0.5	46
837	0.3	2.5	0.6	64.0	0.5	46
838	0.3	2.5	0.7	67.0	0.5	48
839	0.8	7.8	0.7	74.0	0.5	50
840	0.3	2.9	0.8	81.0	0.5	53
841	0.3	2.5	0.9	86.0	0.6	58
842	0.2	2.4	0.9	89.0	0.6	61
843	0.3	2.7	1.0	101.0	0.6	62
844	0.2	2.3	1.0	103.0	0.7	71
845	0.3	3.2	1.1	108.0	0.7	72
846	0.3	2.7	1.2	115.0	0.8	75
847	0.3	2.5	1.2	118.0	0.8	75
848	1.7	16.6	1.2	121.0	0.8	81
849	0.3	3.2	2.0	199.0	0.9	90
850	0.3	2.6	3.2	320.0	2.0	202
851	0.3	2.6	3.1	307.0	1.9	193
852	0.3	2.6	2.6	258.0	1.7	174
853	0.3	2.6	2.5	251.0	1.6	155
854	0.3	2.7	2.2	222.0	1.5	152
855	0.2	2.3	2.2	215.0	1.3	131
856	0.2	2.3	2.0	201.0	1.2	115
857	0.4	3.6	2.0	196.0	1.0	100
858	0.2	2.4	1.8	179.0	0.9	89
859	0.2	2.3	1.7	166.0	0.8	84
860	0.3	2.5	1.5	151.0	0.8	79
861	0.3	2.5	1.4	136.0	0.6	77
862	0.3	2.5	1.3	128.0	0.7	74
863	0.4	4.0	1.2	115.0	0.7	69
864	0.4	3.6	1.1	106.0	0.6	61
865	0.3	3.0	1.0	101.0	0.5	53
866	0.3	3.0	1.0	95.0	0.5	48
867	0.5	5.3	0.9	94.0	0.5	46
868	0.3	3.3	0.9	88.0	0.5	45
869	0.3	3.2	0.8	82.0	0.4	44
870	0.3	3.3	0.8	75.0	0.4	43
871	0.3	3.1	0.7	70.0	0.4	42
872	0.4	3.8	0.7	69.0	0.4	41
873	0.3	3.4	0.7	68.0	0.4	40
874	0.4	3.5	0.7	65.0	0.4	39
875	0.3	3.4	0.6	62.0	0.4	39
876	0.3	3.2	0.6	59.0	0.4	41
877	0.3	3.3	0.6	61.0	0.4	43
878	0.3	3.3	0.6	62.0	0.5	45
879	0.3	3.2	0.6	61.0	0.5	47
880	0.3	3.3	0.6	62.0	0.5	48
881	0.4	3.7	0.7	67.0	0.6	48
882	0.5	4.9	0.7	72.0	0.6	49
883	0.5	4.9	0.7	72.0	0.6	51
884	0.3	3.3	0.8	77.0	0.6	54
885	0.3	3.1	0.8	80.0	0.6	57
886	0.3	2.9	0.9	86.0	0.6	62
887	0.3	2.9	0.9	87.0	0.7	66
888	0.3	2.8	0.9	88.0	0.7	69
889	0.3	2.8	1.0	96.0	0.7	72
890	0.4	3.6	1.0	101.0	0.8	78
891	0.4	4.2	1.1	107.0	0.8	84
892	0.4	3.6	1.2	115.0	0.8	84
893	0.4	3.7	1.5	145.0	0.8	84
894	0.3	2.7	2.5	248.0	1.2	122
895	0.3	2.6	3.0	303.0	1.8	183
896	0.3	2.6	2.7	270.0	1.8	179
897	0.3	2.6	2.5	249.0	1.6	167
898	0.3	2.8	2.4	241.0	1.4	141
899	0.3	2.9	2.2	223.0	1.3	125
900	0.3	2.8	2.1	205.0	1.1	111
901	0.3	2.8	1.9	191.0	1.0	101
902	0.7	7.1	1.8	177.0	0.9	94
903	0.3	2.8	1.6	164.0	0.9	90
904	0.3	2.7	1.5	147.0	0.8	83
905	0.3	2.7	1.3	132.0	0.8	80
906	0.3	2.7	1.2	124.0	0.8	78
907	0.3	3.1	1.1	114.0	0.7	71
908	0.3	3.0	1.1	109.0	0.6	64
909	0.3	2.9	1.1	107.0	0.6	58
910	0.6	5.5	1.0	101.0	0.5	53
911	0.5	5.1	1.0	97.0	0.5	49
912	0.3	2.8	1.0	96.0	0.5	47
913	0.3	2.7	0.9	90.0	0.5	46

914	0.3	2.8	0.8	84.0	0.5	47
915	0.3	3.1	0.8	81.0	0.5	48
916	0.3	3.1	0.8	78.0	0.5	47
917	0.3	2.7	0.7	72.0	0.4	44
918	0.3	2.5	0.7	69.0	0.4	44
919	0.5	5.1	0.7	69.0	0.5	45
920	0.3	2.6	0.7	66.0	0.5	45
921	0.3	2.5	0.6	63.0	0.5	45
922	0.3	2.5	0.6	62.0	0.5	45
923	0.3	2.6	0.6	60.0	0.5	46
924	0.3	2.7	0.6	62.0	0.5	47
925	0.3	2.9	0.6	64.0	0.5	49
926	0.5	4.7	0.7	67.0	0.5	49
927	0.3	3.1	0.7	74.0	0.5	51
928	0.3	3.0	0.8	78.0	0.5	54
929	0.6	5.8	0.8	82.0	0.6	60
930	0.3	3.3	0.9	94.0	0.6	61
931	0.3	3.1	1.0	99.0	0.7	66
932	0.3	3.1	1.0	102.0	0.7	67
933	0.3	3.1	1.2	117.0	0.7	71
934	0.3	3.2	1.2	117.0	0.7	73
935	0.4	3.7	1.2	124.0	0.7	74
936	0.4	3.5	1.3	126.0	0.7	73
937	0.4	3.7	1.4	137.0	0.8	78
938	0.4	3.5	2.5	251.0	1.0	98
939	0.3	3.4	3.0	304.0	2.2	223
940	0.3	3.3	2.7	266.0	2.0	204
941	0.3	3.3	2.6	257.0	1.7	174
942	0.4	3.5	2.5	249.0	1.6	160
943	0.4	3.7	2.3	226.0	1.4	140
944	0.4	3.7	2.1	207.0	1.3	125
945	0.4	3.7	2.0	202.0	1.1	113
946	0.4	3.6	1.9	185.0	1.0	103
947	0.3	3.1	1.7	168.0	0.9	94
948	0.3	3.1	1.6	156.0	0.9	87
949	0.3	3.1	1.4	141.0	0.8	84
950	0.3	2.9	1.3	130.0	0.8	76
951	0.3	2.9	1.2	119.0	0.7	72
952	0.3	3.4	1.1	113.0	0.7	70
953	0.4	3.7	1.1	107.0	0.7	70
954	0.4	4.0	1.0	102.0	0.7	67
955	0.3	3.3	1.0	102.0	0.7	65
956	0.3	2.9	1.0	101.0	0.6	63
957	0.3	2.8	1.0	97.0	0.6	61
958	0.3	2.7	1.0	96.0	0.6	57
959	0.3	2.6	0.9	94.0	0.5	53
960	0.3	2.6	0.9	93.0	0.5	53
961	0.3	3.0	0.9	90.0	0.5	52
962	0.3	2.9	0.9	87.0	0.5	49
963	0.3	2.8	0.8	79.0	0.5	46
964	1.0	9.9	0.8	79.0	0.5	46
965	0.3	3.1	0.8	79.0	0.4	42
966	0.3	2.7	0.7	71.0	0.4	41
967	0.3	2.7	0.7	66.0	0.4	42
968	0.3	2.8	0.6	60.0	0.4	40
969	0.3	2.8	0.6	55.0	0.4	38
970	0.4	3.5	0.5	50.0	0.4	35
971	0.3	2.9	0.5	48.0	0.3	32
972	0.3	2.8	0.5	49.0	0.3	31
973	1.3	13.1	0.5	48.0	0.3	31
974	0.3	3.1	0.5	45.0	0.3	32
975	0.3	2.7	0.4	42.0	0.3	30
976	0.3	2.8	0.4	41.0	0.3	29
977	0.3	3.4	0.4	42.0	0.3	29
978	0.3	3.2	0.4	44.0	0.3	30
979	0.3	3.0	0.4	42.0	0.3	30
980	0.3	2.5	0.4	42.0	0.3	30
981	0.3	2.5	0.4	42.0	0.3	30
982	0.3	3.2	0.4	42.0	0.3	30
983	0.3	2.5	0.4	42.0	0.3	31
984	0.3	2.5	0.4	44.0	0.3	30
985	0.3	2.7	0.5	47.0	0.3	31
986	0.3	2.8	0.5	46.0	0.3	33
987	0.3	2.8	0.5	54.0	0.4	35
988	0.5	4.5	0.6	59.0	0.4	36
989	0.3	3.4	0.7	65.0	0.4	39
990	0.3	3.0	0.7	72.0	0.4	42
991	0.3	3.0	0.8	78.0	0.5	45
992	0.5	4.9	0.8	80.0	0.5	51
993	0.3	3.3	0.9	89.0	0.6	55
994	0.3	3.1	1.0	99.0	0.6	59
995	0.3	3.1	1.0	102.0	0.6	60
996	0.3	3.0	1.0	104.0	0.6	63
997	0.4	3.9	1.1	106.0	0.7	66
998	0.3	3.4	1.1	112.0	0.7	66
999	0.3	3.3	1.2	119.0	0.7	69
1000	0.3	3.4	1.2	117.0	0.8	75
1001	0.3	3.2	1.3	129.0	0.8	76
1002	0.3	3.2	1.4	135.0	0.7	73
1003	0.3	3.1	1.4	137.0	0.8	78
1004	0.3	3.0	1.4	142.0	0.8	78
1005	0.3	2.9	1.5	145.0	0.8	78
1006	0.4	3.7	1.5	151.0	0.8	75
1007	0.4	3.9	1.4	141.0	0.7	73
1008	0.4	3.7	1.4	144.0	0.7	71
1009	0.3	3.1	1.4	143.0	0.7	73
1010	0.3	3.0	2.1	207.0	0.8	81
1011	0.3	3.1	2.0	293.0	1.6	160
1012	0.3	2.9	2.5	252.0	1.6	164
1013	0.3	2.9	2.3	225.0	1.4	144
1014	0.3	2.9	2.2	220.0	1.3	134
1015	0.3	3.3	2.1	205.0	1.2	115
1016	0.3	3.1	1.8	181.0	1.0	102

PRESVOC4

1017	0.3	2.9	1.7	173.0	0.9	90
1018	0.3	3.4	1.7	165.0	0.8	83
1019	0.3	2.6	1.5	153.0	0.8	77
1020	0.3	2.6	1.4	140.0	0.8	75
1021	0.3	2.5	1.3	134.0	0.7	71
1022	0.3	2.5	1.2	124.0	0.7	69
1023	0.3	2.8	1.1	114.0	0.8	64
1024	0.3	2.8	1.1	113.0	0.8	69
1025	0.3	2.7	1.0	101.0	0.8	55
1026	0.3	3.0	1.0	97.0	0.5	53
1027	0.5	4.9	1.0	96.0	0.5	53
1028	0.3	2.7	0.9	87.0	0.5	51
1029	0.3	2.6	0.8	83.0	0.5	46
1030	0.3	2.6	0.8	81.0	0.4	42
1031	0.3	2.6	0.8	78.0	0.4	38
1032	0.3	3.2	0.7	74.0	0.3	34
1033	0.3	2.9	0.7	70.0	0.3	31
1034	0.3	2.8	0.7	65.0	0.3	31
1035	1.2	11.7	0.6	60.0	0.3	31
1036	0.4	3.9	0.6	60.0	0.3	30
1037	0.3	2.8	0.6	58.0	0.3	30
1038	0.3	2.8	0.6	56.0	0.3	31
1039	0.3	2.8	0.5	53.0	0.3	31
1040	0.3	2.9	0.5	52.0	0.3	31
1041	0.3	2.9	0.5	51.0	0.3	32
1042	0.3	2.5	0.5	51.0	0.3	33
1043	0.2	2.3	0.5	50.0	0.3	33
1044	0.5	5.2	0.5	51.0	0.3	33
1045	0.2	2.3	0.5	52.0	0.3	34
1046	0.2	2.2	0.6	55.0	0.4	35
1047	0.2	2.3	0.6	56.0	0.4	38
1048	0.3	2.5	0.6	61.0	0.4	41
1049	0.3	2.5	0.7	67.0	0.4	44
1050	0.3	3.0	0.8	79.0	0.5	46
1051	0.5	4.5	0.9	86.0	0.5	54
1052	0.3	3.0	0.9	94.0	0.6	57
1053	0.3	3.0	1.0	100.0	0.6	59
1054	0.7	6.8	1.1	110.0	0.6	62
1055	0.3	3.1	1.0	103.0	0.7	67
1056	0.3	2.9	1.0	103.0	0.7	71
1057	0.3	2.9	1.1	108.0	0.7	72
1058	0.3	2.8	1.2	116.0	0.7	73
1059	0.3	2.9	2.1	211.0	0.8	81
1060	0.3	3.4	3.3	325.0	1.6	177
1061	0.3	3.1	2.9	288.0	2.1	207
1062	0.3	3.3	2.5	254.0	1.7	169
1063	0.3	3.3	2.2	218.0	1.5	148
1064	0.3	3.1	2.1	211.0	1.4	136
1065	0.3	3.0	2.1	206.0	1.2	120
1066	0.3	2.9	2.0	197.0	1.1	106
1067	0.3	2.9	1.9	185.0	1.0	98
1068	0.3	3.4	1.7	171.0	0.9	89
1069	0.3	3.3	1.6	166.0	0.8	81
1070	0.4	3.6	1.5	151.0	0.8	77
1071	0.3	2.9	1.4	135.0	0.7	74
1072	0.3	2.8	1.2	123.0	0.7	71
1073	0.3	2.8	1.2	117.0	0.6	64
1074	0.3	2.7	1.1	107.0	0.6	57
1075	0.3	2.6	1.0	97.0	0.5	53
1076	0.3	2.5	0.9	89.0	0.5	48
1077	0.3	3.2	0.9	89.0	0.5	45
1078	0.4	3.9	0.9	87.0	0.5	46
1079	0.5	4.7	0.8	82.0	0.4	42
1080	0.4	3.6	0.8	78.0	0.4	41
1081	0.3	2.6	0.7	71.0	0.4	40
1082	0.3	2.5	0.7	66.0	0.4	40
1083	0.2	2.3	0.6	64.0	0.4	40
1084	0.2	2.3	0.5	63.0	0.4	41
1085	0.2	2.2	0.6	60.0	0.4	41
1086	0.3	2.8	0.6	61.0	0.4	40
1087	0.3	2.6	0.6	62.0	0.4	41
1088	0.3	2.6	0.6	61.0	0.4	42
1089	1.1	10.5	0.6	60.0	0.4	42
1090	0.3	2.7	0.6	61.0	0.4	43
1091	0.3	2.5	0.6	64.0	0.4	43
1092	0.3	2.5	0.7	68.0	0.5	46
1093	0.3	2.5	0.8	75.0	0.5	50
1094	0.3	2.5	0.8	82.0	0.5	53
1095	0.3	3.0	1.0	96.0	0.6	58
1096	0.3	2.6	1.0	101.0	0.6	63
1097	0.3	2.7	1.1	107.0	0.7	67
1098	1.0	10.4	1.2	115.0	0.7	71
1099	0.3	2.8	1.2	119.0	0.7	72
1100	0.3	2.5	1.3	127.0	0.8	76
1101	0.3	2.5	1.4	141.0	0.8	78
1102	0.3	2.7	1.4	144.0	0.8	80
1103	0.3	2.6	1.6	156.0	0.8	82
1104	0.3	2.5	2.5	254.0	1.1	107
1105	0.2	2.2	2.8	283.0	1.6	181
1106	0.3	2.6	2.5	249.0	1.6	176
1107	0.3	2.7	2.3	234.0	1.6	162
1108	0.2	2.1	2.2	222.0	1.5	149
1109	0.2	2.1	2.0	201.0	1.4	143
1110	0.2	2.1	2.0	196.0	1.2	121
1111	0.2	2.0	1.8	182.0	1.1	105
1112	0.2	2.0	1.8	175.0	0.9	94
1113	0.4	4.4	1.6	163.0	0.8	84
1114	0.3	2.7	1.5	148.0	0.8	77
1115	0.3	2.6	1.4	137.0	0.7	72
1116	0.3	2.9	1.3	127.0	0.7	70
1	0.3	3.2	0.6	56.0	0.4	39
2	0.3	2.7	0.6	55.0	0.4	39
3	0.3	2.6	0.6	56.0	0.4	39

PRESVOC4

4	0.3	2.8	0.6	60.0	0.4	41
5	0.2	2.4	0.6	62.0	0.4	42
6	0.2	2.4	0.6	64.0	0.5	45
7	0.3	3.1	0.8	76.0	0.5	49
8	0.5	5.2	0.8	84.0	0.5	52
9	0.5	4.5	0.9	90.0	0.6	59
10	0.3	3.1	1.0	102.0	0.6	60
11	0.2	2.3	1.0	104.0	0.7	65
12	0.2	2.2	1.1	113.0	0.7	71
13	0.2	2.2	1.2	119.0	0.7	73
14	0.2	2.1	1.2	123.0	0.8	77
15	0.2	2.0	1.3	129.0	0.8	81
16	0.3	2.6	1.4	135.0	0.8	82
17	0.2	2.2	2.5	246.0	1.0	101
18	0.2	2.2	3.2	316.0	1.8	179
19	1.2	12.1	2.6	257.0	2.0	196
20	0.3	2.7	2.4	235.0	1.7	165
21	0.2	2.3	2.1	212.0	1.5	146
22	0.2	2.3	2.0	204.0	1.4	141
23	0.2	2.2	1.9	196.0	1.2	124
24	0.2	2.4	1.7	173.0	1.1	108
25	0.3	2.9	1.8	175.0	1.0	96
26	0.3	2.5	1.6	162.0	0.9	86
27	0.3	2.5	1.5	148.0	0.8	79
28	1.0	9.9	1.3	134.0	0.7	73
29	0.3	2.6	1.2	121.0	0.7	71
30	0.2	2.2	1.1	113.0	0.7	69
31	0.2	2.2	1.0	104.0	0.6	62
32	0.3	2.5	1.0	96.0	0.6	56
33	0.3	2.5	0.9	90.0	0.5	50
34	0.2	2.4	0.9	86.0	0.5	45
35	0.2	2.0	0.8	84.0	0.4	43
36	0.2	2.1	0.8	80.0	0.4	41
37	0.2	2.4	0.8	75.0	0.4	39
38	0.2	1.9	0.7	73.0	0.4	38
39	0.2	2.0	0.7	71.0	0.4	39
40	0.2	2.0	0.7	69.0	0.4	39
41	0.2	2.0	0.7	65.0	0.4	39
42	0.2	2.0	0.6	62.0	0.4	40
43	0.4	4.2	0.5	61.0	0.4	40
44	0.3	2.5	0.5	61.0	0.4	40
45	0.2	2.3	0.5	60.0	0.4	40
46	0.3	2.6	0.5	59.0	0.4	42
47	0.3	3.4	0.5	59.0	0.4	43
48	0.3	2.5	0.5	60.0	0.4	44
49	0.2	2.4	0.6	64.0	0.5	45
50	0.2	2.4	0.7	66.0	0.5	48
51	0.2	2.3	0.7	72.0	0.5	54
52	0.3	3.3	0.9	90.0	0.6	57
53	0.3	2.7	1.0	98.0	0.6	60
54	0.3	3.0	1.0	101.0	0.7	65
55	0.3	2.9	1.1	111.0	0.7	70
56	0.3	2.7	1.2	121.0	0.7	74
57	0.3	2.6	1.2	120.0	0.8	76
58	0.3	2.5	1.3	125.0	0.8	75
59	0.3	2.5	1.3	130.0	0.8	78
60	0.3	2.8	1.4	135.0	0.8	77
61	0.3	3.2	2.0	204.0	0.9	90
62	0.3	3.2	3.2	318.0	1.7	172
63	0.3	2.9	2.7	286.0	1.8	179
64	0.3	2.7	2.5	249.0	1.7	165
65	0.3	2.7	2.2	223.0	1.4	140
66	0.3	2.6	2.2	220.0	1.3	129
67	0.3	2.5	2.0	200.0	1.2	121
68	0.2	2.4	1.9	187.0	1.1	109
69	0.3	2.6	1.7	173.0	1.0	98
70	0.3	2.9	1.6	162.0	0.9	85
71	0.3	2.9	1.5	150.0	0.8	77
72	0.3	2.6	1.4	135.0	0.7	73
73	0.3	2.7	1.3	126.0	0.7	72
74	0.2	2.1	1.2	118.0	0.7	69
75	0.2	2.1	1.1	108.0	0.6	64
76	0.2	2.0	1.0	102.0	0.6	57
77	0.2	2.0	1.0	95.0	0.5	50
78	0.2	2.4	0.9	93.0	0.5	47
79	0.2	2.2	0.9	90.0	0.4	44
80	0.2	2.2	0.9	87.0	0.4	43
81	0.4	3.5	0.8	79.0	0.4	40
82	0.4	3.6	0.8	75.0	0.4	40
83	0.2	2.1	0.7	69.0	0.4	41
84	0.2	2.0	0.7	65.0	0.4	41
85	0.2	2.0	0.7	68.0	0.4	40
86	0.2	2.0	0.7	65.0	0.4	39
87	0.2	2.2	0.6	63.0	0.4	39
88	0.2	2.1	0.6	60.0	0.4	39
89	0.3	2.7	0.6	59.0	0.4	39
90	0.3	2.7	0.6	59.0	0.4	40
91	0.3	2.5	0.6	61.0	0.4	42
92	0.3	2.5	0.6	60.0	0.4	44
93	0.3	2.5	0.6	62.0	0.5	46
94	0.3	2.5	0.7	67.0	0.5	47
95	0.3	2.5	0.8	79.0	0.5	51
96	0.2	2.3	0.8	84.0	0.5	54
97	0.3	2.5	1.0	95.0	0.6	57
98	0.2	2.4	1.0	102.0	0.6	63
99	0.2	2.4	1.1	111.0	0.7	69
100	0.2	2.4	1.2	116.0	0.8	76
101	0.3	2.7	1.3	128.0	0.8	81
102	0.3	2.5	1.4	135.0	0.8	81
103	0.2	2.3	1.4	135.0	0.8	84
104	0.2	2.4	1.3	129.0	0.9	87
105	0.2	2.3	1.6	155.0	0.9	87
106	0.2	2.3	2.6	259.0	1.2	118

PRESVOC4

Stop Run# 5:46	107	0.2	2.4	3.0	295.0	2.0	201
		Average	3.0		120.2		71.4775
	108	0.2	2.3	0.8	78.0	1.8	176
	109	0.2	2.3	0.2	18.0	1.6	160
	110	0.2	2.4	0.1	11.0	1.5	148
	111	0.2	2.3	0.1	9.0	1.4	144
	112	0.2	2.3	0.1	8.0	1.2	121
	113	0.2	2.2	0.1	7.0	1.1	108
	114	0.2	2.2	0.1	6.0	1.0	95
	115	0.2	2.2	0.1	6.0	0.9	87
	116	0.2	2.3	0.1	5.0	0.8	81
	117	0.2	2.2	0.1	5.0	0.8	77
	118	0.2	2.2	0.1	5.0	0.7	73
	119	0.2	2.3	0.1	5.0	0.7	70
	120	0.2	2.2	0.1	5.0	0.6	63
	121	0.2	2.3	0.1	5.0	0.6	58
	122	0.2	2.3	0.0	4.0	0.6	51
	123	0.1	1.2	0.1	5.0	0.5	48
	124	0.0	-0.2	0.0	4.0	0.5	46
	125	0.0	-0.2	0.0	4.0	0.5	46
	126	0.0	-0.2	0.0	4.0	0.4	44
	127	0.0	-0.2	0.0	4.0	0.4	44
	128	0.0	-0.1	0.0	4.0	0.4	42
	129	0.0	-0.1	0.0	4.0	0.4	42
	130	0.0	-0.1	0.0	3.0	0.4	43
	131	0.0	-0.2	0.0	3.0	0.4	43
	132	0.0	-0.2	0.0	3.0	0.4	44
	133	0.0	-0.2	0.0	3.0	0.4	44
	134	0.2	1.7	0.0	3.0	0.5	45
	135	0.2	2.3	0.0	3.0	0.4	44
	136	0.2	2.2	0.0	3.0	0.4	43
	137	0.2	2.2	0.0	3.0	0.3	34
	138	0.2	2.2	0.0	3.0	0.1	13
	139	0.2	2.2	0.0	3.0	0.1	10
	140	0.2	2.3	0.0	1.0	0.1	9
	141	0.2	2.3	0.0	1.0	0.1	8
	142	1.1	10.5	0.0	1.0	0.1	8
	143	3.4	33.7	0.0	1.0	0.1	8
	144	3.4	33.8	0.0	1.0	0.1	8
	145	3.4	33.8	0.0	1.0	0.1	7
	146	3.4	33.7	0.0	1.0	0.1	7
	147	3.4	33.5	0.0	2.0	0.1	7
	148	3.3	33.4	0.0	1.0	0.1	7
	149	3.3	33.4	0.0	2.0	0.1	7
	150	3.3	33.3	0.0	1.0	0.1	6
	151	3.3	33.3	0.0	1.0	0.1	6
	152	3.3	32.8	0.0	1.0	0.1	6
	153	2.1	21.4	0.0	2.0	0.1	6
	154	0.2	2.3	0.0	1.0	0.1	6
	155	0.2	2.1	0.0	2.0	0.1	6
	156	0.2	2.0	0.0	2.0	0.1	6
	157	0.2	2.1	0.0	1.0	0.1	6
	158	0.2	2.1	0.0	2.0	0.1	5
	159	0.2	2.0	0.0	2.0	0.1	5
	160	0.2	2.0	0.0	2.0	0.1	5
	161	0.2	2.0	0.0	1.0	0.1	5
	162	0.2	2.0	0.0	-1.0	0.1	5
	163	0.2	2.0	0.0	-1.0	0.1	5
	164	0.2	2.0	0.0	-1.0	0.1	5
	165	0.2	1.9	0.0	-1.0	0.1	5
	166	0.2	1.9	0.0	-1.0	0.1	5
	167	0.2	1.9	0.0	-1.0	0.1	5
	168	0.2	1.9	0.0	-1.0	0.1	5
	169	0.2	2.0	0.0	-1.0	0.1	5
	170	0.2	2.0	0.0	-1.0	0.1	5
	171	0.2	1.9	0.0	-1.0	0.1	5
	172	0.2	2.0	0.0	1.0	0.1	5
	173	0.2	2.0	0.0	2.0	0.0	4
	174	0.2	1.9	0.0	2.0	0.0	4
	175	0.2	1.9	0.0	1.0	0.0	4
	176	0.2	2.1	0.0	1.0	0.0	4
	177	0.2	2.1	0.0	2.0	0.0	4
	178	0.2	2.1	2.2	215.0	0.0	4
	179	0.2	2.1	4.9	489.0	0.0	4
	180	0.2	2.0	5.1	506.0	0.0	4
	181	0.2	2.0	5.1	506.0	0.0	4
	182	0.2	2.0	5.1	506.0	0.0	4
	183	0.2	2.1	5.1	507.0	0.0	4
	184	0.2	2.1	5.1	506.0	0.0	4
	185	0.2	2.1	5.1	506.0	0.0	4
	186	0.2	2.1	5.1	506.0	0.0	4
	187	0.2	2.0	6.0	504.0	0.0	4
	188	0.2	2.0	4.8	459.0	0.0	4
	189	0.2	2.1	0.4	42.0	0.0	4
	190	0.2	2.0	0.1	6.0	0.0	4
	191	0.2	2.1	0.0	4.0	0.0	4
	192	0.2	2.0	0.0	3.0	0.0	4
	193	0.2	2.1	0.0	2.0	0.0	4
	194	0.2	2.1	0.0	1.0	0.0	4
	195	0.2	2.0	0.0	2.0	0.0	4
	196	0.2	2.1	0.0	2.0	0.0	4
	197	0.2	2.0	0.0	2.0	0.0	1
	198	0.2	2.1	0.0	2.0	0.0	0
	199	0.2	2.1	0.0	2.0	0.0	0
	200	0.2	2.0	0.0	2.0	0.0	0
	201	0.2	2.0	0.0	2.0	0.0	0
	202	0.2	2.0	0.0	2.0	0.0	0
	203	0.2	2.0	0.0	2.0	0.0	0
	204	0.2	2.1	0.0	1.0	0.0	0
	205	0.2	2.0	0.0	2.0	0.0	0

PRESVOC4

206	0.2	2.1	0.0	2.0	0.0	0
207	0.2	2.0	0.0	1.0	0.0	0
208	0.2	2.1	0.0	1.0	0.0	0
209	0.2	2.0	0.0	1.0	0.0	3
210	0.2	2.0	0.0	1.0	0.0	3
211	0.2	2.0	0.0	1.0	0.0	3
212	0.2	2.1	0.0	1.0	0.0	3
213	0.2	2.2	0.0	1.0	0.0	3
214	0.2	2.3	0.0	1.0	0.0	3
215	0.2	2.3	0.0	0.0	0.0	3
216	0.2	2.4	0.0	1.0	0.1	9
217	0.2	2.2	0.0	0.0	3.0	295
218	0.2	2.3	0.0	1.0	3.2	319
219	0.2	2.3	0.0	1.0	3.3	330
220	0.2	2.3	0.0	1.0	4.4	438
221	0.2	2.3	0.0	1.0	4.5	449
222	0.2	2.2	0.0	1.0	4.5	446
223	0.2	2.3	0.0	1.0	4.4	442
224	0.2	2.3	0.0	1.0	4.4	442
225	0.2	2.3	0.0	1.0	4.4	442
226	0.2	2.2	0.0	1.0	4.6	457
227	0.2	2.4	0.0	1.0	3.9	382
228	0.2	2.3	0.0	1.0	0.2	20
229	0.2	2.4	0.0	1.0	0.1	5
230	0.2	2.4	0.0	1.0	0.0	3
231	0.2	2.3	0.0	1.0	0.0	3
232	0.2	2.3	0.0	1.0	0.0	3
233	0.2	2.4	0.0	1.0	0.0	3
234	0.2	2.2	0.0	2.0	0.0	3
235	0.3	2.5	0.0	2.0	0.0	2
236	0.2	2.4	0.0	1.0	0.0	3
237	0.3	2.6	0.0	2.0	3.1	306
238	0.2	2.3	0.0	2.0	4.4	437
239	0.2	2.4	0.0	2.0	4.4	440
240	0.2	2.4	0.0	2.0	4.4	438
241	0.2	2.4	0.0	2.0	4.4	436
242	0.2	2.4	0.0	1.0	4.4	443
243	0.2	2.4	0.0	1.0	4.5	445
244	0.2	2.3	0.0	1.0	4.5	446
245	0.2	2.4	0.0	1.0	4.5	446
246	0.2	2.4	0.0	1.0	4.6	461
247	0.2	2.2	0.0	0.0	3.9	369
248	0.2	2.3	0.0	0.0	0.2	21
249	0.2	2.4	0.0	1.0	0.1	6
250	0.2	2.4	0.0	1.0	0.0	4
251	0.3	2.7	0.0	3.0	0.1	6
252	0.2	2.3	0.0	1.0	0.0	4
253	0.2	2.3	0.0	1.0	0.0	4
254	0.2	2.4	0.0	0.0	0.0	3
255	0.2	2.3	0.0	1.0	0.0	3
256	0.2	2.4	0.0	1.0	0.0	3
257	0.2	2.3	0.0	1.0	0.0	3
258	0.2	2.4	0.0	1.0	0.0	3

FILE NAME:

LOGGING SESSION:

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C	1B		2A		2B	
MODULE	Voltage	VOC #2	Voltage	VOC #3	Voltage	VOC #4
SAMPLE	5 sec	VOC, EX	5 sec	Inlet #1	5 sec	Inlet #2
UNITS:	Volts		Volts		Volts	
34	0.1	0.6	0.0	-1.0	0.0	-1
35	0.1	0.6	0.0	-1.0	0.0	-1
36	0.1	0.6	0.0	-1.0	0.0	-1
37	0.1	0.6	0.0	-1.0	0.0	-1
38	0.1	0.6	0.0	-1.0	0.0	-1
39	0.1	0.6	0.0	1.0	0.0	-1
40	0.1	0.6	0.0	1.0	0.0	-1
41	0.1	0.6	0.0	1.0	0.0	-1
42	0.1	0.6	0.0	1.0	0.0	-1
43	0.1	0.6	0.2	19.0	0.0	-1
44	0.1	0.6	9.1	907.0	0.0	-1
45	0.1	0.6	9.9	991.0	0.0	0
46	0.1	0.6	10.0	996.0	0.0	-1
47	0.1	0.6	10.0	996.0	0.0	-1
48	0.1	0.6	10.0	995.0	0.0	-1
49	0.1	0.6	9.1	911.0	0.0	-1
50	0.1	0.6	9.1	908.0	0.0	-1
51	0.1	0.6	9.1	908.0	0.0	-1
52	0.1	0.6	9.1	906.0	0.0	-1
53	0.1	0.6	9.1	906.0	0.0	-1
54	0.1	0.6	9.0	902.0	0.0	0
55	0.1	0.6	9.0	900.0	0.0	0
56	0.1	0.6	3.7	372.0	0.0	0
57	0.1	0.6	0.1	11.0	0.0	0
58	0.1	0.6	0.0	4.0	0.0	0
59	0.1	0.7	0.0	2.0	0.0	0
60	0.1	0.6	0.0	2.0	0.0	0
61	0.1	0.6	0.0	1.0	0.0	0
62	0.1	0.6	0.0	1.0	0.0	0
63	0.1	0.7	0.0	1.0	0.0	0
64	0.1	0.6	0.0	1.0	0.0	0
65	0.1	0.7	0.0	1.0	0.0	0
66	0.1	0.7	1.8	179.0	0.0	0
67	0.1	0.7	5.0	496.0	0.0	0
68	0.1	0.7	5.0	503.0	0.0	0
69	0.1	0.7	5.0	503.0	0.0	0
70	0.1	0.7	5.0	503.0	0.0	0
71	0.1	0.7	5.0	503.0	0.0	0
72	0.1	0.7	5.0	503.0	0.0	0
73	0.1	0.7	5.0	503.0	0.0	0
74	0.1	0.7	5.0	502.0	0.0	0
75	0.1	0.7	5.0	502.0	0.0	0
76	0.1	0.7	5.0	499.0	0.0	0
77	0.1	0.7	3.2	324.0	0.0	0
78	0.1	0.7	0.2	15.0	0.0	0
79	0.1	0.7	0.0	3.0	0.0	0
80	0.1	0.7	0.0	2.0	0.0	0
81	0.1	0.7	0.0	1.0	0.0	0
82	0.1	0.7	0.0	1.0	0.0	0
83	0.1	0.7	0.0	1.0	0.0	0
84	0.1	0.7	0.0	1.0	0.0	0
85	0.1	0.7	0.0	1.0	0.0	0
86	0.1	0.7	0.0	1.0	0.0	0
87	0.1	0.7	0.0	1.0	0.0	0
88	0.1	0.7	0.0	1.0	0.0	0
89	0.1	0.7	0.0	1.0	0.0	0
90	0.1	0.7	0.0	1.0	0.0	0
91	0.1	0.7	0.1	5.0	0.0	0
92	0.1	0.7	0.8	83.0	0.0	0
93	0.1	0.7	0.9	91.0	0.0	0
94	0.1	0.7	0.9	91.0	0.0	0
95	0.1	0.7	0.9	91.0	0.0	0
96	0.1	0.6	0.8	82.0	0.0	0
97	0.1	0.6	0.8	91.0	0.0	0
98	0.1	0.6	0.8	91.0	0.0	0
99	0.1	0.6	0.9	91.0	0.0	0
100	0.1	0.6	0.9	91.0	0.0	0
101	0.1	0.6	0.9	91.0	0.0	0
102	0.1	0.6	0.9	91.0	0.0	0
103	0.1	0.6	0.9	91.0	0.0	0
104	0.1	0.6	0.4	44.0	0.0	0
105	0.1	0.6	0.0	3.0	0.0	0
106	0.1	0.6	0.0	1.0	0.0	0
107	0.1	0.6	0.0	1.0	0.0	0
108	0.1	0.6	0.0	1.0	0.0	0
109	0.1	0.6	0.0	1.0	0.0	0
110	0.1	0.6	0.0	1.0	0.0	0
111	0.1	0.6	0.0	1.0	0.0	0
112	0.1	0.6	0.0	1.0	0.0	0
113	0.1	0.6	0.0	1.0	0.0	0
114	0.1	0.6	0.0	1.0	0.0	-1
115	0.1	0.6	0.0	1.0	0.0	-1
116	0.1	0.6	0.0	1.0	0.0	-1
117	0.1	0.6	0.0	1.0	0.0	-1
118	0.1	0.6	0.0	1.0	0.0	-1
119	0.1	0.6	0.0	1.0	0.0	-1
120	0.1	0.6	0.0	1.0	0.1	6
121	0.1	0.6	0.0	1.0	0.0	-1
122	0.1	0.6	0.0	1.0	0.0	-1
123	0.1	0.6	0.0	1.0	0.0	-1
124	0.1	0.6	0.0	1.0	0.0	-1
125	0.1	0.6	0.0	1.0	0.0	-1
126	0.1	0.6	0.0	1.0	0.0	-1

~~Press RTO R4~~~~Ex - 3.0 ppm~~~~Inlet #1 - 120.2~~~~Inlet #2 - 71.48~~

Pre cal - R5

PRESCAL2

127	0.1	0.6	0.0	1.0	0.0	1
128	0.1	0.6	0.0	1.0	0.0	1
129	0.1	0.6	0.0	1.0	0.0	1
130	0.1	0.6	0.0	1.0	0.0	1
131	0.1	0.5	0.0	1.0	0.0	1
132	0.1	0.5	0.0	1.0	0.0	1
133	0.1	0.6	0.0	1.0	0.5	51
134	0.1	0.6	0.0	1.0	9.1	911
135	0.1	0.6	0.0	1.0	10.0	998
136	0.1	0.6	0.0	1.0	10.0	998
137	0.1	0.6	0.0	1.0	10.0	998
138	0.1	0.6	0.0	1.0	9.1	912
139	0.1	0.6	0.0	1.0	9.1	913
140	0.1	0.6	0.0	1.0	9.2	915
141	0.1	0.6	0.0	1.0	9.2	915
142	0.1	0.6	0.0	1.0	9.2	916
143	0.1	0.6	0.0	1.0	9.2	916
144	0.1	0.6	0.0	1.0	9.2	916
145	0.1	0.6	0.0	1.0	9.2	916
146	0.1	0.6	0.0	1.0	4.6	478
147	0.1	0.6	0.0	1.0	0.5	48
148	0.1	0.6	0.0	1.0	0.1	10
149	0.1	0.6	0.0	1.0	0.1	5
150	0.1	0.6	0.0	1.0	0.0	4
151	0.1	0.6	0.0	1.0	0.0	4
152	0.1	0.6	0.0	1.0	0.0	4
153	0.1	0.6	0.0	1.0	2.2	216
154	0.1	0.6	0.0	1.0	4.9	486
155	0.1	0.6	0.0	1.0	5.1	507
156	0.1	0.6	0.0	1.0	5.1	510
157	0.1	0.6	0.0	1.0	5.1	512
158	0.1	0.6	0.0	1.0	5.1	513
159	0.1	0.6	0.0	1.0	5.1	514
160	0.1	0.6	0.0	1.0	5.1	514
161	0.1	0.6	0.0	1.0	5.2	515
162	0.1	0.6	0.0	1.0	5.2	515
163	0.1	0.6	0.0	1.0	5.2	515
164	0.1	0.6	0.0	1.0	5.2	515
165	0.1	0.6	0.0	1.0	5.2	515
166	0.1	0.6	0.0	1.0	3.4	339
167	0.1	0.6	0.0	1.0	0.3	32
168	0.1	0.6	0.0	1.0	0.1	7
169	0.1	0.6	0.0	1.0	0.1	6
170	0.1	0.6	0.0	1.0	0.0	4
171	0.1	0.6	0.0	1.0	0.0	3
172	0.1	0.6	0.0	1.0	0.0	3
173	0.1	0.5	0.0	1.0	0.0	3
174	0.1	0.6	0.0	1.0	0.0	3
175	0.1	0.6	0.0	1.0	0.0	2
176	0.1	0.6	0.0	1.0	0.0	2
177	0.1	0.6	0.0	1.0	0.0	2
178	0.1	0.5	0.0	1.0	0.0	2
179	0.1	0.5	0.0	1.0	0.7	73
180	0.1	0.5	0.0	1.0	1.0	95
181	0.1	0.5	0.0	1.0	1.0	95
182	0.1	0.5	0.0	1.0	1.0	97
183	0.1	0.5	0.0	1.0	1.0	97
184	0.1	0.5	0.0	1.0	1.0	97
185	0.1	0.5	0.0	1.0	1.0	97
186	0.1	0.5	0.0	1.0	1.0	97
187	0.1	0.5	0.0	1.0	1.0	97
188	0.1	0.5	0.0	1.0	1.0	98
189	0.1	0.5	0.0	1.0	0.5	48
190	0.1	0.5	0.0	1.0	0.1	6
191	0.1	0.5	0.0	1.0	0.0	2
192	0.1	0.5	0.0	1.0	0.0	2
193	0.1	0.5	0.0	1.0	0.0	2
194	0.1	0.5	0.0	1.0	0.0	2
195	0.1	0.5	0.0	1.0	0.0	2
196	0.1	0.5	0.0	1.0	0.0	2
197	0.1	0.5	0.0	1.0	0.0	2
198	0.1	0.5	0.0	1.0	0.0	2
199	0.1	0.5	0.0	1.0	0.0	2
200	0.1	0.5	0.0	1.0	0.0	2
201	0.1	0.5	0.0	1.0	0.0	2
202	0.0	-0.2	0.0	1.0	0.0	2
203	0.0	-0.1	0.0	1.0	0.0	2
204	0.0	-0.2	0.0	1.0	0.0	2
205	0.0	-0.3	0.0	1.0	0.0	2
206	0.0	-0.2	0.0	1.0	0.0	1
207	0.0	-0.2	0.0	1.0	0.0	1
208	0.0	-0.2	0.0	1.0	0.0	1
209	0.0	-0.2	0.0	1.0	0.0	1
210	0.3	3.1	0.0	1.0	0.0	1
211	0.0	-0.2	0.0	1.0	0.0	1
212	0.0	-0.1	0.0	1.0	0.0	1
213	0.0	-0.2	0.0	1.0	0.0	1
214	0.0	-0.2	0.0	1.0	0.0	1
215	0.0	-0.2	0.0	1.0	0.0	1
216	0.0	-0.2	0.0	1.0	0.0	1
217	0.2	2.2	0.0	1.0	0.0	1
218	0.2	2.4	0.0	1.0	0.0	1
219	0.2	2.4	0.0	-1.0	0.0	1
220	0.2	2.4	0.0	1.0	0.0	1
221	0.4	4.0	0.0	1.0	0.0	1
222	3.7	36.6	0.0	1.0	0.0	1
223	3.7	37.0	0.0	1.0	0.0	1
224	3.7	37.0	0.0	1.0	0.0	1
225	3.7	36.8	0.0	1.0	0.0	1
226	3.7	36.7	0.0	1.0	0.0	1
227	3.2	31.8	0.0	1.0	0.0	1
228	3.2	31.7	0.0	1.0	0.0	1
229	3.2	31.6	0.0	1.0	0.0	1

PRESCAL2

230	3.2	31.5	0.0	1.0	0.0	1
231	3.1	31.4	0.0	-1.0	0.0	1
232	3.1	31.4	0.0	-1.0	0.0	1
233	3.1	31.3	0.0	-1.0	0.0	1
234	3.1	31.4	0.0	-1.0	0.0	1
235	0.3	2.7	0.0	-1.0	0.0	1
236	0.2	2.1	0.0	-1.0	0.0	1
237	0.2	2.0	0.0	-1.0	0.0	1
238	0.2	2.0	0.0	-1.0	0.0	1
239	0.2	1.9	0.0	-1.0	0.0	1
240	0.2	1.9	0.0	-1.0	0.0	1
241	0.2	1.9	0.0	-1.0	0.0	1
242	0.2	1.9	0.0	-1.0	0.0	1
243	0.2	1.9	0.0	-1.0	0.0	1
244	0.2	1.9	0.0	-1.0	0.0	1
245	0.2	1.9	0.0	-1.0	0.0	1
246	0.2	1.9	0.0	-1.0	0.0	1
247	0.2	2.0	0.0	-1.0	0.0	1
248	0.2	2.4	0.0	-1.0	0.0	1
249	0.2	2.0	0.0	-1.0	0.0	1
250	2.6	26.0	0.0	-1.0	0.0	1
251	9.1	90.8	0.0	-1.0	0.0	1
252	9.1	90.9	0.0	-1.0	0.0	1
253	9.0	90.3	0.0	-1.0	0.0	1
254	9.0	89.7	0.0	-1.0	0.0	1
255	8.9	89.2	0.0	-1.0	0.0	1
256	8.9	88.6	0.0	-1.0	0.0	1
257	8.8	88.4	0.0	-1.0	0.0	1
258	8.9	8.9	0.0	-1.0	0.0	1
259	0.2	2.1	0.0	-1.0	0.0	1
260	0.2	1.9	0.0	-1.0	0.0	1
261	0.2	1.9	0.0	-1.0	0.0	1
262	0.2	1.8	0.0	-1.0	0.0	1
263	0.2	1.8	0.0	-1.0	0.0	1
264	0.2	1.8	0.0	-1.0	0.0	1
265	0.2	1.7	0.0	-1.0	0.0	1
266	0.2	1.7	0.0	-1.0	0.0	1
267	0.2	1.7	0.0	-1.0	0.0	1
268	0.2	1.7	0.0	-1.0	0.0	1
269	0.2	1.7	0.0	-1.0	0.0	1
270	0.2	1.7	0.0	-1.0	0.0	1
271	0.2	1.7	0.0	-1.0	0.0	1
272	0.2	1.7	0.0	-1.0	0.0	1
273	0.4	4.3	0.0	-1.0	0.0	1
274	0.4	4.4	0.0	-1.0	0.0	1
275	0.4	4.4	0.0	-1.0	0.0	1
276	0.4	4.4	0.0	-1.0	0.0	1
277	0.4	4.4	0.0	-1.0	0.0	1
278	0.4	4.4	0.0	-1.0	0.0	1
279	0.4	4.4	0.0	-1.0	0.0	1
280	0.4	4.4	0.0	-1.0	0.0	1
281	0.4	4.4	0.0	-1.0	0.0	1
282	0.4	4.4	0.0	-1.0	0.0	1
283	0.4	4.4	0.0	-1.0	0.0	1
284	0.4	4.2	0.0	-1.0	0.0	1
285	0.2	1.7	0.0	-1.0	0.0	1
286	0.2	1.7	0.0	-1.0	0.0	1
287	0.2	1.7	0.0	-1.0	0.0	1
288	0.2	1.9	0.0	2.0	0.0	1
289	0.2	1.7	0.0	-1.0	0.0	1
290	0.2	2.3	0.0	-1.0	0.0	1
291	0.2	2.4	0.0	-1.0	0.0	1
292	0.2	1.7	0.0	-1.0	0.0	1
293	0.2	1.7	0.0	-1.0	0.0	1
294	0.2	1.7	0.0	-1.0	0.0	1
295	0.2	1.7	0.0	-1.0	0.0	1

FILE NAME:

LOGGING SESSION:

START LOGGING @ #####
LAST SAMPLE @ #####

R5 Press RTO

Ex - 2.2

Inlet #1 - 79.5

Inlet #2 - 41.7

ACTIVE C MODULE SAMPLE UNITS:	1B Voltage 5 sec Volts	VOC #2 RTO Ex	2A Voltage 5 sec Volts	VOC #3 Inlet #1	2B Voltage 5 sec Volts	VOC #4 Inlet #2
1	0.2	1.5	0.0	-1.0	0.0	1
2	0.2	1.6	0.0	-1.0	0.0	1
3	0.2	1.6	0.0	-1.0	0.0	1
4	0.2	1.6	0.0	-1.0	0.0	1
5	0.2	1.6	0.0	-1.0	0.0	1
6	0.2	1.6	0.0	-1.0	0.0	1
7	0.2	1.6	0.0	-1.0	0.0	1
8	0.2	1.6	0.0	-1.0	0.0	1
9	0.2	1.6	0.0	-1.0	0.0	1
10	0.2	1.6	0.0	-1.0	0.0	1
11	0.2	1.6	0.0	-1.0	0.0	1
12	0.2	1.6	0.0	-1.0	0.0	1
13	0.2	1.6	0.0	-1.0	0.0	1
14	0.2	1.6	0.0	-1.0	0.0	1
15	0.2	1.6	0.0	-1.0	0.0	1
16	0.2	1.6	0.0	-1.0	0.0	1
17	0.2	1.6	0.0	-1.0	0.0	1
18	0.2	1.6	0.0	-1.0	0.0	1
19	0.2	1.6	0.0	-1.0	0.0	1
20	0.2	1.6	0.0	-1.0	0.0	1
21	0.2	1.6	0.0	-1.0	0.0	1
22	0.2	1.6	0.0	-1.0	0.0	1
23	0.2	1.6	0.0	3.0	0.0	1
24	0.2	1.6	0.0	1.0	0.0	1
25	0.2	1.6	0.0	1.0	0.0	1
26	0.2	1.9	0.0	1.0	0.0	1
27	0.2	1.9	0.0	-1.0	0.0	1
28	0.2	2.0	0.0	4.0	0.0	1
29	0.2	1.9	0.1	8.0	0.0	1
30	0.2	2.1	0.0	1.0	0.0	1
31	0.3	2.9	0.0	1.0	0.0	1
32	0.3	3.3	0.0	1.0	0.0	1
33	0.2	2.4	0.0	1.0	0.0	1
34	0.2	1.9	0.1	13.0	0.0	1
35	0.2	1.9	0.4	39.0	0.0	1
36	0.2	1.8	0.4	42.0	0.0	1
37	0.2	1.7	0.4	40.0	0.0	1
38	0.2	1.7	0.4	37.0	0.0	1
39	0.2	2.1	0.4	36.0	0.0	1
40	0.4	4.0	0.4	36.0	0.0	1
41	0.5	4.9	0.4	35.0	0.0	1
42	0.2	2.1	0.3	34.0	0.0	1
43	0.2	1.8	0.3	33.0	0.0	1
44	0.2	1.6	0.3	32.0	0.0	1
45	0.2	1.5	0.3	30.0	0.0	1
46	0.2	1.5	0.3	28.0	0.0	1
47	0.1	1.4	0.3	26.0	0.0	1
48	0.2	1.9	0.2	24.0	0.0	1
49	0.2	1.9	0.2	23.0	0.0	1
50	0.2	2.1	0.2	22.0	0.0	1
51	0.4	4.4	0.2	21.0	0.0	1
52	0.2	2.0	0.2	20.0	0.0	1
53	0.2	1.6	0.2	17.0	0.0	1
54	0.2	1.6	0.2	16.0	0.0	3

Start Run#
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55	0.2	1.8	0.2	15.0	0.1	12
56	0.2	1.8	0.1	14.0	0.1	13
57	0.2	2.2	0.1	13.0	0.1	14
58	0.2	1.8	0.1	13.0	0.1	13
59	0.2	1.7	0.1	13.0	0.1	13
60	1.1	11.0	0.1	13.0	0.1	13
61	0.2	2.1	0.1	12.0	0.1	13
62	0.2	1.6	0.1	11.0	0.1	13
63	0.2	1.7	0.1	11.0	0.1	13
64	0.2	2.1	0.1	11.0	0.1	12
65	0.2	2.2	0.1	11.0	0.1	12
66	0.2	1.8	0.1	10.0	0.1	12
67	0.1	1.4	0.1	10.0	0.1	11
68	0.1	1.3	0.1	10.0	0.1	11
69	0.3	2.5	0.1	10.0	0.1	11
70	0.1	1.3	0.1	10.0	0.1	11
71	0.1	1.3	0.1	10.0	0.1	11
72	0.1	1.4	0.1	11.0	0.1	11
73	0.2	1.6	0.1	11.0	0.1	11
74	0.2	1.6	0.1	10.0	0.1	11
75	0.3	2.7	0.1	11.0	0.1	11
76	0.2	2.1	0.1	13.0	0.1	11
77	0.2	1.8	0.1	14.0	0.1	11
78	0.2	1.9	0.2	16.0	0.1	11
79	0.4	3.5	0.2	16.0	0.1	12
80	0.2	1.8	0.2	21.0	0.1	13
81	0.2	1.7	0.2	23.0	0.1	13
82	0.2	1.7	0.3	20.0	0.2	16
83	0.2	1.7	0.3	31.0	0.2	16
84	0.2	2.2	0.4	36.0	0.2	19
85	0.2	2.4	0.5	45.0	0.2	20
86	0.3	2.5	0.6	59.0	0.3	26
87	0.2	2.1	0.7	71.0	0.3	31
88	0.2	2.0	0.9	88.0	0.4	35
89	0.2	2.0	0.9	91.0	0.4	38

PRESVOC5

90	0.2	1.9	1.0	104.0	0.4	39
91	0.2	2.0	1.2	115.0	0.5	48
92	0.2	1.7	1.1	107.0	0.5	47
93	0.2	2.3	1.1	106.0	0.5	48
94	0.3	2.9	1.1	113.0	0.5	49
95	0.3	2.7	1.2	118.0	0.5	49
96	0.2	2.0	1.2	124.0	0.6	52
97	0.2	1.9	2.1	213.0	0.7	67
98	0.2	1.9	2.6	264.0	1.2	124
99	0.2	1.8	2.3	231.0	1.2	122
100	0.2	1.7	2.1	212.0	1.0	102
101	0.2	1.7	1.9	190.0	1.0	97
102	0.2	2.1	1.7	167.0	0.9	90
103	0.2	2.0	1.5	151.0	0.8	78
104	0.2	1.9	1.5	145.0	0.6	62
106	0.2	2.2	1.2	123.0	0.6	56
106	0.2	1.6	1.1	110.0	0.5	51
107	0.2	1.6	1.1	106.0	0.5	48
108	0.2	1.6	1.0	103.0	0.5	46
109	0.2	1.5	0.9	94.0	0.4	42
110	0.2	1.6	0.9	86.0	0.4	41
111	0.2	1.9	0.8	79.0	0.4	38
112	0.2	1.7	0.7	73.0	0.4	36
113	0.2	1.7	0.7	70.0	0.4	36
114	0.5	5.4	0.7	69.0	0.3	34
115	0.2	1.8	0.7	65.0	0.3	31
116	0.2	1.7	0.6	62.0	0.3	31
117	0.2	1.6	0.6	58.0	0.3	29
118	0.2	1.6	0.6	56.0	0.3	29
119	0.2	2.0	0.6	56.0	0.3	28
120	0.2	2.1	0.5	53.0	0.3	27
121	0.2	1.8	0.6	49.0	0.3	25
122	0.2	2.2	0.5	46.0	0.3	25
123	0.5	4.8	0.4	44.0	0.2	24
124	0.2	1.8	0.4	43.0	0.2	24
125	0.2	1.6	0.4	41.0	0.2	24
126	0.2	1.8	0.4	40.0	0.2	24
127	0.2	2.0	0.4	37.0	0.2	22
128	0.2	2.0	0.4	36.0	0.2	22
129	0.2	1.7	0.4	35.0	0.2	21
130	0.1	1.4	0.4	35.0	0.2	20
131	0.3	2.5	0.4	36.0	0.2	19
132	0.2	1.6	0.4	36.0	0.2	20
133	0.1	1.4	0.4	35.0	0.2	20
134	0.1	1.4	0.3	33.0	0.2	19
135	0.2	1.5	0.3	31.0	0.2	19
136	0.2	1.5	0.3	31.0	0.2	19
137	0.2	1.6	0.3	31.0	0.2	18
138	0.3	3.3	0.3	31.0	0.2	17
139	0.2	1.8	0.3	29.0	0.2	16
140	0.2	1.9	0.3	28.0	0.2	15
141	0.3	2.9	0.3	27.0	0.2	15
142	0.2	2.2	0.3	26.0	0.2	15
143	0.2	1.8	0.2	23.0	0.2	15
144	0.2	1.9	0.2	21.0	0.1	14
145	0.2	1.8	0.2	20.0	0.1	14
146	0.2	1.9	0.2	19.0	0.1	13
147	0.2	2.4	0.2	18.0	0.1	13
148	0.2	2.4	0.2	18.0	0.1	13
149	0.2	2.3	0.2	18.0	0.1	13
150	0.2	2.0	0.2	17.0	0.1	13
151	0.2	1.9	0.2	16.0	0.1	13
152	0.2	1.9	0.2	15.0	0.1	13
153	0.2	1.9	0.2	16.0	0.1	13
154	0.2	1.8	0.2	16.0	0.1	14
155	0.2	2.1	0.2	15.0	0.1	14
156	0.5	4.5	0.2	15.0	0.1	13
157	0.7	6.7	0.2	16.0	0.1	13
158	0.3	3.4	0.2	19.0	0.1	14
159	0.2	2.0	0.2	21.0	0.1	14
160	0.2	1.9	0.2	21.0	0.2	15
161	0.2	1.9	0.2	22.0	0.2	15
162	0.2	1.8	0.2	24.0	0.2	16
163	0.2	1.7	0.3	27.0	0.2	16
164	0.2	2.1	0.3	31.0	0.2	17
165	0.5	4.9	0.4	37.0	0.2	18
166	0.5	5.1	0.4	43.0	0.2	20
167	0.2	2.2	0.5	54.0	0.2	22
168	0.2	1.8	0.6	57.0	0.3	27
169	0.2	1.6	0.6	62.0	0.3	31
170	0.2	1.5	0.7	74.0	0.3	34
171	0.2	1.5	0.8	79.0	0.4	40
172	0.2	1.5	0.9	88.0	0.4	43
173	0.2	1.9	0.8	80.0	0.5	48
174	0.2	1.7	0.9	87.0	0.5	47
175	0.2	1.7	1.0	96.0	0.5	49
176	0.4	4.1	1.0	98.0	0.6	55
177	0.2	2.1	1.1	105.0	0.6	56
178	0.2	1.7	1.7	170.0	0.6	58
179	0.2	1.6	2.3	234.0	1.1	108
180	0.2	1.6	2.1	209.0	1.3	126
181	0.2	1.6	1.9	194.0	1.1	108
182	0.2	2.3	1.9	189.0	1.0	102
183	0.2	1.9	1.7	168.0	1.0	99
184	0.2	1.9	1.5	151.0	0.9	87
185	1.2	11.5	1.4	142.0	0.7	74
186	0.2	2.3	1.3	126.0	0.7	67
187	0.2	1.8	1.3	126.0	0.6	63
188	0.2	1.7	1.2	119.0	0.6	60
189	0.2	1.6	1.1	108.0	0.6	57
190	0.2	1.6	1.0	99.0	0.5	53
191	0.2	1.9	0.9	87.0	0.5	49
192	0.2	1.5	0.8	82.0	0.5	45

PRESVOC5

193	0.1	1.4	0.8	75.0	0.4	41
194	0.3	3.0	0.7	72.0	0.4	40
195	0.1	1.4	0.7	67.0	0.4	39
196	0.2	1.5	0.6	63.0	0.4	39
197	0.1	1.4	0.6	60.0	0.4	36
198	0.1	1.4	0.6	56.0	0.4	35
199	0.2	1.5	0.5	50.0	0.3	33
200	0.3	2.6	0.5	48.0	0.3	30
201	0.3	2.5	0.4	42.0	0.3	28
202	0.2	1.8	0.4	39.0	0.3	26
203	0.2	1.9	0.4	39.0	0.2	24
204	0.4	3.9	0.4	37.0	0.2	22
205	0.2	2.0	0.3	34.0	0.2	21
206	0.2	1.9	0.3	33.0	0.2	21
207	0.2	1.8	0.3	32.0	0.2	21
208	0.2	1.9	0.3	29.0	0.2	21
209	0.2	2.3	0.3	29.0	0.2	21
210	0.2	2.3	0.3	29.0	0.2	21
211	0.3	2.6	0.3	29.0	0.2	21
212	0.2	2.1	0.3	29.0	0.2	22
213	0.2	2.1	0.3	32.0	0.2	24
214	0.2	2.0	0.3	33.0	0.2	24
215	0.2	2.0	0.4	35.0	0.3	25
216	0.2	1.9	0.4	40.0	0.3	27
217	0.2	1.9	0.5	45.0	0.3	27
218	0.2	2.4	0.5	52.0	0.3	28
219	0.4	4.0	0.6	61.0	0.3	30
220	0.4	4.0	0.7	70.0	0.3	33
221	0.2	2.2	0.7	70.0	0.4	36
222	0.2	2.0	0.8	80.0	0.4	39
223	0.2	1.9	0.8	83.0	0.4	41
224	0.2	1.9	0.9	92.0	0.4	44
225	0.2	1.7	1.0	97.0	0.5	45
226	0.2	1.7	1.1	105.0	0.5	48
227	0.2	2.2	1.0	103.0	0.5	50
228	0.3	3.0	1.0	104.0	0.5	52
229	0.3	2.7	1.6	156.0	0.8	57
230	0.2	2.4	2.4	236.0	1.0	67
231	0.2	1.7	2.2	224.0	1.3	129
232	0.2	1.6	2.0	195.0	1.2	120
233	0.2	1.5	1.9	194.0	1.1	109
234	0.2	1.5	1.7	173.0	1.1	107
235	0.2	1.6	1.6	161.0	1.0	100
236	0.2	1.8	1.5	154.0	0.9	86
237	0.2	1.6	1.4	141.0	0.7	72
238	0.2	1.6	1.3	133.0	0.7	65
239	0.6	6.0	1.2	121.0	0.6	64
240	0.2	1.7	1.1	110.0	0.6	61
241	0.2	1.6	1.0	99.0	0.6	57
242	0.2	1.6	0.9	90.0	0.6	55
243	0.2	1.6	0.8	84.0	0.5	50
244	0.2	1.9	0.7	72.0	0.5	45
245	0.2	2.0	0.7	73.0	0.4	40
246	0.2	1.8	0.7	69.0	0.4	38
247	0.2	2.1	0.6	60.0	0.4	35
248	0.5	5.2	0.6	56.0	0.3	30
249	0.2	1.8	0.5	53.0	0.3	29
250	0.2	1.6	0.5	46.0	0.3	29
251	0.2	1.9	0.4	44.0	0.3	27
252	0.2	1.8	0.4	44.0	0.3	27
253	0.2	2.0	0.4	42.0	0.3	27
254	0.2	1.6	0.4	38.0	0.3	26
255	0.1	1.4	0.4	38.0	0.3	29
256	0.2	2.3	0.4	38.0	0.3	29
257	0.2	1.6	0.4	38.0	0.3	29
258	0.1	1.4	0.4	38.0	0.3	29
259	0.1	1.4	0.4	41.0	0.3	29
260	0.1	1.4	0.5	48.0	0.3	30
261	0.1	1.4	0.6	54.0	0.3	32
262	0.2	1.5	0.6	64.0	0.3	34
263	0.3	3.3	0.7	70.0	0.4	36
264	0.2	1.8	0.7	73.0	0.4	40
265	0.2	1.8	0.8	82.0	0.4	41
266	0.3	2.5	0.9	90.0	0.4	43
267	0.2	2.1	0.9	90.0	0.5	47
268	0.2	1.9	1.0	103.0	0.5	49
269	0.2	1.9	1.0	104.0	0.5	50
270	0.2	1.9	1.0	104.0	0.5	52
271	0.2	1.8	1.0	103.0	0.5	52
272	0.2	2.2	1.1	109.0	0.5	54
273	0.2	2.1	1.2	121.0	0.6	65
274	0.2	2.2	2.1	214.0	0.7	71
275	0.2	2.1	2.0	198.0	1.2	116
276	0.2	2.0	1.7	188.0	1.1	108
277	0.2	1.9	1.6	162.0	1.0	98
278	0.2	1.9	1.5	151.0	0.9	89
279	0.2	1.9	1.3	129.0	0.8	84
280	0.2	2.1	1.3	125.0	0.8	79
281	0.2	2.4	1.2	122.0	0.7	70
282	0.3	2.6	1.2	115.0	0.6	61
283	0.2	2.2	1.1	110.0	0.6	57
284	0.2	2.0	1.1	108.0	0.6	55
285	0.2	1.9	1.0	98.0	0.5	53
286	0.2	1.9	0.9	86.0	0.5	49
287	0.2	1.8	0.8	79.0	0.5	48
288	0.2	1.7	0.8	75.0	0.5	46
289	0.2	2.0	0.7	69.0	0.4	42
290	0.3	3.0	0.6	64.0	0.4	37
291	0.4	3.5	0.6	59.0	0.3	34
292	0.2	2.2	0.6	58.0	0.3	31
293	0.2	1.8	0.5	54.0	0.3	30
294	0.2	1.6	0.5	53.0	0.3	29
295	0.2	1.6	0.5	48.0	0.3	27

PRESVOC5

296	0.2	1.5	0.4	41.0	0.3	28
297	0.2	1.5	0.4	38.0	0.3	28
298	0.2	1.9	0.4	38.0	0.3	25
299	0.2	2.0	0.4	38.0	0.3	25
300	0.2	2.1	0.4	38.0	0.3	27
301	0.4	3.7	0.4	39.0	0.3	28
302	0.2	2.2	0.4	39.0	0.3	29
303	0.2	1.7	0.4	42.0	0.3	30
304	0.2	1.6	0.5	49.0	0.3	29
305	0.2	1.7	0.5	54.0	0.3	30
306	0.2	1.7	0.6	56.0	0.3	31
307	0.2	2.3	0.7	65.0	0.4	35
308	0.2	1.9	0.8	77.0	0.4	36
309	0.2	1.8	0.9	87.0	0.4	42
310	1.1	11.4	0.9	89.0	0.6	46
311	0.2	2.3	1.0	102.0	0.5	47
312	0.2	1.7	1.0	99.0	0.6	51
313	0.2	1.7	1.1	105.0	0.6	54
314	0.2	2.1	1.1	110.0	0.6	57
315	0.2	1.9	1.1	108.0	0.6	61
316	0.2	1.9	1.1	109.0	0.6	61
317	0.2	1.5	1.0	103.0	0.6	61
318	0.1	1.4	1.4	137.0	0.6	61
319	0.3	3.1	1.9	192.0	1.0	102
320	0.1	1.4	1.7	173.0	1.0	103
321	0.1	1.4	1.6	161.0	1.0	98
322	0.1	1.4	1.6	160.0	0.9	93
323	0.1	1.4	1.5	146.0	0.9	86
324	0.1	1.4	1.4	138.0	0.8	80
325	0.3	2.6	1.3	126.0	0.7	72
326	0.2	2.4	1.2	122.0	0.6	64
327	0.2	1.8	1.2	119.0	0.6	60
328	0.2	1.8	1.1	109.0	0.6	57
329	0.4	4.3	1.0	101.0	0.6	55
330	0.2	2.0	0.9	90.0	0.5	50
331	0.2	2.0	0.8	81.0	0.6	48
332	0.2	1.9	0.8	78.0	0.6	47
333	0.2	1.8	0.7	69.0	0.4	44
334	0.2	2.2	0.7	68.0	0.4	40
335	0.2	2.2	0.6	64.0	0.4	36
336	0.2	2.4	0.6	63.0	0.3	33
337	0.2	2.1	0.6	58.0	0.3	30
338	0.2	2.0	0.6	56.0	0.3	29
339	0.2	2.0	0.5	53.0	0.3	27
340	0.2	1.9	0.5	48.0	0.3	26
341	0.2	1.8	0.4	43.0	0.3	25
342	0.2	1.9	0.4	41.0	0.3	25
343	0.2	2.4	0.4	39.0	0.3	25
344	0.4	4.3	0.4	39.0	0.3	28
345	0.5	4.9	0.4	38.0	0.3	27
346	0.2	2.2	0.4	39.0	0.3	28
347	0.2	1.9	0.4	40.0	0.3	28
348	0.2	1.9	0.4	44.0	0.3	28
349	0.2	1.8	0.5	46.0	0.3	30
350	0.2	1.7	0.5	52.0	0.3	31
351	0.2	1.7	0.6	58.0	0.3	33
352	0.3	2.5	0.7	66.0	0.4	35
353	0.4	4.3	0.7	73.0	0.4	38
354	0.4	3.7	0.8	77.0	0.4	40
355	0.2	2.3	0.8	83.0	0.6	46
356	0.2	1.7	0.9	89.0	0.6	50
357	0.2	1.8	1.0	95.0	0.6	51
358	0.2	1.6	0.9	91.0	0.5	50
359	0.2	1.5	1.0	99.0	0.5	53
360	0.2	1.6	1.0	100.0	0.6	52
361	0.2	1.9	1.0	101.0	0.5	53
362	0.2	1.7	1.2	121.0	0.5	53
363	0.2	1.7	2.1	209.0	0.7	74
364	0.6	6.2	2.0	199.0	1.1	114
365	0.2	1.7	1.7	165.0	1.0	103
366	0.2	1.8	1.6	163.0	1.0	95
367	0.2	1.8	1.6	160.0	0.9	91
368	0.2	1.8	1.5	147.0	0.9	85
369	0.2	1.9	1.3	134.0	0.8	78
370	0.2	2.0	1.3	125.0	0.7	67
371	0.2	1.8	1.2	117.0	0.6	63
372	0.2	2.0	1.1	109.0	0.6	59
373	0.6	5.7	1.0	103.0	0.5	54
374	0.2	1.9	1.0	99.0	0.5	53
375	0.2	1.7	0.9	94.0	0.5	50
376	0.2	1.7	0.9	89.0	0.5	47
377	0.2	1.9	0.8	81.0	0.6	45
378	0.2	2.0	0.7	73.0	0.4	42
379	0.2	1.7	0.8	75.0	0.4	39
380	0.2	1.5	0.7	71.0	0.4	38
381	0.2	2.1	0.7	67.0	0.4	37
382	0.2	1.6	0.6	64.0	0.4	36
383	0.1	1.4	0.6	62.0	0.3	33
384	0.1	1.4	0.6	57.0	0.3	32
385	0.2	1.5	0.5	52.0	0.3	30
386	0.2	1.5	0.5	46.0	0.3	29
387	0.2	1.6	0.4	44.0	0.3	27
388	0.3	3.4	0.4	41.0	0.3	25
389	0.2	1.6	0.4	37.0	0.2	22
390	0.2	1.9	0.4	36.0	0.2	22
391	0.2	1.8	0.3	34.0	0.2	20
392	0.2	2.1	0.3	31.0	0.2	20
393	0.2	1.8	0.3	29.0	0.2	21
394	0.2	1.9	0.3	27.0	0.2	21
395	0.2	1.7	0.3	25.0	0.2	21
396	0.2	1.6	0.3	26.0	0.2	21
397	0.3	2.5	0.3	27.0	0.2	20
398	0.3	2.6	0.3	28.0	0.2	21

PRESVOC5

399	0.3	2.8	0.3	29.0	0.2	22
400	0.2	2.2	0.3	30.0	0.2	22
401	0.2	2.0	0.3	32.0	0.2	22
402	0.2	2.0	0.4	35.0	0.2	24
403	0.2	1.9	0.4	39.0	0.2	24
404	0.2	1.8	0.4	43.0	0.3	28
405	0.2	2.0	0.5	50.0	0.3	28
406	0.3	3.0	0.6	57.0	0.3	29
407	0.5	4.8	0.6	58.0	0.3	31
408	0.3	3.0	0.7	65.0	0.3	31
409	0.2	2.0	0.7	71.0	0.4	36
410	0.2	1.9	0.8	78.0	0.4	37
411	0.2	1.9	0.9	89.0	0.4	37
412	0.2	1.8	0.9	90.0	0.4	40
413	0.2	1.7	0.9	92.0	0.4	43
414	0.2	2.1	1.0	97.0	0.4	42
415	0.3	3.3	1.1	114.0	0.4	43
416	0.3	3.4	2.2	217.0	0.6	55
417	0.2	2.2	2.5	249.0	1.1	106
418	0.2	1.9	2.4	236.0	1.1	114
419	0.2	1.7	2.1	205.0	1.1	105
420	0.2	1.6	2.0	198.0	1.0	97
421	0.2	1.6	1.7	173.0	0.9	93
422	0.2	1.5	1.6	165.0	0.8	81
423	0.2	2.0	1.4	144.0	0.7	74
424	0.2	1.8	1.3	130.0	0.7	65
425	0.2	1.7	1.2	118.0	0.6	60
426	0.4	4.2	1.1	113.0	0.6	58
427	0.3	2.5	1.0	102.0	0.6	55
428	0.2	1.7	1.0	97.0	0.6	52
429	0.2	1.7	0.9	90.0	0.5	50
430	0.2	1.7	0.9	88.0	0.5	49
431	0.2	1.7	0.9	86.0	0.5	46
432	0.2	2.3	0.8	81.0	0.4	43
433	0.2	2.0	0.8	76.0	0.4	40
434	0.2	1.9	0.8	75.0	0.4	39
435	1.1	11.0	0.7	72.0	0.4	37
436	0.2	2.3	0.7	66.0	0.4	36
437	0.2	1.8	0.6	61.0	0.4	35
438	0.2	1.7	0.6	57.0	0.3	32
439	0.2	1.9	0.6	55.0	0.3	30
440	0.2	2.0	0.5	51.0	0.3	29
441	0.2	2.0	0.5	46.0	0.3	29
442	0.2	1.6	0.5	46.0	0.3	27
443	0.2	1.6	0.4	44.0	0.3	26
444	0.3	3.0	0.4	41.0	0.2	24
445	0.2	1.5	0.4	38.0	0.2	22
446	0.1	1.4	0.4	35.0	0.2	22
447	0.2	1.5	0.3	32.0	0.2	21
448	0.2	1.6	0.3	32.0	0.2	19
449	0.2	1.6	0.3	29.0	0.2	19
450	0.3	2.6	0.3	28.0	0.2	18
451	0.2	2.4	0.3	28.0	0.2	18
452	0.2	1.9	0.3	26.0	0.2	17
453	0.2	2.0	0.2	24.0	0.2	17
454	0.4	4.3	0.2	24.0	0.2	17
455	0.2	2.0	0.2	24.0	0.2	18
456	0.2	2.0	0.2	24.0	0.2	18
457	0.2	1.9	0.3	26.0	0.2	18
458	0.2	1.7	0.3	27.0	0.2	18
459	0.2	2.2	0.3	28.0	0.2	18
460	0.2	2.2	0.3	30.0	0.2	19
461	0.3	3.0	0.3	31.0	0.2	19
462	0.2	2.4	0.3	33.0	0.2	19
463	0.2	2.0	0.4	37.0	0.2	20
464	0.2	2.1	0.4	42.0	0.2	22
465	0.2	2.0	0.5	49.0	0.3	25
466	0.2	2.0	0.6	56.0	0.3	28
467	0.2	1.9	0.6	61.0	0.3	29
468	0.2	2.4	0.7	71.0	0.3	32
469	0.4	3.8	0.8	78.0	0.3	34
470	0.4	3.5	0.8	82.0	0.4	36
471	0.2	2.2	0.9	88.0	0.4	41
472	0.2	2.0	0.9	89.0	0.4	43
473	0.2	1.9	0.9	94.0	0.5	45
474	0.2	1.9	1.0	95.0	0.5	46
475	0.2	1.8	1.0	97.0	0.5	46
476	0.2	1.8	1.2	115.0	0.5	60
477	0.2	2.4	2.1	209.0	0.6	64
478	0.3	2.5	2.0	196.0	1.1	106
479	0.2	2.1	1.7	168.0	1.1	105
480	0.2	2.4	1.6	164.0	1.0	96
481	0.2	1.7	1.5	148.0	0.9	87
482	0.2	1.7	1.4	139.0	0.8	79
483	0.2	1.6	1.3	130.0	0.7	71
484	0.2	1.6	1.3	129.0	0.6	64
485	0.2	1.7	1.2	124.0	0.6	60
486	0.2	2.0	1.1	113.0	0.5	54
487	0.2	1.8	1.1	105.0	0.5	52
488	0.2	1.7	1.0	96.0	0.5	46
489	0.7	6.6	0.8	84.0	0.5	45
490	0.2	1.8	0.8	79.0	0.4	44
491	0.2	1.7	0.7	72.0	0.4	41
492	0.2	1.8	0.7	67.0	0.4	38
493	0.2	1.6	0.7	67.0	0.3	34
494	0.2	2.0	0.7	66.0	0.3	31
495	0.2	2.1	0.6	61.0	0.3	28
496	0.2	1.9	0.6	56.0	0.3	26
497	0.2	2.1	0.5	51.0	0.3	25
498	0.5	5.3	0.6	47.0	0.2	24
499	0.2	1.9	0.4	44.0	0.2	24
500	0.2	1.6	0.4	40.0	0.2	24
501	0.2	1.8	0.4	41.0	0.2	24

PRESVOC5

502	0.2	2.0	0.4	40.0	0.2	24
503	0.2	2.1	0.4	40.0	0.2	24
504	0.2	1.7	0.4	40.0	0.2	24
505	0.2	1.5	0.4	40.0	0.3	25
506	0.2	2.1	0.4	39.0	0.3	25
507	0.2	1.7	0.4	41.0	0.3	25
508	0.2	1.5	0.5	45.0	0.3	27
509	0.2	1.5	0.5	48.0	0.3	29
510	0.2	1.5	0.6	57.0	0.3	30
511	0.2	1.5	0.7	65.0	0.3	31
512	0.2	1.6	0.8	75.0	0.4	35
513	0.3	3.4	0.8	83.0	0.4	37
514	0.2	1.9	0.8	84.0	0.4	39
515	0.2	1.8	0.9	93.0	0.4	41
516	0.3	3.0	0.9	92.0	0.4	44
517	0.2	2.4	1.0	100.0	0.5	48
518	0.2	2.0	1.0	101.0	0.5	51
519	0.2	1.9	1.0	102.0	0.5	50
520	0.2	1.9	1.0	100.0	0.5	52
521	0.2	2.0	1.7	170.0	0.5	54
522	0.3	2.5	2.3	232.0	1.0	99
523	0.2	2.3	2.0	203.0	1.2	115
524	0.2	2.4	1.8	182.0	1.0	100
525	0.2	2.3	1.7	172.0	0.9	93
526	0.2	2.1	1.6	162.0	0.9	85
527	0.2	2.1	1.5	152.0	0.8	78
528	0.2	2.1	1.4	137.0	0.7	65
529	0.2	2.0	1.3	128.0	0.6	61
530	0.2	2.1	1.2	123.0	0.6	58
531	0.3	2.5	1.2	119.0	0.6	55
532	0.3	2.6	1.1	113.0	0.5	53
533	0.2	2.4	1.0	102.0	0.5	49
534	0.2	2.1	1.0	95.0	0.5	47
535	0.2	1.9	0.9	90.0	0.5	46
536	0.2	1.9	0.9	85.0	0.5	45
537	0.2	1.9	0.8	79.0	0.4	43
538	0.2	1.8	0.8	77.0	0.4	42
539	0.2	2.1	0.8	75.0	0.4	39
540	0.4	3.9	0.7	70.0	0.4	37
541	0.4	4.0	0.7	66.0	0.3	34
542	0.2	2.3	0.7	65.0	0.3	32
543	0.2	1.9	0.6	63.0	0.3	31
544	0.2	1.7	0.6	58.0	0.3	31
545	0.2	1.6	0.5	52.0	0.3	30
546	0.2	1.6	0.5	51.0	0.3	28
547	0.1	1.4	0.5	50.0	0.3	28
548	0.2	2.0	0.5	49.0	0.3	25
549	0.2	2.1	0.4	43.0	0.2	22
550	0.2	2.2	0.4	38.0	0.2	22
551	0.5	4.8	0.4	36.0	0.2	20
552	0.2	2.3	0.3	34.0	0.2	20
553	0.2	1.7	0.3	30.0	0.2	20
554	0.2	1.7	0.3	29.0	0.2	20
555	0.2	1.8	0.3	29.0	0.2	19
556	0.2	1.7	0.3	29.0	0.2	18
557	0.3	2.5	0.3	28.0	0.2	19
558	0.2	2.0	0.3	29.0	0.2	19
559	0.2	1.9	0.3	31.0	0.2	20
560	1.2	11.6	0.3	32.0	0.2	20
561	0.2	2.3	0.4	35.0	0.2	20
562	0.2	1.7	0.4	35.0	0.2	21
563	0.2	1.7	0.4	36.0	0.2	21
564	0.2	2.1	0.4	41.0	0.2	21
565	0.2	2.1	0.4	44.0	0.2	22
566	0.2	2.0	0.5	53.0	0.2	24
567	0.2	1.5	0.6	60.0	0.3	28
568	0.1	1.4	0.7	70.0	0.3	29
569	0.3	2.6	0.7	73.0	0.3	32
570	0.2	1.5	0.7	74.0	0.4	35
571	0.1	1.4	0.8	79.0	0.4	38
572	0.1	1.4	0.9	86.0	0.4	40
573	0.2	1.5	0.9	87.0	0.4	42
574	0.2	1.5	1.0	95.0	0.5	45
575	0.3	2.7	1.0	98.0	0.5	46
576	0.2	2.4	1.1	106.0	0.5	47
577	0.2	1.8	1.9	188.0	0.5	48
578	0.2	1.8	2.5	248.0	1.0	96
579	0.4	3.7	2.0	204.0	1.1	111
580	0.2	2.0	1.8	182.0	1.0	99
581	0.2	2.0	1.7	172.0	0.9	93
582	0.2	1.9	1.5	145.0	0.8	83
583	0.2	1.9	1.3	133.0	0.8	78
584	0.2	2.4	1.3	128.0	0.7	68
585	0.2	2.3	1.2	120.0	0.6	61
586	0.2	2.4	1.1	112.0	0.6	58
587	0.2	2.2	1.1	106.0	0.5	54
588	0.2	2.1	1.1	105.0	0.5	51
589	0.2	2.1	1.0	96.0	0.5	48
590	0.2	2.0	0.9	89.0	0.5	46
591	0.2	1.9	0.8	83.0	0.4	43
592	0.2	1.9	0.8	81.0	0.4	42
593	0.3	2.5	0.8	81.0	0.4	40
594	0.3	3.4	0.8	79.0	0.4	38
595	0.3	3.2	0.8	75.0	0.4	36
596	0.2	2.2	0.7	70.0	0.3	34
597	0.2	2.0	0.6	64.0	0.3	33
598	0.2	2.0	0.6	57.0	0.3	31
599	0.2	1.9	0.5	53.0	0.3	28
600	0.2	1.8	0.5	49.0	0.3	29
601	0.2	1.8	0.5	45.0	0.3	28
602	0.3	3.2	0.4	44.0	0.3	26
603	0.5	4.6	0.4	41.0	0.2	24
604	0.5	4.6	0.4	39.0	0.2	21

PRESVOC5

605	0.3	2.5	0.3	34.0	0.2	20
606	0.2	1.8	0.3	32.0	0.2	20
607	0.2	1.7	0.3	32.0	0.2	20
608	0.2	1.6	0.3	29.0	0.2	19
609	0.2	1.6	0.3	27.0	0.2	20
610	0.2	1.7	0.3	26.0	0.2	19
611	0.2	2.1	0.3	27.0	0.2	19
612	0.4	3.6	0.3	27.0	0.2	20
613	0.2	2.1	0.3	28.0	0.2	20
614	0.6	6.3	0.3	28.0	0.2	20
615	0.2	1.8	0.3	29.0	0.2	20
616	0.2	1.7	0.3	30.0	0.2	20
617	0.2	1.8	0.3	33.0	0.2	20
618	0.2	1.7	0.4	38.0	0.2	20
619	0.9	8.9	0.6	50.0	0.3	27
620	0.7	6.7	0.5	54.0	0.3	28
621	0.2	1.9	0.6	60.0	0.3	28
622	0.2	2.4	0.6	62.0	0.3	27
623	0.5	4.5	0.7	67.0	0.3	29
624	0.2	1.9	0.6	62.0	0.3	33
625	0.2	1.7	0.6	61.0	0.3	34
626	0.2	2.0	0.6	64.0	0.4	38
627	0.2	2.0	0.6	64.0	0.4	39
628	0.2	2.2	0.9	94.0	0.4	41
629	0.2	1.9	1.0	101.0	0.4	40
630	0.2	1.5	0.9	92.0	0.4	43
631	0.4	3.8	1.3	131.0	0.5	45
632	0.2	1.6	2.2	220.0	0.8	77
633	0.2	1.5	2.0	203.0	1.2	116
634	0.3	2.5	1.9	192.0	1.0	104
635	0.2	1.6	1.9	190.0	1.0	100
636	0.2	1.5	1.7	167.0	0.9	94
637	0.3	2.6	1.5	148.0	0.8	84
638	0.4	3.7	1.4	136.0	0.8	76
639	0.2	2.0	1.3	129.0	0.7	67
640	0.2	1.9	1.3	125.0	0.6	60
641	0.3	3.0	1.1	113.0	0.6	55
642	0.2	2.3	1.1	106.0	0.5	53
643	0.2	2.0	1.0	99.0	0.5	51
644	0.2	2.2	0.9	90.0	0.5	48
645	0.3	3.0	0.8	84.0	0.5	47
646	0.2	2.0	0.6	79.0	0.4	43
647	0.4	3.5	0.7	73.0	0.4	39
648	0.3	3.3	0.7	68.0	0.4	35
649	0.3	3.3	0.7	68.0	0.3	31
650	0.2	2.2	0.6	63.0	0.3	30
651	0.2	2.1	0.6	60.0	0.3	29
652	0.2	2.0	0.6	56.0	0.3	28
653	0.2	2.1	0.5	51.0	0.3	26
654	0.2	2.0	0.5	45.0	0.3	25
655	0.2	2.1	0.4	44.0	0.2	24
656	0.3	3.1	0.4	44.0	0.3	25
657	0.6	4.9	0.4	43.0	0.3	25
658	0.3	3.1	0.4	41.0	0.3	25
659	0.2	2.1	0.4	40.0	0.3	26
660	0.2	2.0	0.4	43.0	0.3	27
661	0.2	1.9	0.5	45.0	0.3	27
662	0.2	1.9	0.5	52.0	0.3	28
663	0.2	1.8	0.6	60.0	0.3	31
664	0.2	2.2	0.7	70.0	0.3	33
665	0.5	4.5	0.8	81.0	0.4	36
666	0.4	4.3	0.9	85.0	0.4	39
667	0.2	2.2	0.9	89.0	0.4	42
668	0.2	2.0	0.9	91.0	0.4	43
669	0.2	1.7	1.0	95.0	0.5	46
670	0.2	1.7	1.0	100.0	0.5	46
671	0.2	1.6	1.0	102.0	0.5	54
672	0.2	1.6	1.1	107.0	0.5	52
673	0.2	2.1	1.1	112.0	0.5	54
674	0.2	1.9	1.1	109.0	0.5	54
675	0.2	1.7	1.4	141.0	0.5	52
676	0.5	5.0	1.8	183.0	0.7	68
677	0.2	2.3	1.6	162.0	0.9	68
678	0.2	1.8	1.5	149.0	0.8	60
679	0.2	1.7	1.4	142.0	0.8	79
680	0.2	1.6	1.4	137.0	0.7	72
681	0.2	1.7	1.3	125.0	0.7	66
682	0.2	2.3	1.2	121.0	0.6	61
683	0.2	2.0	1.2	118.0	0.6	56
684	0.2	1.9	1.2	115.0	0.6	52
685	1.2	11.5	1.1	110.0	0.5	50
686	0.2	2.1	1.0	103.0	0.5	48
687	0.2	1.8	0.9	92.0	0.5	47
688	0.2	1.7	0.9	87.0	0.4	44
689	0.2	1.9	0.8	81.0	0.4	42
690	0.2	1.9	0.7	74.0	0.4	40
691	0.2	1.9	0.7	70.0	0.4	35
692	0.2	1.6	0.6	62.0	0.3	32
693	0.2	1.5	0.6	59.0	0.3	30
694	0.3	2.8	0.6	58.0	0.3	25
695	0.2	1.5	0.6	56.0	0.3	26
696	0.2	1.5	0.5	53.0	0.3	25
697	0.2	1.5	0.5	49.0	0.3	25
698	0.2	1.6	0.4	44.0	0.3	25
699	0.2	1.6	0.4	40.0	0.3	25
700	0.3	2.9	0.4	37.0	0.3	28
701	0.2	2.4	0.4	36.0	0.3	25
702	0.2	1.9	0.4	36.0	0.3	25
703	0.2	2.0	0.4	37.0	0.3	25
704	0.4	3.5	0.4	38.0	0.3	25
705	0.2	2.1	0.4	40.0	0.3	25
706	0.2	2.0	0.4	42.0	0.3	27
707	0.2	1.9	0.5	50.0	0.3	28

PRESVOC5

708	0.2	1.9	0.6	56.0	0.3	31
709	0.3	2.5	0.6	64.0	0.3	32
710	0.2	2.4	0.7	70.0	0.4	35
711	0.2	2.3	0.8	77.0	0.4	38
712	0.2	2.1	0.8	82.0	0.4	40
713	0.2	2.1	0.9	86.0	0.5	45
714	0.2	2.1	0.9	91.0	0.4	44
715	0.2	2.1	1.0	101.0	0.5	47
716	0.2	1.9	1.1	105.0	0.5	50
717	0.2	1.9	1.1	108.0	0.5	48
718	0.2	2.4	1.1	113.0	0.5	48
719	0.3	2.9	1.2	118.0	0.5	48
720	0.3	3.1	1.9	189.0	0.5	50
721	0.2	2.2	2.1	208.0	0.9	87
722	0.2	2.1	1.8	178.0	0.9	92
723	0.2	2.1	1.7	168.0	0.8	84
724	0.2	2.0	1.5	149.0	0.8	83
725	0.2	1.8	1.4	135.0	0.6	78
726	0.2	1.9	1.2	121.0	0.7	72
727	0.2	2.2	1.1	114.0	0.6	62
728	0.2	2.3	1.1	105.0	0.6	56
729	0.2	2.3	1.0	98.0	0.5	53
730	0.2	2.3	1.0	95.0	0.5	50
731	0.2	1.8	0.9	90.0	0.5	48
732	0.2	1.7	0.9	87.0	0.5	46
733	0.2	1.6	0.8	77.0	0.5	45
734	0.2	1.6	0.7	68.0	0.4	43
735	0.2	1.8	0.6	64.0	0.4	40
736	0.2	2.0	0.6	60.0	0.4	35
737	0.2	1.9	0.6	58.0	0.3	32
738	0.2	1.8	0.6	59.0	0.3	31
739	0.5	5.0	0.6	58.0	0.3	28
740	0.2	1.8	0.6	55.0	0.3	27
741	0.2	1.7	0.5	52.0	0.3	27
742	0.2	1.8	0.5	45.0	0.3	27
743	0.2	1.9	0.4	44.0	0.3	27
744	0.2	2.1	0.4	43.0	0.3	25
745	0.2	2.1	0.4	39.0	0.3	25
746	0.2	2.0	0.4	38.0	0.2	24
747	0.3	3.1	0.4	37.0	0.2	24
748	0.4	4.2	0.4	37.0	0.3	25
749	0.2	1.9	0.4	38.0	0.3	27
750	0.2	1.8	0.4	42.0	0.3	28
751	0.2	2.0	0.5	49.0	0.3	29
752	0.2	2.1	0.5	53.0	0.3	29
753	0.2	2.1	0.6	63.0	0.3	31
754	0.2	1.7	0.7	69.0	0.3	34
755	0.2	1.6	0.6	75.0	0.4	35
756	0.3	3.2	0.6	80.0	0.4	37
757	0.2	1.7	0.9	85.0	0.4	39
758	0.2	1.5	0.9	94.0	0.4	41
759	0.1	1.4	1.0	101.0	0.4	43
760	0.2	1.6	1.1	110.0	0.4	44
761	0.2	1.6	1.1	105.0	0.5	45
762	0.2	1.7	1.0	104.0	0.5	45
763	0.3	3.3	1.0	102.0	0.5	45
764	0.2	2.0	1.2	116.0	0.5	50
765	0.2	2.0	2.1	212.0	0.7	68
766	0.4	3.8	2.0	204.0	1.1	107
767	0.2	2.1	1.6	182.0	1.0	100
768	0.2	2.0	1.7	167.0	0.9	91
769	0.2	2.0	1.5	151.0	0.9	90
770	0.2	2.0	1.5	149.0	0.8	83
771	0.2	2.1	1.4	142.0	0.8	77
772	0.3	2.6	1.3	134.0	0.7	66
773	0.2	2.4	1.2	124.0	0.6	59
774	0.2	2.4	1.1	114.0	0.5	54
775	0.2	2.3	1.1	107.0	0.5	53
776	0.2	2.2	1.0	102.0	0.5	51
777	0.2	2.1	0.9	91.0	0.5	48
778	0.2	2.1	0.8	84.0	0.5	46
779	0.2	2.0	0.8	78.0	0.4	43
780	0.2	2.4	0.7	69.0	0.4	37
781	0.3	3.0	0.6	64.0	0.3	33
782	0.4	3.7	0.6	64.0	0.3	34
783	0.3	2.7	0.6	61.0	0.3	33
784	0.2	2.1	0.6	58.0	0.3	32
785	0.2	2.1	0.6	55.0	0.3	31
786	0.2	1.9	0.5	49.0	0.3	30
787	0.2	1.9	0.4	43.0	0.3	29
788	0.3	2.6	0.4	44.0	0.3	29
789	0.2	2.2	0.4	40.0	0.3	28
790	0.5	5.1	0.3	31.0	0.3	27

Stop Run5
9:58

Average 2.2 79.5 41.6889

791	0.6	5.5	0.1	9.0	0.3	28
792	0.3	2.5	0.1	6.0	0.3	29
793	0.2	2.2	0.1	5.0	0.3	30
794	0.2	2.3	0.1	6.0	0.3	31
795	0.2	2.0	0.1	6.0	0.3	32
796	0.2	1.9	0.1	5.0	0.3	32
797	0.2	1.9	0.1	5.0	0.3	34
798	0.2	1.9	0.1	5.0	0.4	36
799	0.2	1.9	0.0	4.0	0.4	39
800	0.2	1.9	0.0	4.0	0.4	43
801	0.2	1.9	0.0	4.0	0.5	45
802	0.2	1.9	0.0	4.0	0.5	48
803	0.2	2.0	0.0	4.0	0.5	51
804	0.2	2.0	0.0	4.0	0.5	54
805	0.2	2.0	0.0	3.0	0.6	59
806	0.2	2.0	0.0	4.0	0.6	56

PRESVOC5

807	0.2	2.0	0.0	4.0	0.3	29
808	0.2	2.0	0.0	3.0	0.2	15
809	0.2	2.0	0.0	3.0	0.1	10
810	0.2	2.0	0.0	3.0	0.1	8
811	0.2	2.0	0.0	3.0	0.1	7
812	0.2	2.0	0.0	2.0	0.1	7
813	0.2	2.0	0.0	3.0	0.1	6
814	0.2	2.0	0.0	2.0	0.1	6
815	0.2	2.0	0.0	2.0	0.1	5
816	0.2	2.0	0.0	2.0	0.1	5
817	0.2	2.0	0.0	1.0	0.1	5
818	0.2	2.0	0.0	2.0	0.0	4
819	0.2	2.0	0.0	2.0	0.0	4
820	0.2	2.0	0.0	2.0	0.0	4
821	0.2	2.0	0.0	-1.0	0.1	5
822	0.2	2.0	0.0	-1.0	0.0	4
823	0.2	2.0	0.0	-1.0	0.1	5
824	0.2	2.0	0.0	-1.0	0.1	6
825	0.2	2.0	0.0	-1.0	0.0	4
826	0.2	2.0	0.0	-1.0	0.0	4
827	0.2	2.0	0.0	-1.0	0.0	4
828	0.2	2.0	0.0	-1.0	0.0	4
829	0.2	1.8	0.0	-1.0	0.0	4
830	0.2	1.9	0.0	-1.0	0.0	4
831	0.2	2.0	0.0	2.0	0.0	4
832	0.2	1.9	0.0	2.0	0.0	4
833	0.2	1.9	0.0	2.0	0.0	3
834	0.2	2.0	0.0	2.0	0.0	3
835	0.2	2.1	0.0	2.0	0.0	3
836	0.2	2.0	4.0	399.0	0.0	4
837	0.2	2.1	4.9	487.0	0.0	4
838	0.2	2.0	4.9	491.0	0.0	4
839	0.2	2.0	4.9	492.0	0.0	3
840	0.2	2.0	4.9	492.0	0.0	3
841	0.2	2.0	4.9	491.0	0.0	3
842	0.2	2.0	4.9	491.0	0.0	3
843	0.2	2.0	4.9	491.0	0.0	3
844	0.2	2.0	4.9	490.0	0.0	3
845	0.2	2.0	4.9	489.0	0.0	3
846	0.2	2.0	4.9	488.0	0.0	3
847	0.2	2.0	4.8	478.0	0.0	3
848	0.2	2.0	3.2	317.0	0.0	3
849	0.2	2.0	0.2	17.0	0.0	3
850	0.2	2.0	0.0	4.0	0.0	3
851	0.2	2.0	0.0	2.0	0.0	3
852	0.2	2.0	0.0	2.0	0.0	3
853	0.2	2.0	0.0	2.0	0.0	3
854	0.2	2.0	0.0	2.0	0.0	3
855	0.2	2.0	0.0	1.0	0.0	3
856	0.0	0.3	0.0	1.0	0.0	3
857	0.0	0.2	0.0	1.0	0.0	3
858	0.0	0.2	0.0	1.0	0.0	3
859	0.0	0.1	0.0	1.0	0.0	3
860	0.0	0.1	0.0	1.0	0.0	3
861	0.0	0.2	0.0	1.0	0.0	3
862	0.0	0.1	0.0	1.0	0.0	3
863	0.0	0.1	0.0	1.0	0.0	3
864	0.0	0.1	0.0	1.0	0.0	3
865	0.0	0.2	0.0	1.0	0.0	3
866	0.0	0.4	0.0	1.0	0.0	3
867	0.2	2.0	0.0	1.0	0.0	3
868	0.2	2.1	0.0	1.0	0.0	3
869	0.3	2.9	0.0	2.0	0.0	3
870	3.1	31.3	0.0	2.0	0.0	3
871	3.2	31.6	0.0	2.0	0.0	3
872	3.2	31.5	0.0	2.0	0.0	3
873	3.1	31.4	0.0	1.0	0.0	3
874	3.1	31.3	0.0	1.0	0.0	3
875	3.1	31.3	0.0	2.0	0.0	3
876	3.1	31.3	0.0	2.0	0.0	3
877	3.1	30.9	0.0	2.0	0.0	2
878	2.2	21.5	0.0	1.0	0.0	2
879	0.2	2.2	0.0	1.0	0.0	2
880	0.2	2.1	0.0	1.0	0.0	2
881	0.2	2.1	0.0	1.0	0.0	2
882	0.2	2.0	0.0	1.0	0.0	2
883	0.2	1.9	0.0	1.0	0.0	2
884	0.2	2.0	0.0	1.0	0.0	2
885	0.2	2.0	0.0	1.0	0.0	0
886	0.2	2.0	0.0	1.0	0.0	0
887	0.2	2.0	0.0	1.0	0.0	0
888	0.2	2.0	0.0	1.0	0.0	0
889	0.2	2.0	0.0	1.0	0.0	0
890	0.2	2.0	0.0	1.0	0.0	0
891	0.2	2.0	0.0	1.0	0.0	0
892	0.2	1.9	0.0	1.0	0.0	0
893	0.2	2.0	0.0	1.0	0.0	0
894	0.2	2.0	0.0	1.0	0.0	0
895	0.2	2.0	0.0	1.0	0.0	-1
896	0.2	2.0	0.0	1.0	0.0	1
897	0.2	2.0	0.0	1.0	0.0	2
898	0.2	2.0	0.0	1.0	0.0	2
899	0.2	2.0	0.0	1.0	0.0	2
900	0.2	2.1	0.0	1.0	0.0	2
901	0.2	2.0	0.0	1.0	0.1	7
902	0.2	2.0	0.0	1.0	4.1	406
903	0.2	2.0	0.0	1.0	4.8	482
904	0.2	2.0	0.0	1.0	4.9	488
905	0.2	2.1	0.0	1.0	4.9	489
906	0.2	2.1	0.0	1.0	4.9	491
907	0.2	2.1	0.0	1.0	4.9	491
908	0.2	2.1	0.0	1.0	4.9	491
909	0.2	2.1	0.0	1.0	4.9	493

PRESVOC5

910	0.2	2.0	0.0	1.0	4.9	492
911	0.2	2.0	0.0	1.0	4.9	493
912	0.2	2.0	0.0	1.0	4.9	492
913	0.2	2.0	0.0	1.0	4.9	493
914	0.2	1.9	0.0	1.0	4.9	493
915	0.2	2.0	0.0	1.0	4.9	493
916	0.2	2.0	0.0	1.0	4.9	493
917	0.2	2.0	0.0	1.0	4.9	492
918	0.2	2.0	0.0	1.0	3.5	352
919	0.2	2.0	0.0	1.0	0.4	39
920	0.2	2.0	0.0	1.0	0.1	8
921	0.2	2.0	0.0	1.0	0.1	5
922	0.2	2.0	0.0	1.0	0.0	4
923	0.2	2.0	0.0	1.0	0.0	4
924	0.2	2.0	0.0	1.0	0.0	4
925	0.2	2.0	0.0	1.0	0.0	3
926	0.2	2.0	0.0	1.0	0.0	3
927	0.2	2.0	0.0	1.0	0.0	3
928	0.2	2.0	0.0	1.0	0.0	3
929	0.2	2.0	0.0	1.0	0.0	3
930	0.2	2.0	0.0	1.0	0.0	3
931	0.2	2.1	0.0	1.0	0.0	3
932	0.2	2.1	0.0	1.0	0.0	3
933	0.2	2.0	0.0	1.0	0.0	3
934	0.2	2.0	0.0	1.0	0.0	3
935	0.2	2.0	0.0	1.0	0.0	3
936	0.2	2.0	0.0	1.0	0.0	2
937	0.2	2.0	0.0	1.0	0.0	2
938	0.2	2.0	0.0	1.0	0.0	2
939	0.2	2.0	0.0	1.0	0.0	2
940	0.2	2.0	0.0	1.0	0.0	2
941	0.2	2.0	0.0	1.0	0.0	2
942	0.2	2.0	0.0	1.0	0.0	2
943	0.2	2.0	0.0	1.0	0.0	2
944	0.2	2.0	0.0	1.0	0.0	2
945	0.2	2.0	0.0	1.0	0.0	2
946	0.2	2.0	0.0	1.0	0.0	2
947	0.2	2.0	0.0	1.0	0.0	2
948	0.2	2.0	0.0	1.0	0.0	2
949	0.2	2.0	0.0	1.0	0.0	2
950	0.2	2.0	0.0	1.0	0.0	2
951	0.2	2.0	0.0	1.0	0.0	2
952	0.2	2.0	0.0	1.0	0.0	2
953	0.2	2.0	0.0	1.0	0.0	2
954	0.2	2.0	0.0	1.0	0.0	2
955	0.2	2.0	0.0	1.0	0.0	2
956	0.2	2.0	0.0	1.0	0.0	2
957	0.2	2.0	0.0	1.0	0.0	2
958	0.2	2.0	0.0	1.0	0.0	2
959	0.2	2.0	0.0	1.0	0.0	2
960	0.2	2.0	0.0	1.0	0.0	2
961	0.2	2.0	0.0	1.0	0.0	2
962	0.2	2.0	0.0	1.0	0.0	2
963	0.2	2.0	0.0	1.0	0.0	2
964	0.2	2.0	0.0	1.0	0.0	2
965	0.2	2.0	0.0	1.0	0.0	2
966	0.2	2.0	0.0	1.0	0.0	2
967	0.2	2.0	0.0	1.0	0.0	2
968	0.2	2.0	0.0	1.0	0.0	2
969	0.2	2.0	0.0	1.0	0.0	2
970	0.2	2.0	0.0	1.0	0.0	2
971	0.2	2.0	0.0	1.0	0.0	2
972	0.2	2.0	0.0	1.0	0.0	2
973	0.2	2.0	0.0	1.0	0.0	2
974	0.2	2.0	0.0	1.0	0.0	2
975	0.2	2.0	0.0	1.0	0.0	2
976	0.2	2.0	0.0	1.0	0.0	2
977	0.2	2.0	0.0	1.0	0.0	2
978	0.2	2.0	0.0	1.0	0.0	2
979	0.2	2.0	0.0	1.0	0.0	2
980	0.2	2.0	0.0	1.0	0.0	2
981	0.2	2.0	0.0	1.0	0.0	2
982	0.2	2.0	0.0	1.0	0.0	2
983	0.2	2.0	0.0	1.0	0.0	2
984	0.2	2.0	0.0	1.0	0.0	2
985	0.2	2.0	0.0	1.0	0.0	2
986	0.2	2.0	0.0	1.0	0.0	2
987	0.2	2.0	0.0	1.0	0.0	2
988	0.2	2.0	0.0	1.0	0.0	2
989	0.2	2.0	0.0	1.0	0.0	2
990	0.2	2.0	0.0	1.0	0.0	2
991	0.2	2.0	0.0	1.0	0.0	2
992	0.2	2.0	0.0	1.0	0.0	2
993	0.2	2.0	0.0	1.0	0.0	2
994	0.2	2.0	0.0	1.0	0.0	2
995	0.2	2.0	0.0	1.0	0.0	2
996	0.2	2.0	0.0	1.0	0.0	2
997	0.2	2.0	0.0	1.0	0.0	2
998	0.2	2.0	0.0	1.0	0.0	2
999	0.2	2.0	0.0	1.0	0.0	2
1000	0.2	2.0	0.0	1.0	0.0	2
1001	0.2	2.0	0.0	1.0	0.0	2
1002	0.2	2.0	0.0	1.0	0.0	2
1003	0.2	2.0	0.0	1.0	0.0	2
1004	0.2	2.0	0.0	1.0	0.0	2
1005	0.2	2.0	0.0	1.0	0.0	2
1006	0.2	2.0	0.0	1.0	0.0	2
1007	0.2	2.0	0.0	1.0	0.0	2
1008	0.2	1.9	0.0	1.0	0.0	2
1009	0.2	2.0	0.0	1.0	0.0	2
1010	0.2	2.0	0.0	1.0	0.0	2
1011	0.2	2.0	0.0	1.0	0.0	2
1012	0.2	2.0	0.0	1.0	0.0	2

PRESVOC5

1013	0.2	2.0	0.0	1.0	0.0	2
1014	0.2	2.0	0.0	1.0	0.0	2
1015	0.2	2.0	0.0	1.0	0.0	2
1016	0.2	2.0	0.0	1.0	0.0	2
1017	0.2	2.0	0.0	1.0	0.0	2
1018	0.2	2.0	0.0	1.0	0.0	2
1019	0.2	2.0	0.0	1.0	0.0	2
1020	0.2	2.0	0.0	1.0	0.0	2
1021	0.2	2.0	0.0	1.0	0.0	2
1022	0.2	2.0	0.0	1.0	0.0	2
1023	0.2	2.0	0.0	1.0	0.0	2
1024	0.2	2.0	0.0	1.0	0.0	2
1025	0.2	2.0	0.0	1.0	0.0	2
1026	0.2	2.0	0.0	1.0	0.0	2
1027	0.2	2.0	0.0	1.0	0.0	2
1028	0.2	2.0	0.0	1.0	0.0	2
1029	0.2	2.0	0.0	1.0	0.0	2
1030	0.2	2.0	0.0	1.0	0.0	2
1031	0.2	2.0	0.0	1.0	0.0	2
1032	0.2	2.0	0.0	1.0	0.0	2
1033	0.2	2.0	0.0	1.0	0.0	2
1034	0.2	2.0	0.0	1.0	0.0	2
1035	0.2	2.0	0.0	1.0	0.0	2
1036	0.2	2.0	0.0	1.0	0.0	2
1037	0.2	2.0	0.0	1.0	0.0	2
1038	0.2	2.0	0.0	1.0	0.0	2
1039	0.2	2.0	0.0	1.0	0.0	2
1040	0.2	2.0	0.0	1.0	0.0	2
1041	0.2	2.0	0.0	1.0	0.0	2
1042	0.2	2.0	0.0	1.0	0.0	2
1043	0.2	2.0	0.0	1.0	0.0	2
1044	0.2	2.0	0.0	1.0	0.0	2
1045	0.2	1.9	0.0	1.0	0.0	2
1046	0.2	2.0	0.0	1.0	0.0	2
1047	0.2	2.0	0.0	1.0	0.0	2
1048	0.2	2.0	0.0	1.0	0.0	2
1049	0.2	2.0	0.0	1.0	0.0	2
1050	0.2	2.0	0.0	1.0	0.0	2
1051	0.2	2.0	0.0	1.0	0.0	2
1052	0.2	1.9	0.0	1.0	0.0	2
1053	0.2	2.0	0.0	1.0	0.0	2
1054	0.2	2.0	0.0	1.0	0.0	2
1055	0.2	2.0	0.0	1.0	0.0	2
1056	0.2	2.0	0.0	1.0	0.0	2
1057	0.2	2.0	0.0	1.0	0.0	2
1058	0.2	2.0	0.0	1.0	0.0	2
1059	0.2	2.0	0.0	1.0	0.0	2
1060	0.2	2.0	0.0	1.0	0.0	2
1061	0.2	2.0	0.0	1.0	0.0	2
1062	0.2	2.0	0.0	1.0	0.0	2
1063	0.2	2.0	0.0	1.0	0.0	2
1064	0.2	2.0	0.0	1.0	0.0	2
1065	0.2	2.0	0.0	1.0	0.0	2
1066	0.2	2.0	0.0	1.0	0.0	2
1067	0.2	2.0	0.0	1.0	0.0	2
1068	0.2	2.0	0.0	1.0	0.0	2
1069	0.2	2.0	0.0	1.0	0.0	2
1070	0.2	2.0	0.0	1.0	0.0	2
1071	0.2	2.0	0.0	1.0	0.0	2
1072	0.2	2.0	0.0	1.0	0.0	2
1073	0.2	2.0	0.0	1.0	0.0	2
1074	0.2	2.0	0.0	1.0	0.0	2
1075	0.2	2.0	0.0	1.0	0.0	2
1076	0.2	2.0	0.0	1.0	0.0	2
1077	0.2	2.0	0.0	1.0	0.0	2
1078	0.2	2.0	0.0	1.0	0.0	2
1079	0.2	2.0	0.0	1.0	0.0	2
1080	0.2	2.0	0.0	1.0	0.0	2
1081	0.2	2.0	0.0	1.0	0.0	2
1082	0.2	2.				

PRESVOC5

1116	0.2	2.0	0.0	1.0	0.0	2
1117	0.2	2.0	0.0	1.0	0.0	2
1118	0.2	2.0	0.0	1.0	0.0	2
1119	0.2	2.0	0.0	1.0	0.0	2
1120	0.2	2.0	0.0	1.0	0.0	2
1121	0.2	2.0	0.0	1.0	0.0	2
1122	0.2	2.0	0.0	1.0	0.0	2
1123	0.2	2.0	0.0	1.0	0.0	2
1124	0.2	2.0	0.0	1.0	0.0	2
1125	0.2	2.0	0.0	1.0	0.0	2
1126	0.2	2.0	0.0	0.0	0.0	2
1127	0.2	2.0	0.0	1.0	0.0	2
1128	0.2	2.0	0.0	1.0	0.0	2
1129	0.2	2.0	0.0	1.0	0.0	2
1130	0.2	2.0	0.0	1.0	0.0	2
1131	0.2	2.0	0.0	1.0	0.0	2
1132	0.2	2.0	0.0	1.0	0.0	2
1133	0.2	2.0	0.0	1.0	0.0	1
1134	0.2	2.0	0.0	1.0	0.0	2
1135	0.2	2.0	0.0	1.0	0.0	1
1136	0.2	2.0	0.0	1.0	0.0	1
1137	0.2	2.0	0.0	1.0	0.0	1
1138	0.2	2.0	0.0	1.0	0.0	1
1139	0.2	2.0	0.0	1.0	0.0	1
1140	0.2	2.0	0.0	1.0	0.0	1
1141	0.2	2.0	0.0	1.0	0.0	1
1142	0.2	2.0	0.0	1.0	0.0	1
1143	0.2	2.0	0.0	1.0	0.0	1
1144	0.2	2.0	0.0	1.0	0.0	1
1145	0.2	2.0	0.0	1.0	0.0	1
1146	0.2	2.0	0.0	1.0	0.0	1
1147	0.2	2.0	0.0	1.0	0.0	1
1148	0.2	2.0	0.0	1.0	0.0	1
1149	0.2	2.0	0.0	1.0	0.0	1
1150	0.2	2.0	0.0	1.0	0.0	1
1151	0.2	2.0	0.0	1.0	0.0	1
1152	0.2	2.0	0.0	1.0	0.0	1
1153	0.2	2.0	0.0	2.0	0.0	1
1154	0.2	1.9	0.0	2.0	0.0	1
1155	0.2	2.0	0.0	1.0	0.0	1
1156	0.2	2.0	0.0	1.0	0.0	2
1157	0.2	2.0	0.0	1.0	0.0	2
1158	0.2	2.0	0.0	1.0	0.0	2
1159	0.2	2.0	0.0	1.0	0.0	2
1160	0.2	2.0	0.0	2.0	0.0	2
1161	0.2	2.0	0.0	1.0	0.0	2
1162	0.2	2.0	0.0	1.0	0.0	2
1163	0.2	2.0	0.0	1.0	0.0	3
1164	0.2	2.0	0.0	1.0	0.0	3
1165	0.2	2.0	0.0	1.0	0.0	2
1166	0.2	2.0	0.0	1.0	0.0	2
1167	0.2	2.0	0.0	1.0	0.0	2
1168	0.2	2.1	0.0	1.0	0.0	2
1169	0.2	2.0	0.0	1.0	0.5	46
1170	0.2	2.0	0.0	1.0	0.8	76
1171	0.2	2.0	0.0	1.0	0.9	85
1172	0.2	2.1	0.0	1.0	0.8	79
1173	0.2	1.9	0.0	1.0	0.7	74
1174	0.2	1.8	0.0	1.0	0.7	66
1175	0.2	2.0	0.0	1.0	0.6	59
1176	0.7	6.7	0.0	1.0	0.6	56
1177	0.2	2.0	0.0	1.0	0.6	55
1178	0.2	1.9	0.0	1.0	0.6	53
1179	0.2	1.9	0.0	2.0	0.5	51
1180	0.2	2.1	0.0	1.0	0.6	50
1181	0.2	2.0	0.0	1.0	0.5	47
1182	0.2	2.1	0.0	1.0	0.4	41
1183	0.2	2.1	0.0	2.0	0.4	37
1184	0.3	2.5	0.0	2.0	0.3	33
1185	0.5	5.3	0.0	1.0	0.3	31
1186	0.2	2.1	0.0	1.0	0.3	30
1187	0.2	2.0	0.0	1.0	0.3	31
1188	0.2	2.1	0.0	1.0	0.3	31
1189	0.2	2.1	0.0	1.0	0.3	29
1190	0.2	2.1	0.0	1.0	0.3	27
1191	0.2	1.8	0.0	2.0	0.3	26
1192	0.2	1.7	0.0	2.0	0.3	26
1193	0.3	3.0	0.0	1.0	0.3	27
1194	0.2	1.9	0.0	1.0	0.3	26
1195	0.2	1.7	0.0	1.0	0.3	29
1196	0.2	1.7	0.0	2.0	0.3	29
1197	0.2	1.9	0.0	2.0	0.3	30

FILE NAME:

LOGGING SESSION:

START LOGGING @ #####
LAST SAMPLE @ #####

ACTIVE C	1B	2A	2B			
MODULE	Voltage	Voltage	Voltage			
SAMPLE	5 sec	5 sec	5 sec			
UNITS:	Volts	Volts	Volts	Inlet #1	Inlet #2	
1	0.2	2.1	0.0	2.0	0.4	41
2	0.5	4.8	0.0	2.0	0.4	44
3	0.2	2.4	0.0	2.0	0.5	48
4	0.2	2.1	0.0	2.0	0.5	48
5	0.2	2.2	0.0	2.0	0.5	50
6	0.2	2.1	0.0	3.0	0.5	52
7	0.2	2.3	0.0	1.0	0.5	51
8	0.3	2.6	0.0	2.0	0.5	51
9	0.2	2.4	0.0	1.0	0.5	54

Start RS
10:35

10	0.3	2.5	1.1	107.0	0.6	59
11	0.2	2.4	2.2	217.0	1.1	108
12	0.2	2.4	1.9	188.0	1.1	109
13	0.2	2.2	1.9	185.0	1.0	102
14	0.2	2.4	1.7	169.0	1.0	98
15	0.2	2.3	1.5	147.0	0.9	90
16	0.3	2.6	1.4	144.0	0.9	85
17	0.3	2.7	1.4	138.0	0.7	74
18	0.3	2.8	1.4	136.0	0.7	68
19	0.3	2.5	1.3	129.0	0.6	61
20	0.2	2.3	1.2	118.0	0.6	58
21	0.2	2.3	1.1	107.0	0.6	56
22	0.2	2.1	1.0	99.0	0.5	53
23	0.2	2.1	1.0	95.0	0.5	51
24	0.2	2.0	0.9	88.0	0.5	48
25	0.3	2.5	0.8	83.0	0.6	45
26	0.3	3.3	0.8	76.0	0.4	40
27	0.4	3.7	0.7	71.0	0.4	36
28	0.3	2.5	0.7	74.0	0.3	34
29	0.2	2.1	0.7	70.0	0.3	32
30	0.2	1.9	0.6	62.0	0.3	31
31	0.2	1.9	0.6	60.0	0.3	33
32	0.2	1.9	0.5	53.0	0.3	31
33	0.2	1.8	0.5	51.0	0.3	30
34	0.2	2.3	0.5	51.0	0.3	30
35	0.2	2.3	0.5	50.0	0.3	30
36	0.2	2.2	0.5	46.0	0.3	30
37	0.9	8.0	0.5	46.0	0.3	30
38	0.2	2.3	0.5	48.0	0.3	30
39	0.2	2.0	0.5	50.0	0.3	31
40	0.2	2.0	0.5	52.0	0.3	31
41	0.2	2.0	0.6	56.0	0.3	32
42	0.2	2.2	0.6	60.0	0.3	34
43	0.3	2.6	0.7	67.0	0.3	34
44	0.2	2.2	0.8	79.0	0.4	37
45	0.2	2.1	0.8	82.0	0.4	40
46	0.9	9.1	0.9	89.0	0.4	42
47	0.2	2.3	0.9	88.0	0.5	46
48	0.2	2.1	1.1	108.0	0.5	47
49	0.2	2.0	1.1	109.0	0.5	49
50	0.2	2.2	1.2	115.0	0.5	53
51	0.2	2.1	1.1	105.0	0.5	53
52	0.2	2.1	1.2	117.0	0.6	55
53	0.2	1.8	1.2	118.0	0.6	56
54	0.2	1.8	1.7	168.0	0.6	58
55	0.2	2.3	2.5	246.0	1.0	96
56	0.2	1.8	2.3	232.0	1.3	131
57	0.2	1.9	2.0	196.0	1.2	121
58	0.2	1.9	1.8	183.0	1.1	114
59	0.2	1.8	1.6	163.0	1.0	104
60	0.2	1.8	1.6	155.0	1.0	96
61	0.4	3.6	1.5	154.0	0.9	85
62	0.3	2.5	1.5	145.0	0.8	75
63	0.2	2.2	1.4	137.0	0.7	68
64	0.2	2.3	1.3	129.0	0.6	64
65	0.3	3.3	1.3	126.0	0.6	61
66	0.2	2.4	1.2	116.0	0.6	60
67	0.2	2.2	1.1	107.0	0.6	58
68	0.2	2.3	1.0	99.0	0.6	56
69	0.2	2.3	0.9	94.0	0.5	53
70	0.3	2.9	0.9	90.0	0.5	46
71	0.3	2.6	0.8	79.0	0.4	42
72	0.3	2.6	0.8	80.0	0.4	39
73	0.3	2.6	0.8	76.0	0.4	37
74	0.2	2.4	0.7	73.0	0.4	36
75	0.3	2.5	0.7	68.0	0.4	35
76	0.2	2.4	0.6	61.0	0.3	34
77	0.2	2.3	0.6	55.0	0.3	34
78	0.2	2.4	0.5	52.0	0.3	34
79	0.3	2.9	0.5	51.0	0.3	33
80	0.5	4.5	0.5	60.0	0.3	32
81	0.4	4.2	0.5	49.0	0.3	30
82	0.2	2.4	0.5	49.0	0.3	31
83	0.2	2.4	0.5	48.0	0.3	31
84	0.2	2.3	0.5	51.0	0.3	32
85	0.2	2.2	0.5	54.0	0.3	32
86	0.2	2.1	0.6	60.0	0.3	33
87	0.2	2.3	0.7	66.0	0.4	35
88	0.4	3.7	0.7	73.0	0.4	36
89	0.5	4.6	0.8	82.0	0.4	39

Run #6

Ex - 2.6

Inlet #1 - 108.8

Inlet #2 - 49.62

PRESVOCS

90	0.3	3.2	0.9	85.0	0.4	40
91	0.3	2.6	0.9	91.0	0.4	44
92	0.2	2.1	1.0	102.0	0.5	46
93	0.2	2.0	1.1	109.0	0.5	49
94	0.2	2.0	1.1	109.0	0.5	50
95	0.2	2.0	1.1	111.0	0.5	51
96	0.2	2.2	1.0	104.0	0.5	53
97	0.2	2.2	1.1	107.0	0.5	53
98	0.2	2.1	1.3	131.0	0.6	56
99	0.3	2.5	2.4	239.0	0.8	75
100	0.4	3.8	2.5	251.0	1.3	130
101	0.2	2.1	2.0	204.0	1.3	131
102	0.2	2.1	2.0	204.0	1.2	115
103	0.2	2.1	1.8	179.0	1.1	107
104	0.2	2.0	1.7	165.0	1.0	99
105	0.3	2.5	1.5	152.0	0.9	89
106	0.2	2.3	1.5	148.0	0.8	78
107	0.2	2.2	1.5	146.0	0.7	73
108	0.6	8.0	1.4	137.0	0.7	68
109	0.3	3.2	1.3	131.0	0.7	66
110	0.2	2.2	1.2	119.0	0.6	63
111	0.2	2.1	1.1	111.0	0.6	60
112	0.2	2.2	1.0	103.0	0.6	57
113	0.2	2.1	0.9	94.0	0.5	53
114	0.2	2.4	0.9	88.0	0.5	48
115	0.2	2.0	0.8	84.0	0.4	43
116	0.2	1.9	0.8	77.0	0.4	39
117	0.4	4.2	0.7	74.0	0.4	36
118	0.2	1.9	0.7	70.0	0.3	34
119	0.2	1.8	0.7	68.0	0.3	33
120	0.2	1.8	0.7	65.0	0.3	33
121	0.2	1.9	0.6	57.0	0.3	33
122	0.2	2.0	0.5	54.0	0.3	33
123	0.2	2.4	0.5	51.0	0.3	31
124	0.3	3.2	0.5	51.0	0.3	31
125	0.2	2.2	0.5	51.0	0.3	31
126	0.2	2.2	0.5	52.0	0.3	32
127	0.5	4.7	0.5	50.0	0.3	33
128	0.3	2.5	0.5	51.0	0.4	35
129	0.2	2.3	0.5	53.0	0.4	36
130	0.2	2.2	0.6	57.0	0.4	36
131	0.2	2.2	0.7	65.0	0.4	38
132	0.3	2.6	0.8	76.0	0.4	40
133	0.3	2.7	0.8	82.0	0.4	41
134	0.3	2.7	0.9	90.0	0.4	43
135	0.3	2.7	1.0	95.0	0.5	46
136	0.3	2.5	1.0	99.0	0.5	50
137	0.2	2.4	1.1	112.0	0.5	51
138	0.2	2.4	1.1	111.0	0.5	51
139	0.2	2.4	1.2	117.0	0.6	56
140	0.2	2.3	1.3	127.0	0.6	57
141	0.3	2.8	1.2	119.0	0.6	59
142	0.3	3.3	1.2	121.0	0.6	62
143	0.4	3.5	1.6	177.0	0.6	64
144	0.3	2.6	2.4	241.0	1.1	105
145	0.2	2.4	2.1	206.0	1.3	125
146	0.2	2.4	1.9	189.0	1.1	114
147	0.2	2.2	1.9	186.0	1.1	105
148	0.2	2.2	1.7	173.0	1.0	99
149	0.2	2.2	1.7	168.0	0.9	93
150	0.3	2.7	1.7	167.0	0.8	83
151	0.3	2.7	1.5	152.0	0.8	75
152	0.3	2.6	1.4	140.0	0.7	68
153	0.3	3.1	1.3	131.0	0.6	62
154	0.2	2.2	1.3	125.0	0.6	59
155	0.2	2.1	1.2	115.0	0.6	57
156	0.2	2.0	1.1	108.0	0.6	56
157	0.2	2.0	1.0	99.0	0.5	54
158	0.2	2.0	0.9	92.0	0.5	50
159	0.2	2.4	0.9	85.0	0.5	45
160	0.2	2.1	0.8	82.0	0.4	40
161	0.2	2.1	0.8	80.0	0.4	36
162	0.8	8.0	0.8	75.0	0.3	34
163	0.2	2.2	0.7	69.0	0.4	35
164	0.2	2.1	0.6	63.0	0.4	35
165	0.2	2.1	0.6	57.0	0.3	33
166	0.2	2.1	0.5	54.0	0.3	32
167	0.2	2.3	0.5	52.0	0.3	31
168	0.3	2.6	0.5	51.0	0.3	31
169	0.2	2.2	0.5	48.0	0.3	31
170	0.2	2.3	0.5	48.0	0.3	32
171	0.8	7.5	0.5	49.0	0.3	33
172	0.2	2.3	0.5	50.0	0.3	33
173	0.2	2.1	0.5	50.0	0.3	34
174	0.2	2.1	0.5	53.0	0.3	33
175	0.3	2.5	0.6	56.0	0.3	33
176	0.3	2.5	0.6	63.0	0.3	34
177	0.2	2.1	0.7	74.0	0.4	36
178	0.2	1.9	0.7	74.0	0.4	39
179	0.2	2.2	0.8	82.0	0.4	41
180	0.2	2.3	0.9	91.0	0.4	44
181	0.2	2.0	1.0	96.0	0.5	47
182	0.2	1.9	1.1	112.0	0.5	50
183	0.2	1.9	1.1	110.0	0.5	51
184	0.2	1.9	1.1	107.0	0.5	51
185	0.2	2.0	1.1	110.0	0.5	52
186	0.4	3.7	1.2	117.0	0.5	54
187	0.2	2.4	1.5	146.0	0.6	66
188	0.2	2.2	2.4	236.0	0.8	76
189	0.3	2.7	2.6	280.0	1.3	134
190	0.3	2.9	2.1	212.0	1.3	128
191	0.2	2.4	2.2	216.0	1.2	118
192	0.2	2.3	1.9	194.0	1.1	105

PRESVOCS

193	0.2	2.2	1.8	183.0	1.0	100
194	0.2	2.2	1.7	172.0	0.9	91
195	0.3	3.0	1.8	159.0	0.8	80
196	0.3	2.7	1.5	149.0	0.7	71
197	0.3	2.7	1.4	139.0	0.6	64
198	0.3	2.7	1.4	137.0	0.6	63
199	0.3	2.5	1.3	125.0	0.6	61
200	0.3	2.5	1.1	112.0	0.6	58
201	0.2	2.4	1.0	104.0	0.6	55
202	0.2	2.4	1.0	95.0	0.5	51
203	0.3	2.5	0.9	87.0	0.5	47
204	0.3	3.1	0.8	84.0	0.4	43
205	0.4	3.8	0.8	82.0	0.4	38
206	0.3	3.3	0.8	82.0	0.4	35
207	0.2	2.4	0.8	76.0	0.3	33
208	0.2	2.4	0.7	68.0	0.3	32
209	0.2	2.3	0.6	62.0	0.3	33
210	0.2	2.2	0.6	55.0	0.3	32
211	0.2	2.2	0.6	55.0	0.3	31
212	0.2	2.4	0.5	54.0	0.3	31
213	0.6	4.7	0.5	54.0	0.3	31
214	0.5	5.1	0.5	51.0	0.3	30
215	0.3	3.2	0.5	51.0	0.3	31
216	0.2	2.4	0.5	53.0	0.3	32
217	0.2	2.1	0.5	64.0	0.3	33
218	0.2	2.1	0.6	57.0	0.3	34
219	0.2	2.0	0.6	61.0	0.3	33
220	0.2	2.0	0.7	66.0	0.3	34
221	0.2	2.4	0.7	74.0	0.4	36
222	0.2	2.3	0.9	87.0	0.4	39
223	0.2	2.2	0.9	91.0	0.4	41
224	0.4	4.4	1.0	98.0	0.4	41
225	0.3	2.9	1.0	103.0	0.5	45
226	0.2	2.1	1.2	118.0	0.5	48
227	0.2	2.0	1.1	111.0	0.5	48
228	0.2	2.2	1.2	121.0	0.5	51
229	0.2	2.3	1.3	127.0	0.5	52
230	0.3	2.6	1.3	130.0	0.5	52
231	0.2	2.3	1.4	136.0	0.5	54
232	0.2	2.2	2.4	235.0	0.6	60
233	1.2	11.8	2.6	262.0	1.1	114
234	0.3	2.9	2.3	231.0	1.2	121
235	0.2	2.3	2.0	203.0	1.1	113
236	0.2	2.2	2.0	196.0	1.1	105
237	0.2	2.1	1.8	180.0	1.0	98
238	0.3	2.6	1.6	161.0	0.9	89
239	0.2	2.4	1.5	154.0	0.8	79
240	0.2	1.9	1.5	145.0	0.7	68
241	0.2	2.2	1.4	135.0	0.6	64
242	0.4	4.0	1.3	131.0	0.6	60
243	0.2	1.9	1.2	124.0	0.6	58
244	0.2	1.9	1.1	114.0	0.6	56
245	0.2	2.3	1.1	105.0	0.6	55
246	0.2	2.0	1.0	98.0	0.6	53
247	0.2	1.9	0.9	89.0	0.5	48
248	0.3	2.9	0.9	85.0	0.4	44
249	0.3	3.1	0.8	78.0	0.4	38
250	0.2	2.3	0.8	79.0	0.4	36
251	0.2	2.3	0.8	79.0	0.3	34
252	0.5	4.8	0.7	73.0	0.3	33
253	0.3	2.5	0.7	69.0	0.3	33
254	0.2	2.4	0.7	65.0	0.3	33
255	0.2	2.3	0.6	61.0	0.3	32
256	0.2	2.3	0.6	58.0	0.3	31
257	0.3	2.7	0.6	56.0	0.3	32
258	0.3	2.7	0.5	53.0	0.3	31
259	0.3	2.8	0.5	50.0	0.3	32
260	0.3	2.6	0.5	52.0	0.3	33
261	0.3	2.5	0.5	51.0	0.4	35
262	0.3	2.5	0.6	55.0	0.3	34
263	0.2	2.4	0.6	60.0	0.3	33
264	0.2	2.2	0.7	67.0	0.3	34
265	0.2	2.4	0.6	77.0	0.3	34
266	0.3	2.8	0.9	87.0	0.4	37
267	0.4	3.5	0.8	84.0	0.4	39
268	0.4	3.7	1.0	102.0	0.4	40
269	0.3	2.5	1.0	100.0	0.4	44
270	0.2	2.2	1.0	103.0	0.4	35
271	0.2	2.2	1.2	118.0	0.4	37
272	0.2	2.3	1.2	118.0	0.5	46
273	0.2	2.2	1.2	119.0	0.5	52
274	0.2	2.2	1.2	120.0	0.5	53
275	0.3	2.7	1.3	127.0	0.6	57
276	0.3	3.2	1.9	189.0	0.6	56
277	0.3	2.9	2.5	249.0	0.9	65
278	0.3	3.1	2.1	210.0	1.1	111
279	0.2	2.1	1.8	180.0	1.1	110
280	0.2	2.1	1.8	182.0	1.1	105
281	0.2	2.1	1.8	180.0	1.0	97
282	0.2	2.0	1.7	172.0	0.9	89
283	0.2	2.1	1.6	158.0	0.8	81
284	0.2	2.3	1.5	150.0	0.7	72
285	0.2	2.1	1.4	142.0	0.6	62
286	0.2	2.1	1.3	133.0	0.6	60
287	0.7	6.8	1.3	125.0	0.6	58
288	0.2	2.2	1.1	114.0	0.5	54
289	0.2	2.1	1.1	105.0	0.5	54
290	0.2	2.1	1.0	99.0	0.5	51
291	0.2	2.1	1.0	95.0	0.5	47
292	0.2	2.4	0.9	85.0	0.4	43
293	0.3	2.5	0.7	74.0	0.4	39
294	0.2	2.3	0.7	71.0	0.4	35
295	0.3	2.6	0.7	74.0	0.3	33

PRESVOCS

296	0.5	5.1	0.7	70.0	0.3	33
297	0.2	2.3	0.6	64.0	0.3	34
298	0.2	2.1	0.6	60.0	0.3	33
299	0.2	2.3	0.6	58.0	0.3	31
300	0.2	2.3	0.6	55.0	0.3	30
301	0.3	2.5	0.5	52.0	0.3	30
302	0.2	2.1	0.5	52.0	0.3	29
303	0.2	1.8	0.5	50.0	0.3	30
304	0.3	3.3	0.5	51.0	0.3	30
305	0.2	2.0	0.5	53.0	0.3	31
306	0.2	1.9	0.6	56.0	0.3	32
307	0.2	1.9	0.6	63.0	0.3	33
308	0.2	1.9	0.7	66.0	0.4	35
309	0.2	1.9	0.8	76.0	0.4	36
310	0.2	2.0	0.9	86.0	0.4	37
311	0.4	3.7	0.9	93.0	0.4	40
312	0.2	2.3	1.0	102.0	0.4	42
313	0.2	2.1	1.0	103.0	0.4	44
314	0.3	3.3	1.1	109.0	0.5	45
315	0.3	2.5	1.2	115.0	0.5	50
316	0.2	2.3	1.3	128.0	0.5	50
317	0.2	2.2	1.3	128.0	0.5	52
318	0.2	2.2	1.3	130.0	0.5	53
319	0.2	2.3	1.2	123.0	0.5	54
320	0.3	2.9	1.6	155.0	0.6	56
321	0.3	2.8	2.5	247.0	0.8	61
322	0.3	2.8	2.4	239.0	1.2	119
323	0.3	2.6	2.0	199.0	1.1	107
324	0.2	2.3	2.0	198.0	1.0	100
325	0.2	2.4	1.9	186.0	0.9	94
326	0.2	2.4	1.7	169.0	0.9	90
327	0.2	2.3	1.6	155.0	0.8	81
328	0.3	2.6	1.4	144.0	0.7	72
329	0.3	2.9	1.4	142.0	0.6	63
330	0.3	3.0	1.3	133.0	0.6	59
331	0.3	2.6	1.3	127.0	0.6	57
332	0.2	2.4	1.1	113.0	0.6	55
333	0.2	2.4	1.0	101.0	0.6	53
334	0.2	2.2	1.0	98.0	0.5	51
335	0.2	2.2	0.9	93.0	0.5	48
336	0.2	2.2	0.9	86.0	0.4	43
337	0.3	2.5	0.8	81.0	0.4	41
338	0.4	3.9	0.8	77.0	0.4	37
339	0.4	4.2	0.8	76.0	0.3	32
340	0.3	2.6	0.7	73.0	0.3	31
341	0.2	2.3	0.7	69.0	0.3	33
342	0.2	2.1	0.6	61.0	0.3	32
343	0.2	2.1	0.6	56.0	0.3	31
344	0.2	2.0	0.5	52.0	0.3	30
345	0.2	2.0	0.5	50.0	0.3	30
346	0.2	2.4	0.5	49.0	0.3	29
347	0.2	2.3	0.5	48.0	0.3	29
348	0.3	2.5	0.5	49.0	0.3	29
349	0.7	7.4	0.5	60.0	0.3	31
350	0.3	2.6	0.5	53.0	0.3	31
351	0.2	2.1	0.6	64.0	0.3	32
352	0.2	2.1	0.6	61.0	0.3	32
353	0.2	2.2	0.7	68.0	0.3	33
354	0.2	2.3	0.8	78.0	0.4	35
355	0.3	2.7	0.8	84.0	0.4	38
356	0.2	2.3	0.9	91.0	0.4	39
357	0.2	2.2	1.0	103.0	0.4	41
358	1.1	11.4	1.1	107.0	0.4	42
359	0.3	2.5	1.1	106.0	0.4	44
360	0.2	2.2	1.2	120.0	0.5	47
361	0.2	2.2	1.2	123.0	0.5	49
362	0.2	2.4	1.3	128.0	0.5	50
363	0.2	2.2	1.3	128.0	0.5	53
364	0.2	2.2	1.3	130.0	0.5	54
365	0.2	2.1	2.1	214.0	0.6	55
366	0.2	1.9	2.5	254.0	1.1	109
367	0.3	3.0	2.3	232.0	1.3	125
368	0.2	2.0	2.1	213.0	1.1	113
369	0.2	2.0	2.0	197.0	1.0	104
370	0.2	1.9	1.8	176.0	0.9	94
371	0.2	2.0	1.7	172.0	0.8	84
372	0.2	2.0	1.6	168.0	0.8	78
373	0.4	3.5	1.5	145.0	0.7	68
374	0.3	2.8	1.4	142.0	0.6	63
375	0.2	2.2	1.4	137.0	0.6	60
376	0.2	2.3	1.3	127.0	0.6	59
377	0.4	3.8	1.2	116.0	0.6	56
378	0.2	2.3	1.1	109.0	0.5	54
379	0.2	2.4	1.0	97.0	0.5	51
380	0.2	2.3	0.9	93.0	0.5	48
381	0.2	2.3	0.9	88.0	0.4	43
382	0.3	2.9	0.8	82.0	0.4	39
383	0.3	2.6	0.8	77.0	0.4	36
384	0.3	2.6	0.8	78.0	0.3	34
385	0.3	2.6	0.7	72.0	0.3	32
386	0.3	2.5	0.7	65.0	0.3	33
387	0.3	2.5	0.6	58.0	0.3	33
388	0.2	2.4	0.6	67.0	0.3	31
389	0.2	2.2	0.6	56.0	0.3	31
390	0.2	2.4	0.6	65.0	0.3	31
391	0.3	2.9	0.6	56.0	0.3	30
392	0.6	4.9	0.5	54.0	0.3	30
393	0.6	4.6	0.5	54.0	0.3	31
394	0.3	2.6	0.5	53.0	0.3	31
395	0.2	2.4	0.6	56.0	0.3	33
396	0.2	2.4	0.6	58.0	0.3	34
397	0.2	2.3	0.7	68.0	0.3	34
398	0.2	2.1	0.7	70.0	0.4	36

PRESVOC8

399	0.2	2.3	0.9	86.0	0.4	38
400	0.3	3.1	0.9	89.0	0.4	40
401	0.4	4.2	1.0	103.0	0.4	43
402	0.3	3.2	1.2	118.0	0.5	45
403	0.3	3.0	1.2	123.0	0.5	48
404	0.2	2.2	1.2	124.0	0.5	52
405	0.2	2.1	1.2	122.0	0.5	51
406	0.2	2.0	1.2	118.0	0.5	52
407	0.2	2.0	1.2	123.0	0.5	54
408	0.2	2.1	1.2	124.0	0.5	54
409	0.2	2.3	1.5	154.0	0.5	54
410	0.2	2.1	2.5	247.0	0.8	79
411	0.2	2.2	2.3	233.0	1.2	115
412	0.6	6.5	1.9	188.0	1.0	102
413	0.2	2.3	1.8	183.0	0.9	93
414	0.2	2.1	1.7	174.0	0.9	88
415	0.2	2.2	1.6	162.0	0.9	85
416	0.2	2.1	1.6	160.0	0.8	82
417	0.3	2.5	1.5	154.0	0.7	72
418	0.3	2.5	1.5	147.0	0.6	64
419	0.2	2.2	1.4	139.0	0.6	61
420	0.6	6.6	1.3	129.0	0.6	58
421	0.4	4.1	1.2	117.0	0.6	55
422	0.2	2.3	1.1	106.0	0.5	53
423	0.2	2.2	1.0	99.0	0.5	50
424	0.2	2.3	0.9	94.0	0.5	47
425	0.2	2.2	0.9	86.0	0.4	43
426	0.2	2.4	0.8	81.0	0.4	39
427	0.2	2.1	0.8	80.0	0.4	36
428	0.2	1.9	0.8	77.0	0.3	33
429	0.4	4.1	0.7	74.0	0.3	31
430	0.2	1.9	0.7	70.0	0.3	31
431	0.2	1.9	0.7	66.0	0.3	31
432	0.2	1.9	0.6	58.0	0.3	31
433	0.2	2.0	0.6	55.0	0.3	30
434	0.2	1.9	0.5	52.0	0.3	30
435	0.2	2.1	0.5	51.0	0.3	30
436	0.4	3.5	0.5	51.0	0.3	29
437	0.2	2.3	0.5	52.0	0.3	29
438	0.2	2.3	0.5	53.0	0.3	29
439	0.5	4.9	0.6	55.0	0.3	31
440	0.3	2.6	0.6	57.0	0.3	32
441	0.2	2.3	0.6	62.0	0.3	33
442	0.2	2.3	0.6	64.0	0.3	34
443	0.2	2.3	0.6	75.0	0.4	35
444	0.2	2.4	0.6	84.0	0.4	37
445	0.3	2.8	0.9	93.0	0.4	40
446	0.3	2.6	1.0	99.0	0.4	41
447	0.3	2.6	1.1	108.0	0.5	45
448	0.3	2.5	1.1	114.0	0.5	46
449	0.2	2.4	1.2	118.0	0.5	50
450	0.2	2.4	1.2	124.0	0.6	51
451	0.2	2.4	1.2	121.0	0.6	51
452	0.2	2.4	1.2	118.0	0.6	53
453	0.3	2.8	1.3	134.0	0.6	54
454	0.3	2.9	2.3	233.0	0.6	58
455	0.3	3.2	2.8	276.0	1.1	105
456	0.3	2.7	2.3	231.0	1.1	106
457	0.2	2.4	2.1	210.0	1.0	96
458	0.3	2.5	2.0	201.0	1.0	98
459	0.2	2.4	1.9	185.0	0.9	91
460	0.2	2.3	1.7	168.0	0.8	83
461	0.2	2.1	1.6	155.0	0.8	75
462	0.3	2.6	1.6	161.0	0.7	86
463	0.3	2.7	1.6	155.0	0.6	81
464	0.3	2.7	1.4	144.0	0.6	58
465	0.3	2.5	1.3	131.0	0.6	66
466	0.2	2.2	1.2	120.0	0.5	53
467	0.2	2.1	1.1	113.0	0.5	51
468	0.2	2.1	1.0	102.0	0.5	48
469	0.2	2.0	0.9	94.0	0.4	44
470	0.2	2.0	0.9	86.0	0.4	40
471	0.3	2.5	0.8	82.0	0.4	37
472	0.2	2.3	0.8	81.0	0.3	33
473	0.2	2.2	0.8	78.0	0.3	32
474	0.6	6.3	0.8	77.0	0.3	32
475	0.3	2.5	0.7	71.0	0.3	31
476	0.2	2.1	0.6	64.0	0.3	31
477	0.2	2.2	0.6	59.0	0.3	31
478	0.2	2.2	0.6	56.0	0.3	31
479	0.2	2.1	0.5	54.0	0.3	30
480	0.3	2.6	0.5	52.0	0.3	30
481	0.2	2.3	0.5	52.0	0.3	31
482	0.2	2.3	0.5	50.0	0.3	31
483	1.0	10.4	0.5	52.0	0.3	31
484	0.3	2.5	0.5	53.0	0.3	31
485	0.2	2.2	0.6	60.0	0.3	31
486	0.2	2.2	0.7	66.0	0.3	31
487	0.3	2.5	0.7	71.0	0.3	33
488	0.2	2.3	0.8	84.0	0.4	36
489	0.2	2.3	0.9	89.0	0.4	37
490	0.2	1.9	1.0	98.0	0.4	38
491	0.2	1.9	1.1	107.0	0.4	43
492	0.3	2.7	1.2	117.0	0.5	45
493	0.2	1.9	1.1	113.0	0.5	46
494	0.2	1.9	1.2	118.0	0.6	49
495	0.2	1.9	1.2	122.0	0.6	49
496	0.2	1.9	1.2	118.0	0.5	53
497	0.2	1.9	1.3	127.0	0.6	54
498	0.4	3.5	1.9	193.0	0.5	54
499	0.3	2.5	2.4	244.0	1.0	96
500	0.2	2.2	2.1	214.0	1.3	129
501	0.2	2.2	2.1	206.0	1.1	114

PRESVOCS

502	0.4	3.9	2.1	208.0	1.1	106
503	0.2	2.4	1.8	183.0	1.0	96
504	0.2	2.4	1.8	178.0	0.9	90
505	0.2	2.3	1.7	172.0	0.8	81
506	0.2	2.2	1.6	162.0	0.7	71
507	0.3	2.9	1.5	150.0	0.6	63
508	0.3	2.7	1.4	144.0	0.6	59
509	0.3	2.7	1.4	135.0	0.6	66
510	0.3	2.6	1.2	124.0	0.5	51
511	0.2	2.4	1.1	112.0	0.5	50
512	0.2	2.4	1.0	101.0	0.5	48
513	0.2	2.4	1.0	95.0	0.4	44
514	0.2	2.3	0.9	89.0	0.4	40
515	0.2	2.4	0.8	83.0	0.4	37
516	0.3	2.8	0.8	84.0	0.3	34
517	0.4	3.6	0.8	80.0	0.3	31
518	0.4	3.5	0.7	73.0	0.3	31
519	0.2	2.4	0.7	70.0	0.3	29
520	0.2	2.3	0.7	65.0	0.3	29
521	0.2	2.3	0.6	61.0	0.3	29
522	0.2	2.2	0.6	59.0	0.3	30
523	0.2	2.1	0.6	56.0	0.3	29
524	0.2	2.3	0.6	57.0	0.3	29
525	0.4	3.7	0.6	56.0	0.3	30
526	0.6	4.7	0.6	56.0	0.3	31
527	0.3	3.3	0.6	57.0	0.3	31
528	0.3	2.8	0.6	59.0	0.3	31
529	0.2	2.1	0.6	61.0	0.3	32
530	0.2	2.1	0.7	68.0	0.3	32
531	0.2	2.0	0.8	79.0	0.3	34
532	0.3	2.7	1.0	96.0	0.4	35
533	0.2	2.3	1.0	104.0	0.4	39
534	0.2	2.2	1.1	111.0	0.4	42
535	0.2	2.1	1.2	117.0	0.5	46
536	0.3	2.5	1.2	120.0	0.5	48
537	0.4	3.7	1.2	123.0	0.5	49
538	0.2	2.1	1.3	128.0	0.5	49
539	0.2	2.1	1.2	123.0	0.5	51
540	0.2	2.0	1.3	130.0	0.5	51
541	0.2	2.0	1.3	133.0	0.5	54
542	0.3	2.5	1.6	160.0	0.8	56
543	0.2	2.4	2.5	247.0	0.8	75
544	0.2	2.1	2.1	205.0	1.1	105
545	0.8	8.4	1.8	178.0	1.0	96
546	0.3	3.3	1.8	177.0	0.9	92
547	0.2	2.2	1.9	188.0	0.9	87
548	0.2	2.1	1.7	172.0	0.8	79
549	0.2	2.1	1.6	159.0	0.7	73
550	0.2	2.0	1.6	155.0	0.7	67
551	0.2	2.3	1.6	150.0	0.6	60
552	0.2	2.0	1.4	140.0	0.6	55
553	0.2	1.6	1.3	130.0	0.5	53
554	0.4	4.4	1.2	120.0	0.6	50
555	0.2	1.9	1.1	110.0	0.5	49
556	0.2	1.7	1.1	106.0	0.5	46
557	0.2	1.9	1.0	99.0	0.5	46
558	0.2	1.9	0.9	88.0	0.4	41
559	0.2	1.8	0.8	83.0	0.4	36
560	0.2	2.4	0.8	83.0	0.3	32
561	0.3	3.2	0.8	80.0	0.3	31
562	0.2	2.2	0.8	75.0	0.3	31
563	0.2	2.1	0.7	67.0	0.3	31
564	0.5	4.7	0.6	61.0	0.3	30
565	0.2	2.4	0.6	57.0	0.3	30
566	0.2	2.2	0.5	54.0	0.3	31
567	0.2	2.1	0.5	52.0	0.3	30
568	0.2	2.1	0.5	51.0	0.3	29
569	0.2	2.3	0.5	50.0	0.3	29
570	0.3	2.6	0.5	49.0	0.3	28
571	0.3	2.6	0.5	50.0	0.3	29
572	0.3	2.7	0.5	52.0	0.3	30
573	0.3	2.5	0.6	55.0	0.3	30
574	0.2	2.2	0.6	64.0	0.3	30
575	0.2	2.1	0.7	73.0	0.3	31
576	0.2	2.2	0.8	81.0	0.3	33
577	0.2	2.2	0.9	88.0	0.4	35
578	0.3	2.6	1.0	96.0	0.4	36
579	0.4	3.6	1.0	101.0	0.4	38
580	0.4	3.7	1.1	111.0	0.4	41
581	0.3	2.6	1.1	113.0	0.4	43
582	0.2	2.3	1.2	119.0	0.4	44
583	0.2	2.2	1.1	112.0	0.5	46
584	0.2	2.2	1.3	126.0	0.5	48
585	0.2	2.1	1.2	124.0	0.5	50
586	0.2	2.0	1.3	127.0	0.5	52
587	0.3	2.8	2.2	222.0	0.6	59
588	0.3	2.8	2.6	263.0	1.1	110
589	0.2	2.4	2.3	233.0	1.2	119
590	0.3	3.0	2.0	203.0	1.1	106
591	0.2	2.1	2.1	208.0	0.9	93
592	0.2	2.1	1.9	187.0	0.9	85
593	0.2	2.0	1.8	176.0	0.8	80
594	0.2	2.0	1.7	170.0	0.7	71
595	0.2	1.9	1.6	157.0	0.6	61
596	0.2	2.3	1.5	150.0	0.6	66
597	0.2	2.0	1.3	132.0	0.5	53
598	0.2	2.1	1.2	121.0	0.5	50
599	0.9	8.7	1.1	112.0	0.5	48
600	0.2	2.2	1.1	106.0	0.5	46
601	0.2	2.0	1.0	97.0	0.4	44
602	0.2	2.0	0.9	91.0	0.4	41
603	0.2	2.0	0.9	85.0	0.4	38
604	0.2	2.1	0.8	83.0	0.4	36

PRESVOČ

605	0.3	2.5	0.8	76.0	0.3	33
606	0.2	2.2	0.7	69.0	0.3	30
607	0.2	2.2	0.7	69.0	0.3	29
608	0.7	6.6	0.7	66.0	0.3	27
609	0.2	2.3	0.6	58.0	0.3	27
610	0.2	2.1	0.5	54.0	0.3	27
611	0.2	2.1	0.5	51.0	0.3	26
612	0.2	2.2	0.5	50.0	0.2	24
613	0.2	2.3	0.5	45.0	0.2	24
614	0.2	2.1	0.4	42.0	0.2	24
615	0.2	1.8	0.4	41.0	0.2	24
616	0.2	2.1	0.4	39.0	0.2	24
617	0.2	2.1	0.4	40.0	0.3	25
618	0.2	1.7	0.4	40.0	0.3	26
619	0.2	1.8	0.4	42.0	0.3	26
620	0.2	1.9	0.4	43.0	0.3	27
621	0.2	1.9	0.5	47.0	0.3	27
622	0.2	1.9	0.5	48.0	0.3	27
623	0.4	3.6	0.5	50.0	0.3	27
624	0.2	2.3	0.5	51.0	0.3	28
625	0.2	2.2	0.6	57.0	0.3	28
626	0.3	2.6	0.7	69.0	0.3	30
627	0.3	2.9	0.8	79.0	0.3	30
628	0.2	2.3	0.9	91.0	0.3	32
629	0.2	2.2	1.0	99.0	0.3	34
630	0.2	2.0	0.9	94.0	0.4	37
631	0.2	2.1	1.0	103.0	0.4	39
632	0.3	2.7	1.1	109.0	0.4	41
633	0.3	2.6	1.1	109.0	0.4	42
634	0.3	2.6	1.2	117.0	0.4	43
635	0.3	2.6	1.2	116.0	0.4	44
636	0.2	2.3	1.2	119.0	0.5	47
637	0.2	2.3	1.9	187.0	0.5	48
638	0.2	2.2	2.8	276.0	0.6	83
639	0.2	2.2	2.4	235.0	1.2	118
640	0.2	2.4	2.0	204.0	1.0	101
641	0.3	2.8	1.9	193.0	0.9	92
642	0.3	2.6	1.8	176.0	0.8	84
643	0.3	2.6	1.6	163.0	0.8	77
644	0.2	2.3	1.6	162.0	0.7	69
645	0.2	2.3	1.6	156.0	0.6	61
646	0.2	2.2	1.4	143.0	0.6	56
647	0.2	2.2	1.4	139.0	0.5	52
648	0.2	2.1	1.3	127.0	0.5	51
649	0.2	2.3	1.2	119.0	0.5	49
650	0.3	2.8	1.1	112.0	0.5	45
651	0.3	2.9	1.0	104.0	0.4	43
652	0.2	2.3	1.0	99.0	0.4	40
653	0.2	2.2	0.9	90.0	0.4	36
654	0.2	1.9	0.8	82.0	0.3	32
655	0.2	1.9	0.8	81.0	0.3	31
656	0.2	1.9	0.7	74.0	0.3	29
657	0.2	1.9	0.7	68.0	0.3	29
658	0.2	2.2	0.6	64.0	0.3	29
659	0.2	2.1	0.6	62.0	0.3	28
660	0.2	2.2	0.6	60.0	0.3	28
661	0.4	4.1	0.6	66.0	0.3	27
662	0.3	2.9	0.6	56.0	0.3	27
663	0.2	2.1	0.6	55.0	0.3	26
664	0.2	2.0	0.5	54.0	0.3	27
665	0.2	2.0	0.6	56.0	0.3	27
666	0.2	2.0	0.6	57.0	0.3	27
667	0.3	2.7	0.6	57.0	0.3	28
668	0.2	2.2	0.6	60.0	0.3	28
669	0.2	2.1	0.7	65.0	0.3	28
670	1.2	11.6	0.8	76.0	0.3	29
671	0.3	2.6	0.8	76.0	0.3	30
672	0.2	2.1	0.9	85.0	0.3	32
673	0.2	2.0	0.9	84.0	0.3	33
674	0.2	2.2	1.0	99.0	0.4	37
675	0.2	2.3	1.0	104.0	0.4	39
676	0.2	2.2	1.2	120.0	0.4	40
677	0.2	1.9	1.1	109.0	0.4	40
678	0.2	1.8	1.3	125.0	0.4	42
679	0.4	3.6	1.2	122.0	0.4	41
680	0.2	1.7	1.3	126.0	0.4	43
681	0.2	1.8	1.6	159.0	0.4	44
682	0.2	1.8	2.4	242.0	0.6	60
683	0.2	1.8	10.0	999.0	1.0	103
684	0.2	1.8	2.0	200.0	1.0	96
685	0.3	2.8	2.0	202.0	0.9	86
686	0.3	2.9	1.8	177.0	0.8	82
687	0.2	2.1	1.7	169.0	0.8	78
688	0.2	2.1	1.6	162.0	0.7	72
689	0.5	5.3	1.6	155.0	0.6	64
690	0.2	2.4	1.4	144.0	0.6	67
691	0.2	2.2	1.4	137.0	0.5	62
692	0.2	2.3	1.3	126.0	0.5	60
693	0.2	2.2	1.2	117.0	0.5	47
694	0.3	2.6	1.1	106.0	0.5	45
695	0.3	2.5	1.0	99.0	0.4	43
696	0.3	2.6	0.9	89.0	0.4	40
697	0.3	2.5	0.8	83.0	0.4	35
698	0.2	2.4	0.8	81.0	0.3	32
699	0.2	2.2	0.8	80.0	0.3	31
700	0.2	2.2	0.8	77.0	0.3	29
701	0.2	2.2	0.8	78.0	0.3	28
702	0.2	2.1	0.7	72.0	0.3	28
703	0.3	2.7	0.6	62.0	0.3	29
704	0.4	4.2	0.6	59.0	0.3	29
705	0.4	4.1	0.6	56.0	0.3	28
706	0.3	2.5	0.6	56.0	0.3	27
707	0.2	2.2	0.6	56.0	0.3	26

PRESVOC8

708	0.2	2.3	0.5	53.0	0.3	25
709	0.2	2.2	0.5	53.0	0.3	25
710	0.2	2.0	0.8	56.0	0.3	28
711	0.2	2.1	0.8	56.0	0.3	28
712	0.3	3.3	0.8	59.0	0.3	27
713	0.5	4.9	0.7	65.0	0.3	28
714	0.4	3.9	0.7	72.0	0.3	29
715	0.3	3.0	0.8	60.0	0.3	29
716	0.2	2.1	0.9	68.0	0.3	31
717	0.2	1.9	0.9	60.0	0.3	33
718	0.2	1.9	1.0	103.0	0.4	35
719	0.2	1.8	1.2	117.0	0.4	37
720	0.2	1.9	1.2	116.0	0.4	38
721	0.2	2.2	1.2	117.0	0.4	40
722	0.2	2.0	1.2	124.0	0.4	40
723	0.2	1.9	1.2	122.0	0.4	43
724	0.8	7.8	1.3	126.0	0.4	42
725	0.2	2.1	1.5	147.0	0.5	45
726	0.2	2.0	2.3	229.0	0.5	49
727	0.2	2.0	2.4	236.0	0.9	89
728	0.2	2.0	2.0	197.0	0.9	91
729	0.2	2.2	1.9	192.0	0.8	80
730	0.2	2.4	1.9	188.0	0.8	76
731	0.2	2.2	1.7	188.0	0.7	72
732	0.3	2.7	1.6	162.0	0.7	68
733	0.6	5.9	1.6	167.0	0.6	61
734	0.2	2.2	1.5	148.0	0.6	54
735	0.2	2.1	1.4	138.0	0.5	49
736	0.2	2.0	1.3	130.0	0.5	47
737	0.2	2.1	1.2	118.0	0.5	45
738	0.2	2.2	1.1	111.0	0.4	43
739	0.2	1.9	1.0	104.0	0.4	41
740	0.2	1.8	0.9	93.0	0.4	39
741	0.3	3.2	0.8	84.0	0.4	35
742	0.2	1.9	0.8	82.0	0.3	32
743	0.2	1.7	0.8	82.0	0.3	30
744	0.2	1.8	0.8	79.0	0.3	28
745	0.2	1.9	0.7	74.0	0.3	27
746	0.2	1.8	0.7	68.0	0.3	27
747	0.2	1.9	0.6	64.0	0.3	26
748	0.4	3.6	0.6	60.0	0.3	25
749	0.2	2.2	0.6	58.0	0.2	24
750	0.2	2.1	0.5	53.0	0.2	24
751	0.3	3.4	0.5	51.0	0.2	24
752	0.2	2.4	0.5	52.0	0.2	22
753	0.2	2.2	0.5	50.0	0.2	24
754	0.2	2.2	0.5	49.0	0.3	25
755	0.2	2.2	0.5	54.0	0.3	26
756	0.2	2.1	0.6	63.0	0.3	26
757	0.2	1.9	0.6	76.0	0.3	27
758	0.2	2.0	0.8	83.0	0.3	29
759	0.3	2.6	0.9	91.0	0.3	30
760	0.3	3.4	1.1	108.0	0.3	30
761	0.2	2.1	1.0	100.0	0.3	33
762	0.2	2.2	1.2	117.0	0.4	36
763	0.2	2.1	1.2	120.0	0.4	38
764	0.2	2.2	1.2	117.0	0.4	40
765	0.2	2.1	1.3	126.0	0.4	42
766	0.2	2.2	1.3	129.0	0.4	42
767	0.2	2.2	1.2	122.0	0.4	43
768	0.2	2.1	1.3	130.0	0.4	42
769	0.2	2.3	1.4	140.0	0.5	45
770	0.2	2.3	2.2	215.0	0.5	51
771	0.2	2.3	2.1	207.0	0.6	77
772	0.2	2.3	1.7	167.0	0.7	73
773	0.2	2.2	1.8	175.0	0.7	67
774	0.2	2.2	1.8	167.0	0.6	62
775	0.2	2.1	1.4	141.0	0.6	59
776	0.2	2.2	1.3	132.0	0.6	56
777	0.2	2.2	1.3	130.0	0.5	48
778	0.2	2.2	1.3	128.0	0.4	44
779	0.2	2.2	1.2	120.0	0.4	41
780	0.2	2.2	1.1	111.0	0.4	40
781	0.2	1.5	1.0	104.0	0.4	39

Stop R6
11:35

Average 2.6 108.6 49.6269

782	0.0	0.4	1.0	95.0	0.4	37
783	0.0	0.4	0.8	81.0	0.4	35
784	0.0	0.4	0.8	76.0	0.3	33
785	0.0	0.4	0.7	74.0	0.3	31
786	0.0	0.4	0.7	67.0	0.3	28
787	0.0	0.4	0.6	62.0	0.3	25
788	0.0	0.4	0.2	20.0	0.2	22
789	0.0	0.4	0.1	8.0	0.2	21
790	0.0	0.4	0.1	6.0	0.2	22
791	0.0	0.4	0.1	6.0	0.2	22
792	0.0	0.4	0.1	6.0	0.2	21
793	0.1	0.5	0.1	6.0	0.2	21
794	0.0	0.4	0.1	5.0	0.2	21
795	0.0	0.4	0.1	6.0	0.2	21
796	0.0	0.4	0.1	5.0	0.2	20
797	0.1	0.8	0.1	5.0	0.2	20
798	0.2	2.1	0.0	4.0	0.2	20
799	0.2	2.2	0.0	4.0	0.2	21
800	0.2	2.2	0.1	5.0	0.2	22
801	0.2	2.1	0.0	3.0	0.2	22
802	3.0	29.8	0.0	3.0	0.2	24
803	3.1	30.9	0.0	4.0	0.3	25
804	3.1	30.9	0.0	4.0	0.3	28
805	3.1	30.6	0.0	4.0	0.2	16
806	3.1	30.6	0.0	4.0	0.1	9

PRESVOC6

807	3.0	30.4	0.0	4.0	0.1	7
808	3.0	30.3	0.0	3.0	0.1	6
809	2.8	28.3	0.0	3.0	0.1	5
810	0.3	2.8	0.0	3.0	0.1	5
811	0.2	2.3	0.0	3.0	0.1	5
812	0.2	2.1	0.0	2.0	0.1	5
813	0.2	2.1	0.0	3.0	0.1	5
814	0.2	2.2	0.0	3.0	0.1	5
815	0.2	2.1	0.0	3.0	0.1	5
816	0.2	2.2	0.0	3.0	0.0	4
817	0.2	2.2	0.0	3.0	0.1	5
818	0.2	2.1	0.0	3.0	0.1	5
819	0.2	2.1	0.0	3.0	0.0	4
820	0.2	2.0	0.0	3.0	0.0	4
821	0.2	2.1	0.0	3.0	0.0	4
822	0.2	2.2	0.0	1.0	0.0	4
823	0.2	2.2	0.0	1.0	0.0	4
824	0.2	2.1	0.0	1.0	0.0	4
825	0.2	2.1	0.0	1.0	0.0	4
826	0.2	2.0	0.0	1.0	0.0	4
827	0.2	2.1	0.0	1.0	0.0	4
828	0.2	2.1	0.0	1.0	0.0	4
829	0.2	2.0	0.0	1.0	0.0	4
830	0.2	2.0	0.0	1.0	0.0	4
831	0.2	2.0	0.0	1.0	0.0	4
832	0.2	2.1	0.0	3.0	0.0	4
833	0.2	2.0	0.0	3.0	0.0	4
834	0.2	2.1	0.0	3.0	0.0	4
835	0.2	2.1	1.0	187.0	0.0	4
836	0.2	2.1	4.7	485.0	0.0	4
837	0.2	2.3	5.7	571.0	0.0	4
838	0.2	2.1	4.9	491.0	0.0	4
839	0.2	2.2	4.9	485.0	0.0	4
840	0.2	2.1	4.9	485.0	0.0	4
841	0.2	2.1	4.8	480.0	0.0	4
842	0.2	2.1	4.7	468.0	0.0	3
843	0.2	2.2	4.5	448.0	0.0	3
844	0.2	2.2	3.9	387.0	0.0	3
845	0.2	2.2	0.3	33.0	0.0	3
846	0.2	2.2	0.1	5.0	0.0	3
847	0.2	2.2	0.0	4.0	0.0	3
848	0.2	2.2	0.0	3.0	0.0	3
849	0.2	2.2	1.8	180.0	0.0	3
850	0.2	2.3	4.8	475.0	0.0	4
851	0.2	2.2	4.9	489.0	0.0	4
852	0.2	2.2	4.9	490.0	0.0	3
853	0.2	2.1	4.9	489.0	0.0	3
854	0.2	2.2	4.9	489.0	0.0	3
855	0.2	2.1	4.9	485.0	0.0	3
856	0.2	2.2	4.8	482.0	0.0	3
857	0.2	2.1	4.4	438.0	0.0	3
858	0.2	2.2	0.4	36.0	0.0	3
859	0.2	2.1	0.1	6.0	0.0	3
860	0.2	2.2	0.0	4.0	0.0	3
861	0.2	2.2	0.0	2.0	0.0	3
862	0.2	2.2	0.0	2.0	0.0	3
863	0.2	2.2	0.0	3.0	0.0	3
864	0.2	2.2	0.0	2.0	0.0	3
865	0.2	2.1	0.0	2.0	0.0	3
866	0.2	2.1	0.0	2.0	0.0	3
867	0.2	2.2	0.0	2.0	0.0	3
868	0.2	2.2	0.0	2.0	0.0	1
869	0.2	2.2	0.0	2.0	0.0	0
870	0.2	2.1	0.0	2.0	0.0	0
871	0.2	2.2	0.0	1.0	0.0	0
872	0.2	2.1	0.0	2.0	0.0	0
873	0.2	2.1	0.0	2.0	0.0	0
874	0.2	2.1	0.0	1.0	0.0	0
875	0.2	2.2	0.0	2.0	0.0	0
876	0.2	2.1	0.0	2.0	0.0	0
877	0.2	2.2	0.0	2.0	0.0	1
878	0.2	2.2	0.0	3.0	0.0	3
879	0.2	2.2	0.0	1.0	0.0	3
880	0.2	2.1	0.0	2.0	0.0	3
881	0.2	2.1	0.0	2.0	0.0	3
882	0.2	2.2	0.0	2.0	0.0	3
883	0.2	2.2	0.0	2.0	0.0	3
884	0.2	2.3	0.0	2.0	0.0	3
885	0.2	2.2	0.0	1.0	2.5	245
886	0.2	2.3	0.0	2.0	4.7	487
887	0.2	2.3	0.0	2.0	4.7	474
888	0.2	2.3	0.0	1.0	4.8	479
889	0.2	2.3	0.0	2.0	4.9	490
890	0.2	2.3	0.0	3.0	4.9	491
891	0.2	2.3	0.0	2.0	4.9	491
892	0.2	2.3	0.0	3.0	4.9	492
893	0.2	2.2	0.0	2.0	4.9	492
894	0.2	2.2	0.0	2.0	4.9	492
895	0.2	2.3	0.0	2.0	4.9	491
896	0.2	2.2	0.0	2.0	4.9	491
897	0.2	2.2	0.0	2.0	4.9	491
898	0.2	2.3	0.0	1.0	3.8	377
899	0.2	2.3	0.0	1.0	0.4	44
900	0.2	2.3	0.0	2.0	0.1	9
901	0.2	2.2	0.0	2.0	0.1	6
902	0.2	2.2	0.0	1.0	0.1	5
903	0.2	2.3	0.0	1.0	0.1	5
904	0.3	2.6	0.0	2.0	0.2	15
905	0.2	2.3	0.0	2.0	7.5	748
906	0.2	2.4	0.0	2.0	8.7	870
907	0.2	2.4	0.0	2.0	8.8	875
908	0.2	2.3	0.0	1.0	8.8	878
909	0.2	2.3	0.0	2.0	8.8	879

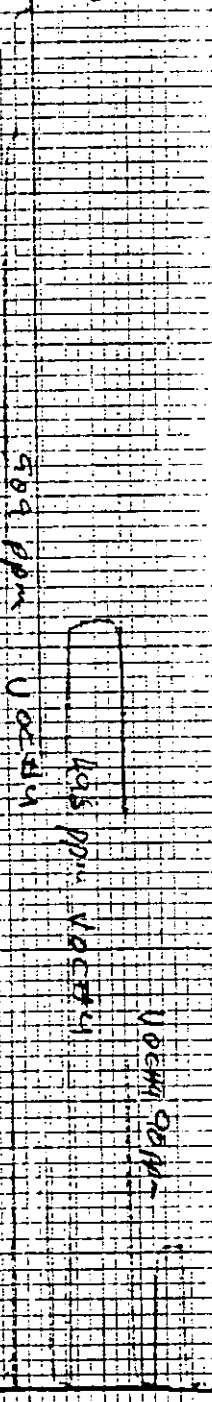
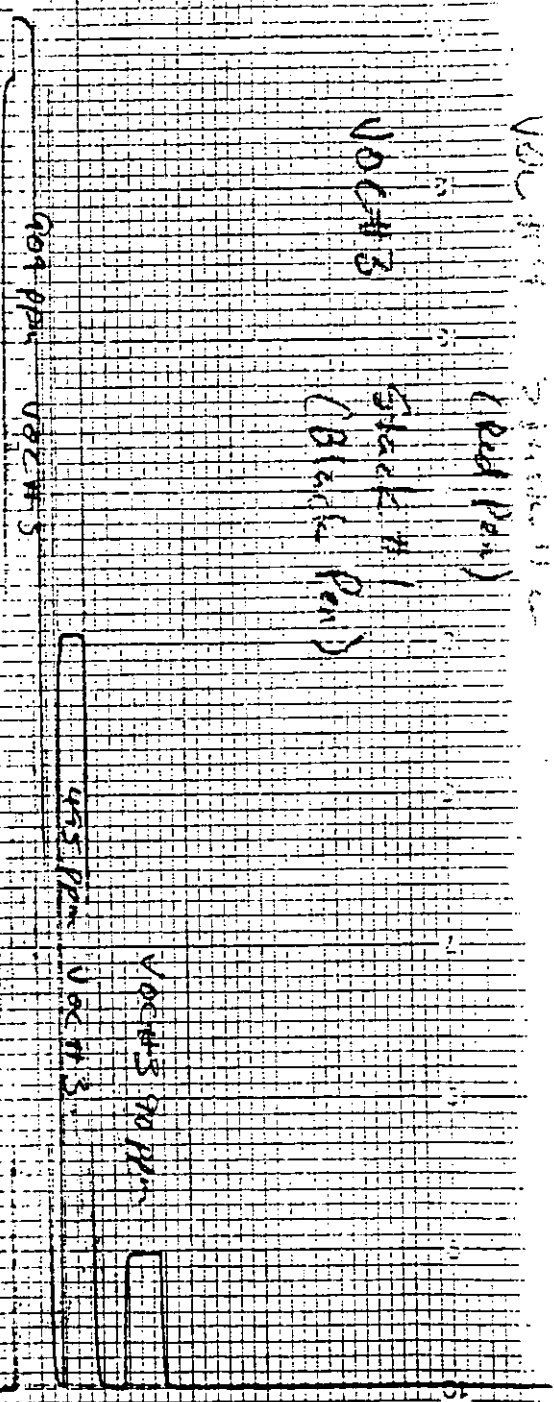
PRESVOC5

910	0.2	2.3	0.0	1.0	8.8	881
911	0.2	2.4	0.0	2.0	8.8	881
912	0.2	2.4	0.0	2.0	8.8	882
913	0.2	2.4	0.0	2.0	8.8	882
914	0.2	2.3	0.0	2.0	8.8	883
915	0.2	2.3	0.0	2.0	7.3	734
916	0.2	2.4	0.0	3.0	0.9	93
917	0.2	2.4	7.4	741.0	0.2	15
918	0.2	2.4	8.8	887.0	0.1	9
919	0.2	2.3	8.8	882.0	0.1	7
920	0.2	2.4	9.0	903.0	0.1	6
921	0.2	2.4	9.0	902.0	0.1	6
922	0.2	2.4	9.0	900.0	0.1	6
923	0.2	2.4	9.0	898.0	0.1	6
924	0.2	2.4	9.0	897.0	0.1	5
925	0.2	2.4	8.9	892.0	0.1	5
926	0.2	2.3	8.8	881.0	0.1	5
927	0.2	2.3	3.6	362.0	0.0	4
928	0.2	2.3	0.2	15.0	0.0	4
929	0.2	2.4	0.1	5.0	0.0	4
930	0.2	2.4	0.0	4.0	0.0	4
931	0.2	2.4	0.0	3.0	0.0	4
932	0.2	2.4	0.0	2.0	0.0	4
933	0.2	2.4	0.0	2.0	0.0	4
934	0.2	2.4	0.0	3.0	0.0	4
935	0.2	2.4	0.0	2.0	0.0	4
936	0.2	2.3	0.0	3.0	0.0	4
937	0.2	2.4	0.0	3.0	0.0	4
938	0.2	2.4	0.0	3.0	0.0	4
939	0.2	2.4	0.0	2.0	0.5	50
940	0.2	2.4	0.0	2.0	0.9	89
941	0.2	2.4	0.0	2.0	0.9	91
942	0.2	2.4	0.0	2.0	0.9	92
943	0.2	2.4	0.0	1.0	0.9	92
944	0.2	2.4	0.0	2.0	0.9	92
945	1.9	19.1	0.0	2.0	0.9	92
946	9.0	89.7	0.0	2.0	0.4	37
947	9.0	89.8	0.0	2.0	0.1	6
948	8.9	89.2	0.0	2.0	0.0	4
949	8.9	88.8	0.0	2.0	0.0	4
950	8.8	88.1	0.0	2.0	0.0	4
951	2.1	20.9	0.0	2.0	0.0	4
952	0.3	2.6	0.2	17.0	0.0	4
953	0.2	2.3	0.9	97.0	0.0	4
954	0.2	2.2	0.9	94.0	0.0	3
955	0.2	2.2	0.9	94.0	0.0	3
956	0.2	2.2	0.9	94.0	0.0	3
957	0.2	2.3	0.9	93.0	0.0	3
958	0.2	2.3	0.9	91.0	0.0	3
959	0.2	2.3	0.2	17.0	0.0	3
960	0.2	2.2	0.0	4.0	0.0	3
961	0.2	2.2	0.0	3.0	0.0	3
962	0.2	2.1	0.0	3.0	0.0	3
963	0.2	2.2	0.0	3.0	0.0	3
964	0.2	2.2	0.0	3.0	0.0	3
965	0.2	2.1	0.0	2.0	0.0	3
966	0.2	2.2	0.0	3.0	0.0	3
967	0.3	3.3	0.0	2.0	0.0	3
968	0.5	4.8	0.0	2.0	0.0	3
969	0.5	4.8	0.0	3.0	0.0	3
970	0.5	4.9	0.0	3.0	0.0	3
971	0.5	4.8	0.0	2.0	0.0	3
972	0.5	4.8	0.0	2.0	0.0	3
973	0.5	4.8	0.0	1.0	0.0	3
974	0.5	4.9	0.0	2.0	0.0	3
975	0.5	4.9	0.0	2.0	0.0	3
976	0.5	4.9	0.0	2.0	0.0	3
977	0.5	4.9	0.0	2.0	0.0	3
978	0.3	2.9	0.0	2.0	0.0	3
979	0.2	2.1	0.0	3.0	0.0	3
980	0.2	2.2	0.0	3.0	0.0	3

Press RTO Inlets
NOC pg 1

VOC #3

Stack #1
(Black Pen)

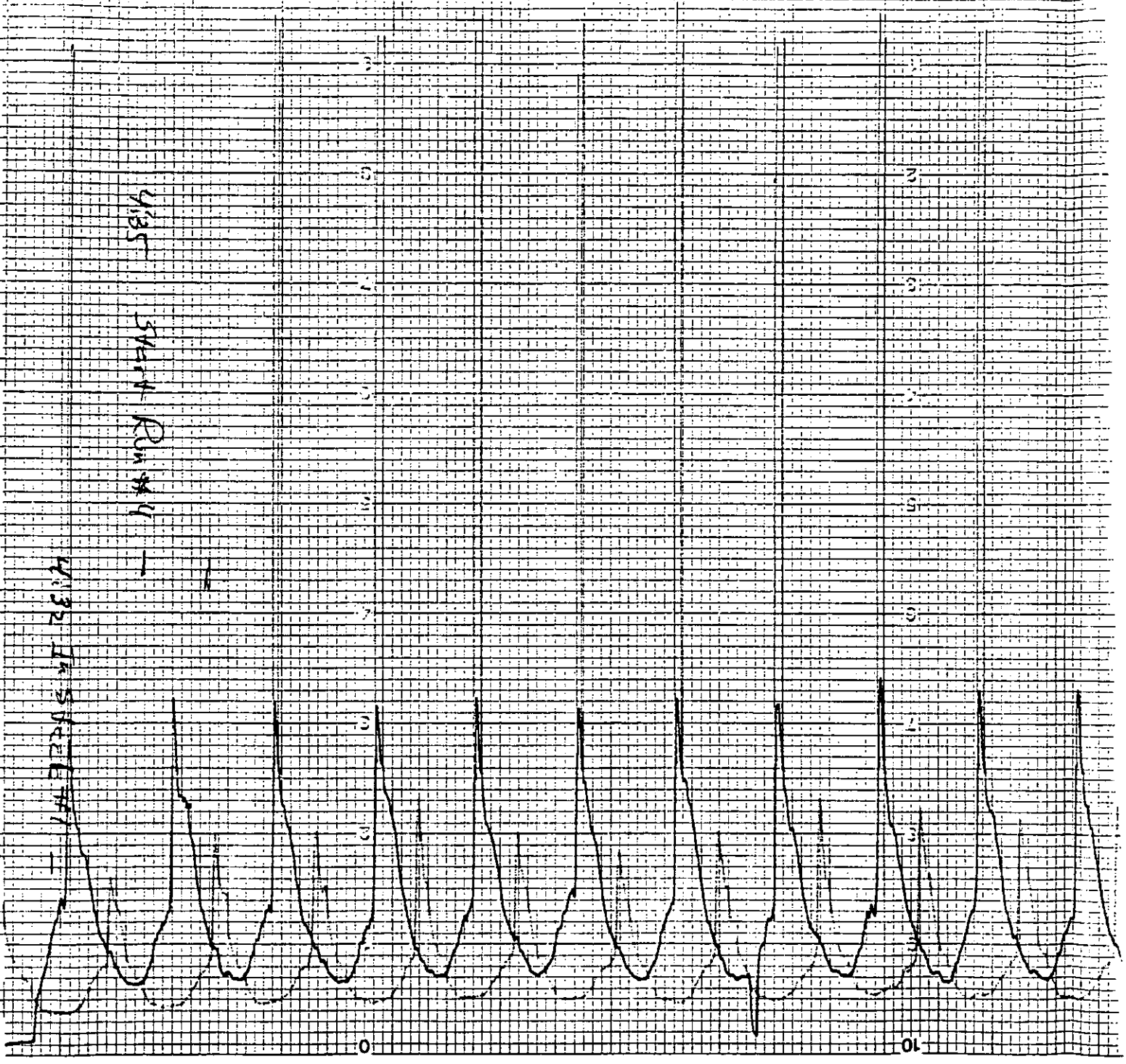


RTO Inlet LP Athens 6/22/95

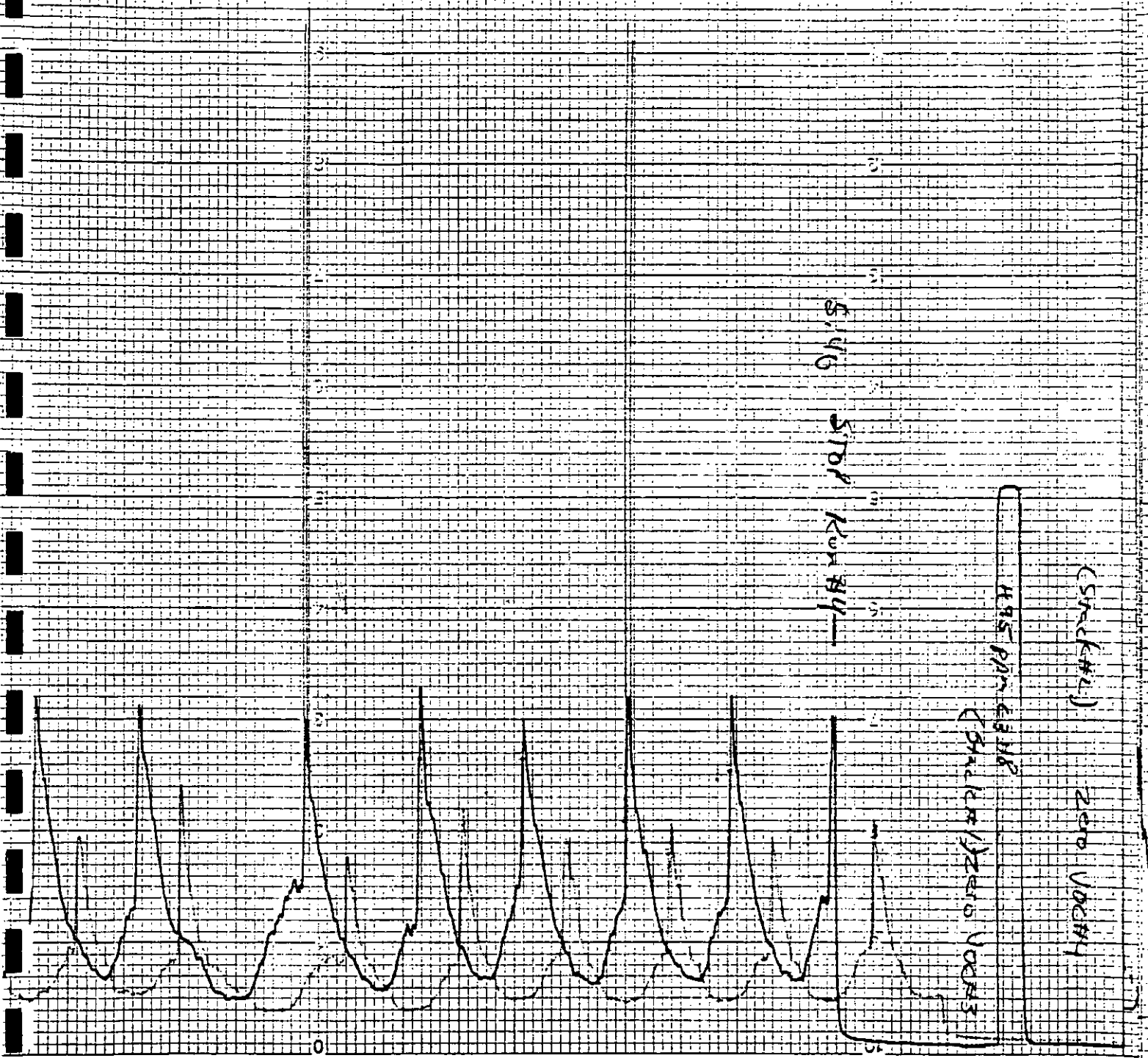
Red Pen #4

Black Pen #3

Press RTO Intlets Voc Pg 2

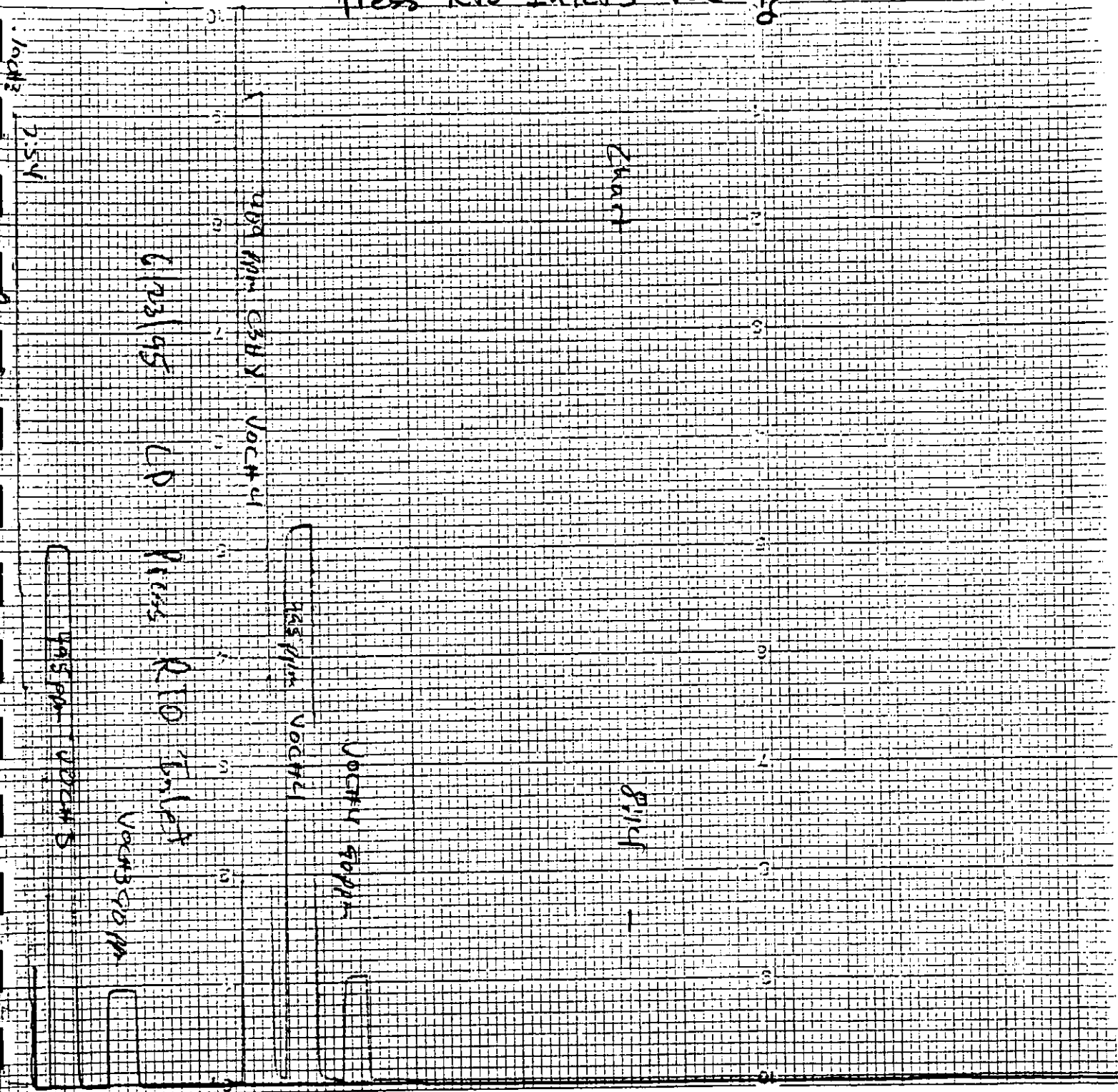


Press RTo Inlets Voc Pg 3



Press RTO Inlets to c p 4

RECEIVED



Press RTo Inlets VOC pg 5

Start Run #3 7:58
 In Sample 1
 VOC#3 (Red Pen)
 In Sample 2 9:58

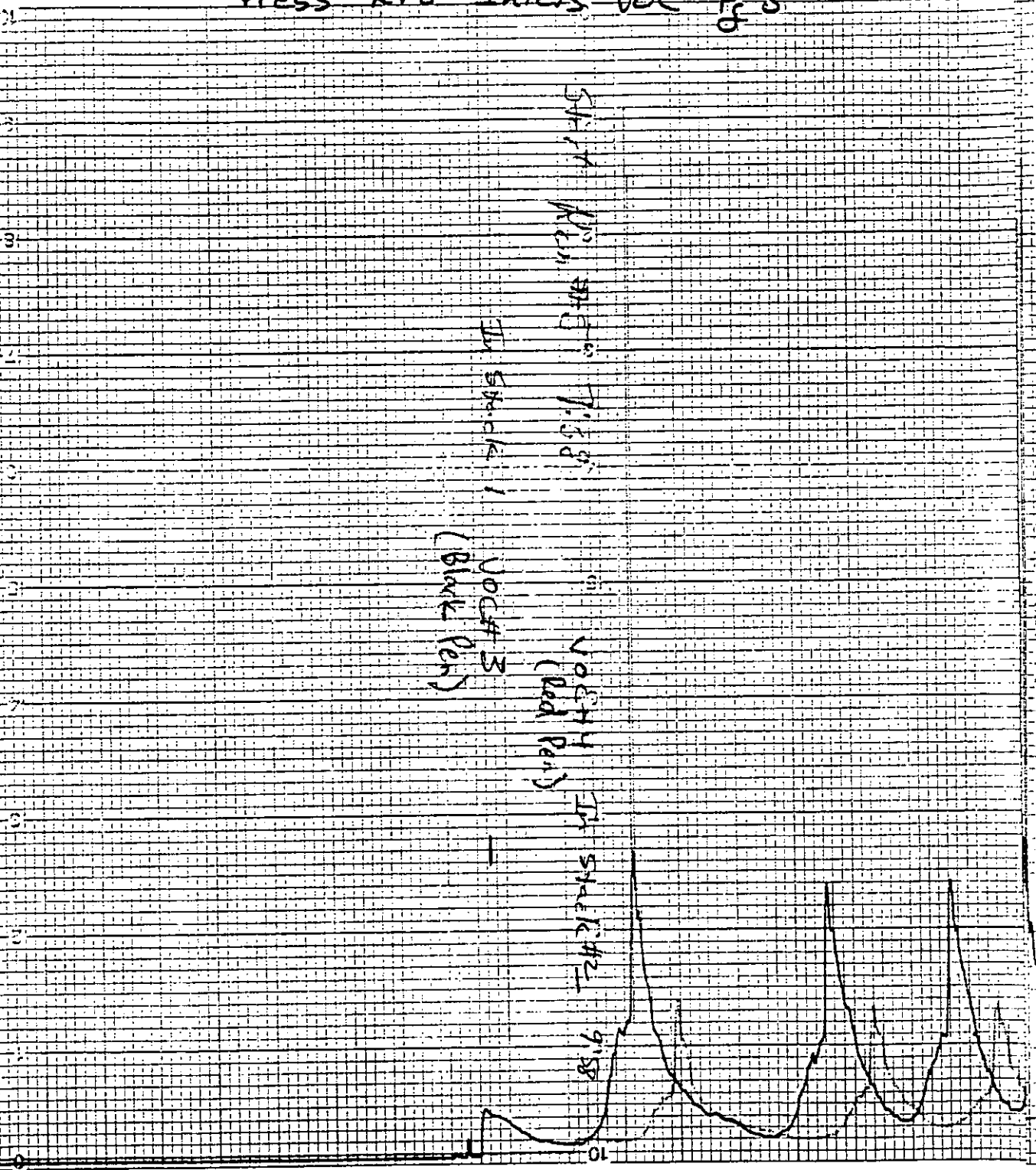
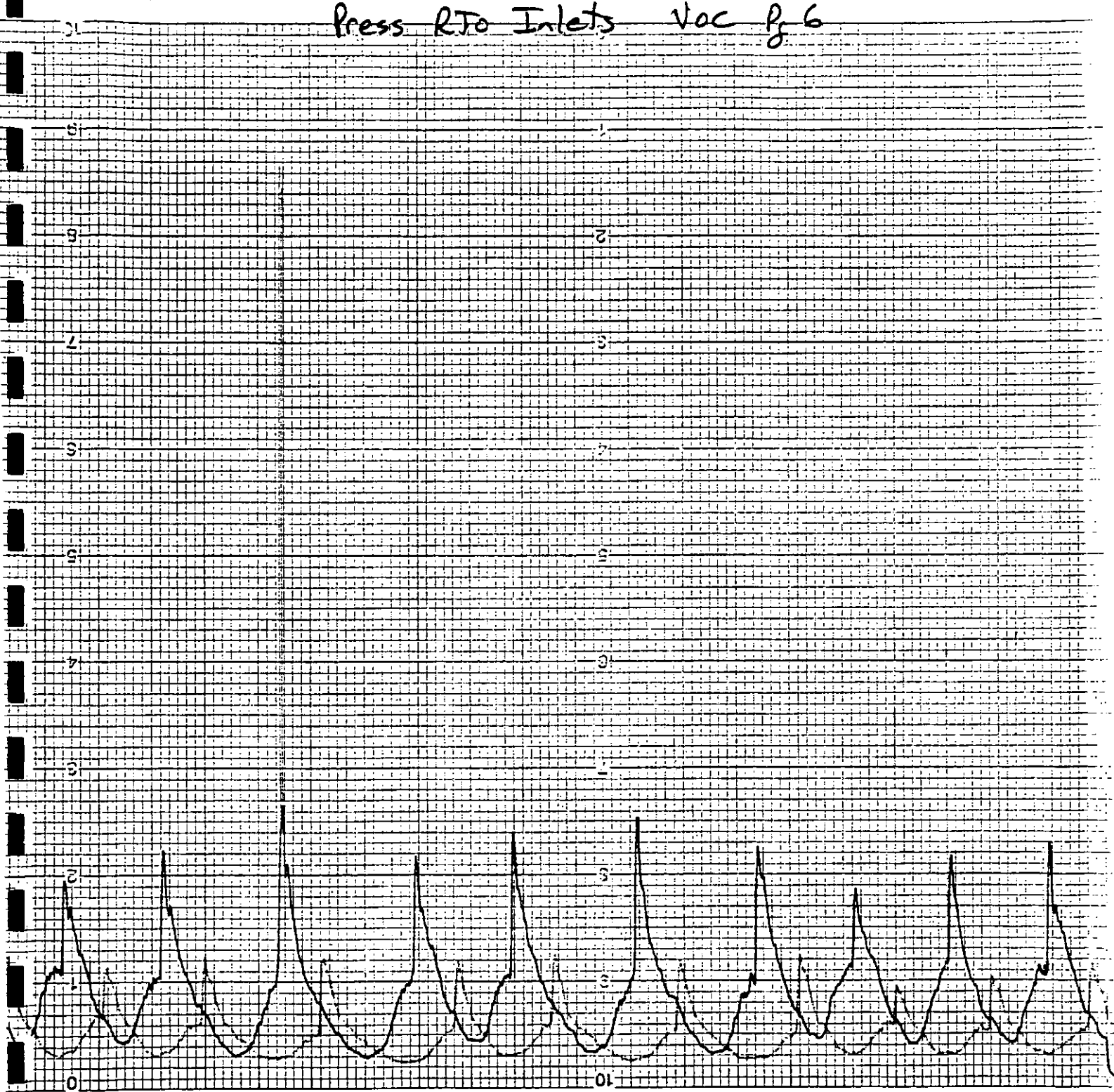
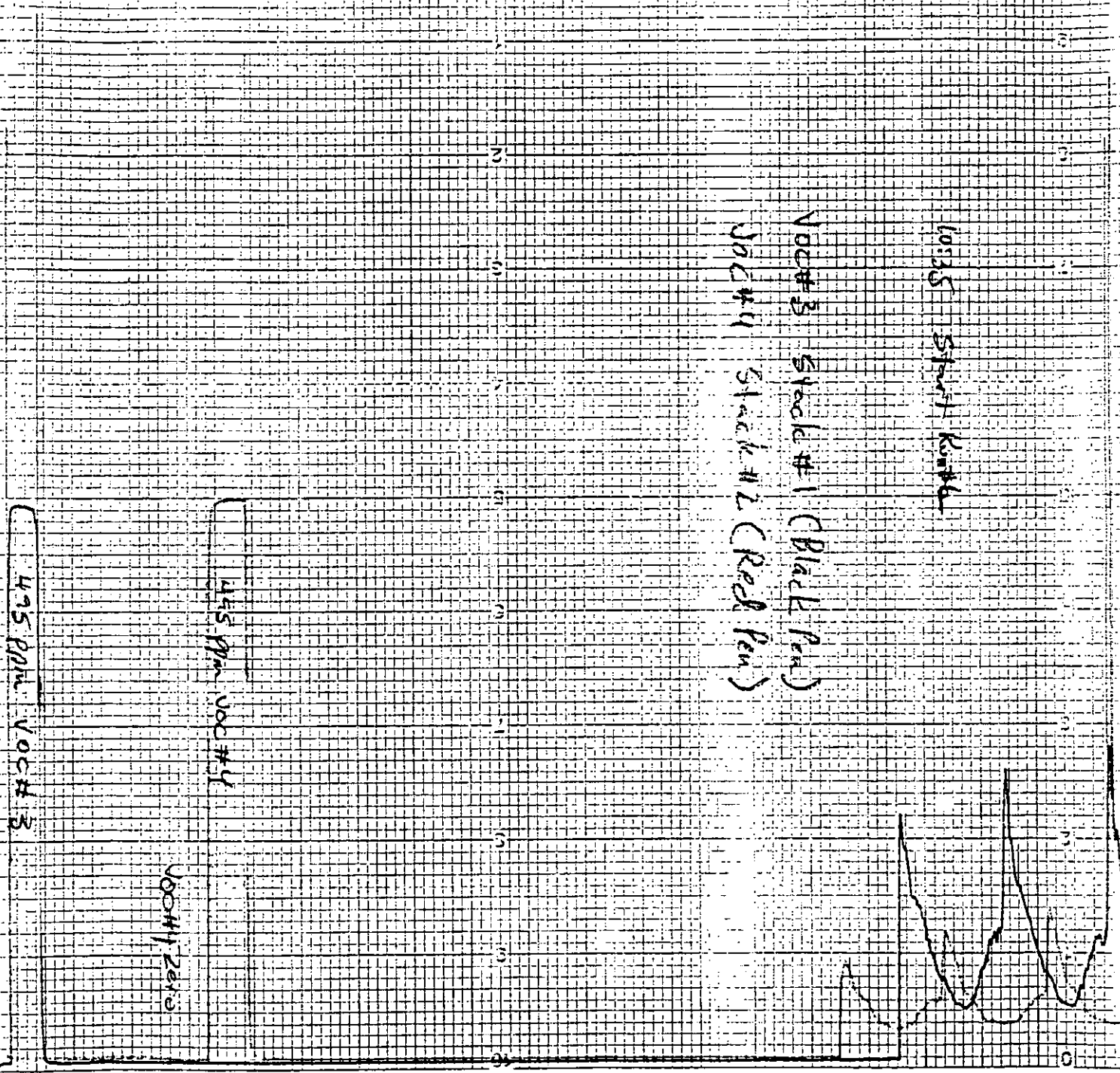


CHART NO. PC-3105

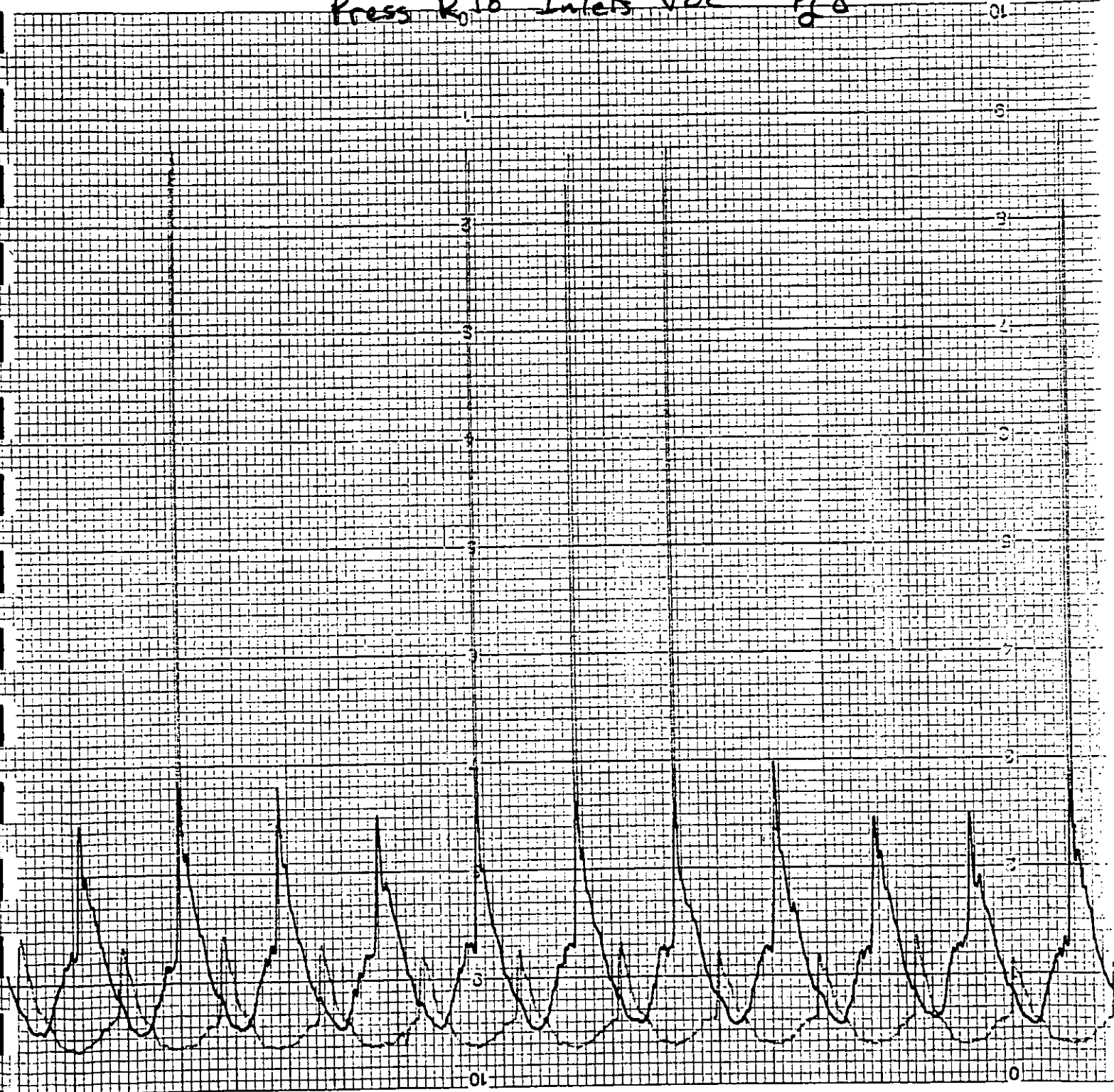
Press RTo Inlets Vac Pg 6



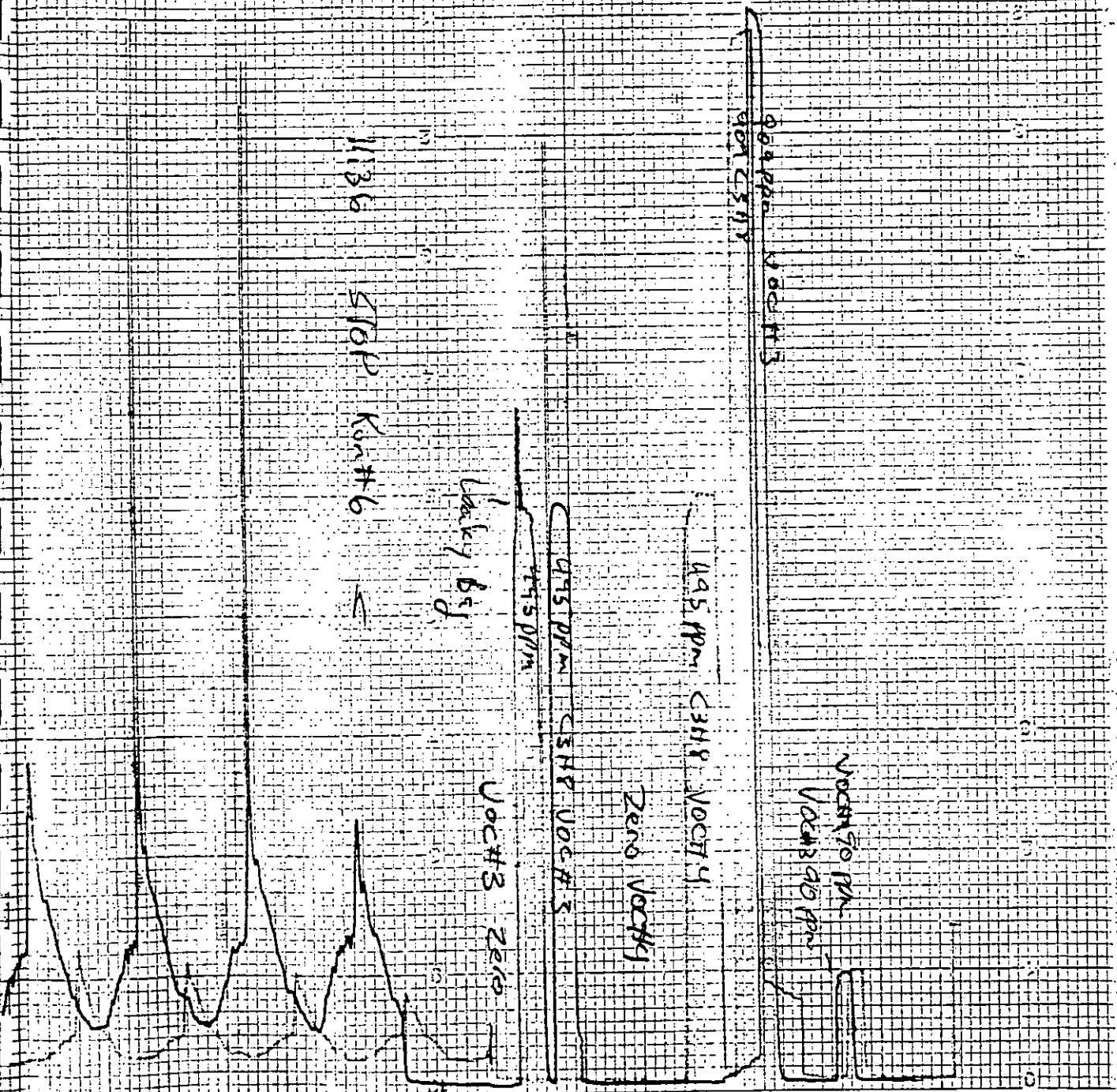
Press RTO Inlets pg 2



Press R₀TD Inlets vac Pg 8



Press RTO Inlets Vac 8-9



Press RTO Ex Voc Pg 1

VOC#2 Exhaust

Quart 30 cm/hr

70 ppm 2548

Subject →

495 ppm

369 ppm 2848

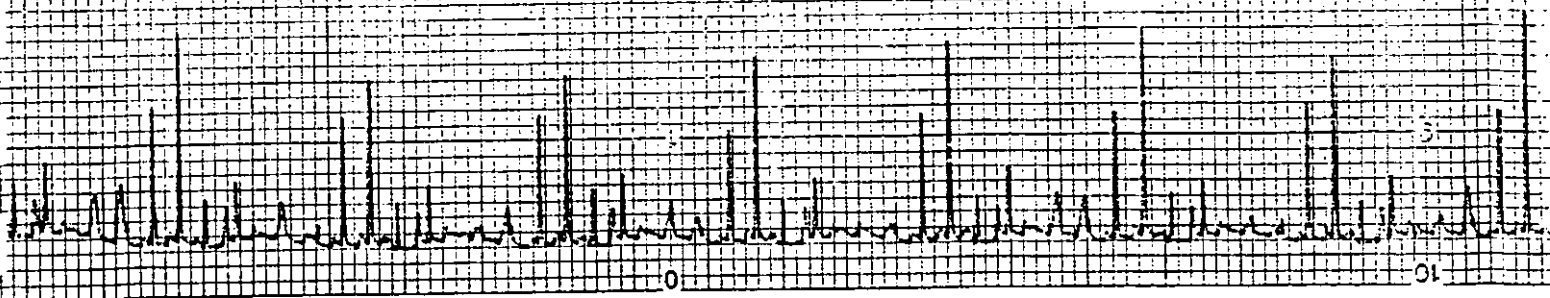
Quart

RTO Exhaust 6 in / 15
 18
 Att 2005

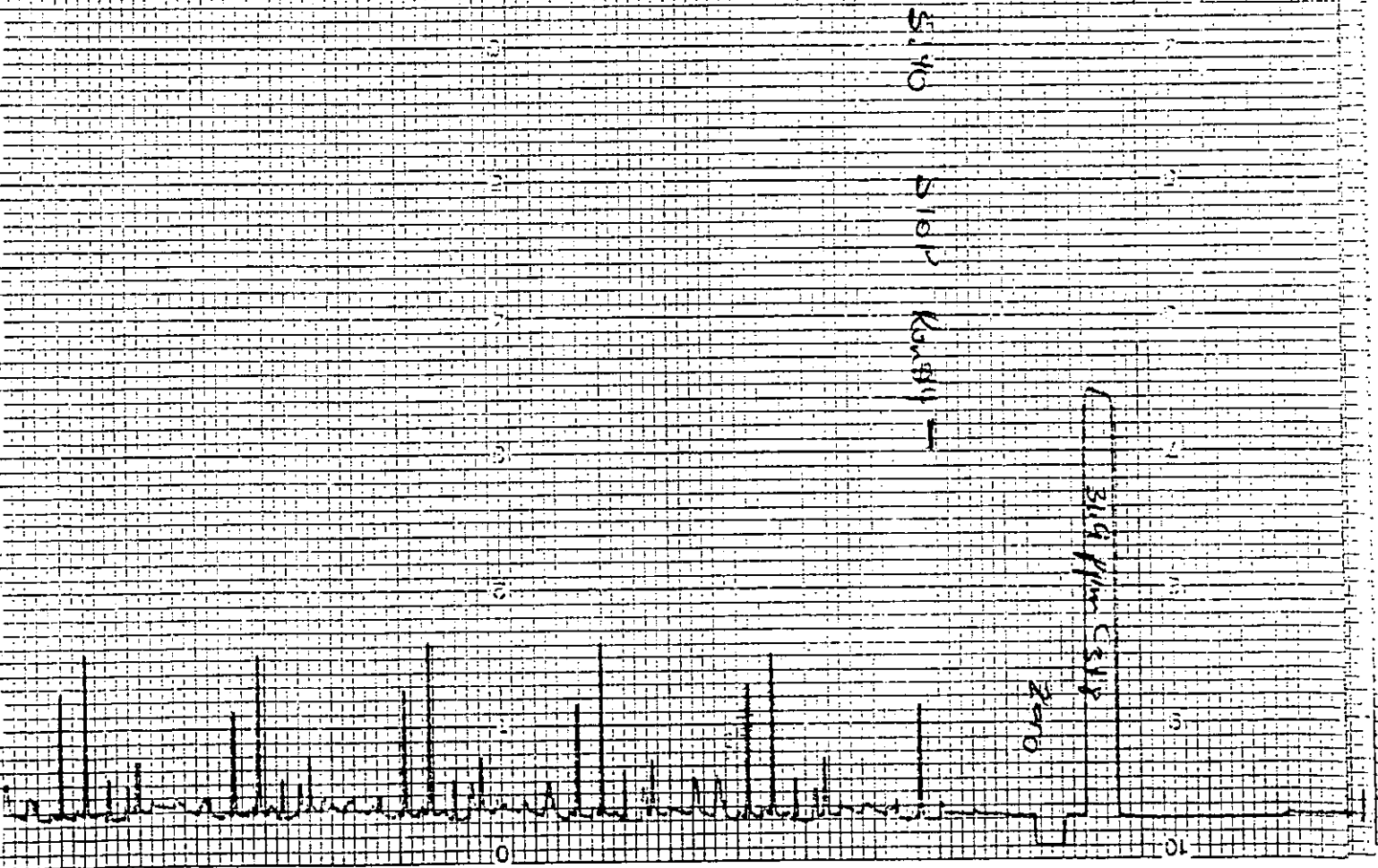
Press RTO: Ex Pg 2 vac

Start Run # 4 -

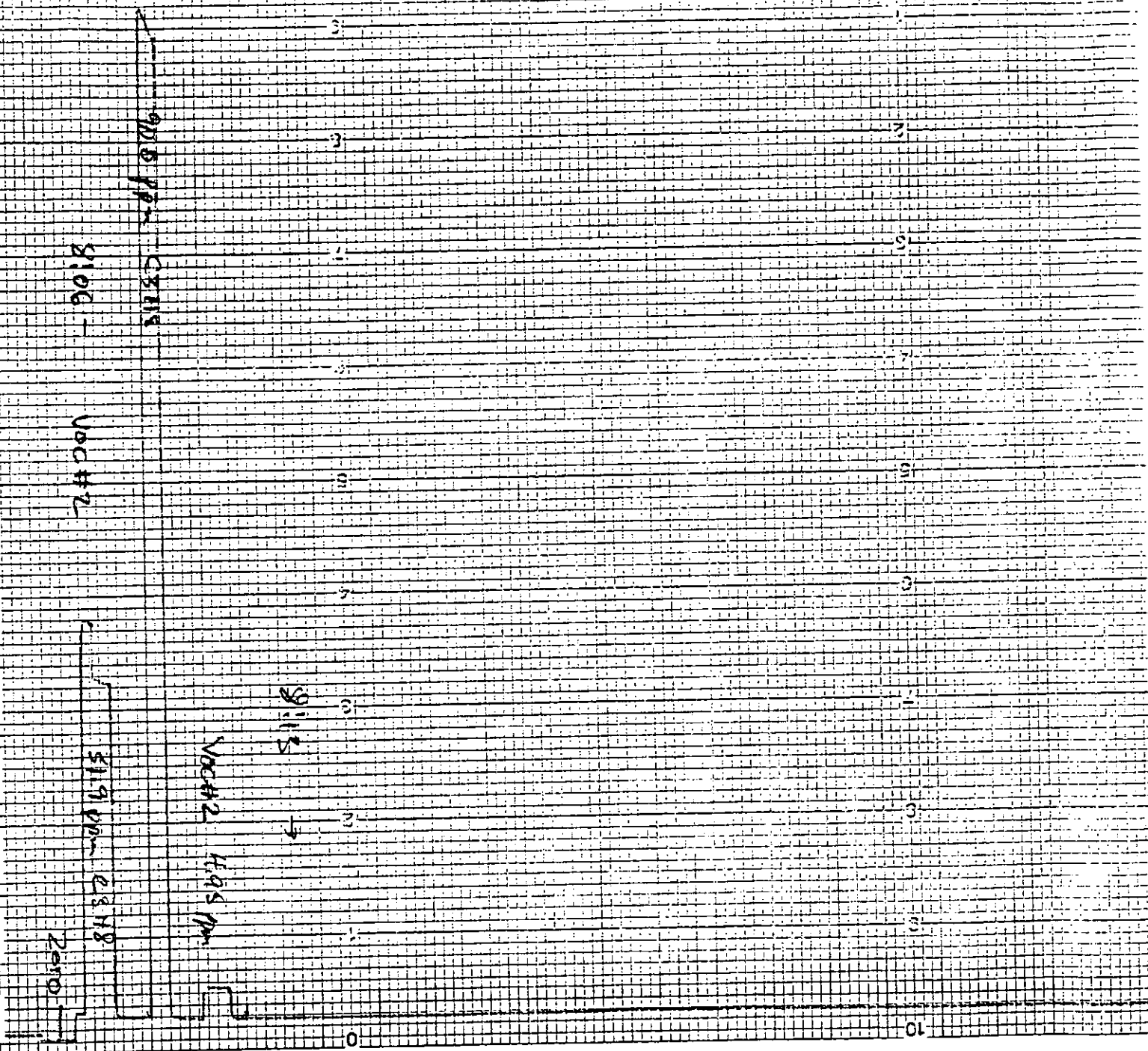
4:35



Press. RTO Ex VOC P3



Press RTO Ex VOC p 4

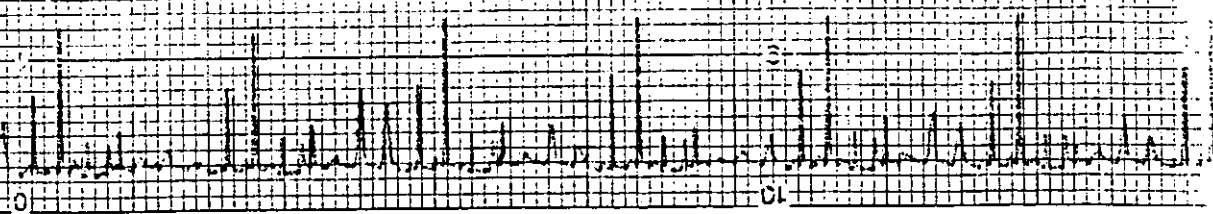


Press RTO Gr Voc: 25

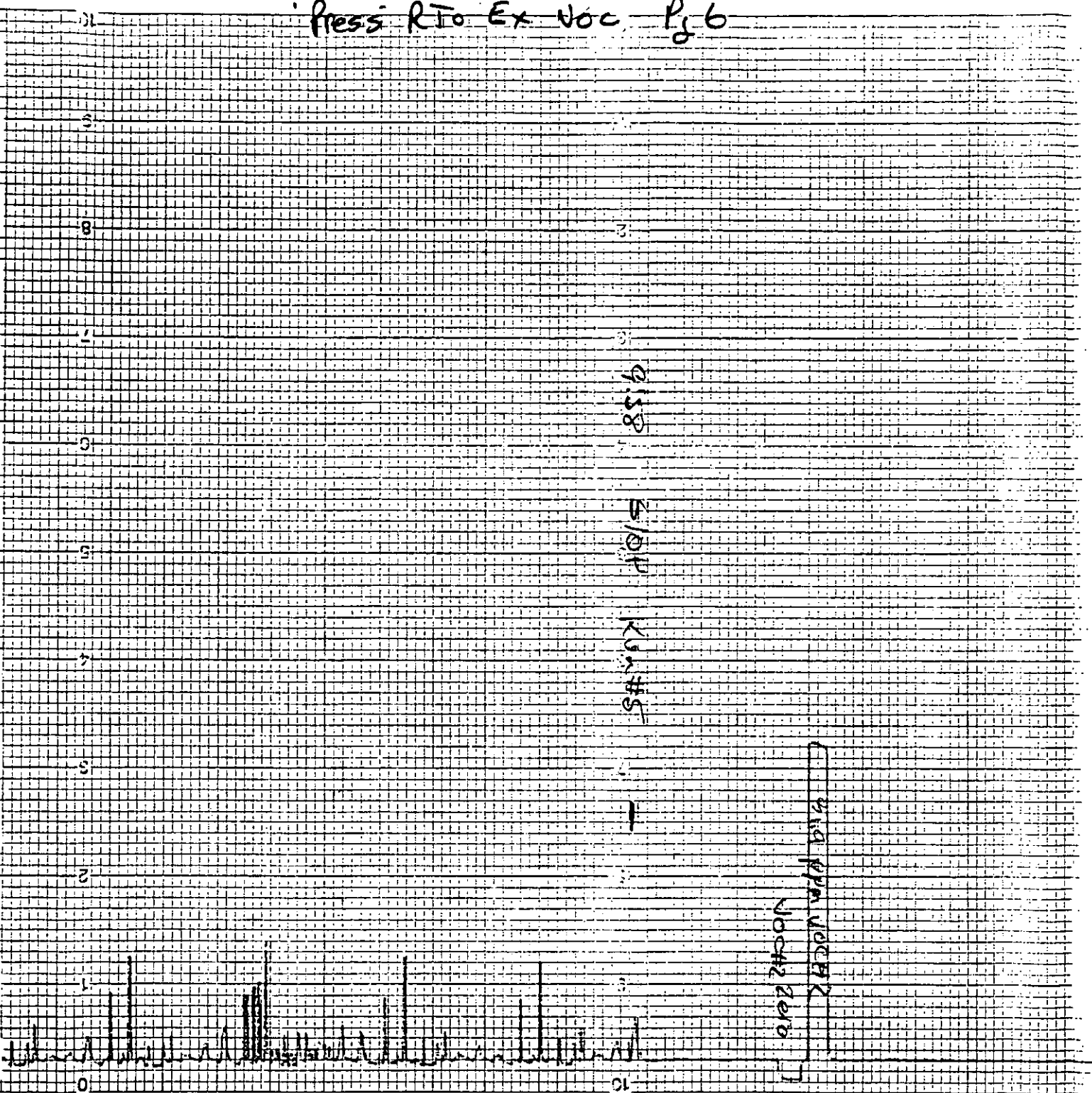
Start

1500

2500 In Stack



Press RTD Ex VOC Pg 6

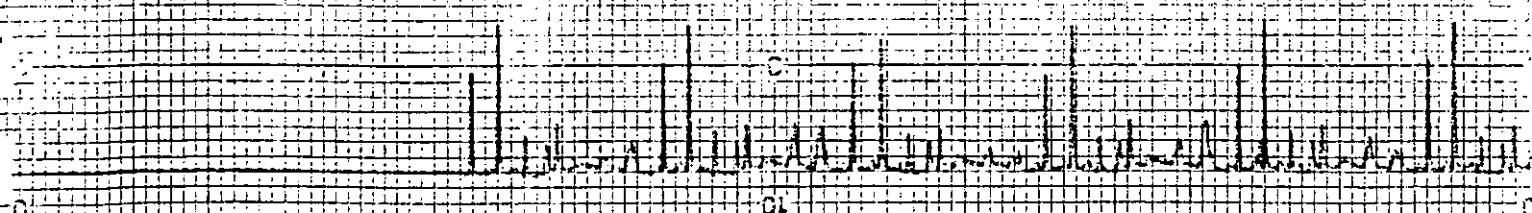


Press RTO Ex Voc P₂

10:35

Start Run

-



Press RTO₀ Ex Voc P_g 8

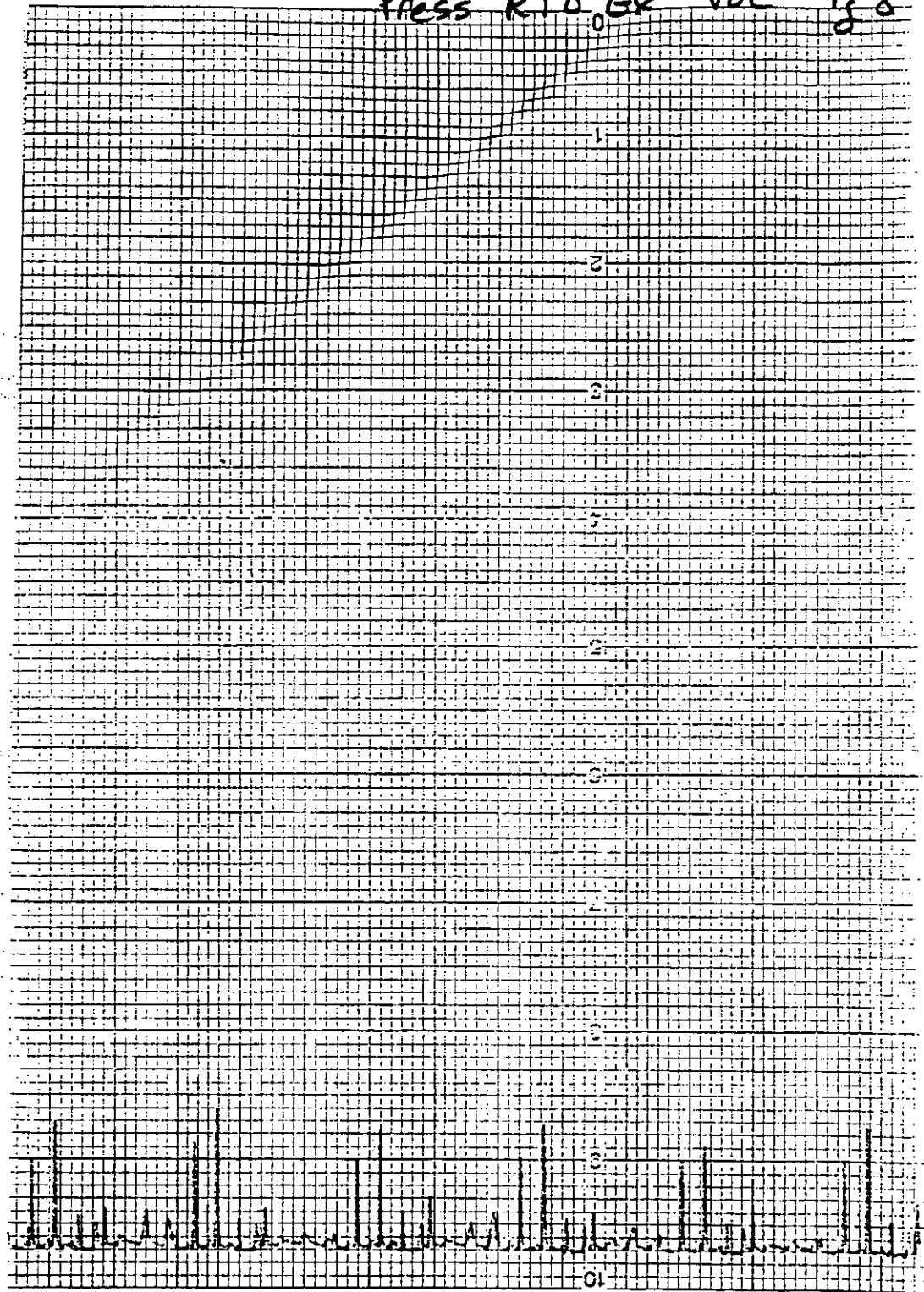


CHART NO. RC-3135

Press Rto Ex
Voc Pg 9

516P KMHG — 11.36

5000 Hz

NOCH 2 1.95

519 PPH 3.88

zero

APPENDIX E

Box 99

Initial

#1: 100mL
#2: 100mL
#3: _____
#4: 200g SG
#5:

Final

R_1	R_2	R_3
117	130	130
105	112	105
<u>2065</u>	<u>2078</u>	<u>2092</u>
28.5	47.8	44.9

COMMENTS:

$$\begin{array}{r} \text{O}_2 \\ 19.0\% \\ \hline 14.5\% \end{array} \quad \begin{array}{r} \text{CO}_2 \\ 2.5\% \\ \hline 1\% \end{array}$$

R2 14.5 19% / 0
R3 15.0 1.0%
POST-TEST LEAK CHECK

Meter: 010 Cu. ft. 1 in. HG
Pitots in. H2O

263

PARTICULATE FIELD DATA

PLANT: LP A+anns GA
 DATE: 6-20-95
 REPETITION: 1-2-1

LOCATION: RTO Inlet

OPERATOR: H

STACK #: Inlet #3

SAMPLE BOX #: 9

METER BOX #: 11

AMBIENT TEMPERATURE: 75.0

BAROMETRIC PRESSURE: 29.2

ASSUMED MOISTURE:

PROBE LENGTH: 6'

NOZZLE DIAMETER: 1/4"

STACK DIAMETER: 41.42"

METER H: 1.61741

C FACTOR: 84

METER CO-EFFICIENT: 1.032748

FILTER TARE: 1.44

PRE-TEST LEAK CHECK

Meter: 1009 Cu. ft. 14 in. HG
 Pitots: in. H2O

Box 9

IMPINGERS

Initial

Final

#1: 100.24 > 120
 #2: 100.24 > 120
 #3:
 #4: 200556
 #5:

R1	R2	R3
115	120	132
105	110	116
206.8	207.2	208.
26.8	37.2	51.1

COMMENTS:

02.07 102.9
 18.57 3.070
 18.0 1.0

POST-TEST LEAK CHECK

Meter: 1010 Cu. ft. 15 in. HG
 Pitots: in. H2O

	θ	STATIC PRES.	TS °F	ΔP	ΔP	ΔH	VM FT.3	TM INLET	TM OUTLET	OVEN TEMP.	IMP OUTLET TEMP.	VACUUM (IN Hg)
1	1132		179	11.5	12	1.3	102.965	77	77		55	1.0
2	139		180	11.7	1.9	1.8	4.6	81	78		55	1.0
3	142		178	11.7	1.7	1.65	7.9	84	78		55	1.0
4	147		179	11.2	1.6	1.7	10.1	85	79		55	1.0
5	1152		179	11.5	1.9	1.8	112.869					
6			179	11.5	1.8	1.75						
7	1117		179	11.5	1.5	1.6	124.900	82	82		55	1.0
8	122		177	11.5	1.9	2.0	27.8	88	82		55	1.0
9	127		178	11.5	1.5	1.4	30.4	84	82		55	1.0
10	132		176	11.7	1.7	1.6	37.3	91	83		55	1.0
11	137			11.8	1.8	1.7	136.165					
12				11.6	1.6	1.5						
13	1313		179	11.5	1.5	1.4	148.314	82	82		56	1.0
14	1318		177	11.5	1.4	1.5	50.5	90	87		56	1.0
15	1323	-2.6	178	11.8	2.0	2.1	53.2	92	87		56	1.0
16	1328		178	12.0	2.1	2.0	56.0	91	86		56	1.0
17	1333		178	12.0	2.3	2.4	158.880					
AV												

Box 11

Final

R_1	R_2	R_3
130	130	138
110	100	105
<u>207.5</u>	<u>206.8</u>	<u>206.7</u>
37.5	36.8	49.7

<u>CO₂</u>	<u>O₂</u>
2.5%	14.5%
1.5	14.5
3%	17%
POST-TEST LEAK C	

POST-TEST LEAK CHECK

Meter: 1616 Cu. ft. 10 in. HG
Pitots in. H2O

265

PARTICULATE FIELD DATA

PLANT: LP Plant 6A
DATE: 6-20-95
REPETITION: 1-23

LOCATION: RTD

OPERATOR: m

STACK #: Inlet #5

SAMPLE BOX #: 11

METER BOX #: 10

AMBIENT TEMPERATURE: 78°

BAROMETRIC PRESSURE: 27.2

ASSUMED MOISTURE:

PROBE LENGTH: 4'

NOZZLE DIAMETER: 1/4"

STACK DIAMETER: 41.5"

METER H: 1.609416

C FACTOR: 194

METER CO-EFFICIENT: 1.010772

Box 11

IMPINGERS

Initial

Final

#1: 100mL

#2: 100mL

#3: —

#4: 700956

#5: —

R₁ R₂ R₃

120 140 130

110 110 110

206.5 206.8 205.7

36.5 56.8 45.7

COMMENTS:

O₂ 18.0 10
CO₂ 3 10

1709.6 1%

POST-TEST LEAK CHECK

FILTER TARE:

PRE-TEST LEAK CHECK

Meter: 1005 Cu. ft. 11 in. HG

Pitots: L in. H20

Meter: 1005 Cu. ft. 5

Pitots in. HG in. H20

	θ	STATIC PRES.	Ts OF	ΔP	√ΔP	ΔH	VM FT.3	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP. OUTLET TEMP.	VACUUM (IN HG)
A 1	1132		179	1.5	1.5		274.221	74	74		60	1.0
2	137		179	1.7	1.8		77.1	76	75		60	1.0
3	142		179	1.25	1.7		80.0	78	75		60	1.0
4	147		179	1.2	1.6		82.8	79	76		60	1.0
5	1152			1.6	1.8		285.792					
6				2.1	2.1							
7	1117		177	1.8	1.7		298.355	75	78		60	1.0
8	122		178	1.4	2.2		301.5	81	79		60	1.0
B1	127		178	1.4	1.3		4.6	82	79		60	1.0
1	132		176	1.4	1.2		7.55	84	80		60	1.0
2	137			1.4	1.0		210.563					
4			178	1.6	1.4							
5	138		177	1.7	1.8	1.0	323.572	87	87		60	1.0
6	138		177	1.9	1.9		26.2	84	83		60	1.0
7	133		176	2.0	1.9		29.2	84	83		60	1.0
8	138	-2.2	177	1.8	2.4		32.4	84	82			
	3.33			-2.2	2.1		133.569					
Av												

PARTICULATE FIELD DATA

PLANT: *L. P. A-400*
 DATE: *6-21-95*
 REPETITION: *1, 2, 3*

LOCATION: *RTO inlet*
 OPERATOR: *DB*
 STACK #: *2*
 SAMPLE BOX #: *9*
 METER BOX #: *9*
 AMBIENT TEMPERATURE: *70.0*
 BAROMETRIC PRESSURE: *29.2*
 ASSUMED MOISTURE:
 PROBE LENGTH: *5'*
 NOZZLE DIAMETER: *-*
 STACK DIAMETER: *41.5"*
 METER H: *1.61741*
 C FACTOR: *1.91*
 METER CO-EFFICIENT: *1.032748*

FILTER TARE: *N/A*
 PRE-TEST LEAK CHECK

Meter: *0.010* Cu. ft. *15* in. HG
 Pitots: *0.010* *15* in. H2O
0.040 *15*

IMPINGERS

	Initial		Final		
			R1	R2	R3
#1: <i>100m/15</i>	<i>7</i>	<i>H₂O</i>			
#2: <i>100m/15</i>			<i>130</i>	<i>133</i>	<i>146</i>
#3: <i>-</i>			<i>103</i>	<i>103</i>	<i>107</i>
#4: <i>300m/5.6</i>			<i>206.2</i>	<i>207.1</i>	<i>208.0</i>
#5: <i>-</i>			<i>39.2</i>	<i>40.1</i>	<i>51.0</i>

COMMENTS:

	<i>102</i>	<i>02</i>
R1	<i>1.5%</i>	<i>19.5%</i>
R2	<i>1.5%</i>	<i>19%</i>
R3	<i>1.5</i>	<i>19.0</i>

POST-TEST LEAK CHECK

Meter: *0.010* Cu. ft. *5* in. HG
 Pitots *0.010* *5* in. H2O
0.010 *5*

	θ	STATIC PRES.	TS °F	ΔP	$\sqrt{\Delta P}$	ΔH	VM FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP. OUTLET TEMP.	VACUUM (IN H ₂ O)
R1	A1	9.05	173	2.1	2.1	2.1	1.0	159.068	71	71	67	1
	2	9.10	172	2.3	2.2	2.3	1.0	162.410	75	73	67	1
	3	9.15	171	1.7	1.7	1.7	1.0	165.436	78	75	67	1
	4	9.20	171	1.7	1.7	1.7	1.0	168.468	79	76	67	1
	5	-2.5		1.7	1.7	1.7	x	171.384				
	6			1.6	1.6	1.6						
R2	7	10.55	170	2.0	1.9	2.0	1.0	183.175	73	73	67	1
	8	11.00	173	2.0	2.0	2.1	1.0	185.890	76	73	67	1
	9	11.05	173	2.2	2.3	2.2	1.0	188.564	79	73	67	1
	10	11.10	173	2.3	2.4	2.3	1.0	191.298	80	74	67	1
	11	11.15		2.0	2.1	2.1	x	194.090				
	12	-2.4		2.1	2.1	2.1						
R3	13	11.55	171	1.6	1.6	1.6	1.0	205.961	85	85	68	1
	14	12.00	173	1.7	1.7	1.7	1.0	208.822	88	85	68	1
	15	12.05	173	2.0	2.0	1.9	1.0	211.541	90	85	68	1
	16	12.10	172	1.7	1.6	1.7	1.0	214.295	92	86	68	1
	17	12.15					x	217.036				
	18	-2.5										
	19											
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PARTICULATE FIELD DATA

PLANT: LP *Aluminum*
 DATE: 6/21/95
 REPETITION: 4

LOCATION: *Rto Inlet*
 OPERATOR: DB
 STACK #: 2
 SAMPLE BOX #:
 METER BOX #: 7
 AMBIENT TEMPERATURE: 92
 BAROMETRIC PRESSURE: 29.2
 ASSUMED MOISTURE:
 PROBE LENGTH: 51
 NOZZLE DIAMETER:
 STACK DIAMETER: 01.511
 METER H: 1.485
 C FACTOR: .84
 METER CO-EFFICIENT: .98105

IMPINGERS

	<u>Initial</u>	<u>Final</u>
#1: 100		141
#2: 100		106
#3: 0		
#4: 200		205.7
#5:		52.7

COMMENTS:

<i>CO₂</i>	<i>O₂</i>
<i>1.5</i>	<i>18.5</i>

FILTER TARE:

PRE-TEST LEAK CHECK

Meter: 0.00 Cu. ft. 15 in. HG
 Pitots: ☒ 1.0 in. H2O
 ☒ 1.2

POST-TEST LEAK CHECK

Meter: 0.01 Cu. ft. 5 in. HG
 Pitots: in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	$\sqrt{\Delta P}$	ΔH	Vm FT./S	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN HG)
A1	3:22	-2.5	174	2.1		1.0	391.221	85	85		69	1
2			175	2.2		1.0	94.0	88	85		70	1
3			170	1.8		1.0	97.3	92	86		70	1
4	2:42		173	1.7		1.0	100.8	95	87	W	70	1
5				1.7			403.43T					
6				1.7								
7				2.0								
8				2.1								
9				2.1								
10				2.4			12.214					
11				2.0								
12				2.0								
13				2.0								
14				1.7								
15				1.8								
16				1.7								
17				1.7								
18				1.7								
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AV												

PARTICULATE FIELD DATA

PLANT: LP Aches
DATE: 6-21-95
REPETITION: 1, 2, 3

LOCATION: RTO inlet
OPERATOR: DB
STACK #: 3
SAMPLE BOX #:
METER BOX #: 9
AMBIENT TEMPERATURE: 70
BAROMETRIC PRESSURE: 29.2
ASSUMED MOISTURE:
PROBE LENGTH: —
NOZZLE DIAMETER: —
STACK DIAMETER: 41.5"
METER H: 1.6174/
C FACTOR: .84
METER CO-EFFICIENT: 1.032748

FILTER TARE: N/A
PRE-TEST LEAK CHECK

Meter: 0.012 Cu. ft. 15 in. HG
Pitots: in. H2O

IMPINGERS

	Initial	Final	
#1: 100m/s	136	144	141
#2: 100m/s	111	108	109
#3: —	205.8	207.1	206.
#4: 20051. S.B.	52.8	57.1	55.5
#5: —			

COMMENTS:

	102	102
R1	1.5%	19%
R2	1.5%	19%
R3	1.8%	19%

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. 5 in. HG
Pitots: in. H2O

	STATIC PRES.	TS °F	ΔP R1 R2 R3 R4	ΔH	VM FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
R1	9:40	170	1.8 1.9 1.9 1.9	1.0	177.760	75	75		67	1
	9:45	170	1.9 1.9 1.9 1.9	1.0	174.404	78	74		67	1
	9:50	169	1.7 1.7 1.8 1.7	1.0	177.132	81	74		67	1
	9:55	-1.9	1.6 1.7 1.6 1.7	1.0	179.380	81	75	✓	67	1
	10:00		1.1 1.5 1.4 1.6		x182.894					
			1.8 1.9 1.7 1.8							
R2	11:20	171	1.6 1.6 1.6 1.7	1.0	194.539	75	75		68	1
	11:25	172	1.9 2.0 2.0 1.9	1.0	197.340	80	75		68	1
R1	11:30	172	1.2 1.3 1.3 1.4	1.0	200.122	82	75		68	1
	11:35	171	1.9 2.0 1.9 1.9	1.0	202.925	84	76	✓	68	1
	11:40		1.9 1.9 1.9 1.9		x205.604					
	-2.0		1.9 1.9 2.0 1.9							
R3	12:30	172	1.6 1.7 1.7 1.7	1.0	217.275	86	86		68	1
	12:35	174	1.3 1.3 1.3 1.4	1.0	220.198	90	86		68	1
	12:40	174	1.3 1.4 1.3 1.4	1.0	223.022	94	87		68	1
	12:45	173	1.5 1.4 1.6 1.5	1.0	225.862	96	88	✓	68	1
	12:50	-1.9			x228.771					
R4	1:23	172		1.0	228.928	91	91		68	1
		173		1.0	231.688	94	91		68	1
		174		1.0	234.525	97	91		68	1
		172		1.0	237.318	98	91	✓	68	1
	-2.0				x240.122					
Av										

PARTICULATE FIELD DATA

PLANT: LD ATHENS
DATE: 6-21-95
REPETITION: 1, 2 + 3

LOCATION: RTO
OPERATOR: MT DB JDCS
STACK #: 4
SAMPLE BOX #: Moisture
METER BOX #: 11
AMBIENT TEMPERATURE: 69°
BAROMETRIC PRESSURE: 29.2
ASSUMED MOISTURE:
PROBE LENGTH: 5'
NOZZLE DIAMETER: -
STACK DIAMETER: 41.5
METER H: 1.609416
C FACTOR: .84
METER CO-EFFICIENT: 1.010772

FILTER TARE:—
PRE-TEST LEAK CHECK

Meter: 0.000 Cu. Ft. 15 in. HG
Pitots: ✓ in. H2O

IMPINGERS

Initial

Final

#1: 100 wls
#2: 100 wls $> 1+20$
#3: Kick Out
#4: 200g SL
#5: —

R ₁	R ₂	R ₃
140	127	131
102	109	108
<u>207.1</u>	<u>209.1</u>	<u>208.4</u>
49.1	47.1	47.4

COMMENTS:

R_1	$\frac{C_{O_2}}{3\%}$	$\frac{O_2}{18.5\%}$
R_2	3%	18%
R_3	2%	18.5%

POST-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 15 in. HG
Pitots ✓ in. H2O

[illegible]

PARTICULATE FIELD DATA

PLANT: LP (Athena, GA)
DATE: 6-21-95
REPETITION: 1, 2 + 3

LOCATION: RTO IN/ET

OPERATOR: MT

STACK #:5

SAMPLE BOX #: Moisture

METER BOX #: 11

AMBIENT TEMPERATURE: 70°

BAROMETRIC PRESSURE: 29.2

ASSUMED MOISTURE:

PROBE LENGTH: 5

NOZZLE DIAMETER:—

STACK DIAMETER: 41.5"

METER H : 1.609416

C FACTOR: .84

METER CO-EFFICIENT: 1.010772

FILTER TARE:—

PRE-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 15 in. HG

Pitots: 1 in. H2O

IMPINGERS

Initial

Final

$$\overline{R_1} \quad \overline{R_2} \quad \overline{R_3}$$

135	110	137
-----	-----	-----

189	117	115
-----	-----	-----

10/1	11/1	12/1
------	------	------

206.8	207.1	208.
-------	-------	------

100	100	100
-----	-----	-----

50.8	59.1	60.2
------	------	------

COMMENTS:

O₂ CO₂
18% 2%

R₂ 18.5% 2%

R 19% 1.5%

POST-TEST LEAK CHECK

Meter: 0.000 Cu. ft.

Pitots in. H2O

[illegible]

APPENDIX F

PARTICULATE FIELD DATA

PLANT: LP ATHENS GA
DATE: 6-22-95
REPETITION: 1

LOCATION: RTO Inlet

OPERATOR: MT CS

STACK #: 1

SAMPLE BOX #: Moisture

METER BOX #: 9

AMBIENT TEMPERATURE: 70

BAROMETRIC PRESSURE: 29.2

ASSUMED MOISTURE:

PROBE LENGTH: N/A

NOZZLE DIAMETER: N/A

STACK DIAMETER: 55.5"

METER H: 1.61741

C FACTOR: .84

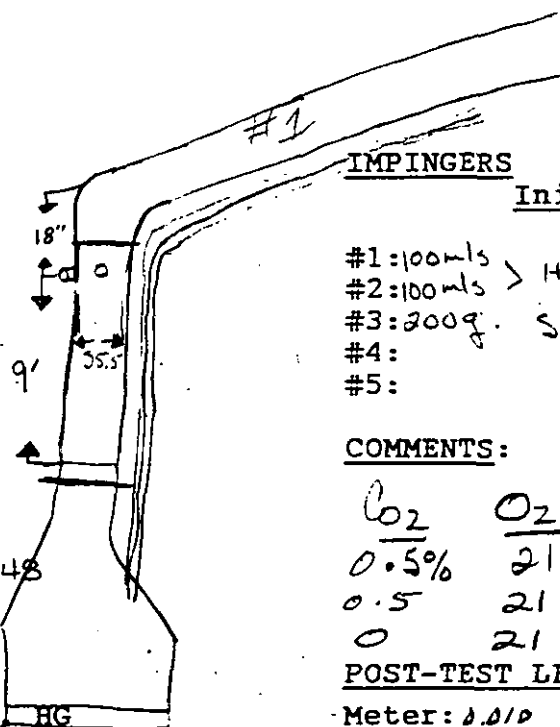
METER CO-EFFICIENT: 1.032748

FILTER TARE: N/A

PRE-TEST LEAK CHECK

Meter: 1009 Cu. ft. 13 in. HG

Pitots: ✓ in. H2O



IMPINGERS

Initial

#1: 100mls
#2: 100mls > H₂O
#3: 200g. SG
#4:
#5:

Final

R ₁	R ₂	R ₃
106	103	109
100	102	102
203	209	204
9	9	10

COMMENTS:

CO₂ O₂
0.5% 21%
0.5 21
0 21

POST-TEST LEAK CHECK

Meter: 1010 Cu. ft. 5

Pitots: in. HG

in. H2O

	θ	STATIC PRES.	Ts °F	ΔP R ₁ R ₂	√ΔP R ₃	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
1	10.25		106	1.3 1.1	1.1	.61	1240.300	75	75	—	60	12
2	10.30		105	1.4 1.1	1.0	.60	142.6	76	75	—	60	12
3	10.35		100	1.1 1.1	1.1	.60	144.7	77	75	—	60	12
4	10.40		101	1.2 1.4	1.4	.60	146.6	78	75	—	61	13
5	10.45		101	1.5 1.5	1.5	.60	148.7	80	76	—	61	13
6	10.50	-3.6		1.6 1.7	1.7	.60	150.9	80	76	—	61	13
7	10.55			1.6 1.6	1.6		253.541			—	61	1
8				1.2 1.3	1.3							
1	12.15		110	1.0 1.1	1.1	1.0	265.229	84	84	—	61	5
2	12.20		108	1.0 1.4	1.4	1.0	168.2	86	84	—	61	5
3	12.25		111	1.4 1.5	1.5	1.0	71.6	89	84	—	61	5
4	12.30	-3.6	112	1.2 1.3	1.3	1.0	73.7	90	84	—	61	5
5	12.35		112	1.5 1.6	1.6		276.661					
6				1.4 1.7	1.7							
7	2:03			1.6 1.5	1.5	1.0	288.524	89	89	—	68	5
8	2:08	-3.5	109	1.83 1.1	1.0	1.0	291.489	90	89	—	68	5
	2:13		110			1.0	294.386	92	88	—	68	5
	2:18		110			1.0	297.268	93	88	—	69	5
	2:23		109				300.105			—		
AV												

PLANT: LP Athens 6A
 DATE: 6-22-95
 REPETITION: 1

LOCATION: RTO Inlet

OPERATOR: MTCJ

STACK #: 2

SAMPLE BOX #: Moisture

METER BOX #: 9

AMBIENT TEMPERATURE: 75

BAROMETRIC PRESSURE: 29.3

ASSUMED MOISTURE: 1%

PROBE LENGTH: -

NOZZLE DIAMETER: -

STACK DIAMETER: 55.5"

METER H: 1.61741

C FACTOR: .94

METER CO-EFFICIENT: 1.032748

FILTER TARE: -

PRE-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 15 in. HG
 Pitots: ✓ in. H2O

IMPINGERS

Initial

Final

#1: bowls > H₂O
 #2: 100 mls
 #3: 200g 5.6
 #4:
 #5:

R ₁	R ₂	R ₃
104	104	104
100	100	100
203	202	203
7	6	7

COMMENTS:

	CO ₂	O ₂
R1	0	21
R2	0	21
R3	0	21

POST-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 5 in. HG
 Pitots in. H2O

	θ	STATIC PRES.	Ts °F	ΔP P ₁ P ₂	√ΔP R ₃ R ₄	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP OUTLET TEMP.	VACUUM (IN HG)
1	11:11		101	1.5 1.5	1.6 1.4	1.0	353.644	79	79	-	60	6
2	11:16		100	1.5 1.4	1.5 1.5	1.0	56.3	82	79	-	60	6
3	11:21		98	1.4 1.4	1.3 1.2	1.0	59.1	85	79	-	60	6
4	11:26		97	1.0 1.0	1.1 1.1	1.0	62.0	86	79	-	60	6
5	11:31		100	1.2 1.2	1.3 1.2		265.113					
6		-3.6		1.5 1.3	1.4 1.5							
7	12:59		102	1.5 1.1	1.2 1.4	1.0	277.733	85	85	-	67	5
8	1:04		103	1.2 1.1	1.0 1.1	1.0	279.625	87	85	-	67	5
1	1:09		102	.50 .48	.52 .54	1.0	282.472	90	85	-	67	5
2	1:14		102	.55 .58	.60 .56	1.0	285.289	92	86	-	67	5
3	1:19		105	.65 .74	.71 .70		288.352					
4		-3.6		.69 .72	.70 .72							
5	2:35		107	1.8 1.6	1.7 1.8	1.0	301.700	90	90	-	68	5
6	2:40		108	1.3 1.5	1.4 1.3	1.0	304.537	93	89	-	68	5
7	2:45		108	1.6 1.4	1.5 1.6	1.0	307.468	94	89	-	68	5
8	2:50		109	1.0 1.1	1.0 1.0	1.0	310.334	94	89	-	68	5
	2:55		109				313.235					
							313.344	86	86	-	68	5
										-	68	5
										-	68	5
										-	68	5
AV												

PARTICULATE FIELD DATA

PLANT: L² Allen's
DATE: 6-22-95
REPETITION: 1

ΔP 1.25
 T_s 68.5
 ms 22.756 78.29
 PS 29.43
 $msps$ 816.8 832.8
 Vel 73.53 ft/sec.

vmstd -

LOCATION: Athens, GA.
 OPERATOR: SD DB
 STACK #: RTO ex.
 SAMPLE BOX #: 1
 METER BOX #:
 AMBIENT TEMPERATURE: 80
 BAROMETRIC PRESSURE: 29.38
 ASSUMED MOISTURE: 10%
 PROBE LENGTH: 9'
 NOZZLE DIAMETER: 3/16" 35'
 STACK DIAMETER: 91.5" - 6" nipple = 85"
 METER H: 1.609416
 C FACTOR: .84
 METER CO-EFFICIENT: 1.010772

FILTER TARE: .4881
 PRE-TEST LEAK CHECK

Meter: .010 Cu. ft. 15 in. HG
 Pitots: ☒ in. H2O

IMPINGERS

	Initial	Final
#1: 100 ml		110
#2: 100 ml	> H ₂ O	100
#3:		15
#4: 200 g SG		207
#5:		27

COMMENTS:

$\frac{CO_2}{0}$ $\frac{O_2}{21}$

POST-TEST LEAK CHECK

Meter: .005 Cu. ft. 10 in. HG
 Pitots: ☒ in. H2O

	θ	STATIC PRES.	Ts OF	ΔP	PRE VAP traverse	ΔH	VM FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A1	10:23	17.65	225	.55	.45	-.44	1407.3631	69	69	250	59	1
2			226	.56	.55	-.45	1408.4	71	71	255	59	1
3	29		226	.60	.63	-.48	1409.3	73	71	251	59	1
4			227	.70	.74	-.57	1410.4	73	71	253	59	1
5	33		227	.70	1.0	-.57	1411.5	74	71	256	60	1
6			227	.81	1.2	-.65	1412.6	75	72	257	60	1
7	38		227	1.1	1.5	-.89	1413.8	76	72	256	60	1
8			227	1.3	1.5	1.0	1415.3	75	73	254	60	1
9	43		227	1.3	1.6	1.1	1416.8	76	73	251	60	1
10			226	1.3	1.1	1.1	1418.3	77	73	250	60	1
11	48		227	1.2	.92	-.97	1419.8	76	73	250	60	1
12			226	1.0	.89	-.81	1421.3	75	73	251	60	1
B1	53/11:03		225	1.5	1.5	1.2	1422.6	75	73	250	60	1
2			226	1.9	2.0	1.5	1424.3	75	72	251	61	1
3	09		226	1.9	2.0	1.5	1426.1	76	73	251	61	1
4			226	1.8	1.9	1.5	1427.9	76	73	251	61	1
5	13		226	1.8	1.9	1.5	1429.8	76	73	251	61	1
6			227	1.6	1.7	1.3	1431.6	75	73	250	61	1
7	18		226	1.0	1.0	.81	1433.3	76	74	250	62	1
8			226	.95	.93	-.77	1434.6	76	75	251	62	1
9	23		226	.83	.80	-.67	1435.9	76	75	251	62	1
10			226	.72	.71	-.58	1437.2	76	75	252	62	1
11	28		226	.56	.58	-.45	1438.3	76	75	253	62	1
12			226	.50	.53	-.40	1439.3	76	75	250	62	1
	11:33						1440.271					
AV						.88	132.9081					

PARTICULATE FIELD DATA

PLANT: LP-Athens
DATE: 6-22-95
REPETITION: 2

LOCATION: Athens, GA.
OPERATOR: JD CS
STACK #: RTO EX.
SAMPLE BOX #: 2
METER BOX #: 7
AMBIENT TEMPERATURE: 80
BAROMETRIC PRESSURE: 996
ASSUMED MOISTURE: 10
PROBE LENGTH: 9'
NOZZLE DIAMETER: 3/16 .186, .187, .188
STACK DIAMETER: 85"
METER H: 1.485982
C FACTOR: .84
METER CO-EFFICIENT: .9810502

IMPINGERS

	Initial	Final
#1: 100 ml H ₂ O		114
#2: 100 ml H ₂ O		105
#3: 200g SG		206.8
#4:		25.8
#5:		

COMMENTS:

CO₂ O₂
 .5 21

FILTER TARE: .4936

PRE-TEST LEAK CHECK

Meter: .006 Cu. ft. in. HG
Pitots: ✓ in. H2O

POST-TEST LEAK CHECK

Meter: .005 Cu. ft. in. HG
Pitots: ✓ in. H2O

	Ø	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A1	12.54	1066	226	.56		.46	406.268	77	77	250	60	1
2			226	.58		.47	407.3	79	77	251	60	1
3	59		226	.59		.48	408.4	80	78	252	60	1
4			225	.66		.54	409.5	84	80	250	60	1
5	04		226	.71		.58	410.6	85	80	251	60	1
6			227	.69		.56	411.8	88	80	250	61	1
7	09		228	.92		.75	412.9	89	80	251	61	1
8			230	1.5		1.2	414.3	90	79	250	61	1
9	14		230	1.5		1.2	416.0	91	80	251	61	1
10			230	1.4		1.1	417.7	91	80	250	61	1
11	19		230	1.3		1.1	419.4	91	80	250	61	1
12	1		230	1.1		.90	420.9	91	80	251	62	1
A1	24/24		229	1.5		1.2	422.5	84	80	250	62	1
2	1		231	1.7		1.4	424.2	89	81	251	62	1
3	31		230	1.6		1.3	426.0	90	81	252	62	1
4			231	1.6		1.3	427.8	91	81	250	62	1
5	36		232	1.7		1.4	429.5	91	81	251	62	1
6			233	1.6		1.3	431.4	92	81	250	62	1
7	41		237	.99		.80	433.2	92	81	251	63	1
8			232	.90		.74	434.5	93	82	252	63	1
9	46		233	.80		.65	435.8	93	82	251	63	1
10			233	.71		.58	437.1	93	82	250	63	1
11	51		232	.55		.45	438.3	93	82	251	63	1
12			231	.49		.40	439.3	93	82	251	64	1
AV	1.56						440.334					
AV							34.066					

PARTICULATE FIELD DATA

PLANT: LP-Athens
 DATE: 6-22-95
 REPETITION: 3

22
114
105

LOCATION: Athens, GA
 OPERATOR: JD
 STACK #: RTO EX.
 SAMPLE BOX #: 2
 METER BOX #: 7
 AMBIENT TEMPERATURE: 85
 BAROMETRIC PRESSURE: 29.38
 ASSUMED MOISTURE: 5%
 PROBE LENGTH: 8'
 NOZZLE DIAMETER: 3/16" .187, .188, .186
 STACK DIAMETER: 85"
 METER H: 1-485982
 C FACTOR: .84
 METER CO-EFFICIENT: .9910502

IMPINGERS

	Initial	Final
#1: 100 ml	> H ₂ O	115
#2: 100 ml	> H ₂ O	100
#3: _____		0
#4: 200 g SG		209.2
#5: _____		24.2

COMMENTS:

CO. O.
 0 21

FILTER TARE:

PRE-TEST LEAK CHECK

Meter: .010 Cu. ft. 15 in. HG
 Pitots: ✓ in. H₂O

POST-TEST LEAK CHECK

Meter: .006 Cu. ft. 10 in. HG
 Pitots: ✓ in. H₂O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	VM FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
1	2:20	+.67	230	.60		.50	444.263	81	81	251	60	1
2			231	.58		.47	445.3	83	80	250	60	1
3	25		233	.60		.49	446.4	85	80	251	60	1
4			234	.67		.55	447.5	86	80	252	60	1
5	30		234	.72		.59	448.6	87	80	250	60	1
6			234	.70		.57	449.8	88	80	251	60	1
7	35		235	.90		.74	451.0	90	80	250	60	1
8			235	1.6		1.3	452.3	91	81	251	61	1
9	40		235	1.5		1.2	454.1	91	81	250	61	1
10			234	1.2		.98	455.8	91	81	251	62	1
11	45		234	1.1		.90	457.4	91	81	252	62	1
12			233	1.1		.90	458.8	91	81	250	62	1
13	50/52		231	1.4		1.1	460.3	83	92	250	62	1
2			232	1.5		1.2	461.9	87	82	250	62	1
3	57		231	1.5		1.2	463.7	87	82	250	62	1
4			203	1.5		1.2	465.4	88	82	251	62	1
5	302		235	1.6		1.3	467.1	92	82	250	62	1
6			235	1.4		1.1	468.9	92	82	251	63	1
7	07		234	.96		.78	470.6	94	82	251	63	1
8			235	.89		.73	471.9	94	82	250	63	1
9	12		234	.81		.66	473.3	94	82	250	63	1
10			233	.79		.65	474.5	93	82	251	63	1
11	17		232	.49		.40	475.8	93	82	251	64	1
12			232	.44		.36	476.7	93	82	251	64	1
	3:22						477.6891					
AV							33.426					

PARTICULATE FIELD DATA

PLANT: *LR P. 7800*
DATE: *6-22-95*
REPETITION: *4, 5, 6*

LOCATION: *R-3 in let*

OPERATOR: *Ad, m+*

STACK #: 1

SAMPLE BOX #:

METER BOX #: 6

AMBIENT TEMPERATURE: 68

BAROMETRIC PRESSURE: 29.4

ASSUMED MOISTURE: 1%

PROBE LENGTH:-

NOZZLE DIAMETER: ~

STACK DIAMETER: 55.5"

METER H : 1,61741

C FACTOR: 1.84

METER CO-EFFICIENT: 1.032748

FILTER TARE: *N/A*

PRE-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 5 in. HG

Pitots: in. H2O

IMP INGERS

Initial

Final

#1: 100m/s } 4.0

#2: 1000015

#3:

#4: 2005 ✓ 56

#5:

R4	R5	R6
105	104	106
100	100	100
203	202	202
<u>8</u>	<u>6</u>	<u>8</u>

COMMENTS:

602 1 02

R4	0%	21%
----	----	-----

RS	0%	21%
----	----	-----

P6:	00/0	21%
-----	------	-----

POST-TEST LEAK CHECK

Meter: 0.010 Cu. ft. S

Pitots

in. HG

in. H2O

[illegible]

PARTICULATE FIELD DATA

PLANT: L.P.
 DATE: 6-22-75
 REPETITION: 456

LOCATION: R70 inlet
 OPERATOR: MT, OB
 STACK #: 2
 SAMPLE BOX #:
 METER BOX #: 9
 AMBIENT TEMPERATURE: 85
 BAROMETRIC PRESSURE: 29.4
 ASSUMED MOISTURE: 1%
 PROBE LENGTH:
 NOZZLE DIAMETER:
 STACK DIAMETER: 55.5"
 METER H: 161741
 C FACTOR: 184
 METER CO-EFFICIENT: 1.032748

FILTER TARE: N/A
 PRE-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 15 in. HG
 Pitots: in. H2O

IMPINGERS

	Initial		Final	
	R1	R2	R3	
#1: <u>100m15</u>	<u>104</u>	<u>105</u>	<u>109</u>	<u>H₂O</u>
#2: <u>100m15</u>	<u>100</u>	<u>102</u>	<u>100</u>	
#3: <u> </u>	<u> </u>	<u> </u>	<u> </u>	
#4: <u>200</u>	<u>203</u>	<u>202</u>	<u>204</u>	
#5: <u> </u>	<u>7</u>	<u>9</u>	<u>8</u>	

COMMENTS:

	<u>CO2</u>	<u>O2</u>
<u>R4</u>	<u>0%</u>	<u>21%</u>
<u>R3</u>	<u>0%</u>	<u>21%</u>
<u>R2</u>	<u>0%</u>	<u>21%</u>

POST-TEST LEAK CHECK

Meter: 0.000 Cu. ft. 5 in. HG
 Pitots: in. H2O

	$\ominus$	STATIC PRES.	Ts °F	ΔP_{R4}	ΔP_{R5}	ΔP_{R6}	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP. OUTLET TEMP.	VACUUM (IN Hg)
R4	A 1	4:35	108	1.0	1.1	1.1	1.0	313.344	86	86		68	5
	2	4:40	110	1.3	1.2	1.5	1.0	316.322	89	86		68	5
	3	4:45 -3.5	111	1.3	1.4	1.4	1.0	319.208	91	87		68	5
	4	4:50	109	1.4	1.2	1.3	1.0	322.604	93	88	✓	68	5
	5	4:55		1.4	1.2	1.4	x	325.064					
	6			1.2	1.3	1.3							
R5	7	9:05	106	1.3	1.1	1.0	1.0	337.621	73	73	-	65	5
	8	9:10 -3.6	105	1.5	.92	.92	1.0	340.539	75	77	-	65	5
	B 1	9:15	108	.42	.47	.47	1.0	343.524	79	74	-	66	5
	2	9:20	109	.74	.45	.73	1.0	346.471	81	75	-	66	5
	3	9:25		.77	.72	.70	x	349.452					
	4			.68	.63	.71							
R6	5			.77	1.0	.45							
	6	11:00	109	1.7	1.6	1.6	1.0	374.426	88	88	-	68	5
	7	11:05 -3.6	112	1.5	1.5	.64	1.0	377.524	91	89	-	68	5
	8	11:10	113	1.0	.98	.92	1.0	380.588	93	89	-	68	5
		11:15	113				1.0	383.628	94	89	-	68	5
		11:20					x	386.672					
</													

PARTICULATE FIELD DATA

PLANT: LP-Athens
DATE: 6-22-95
REPETITION: 1

LOCATION: Athens, GA
OPERATOR: JD, CJ
STACK #: RTO EX
SAMPLE BOX #: 2
METER BOX #: 7

AMBIENT TEMPERATURE: 85
BAROMETRIC PRESSURE: 29.4
ASSUMED MOISTURE: 5%
PROBE LENGTH: 8'
NOZZLE DIAMETER: 3/16", .203, .205, .206
STACK DIAMETER: 85"
METER H: 1.485982
C FACTOR: .84
METER CO-EFFICIENT: .9910502

HCHO
TRAIN

IMPINGERS

	Initial	Final
#1: 100-1	DNPH	110
#2: 100-1	DNPH	108
#3: —		206.5
#4: 200g SG		22.5
#5: —		

COMMENTS:

CO₂ 0
O₂ 21

FILTER TARE: .4596
PRE-TEST LEAK CHECK

Meter: .007 Cu. ft. 15 in. HG
Pitots: ✓ in. H2O

POST-TEST LEAK CHECK

Meter: .006 Cu. ft. 10 in. HG
Pitots: ✓ in. H2O

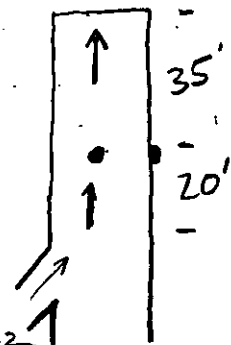
	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP. OUTLET TEMP.	VACUUM (IN Hg)
A1	4:34	1.68	233	1.7		2.2	478.287	81	81	250	60	1
2			234	1.8		2.3	480.6	84	81	250	60	1
3	39		234	1.6		2.1	482.9	86	81	251	60	1
4			234	1.4		1.8	485.2	87	82	252	60	1
5	44		234	1.2		1.6	487.3	90	82	251	60	1
6			234	.95		1.2	489.3	91	82	250	61	1
7	49		235	.96		1.3	491.0	91	82	251	61	1
8			234	.70		.92	492.7	91	82	250	61	1
9	54		235	.66		.86	494.2	91	83	251	62	1
10			234	.65		.85	495.7	93	83	250	62	1
11	59		233	.60		.79	497.1	95	84	251	62	1
12			233	.55		.72	498.5	95	84	250	62	1
B1	5:04/06		232	.9		2.5	499.8	87	85	251	62	1
2			234	1.8		2.4	502.2	91	85	255	62	1
3	11		236	1.9		2.5	504.6	95	86	256	62	1
4			234	1.7		2.2	507.1	95	86	252	63	1
5	16		233	1.6		2.1	509.4	96	86	254	63	1
6			234	1.4		1.8	511.6	96	86	251	63	1
7	21		233	1.1		1.5	513.7	96	86	252	64	1
8			232	.96		1.3	515.6	96	86	250	64	1
9	26		233	.90		1.2	517.4	96	86	251	64	1
10			233	.85		1.1	519.1	96	86	250	64	1
11	31		232	.73		.98	520.7	96	86	251	64	1
12			232	.70		.94	522.3	96	86	251	65	1
	5:36						523.803					
Av												

PARTICULATE FIELD DATA

PLANT: LP-Athens
 DATE: 6-23-95
 REPETITION: 2

LOCATION: Athens, GA.
 OPERATOR: JD, CJ
 STACK #: RTO EX.
 SAMPLE BOX #: 2
 METER BOX #: 7
 AMBIENT TEMPERATURE: 70
 BAROMETRIC PRESSURE: 29.3
 ASSUMED MOISTURE: 5%
 PROBE LENGTH: 8'
 NOZZLE DIAMETER: 3/16"
 STACK DIAMETER: 95"
 METER H: 1-485982
 C FACTOR: .84
 METER CO-EFFICIENT: .98105

HCHO



IMPINGERS

	Initial	Final
#1: 100 ml		112
#2: 100 ml	> DNPH	106
#3: —		
#4: 200 g SG		207.2
#5: —		25.2

COMMENTS:

CO₂ 5%
 O₂ 20.5%

FILTER TARE: ☒ PRE-TEST LEAK CHECK

Meter: .006 Cu. ft. in. HG
 Pitots: in. H2O

POST-TEST LEAK CHECK

Meter: .003 Cu. ft. in. HG
 Pitots: in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT. ³	Tm INLET	Tm OUTLET	OVEN TEMP.	IMP OUTLET TEMP.	VACUUM (IN Hg)
A1	8:55	+70	226	2.0		2.9	524.015	69	69	256	60	1
2			227	1.8		2.6	526.7	73	69	257	60	1
3	9:00		232	1.7		2.5	529.2	76	69	256	60	1
4			235	1.7		2.5	531.6	78	69	256	60	1
5	05		236	1.2		1.7	534.1	80	70	256	60	1
6			235	1.1		1.6	536.1	82	70	260	60	1
7	10		234	.96		1.4	538.1	84	71	255	61	1
8			236	.90		1.3	539.9	85	72	250	61	1
9	15		237	.83		1.2	541.7	87	73	251	61	1
10			235	.76		1.1	543.4	87	73	252	61	1
11	20		234	.67		.98	545.1	87	73	250	61	1
12	1		233	.66		.96	546.6	87	73	251	61	1
B1	25/27		233	1.7		2.5	548.1	84	75	252	61	1
2	1		235	1.6		2.3	550.6	86	75	250	61	1
3	32		234	1.6		2.3	552.9	87	75	251	62	1
4			237	1.4		2.0	555.3	90	75	252	62	1
5	37		236	1.4		1.9	557.5	90	77	251	62	1
6			236	1.3		1.7	559.7	90	77	250	62	1
7	42		235	1.0		1.5	561.9	91	78	253	62	1
8			235	.95		1.4	563.7	91	78	254	62	1
9	47		234	.86		1.2	565.6	92	78	250	62	1
10			234	.77		1.1	567.3	92	78	251	62	1
11	52		234	.71		1.0	568.9	93	78	250	62	1
12			233	.65		.95	570.5	93	78	251	63	1
	9:57						572.050					
AV												

PARTICULATE FIELD DATA

PLANT: LP-Athens
 DATE: 6-23-94
 REPETITION:

3

LOCATION: Athens, GA.

OPERATOR: JD CJ

STACK #: RTO ex.

SAMPLE BOX #: 2

METER BOX #: 7

AMBIENT TEMPERATURE: 80

BAROMETRIC PRESSURE: 29.3

ASSUMED MOISTURE: 5%

PROBE LENGTH: 8'

NOZZLE DIAMETER: 3/16"

STACK DIAMETER: 8"

METER H: 1.485982

C FACTOR: .94

METER CO-EFFICIENT: .9810502

HCHO

IMPINGERS

	Initial	Final
#1: 100 ml	> DNPH	118
#2: 100 ml		106
#3:		
#4: 200g Gel		207.7
#5:		25.7

COMMENTS:

CO₂ O₂
 .5 20.5

FILTER TARE: ✓

PRE-TEST LEAK CHECK

Meter: .005 Cu. ft. 15 in. HG

Pitots: ✓ in. H2O

POST-TEST LEAK CHECK

Meter: .007 Cu. ft. 10 in. HG

Pitots: ✓ in. H2O

	θ	STATIC PRES.	Ts °F	ΔP	√ΔP	ΔH	Vm FT.3	Tm INLET	Tm OUTLET	OVEN TEMP	IMP OUTLET TEMP	VACUUM (IN Hg)
A1	10:33	+71	236	1.8		2.6	572.338	78	78	250	60	1
2			237	1.7		2.5	574.8	82	78	251	60	1
3	37		236	1.7		2.5	577.3	90	79	250	60	1
4			235	1.5		2.2	579.7	90	79	251	60	1
5	43		236	1.1		1.6	582.0	92	80	252	60	1
6			236	1.1		1.6	584.0	93	80	250	60	1
7	47		235	.97		1.4	585.9	94	81	251	60	1
8			235	.91		1.2	587.8	95	81	250	61	1
9	53		236	.80		1.1	589.6	95	81	251	61	1
10			236	.77		1.1	591.3	95	81	250	61	1
11	58		237	.67		.98	592.9	96	82	251	61	1
12			236	.67		.98	594.5	96	82	250	61	1
B1	11:03/05		237	1.9		2.8	596.0	91	84	251	61	1
2			235	1.9		2.8	598.6	92	84	250	61	1
3	10		233	1.7		2.5	601.2	93	84	252	61	1
4			234	1.7		2.5	603.6	95	84	251	61	1
5	15		235	1.2		1.7	606.0	97	85	252	62	1
6			236	1.2		1.7	608.1	97	85	251	62	1
7	20		235	1.0		1.5	610.2	97	86	250	62	1
8			234	.95		1.4	612.0	98	86	252	62	1
9	25		233	.88		1.3	613.9	98	86	251	62	1
10			234	.80		1.2	615.6	98	86	250	62	1
11	30		234	.78		1.1	617.3	98	86	251	62	1
12			233	.71		1.0	618.9	99	87	251	63	1
	11:35						620.540					
AV							48.202					

APPENDIX G

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 10
CALIBRATION DATE: 6/18/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE: 29.9

```
*****
*
*   DELTA H = ORFICE PRESSURE
*   VW = VOLUME OF WET GAS METER
*   TW = AVERAGED TEMPERATURE OF WET METER
*   VD = VOLUME OF DRY GAS METER
*   TD = AVERAGED TEMPERATURE OF DRY GAS METER
*   TIME = DURATION OF EACH POINT RUN
*
*****
```

POINT 1

DELTA H = .5 VW = 5 TW = 78.5
VD = 5.002 TD = 82.25 TIME = 11.27 TEST METER Y = .9701
METER BOX Y = .975266
METER BOX H = 1.44025

POINT 2

DELTA H = 1 VW = 6 TW = 78
VD = 5.996 TD = 83 TIME = 9.53 TEST METER Y = .9701
METER BOX Y = .9773654
METER BOX H = 1.425726

POINT 3

DELTA H = 1.5 VW = 10 TW = 78
VD = 9.979 TD = 83.25 TIME = 13.37 TEST METER Y = .9701
METER BOX Y = .9780204
METER BOX H = 1.514632

POINT 4

DELTA H = 2 VW = 10 TW = 77.5
VD = 9.956001 TD = 84.75 TIME = 11.47 TEST METER Y = .9701
METER BOX Y = .9826969
METER BOX H = 1.479465

POINT 5

DELTA H = 3 VW = 10 TW = 77
VD = 9.892999 TD = 85.75 TIME = 9.390001 TEST METER Y = .9701
METER BOX Y = .9892719
METER BOX H = 1.48182

POINT 6

DELTA H = 4 VW = 10 TW = 77
VD = 9.858 TD = 86.25 TIME = 8.15 TEST METER Y = .9701
METER BOX Y = .991274
METER BOX H = 1.487032

Meter Box Calibration

Dry Gas Meter #: 10
 Calibrated by: *Dan Barrera*
 Date: *6-18-95*
 Barometric Pressure: *29.90*

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	ΔH_{calc}
			Test Meter. T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
1.5	5	5.002	78.5	82 85	81 81	82.25	11.27	.9701	
1.0	6	5.996	78	83 87	81 81	83	9.53	.9701	
1.5	10	9.979	78	83 89	80 81	83.25	13.37	.9701	
2.0	10	9.956	77.5	86 90	81 82	84.75	11.47	.9701	
3.0	10	9.893	77	87 92	82 82	85.75	9.39	.9701	
4.0	10	9.858	77	88 93	82 82	86.25	8.15	.9701	

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{15.6}) (T_w + 460)}$$

$$\Delta H_{\text{calc}} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 10

DATE: 6-18-95

ΔH	VW	TW	VD	TDT	TDO	ΔTD	θ
.5(5FT ³)	757.0	79/79	828.084	82	81		
	752.0	78/78	823.082	85	81		
	5	78.5	5.002		→	82.25	11.27
1.0(5FT ³)	763.0	78/78	834.080	83	81		
	752.0	78/78	828.084	87	81		
	6	78	5.996		→	83	9.53
.5(10FT ³)	773.0	78/78	844.059	83	80		
	763.0	78/78	834.080	89	81		
	10	78	9.979		→	83.25	13.37
1.0(10FT ³)	783.0	78/78	854.015	86	81		
	773.0	77/77	844.059	90	82		
	10	77.5	9.956		→	84.75	11.47
3.0(10FT ³)	793.0	77/77	863.908	87	82		
	783.0	77/77	854.015	92	82		
	10	77	9.893		→	85.75	9.39
4.0(10FT ³)	803.0	77/77	873.766	88	82		
	793.0	77/77	863.908	93	82		
	10	77	9.858		→	86.25	8.15

Temperature Meter Calibration Form

Meter # 10 6-18-95

Emtech I
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>3.9</u> + 460 = <u>494</u> R
P2	212 F + 460 = 672 R	<u>213</u> + 460 = <u>673</u> R
P3	752 F + 460 = 1212 R	<u>753</u> + 460 = <u>1213</u> R

Divide smaller number by larger number in degrees R and multiply by 100.
Subtract that number from 100 to get % variation.
Variation limit is +/- 2%.

% Variation

P1	<u>.4</u>
P2	<u>.1</u>
P3	<u>.1</u>

L

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 11
CALIBRATION DATE: 6/18/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE: 29.9

*
* DELTA H = ORFICE PRESSURE *
* VW = VOLUME OF WET GAS METER *
* TW = AVERAGED TEMPERATURE OF WET METER *
* VD = VOLUME OF DRY GAS METER *
* TD = AVERAGED TEMPERATURE OF DRY GAS METER *
* TIME = DURATION OF EACH POINT RUN *

POINT 1
DELTA H = .5 VW = 5 TW = 80
VD = 4.797 TD = 79.5 TIME = 11.61 TEST METER Y = .9701
METER BOX Y = 1.008976
METER BOX H = 1.544823

POINT 2
DELTA H = 1 VW = 5 TW = 80.5
VD = 4.798 TD = 81 TIME = 8.28 TEST METER Y = .9701
METER BOX Y = 1.009395
METER BOX H = 1.570012

POINT 3
DELTA H = 1.5 VW = 10 TW = 81
VD = 9.59 TD = 81.75 TIME = 13.81 TEST METER Y = .9701
METER BOX Y = 1.009254
METER BOX H = 1.63856

POINT 4
DELTA H = 2 VW = 10 TW = 81
VD = 9.592 TD = 82 TIME = 12.11 TEST METER Y = .9701
METER BOX Y = 1.008274
METER BOX H = 1.679197

POINT 5
DELTA H = 3 VW = 10 TW = 80.5
VD = 9.550999 TD = 83 TIME = 9.7 TEST METER Y = .9701
METER BOX Y = 1.01293
METER BOX H = 1.610068

POINT 6
DELTA H = 4 VW = 10 TW = 80
VD = 9.514 TD = 83.25 TIME = 8.42 TEST METER Y = .9701
METER BOX Y = 1.0158
METER BOX H = 1.613838

Meter Box Calibration

Dry Gas Meter #: 11
 Calibrated by: *Don Barrett*
 Date: *6-8-95*
 Barometric Pressure: *29.90*

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time t	γ	ΔH_B
			Test Meter T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
.5	5	4.797	80	79 82	78 79	79.5	11.61	.9701	
1.0	5	4.798	80.5	81 84	79 80	81	8.28	.9701	
1.5	10	9.590	81	83 84	80 80	81.75	13.81	.9701	
2.0	10	9.592	81	82 85	80 81	82	12.11	.9701	
3.0	10	9.551	82.5	83 87	81 81	82	9.70	.9701	
4.0	10	9.514	80	85 86	81 81	83.25	8.42	.9701	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{15.6}) (T_w + 460)}$$

$$\Delta H_B = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: //

DATE: 6-18-95

[illegible]

Temperature Meter Calibration Form

Meter #

11

6-18-95

Emtech X

Thermocouple Checker

Meter Reading

P1

32 F + 460 = 492 R

30 + 460 = 490 R

P2

212 F + 460 = 672 R

209 + 460 = 669 R

P3

752 F + 460 = 1212 R

747 + 460 = 1207 R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is +/- 2%.

% Variation

P1

.4

P2

.4

P3

.4

L

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 9
CALIBRATION DATE: 6/09/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE: 29.6

*
* DELTA H = ORFICE PRESSURE *
* VW = VOLUME OF WET GAS METER *
* TW = AVERAGED TEMPERATURE OF WET METER *
* VD = VOLUME OF DRY GAS METER *
* TD = AVERAGED TEMPERATURE OF DRY GAS METER *
* TIME = DURATION OF EACH POINT RUN *

POINT 1

DELTA H = .5 VW = 5 TW = 80
VD = 4.545 TD = 79.5 TIME = 11.7 TEST METER Y = .9701
METER BOX Y = 1.064906
METER BOX H = 1.584767

POINT 2

DELTA H = 1 VW = 6 TW = 80
VD = 5.53 TD = 81 TIME = 10 TEST METER Y = .9701
METER BOX Y = 1.051886
METER BOX H = 1.60345

POINT 3

DELTA H = 1.5 VW = 10 TW = 80
VD = 9.402001 TD = 81.75 TIME = 13.94 TEST METER Y = .9701
METER BOX Y = 1.031303
METER BOX H = 1.680246

POINT 4

DELTA H = 2 VW = 10 TW = 80
VD = 9.510999 TD = 83.25 TIME = 11.85 TEST METER Y = .9701
METER BOX Y = 1.021043
METER BOX H = 1.614441

POINT 5

DELTA H = 3 VW = 10 TW = 80.5
VD = 9.564 TD = 83.5 TIME = 9.66 TEST METER Y = .9701
METER BOX Y = 1.01241
METER BOX H = 1.611517

POINT 6

DELTA H = 4 VW = 10 TW = 81
VD = 9.521 TD = 84.25 TIME = 8.36 TEST METER Y = .9701
METER BOX Y = 1.014942
METER BOX H = 1.610038

Meter Box Calibration

Dry Gas Meter #: 9
 Calibrated by: Dan Barkers
 Date: 6-9-95
 Barometric Pressure: 29.6

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	$\Delta H @$
			Test Meter. T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
1.5	5	4.545	80	79 82	78 79	79.5	11.70	.9701	
1.0	6	5.530	80	81 85	79 79	81	10.00	.9701	
1.5	10	9.402	80	82 86	79 80	81.75	13.94	.9701	
2.0	10	9.511	80	84 87	80 81	83.25	11.85	.9701	
3.0	10	9.564	80.5	84 88	81 81	83.5	9.66	.9701	
4.0	10	9.521	81	86 89	81 81	84.25	8.36	.9701	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H @ = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 9

DATE: 6-9-95

[illegible]

Temperature Meter Calibration Form

Meter # 9 6-9-95

Emtech K
Thermocouple Checker

Meter Reading

P1 32 F + 460 = 492 R

29 + 460 = 489 R

P2 212 F + 460 = 672 R

209 + 460 = 669 R

P3 752 F + 460 = 1212 R

747 + 460 = 1207 R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is +/- 2%.

% Variation

P1 .16

P2 .4

P3 .4

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 7
CALIBRATION DATE: 5/19/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE: 29.84

*
* DELTA H = ORFICE PRESSURE *
* VW = VOLUME OF WET GAS METER *
* TW = AVERAGED TEMPERATURE OF WET METER *
* VD = VOLUME OF DRY GAS METER *
* TD = AVERAGED TEMPERATURE OF DRY GAS METER *
* TIME = DURATION OF EACH POINT RUN *
*

POINT 1

DELTA H = .5 VW = 5 TW = 69.5
VD = 4.973 TD = 70.25 TIME = 11.33 TEST METER Y = .9701
METER BOX Y = .9755465
METER BOX H = 1.44212

POINT 2

DELTA H = 1 VW = 5 TW = 70
VD = 4.966 TD = 72.25 TIME = 8.01 TEST METER Y = .9701
METER BOX Y = .9784772
METER BOX H = 1.43887

POINT 3

DELTA H = 1.5 VW = 10 TW = 70
VD = 9.938 TD = 73.75 TIME = 13.59 TEST METER Y = .9701
METER BOX Y = .9794387
METER BOX H = 1.548833

POINT 4

DELTA H = 2 VW = 10 TW = 70.5
VD = 9.925 TD = 75.25 TIME = 11.59 TEST METER Y = .9701
METER BOX Y = .9813461
METER BOX H = 1.500622

POINT 5

DELTA H = 3 VW = 10 TW = 71
VD = 9.892 TD = 77 TIME = 9.46 TEST METER Y = .9701
METER BOX Y = .9844949
METER BOX H = 1.497541

POINT 6

DELTA H = 4 VW = 10 TW = 71
VD = 9.852 TD = 77.5 TIME = 8.17 TEST METER Y = .9701
METER BOX Y = .9869982
METER BOX H = 1.487905

Meter Box Calibration

Dry Gas Meter #: 7
 Calibrated by: *Don Bolleru*
 Date: *5-19-95*
 Barometric Pressure: *29.84*

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	ΔH_{θ}
			Test Meter. T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
.5	5	4.973	69.5	69 77	67 68	70.25	11.33	.9701	
1.0	5	4.966	70	72 80	68 69	72.25	8.01	.9701	
1.5	10	9.938	70	74 82	69 70	73.75	13.59	.9701	
2.0	10	9.925	70.5	75 85	70 71	75.25	11.59	.9701	
3.0	10	9.892	71	79 86	71 72	77	9.46	.9701	
4.0	10	9.852	71	79 86	72 73	77.5	8.17	.9701	

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{\theta} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 7

DATE: 5-19-95

[illegible]

Temperature Meter Calibration Form

Meter # 7 5-19-95

Emtech K
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>30</u> + 460 = <u>490 R</u>
P2	212 F + 460 = 672 R	<u>209</u> + 460 = <u>669 R</u>
P3	752 F + 460 = 1212 R	<u>749</u> + 460 = <u>1209 R</u>

Divide smaller number by larger number in degrees R and multiply by 100.
Subtract that number from 100 to get % variation.
Variation limit is +/- 2%.

% Variation

P1	<u>.4</u>
P2	<u>.45</u>
P3	<u>.25</u>

SUMMARY OF POST METER BOX CALIBRATION

METER BOX NUMBER : 11
 CALIBRATION DATE: 7/01/95
 CALIBRATED BY: Dan Barrera
 BAROMETRIC PRESSURE (inch Hg): 29.77

```
*****
*
*   DELTA H = ORFICE PRESSURE
*   VW = VOLUME OF WET GAS METER
*   TW = AVERAGED TEEMPERATURE OF WET METER
*   VD = VOLUME OF DRY GAS METER
*   TD = AVERAGED TEMPERATURE OF DRY GAS METER
*   TIME = DURATION OF EACH POINT RUN
*
*****
```

POINT 1
 DELTA H = 1 VW = 11 TW = 80
 VD = 10.533 TD = 78.25 TIME = 17.91 TEST METER Y = .9701
 METER BOX Y = 1.00734
 METER BOX H = 1.52929

POINT 2
 DELTA H = 1 VW = 10 TW = 80.5
 VD = 9.602999 TD = 81.25 TIME = 16.38 TEST METER Y = .9701
 METER BOX Y = 1.009115
 METER BOX H = 1.542062

POINT 3
 DELTA H = 1 VW = 10 TW = 81
 VD = 9.618 TD = 82.5 TIME = 16.38 TEST METER Y = .9701
 METER BOX Y = 1.008934
 METER BOX H = 1.541356

AVERAGE Y = 1.008463
 AVERAGE H = 1.537569

Post-Test
Meter Box Calibration

Dry Gas Meter #: 11

Calibrated by: *Dan Barrett*

Date: 7-1-95

Barometric Pressure: 29.77

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	$\Delta H @$
			Test Meter T_w	Inlet T_{di}	Outlet T_{dc}	Ave T_d			
1.0	11	10.533	80	77 83	75 78	78.25	17.91	.9701	
1.0	10	9.603	80.5	81 85	79 80	81.25	16.38	.9701	
1.0	10	9.618	81	83 86	80 81	82.5	16.38	.9701	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H @ = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 11

DATE: 7-1-95

ΔH	VW	TW	VD	TDT	TDO	ΔTD	ϕ
1.0 (10FT ³)	22.0	80/80	562.886	77	75		
	11.0	80/80	552.353	83	78		
	11	80	10.533		→	78.25	17.91
1.0 (10FT ³)	32.0	80/80	572.489	81	79		
	22.0	81/81	562.886	85	80		
	10	80.5	9.603		→	81.25	16.38
1.0 (10FT ³)	42.0	81/81	582.107	83	80		
	32.0	81/81	572.489	86	81		
	10	81	9.618		→	82.5	16.38

Temperature Meter Calibration Form

7-1-95

Meter # 11

Emtech K
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>31</u> + 460 = <u>491</u> R
P2	212 F + 460 = 672 R	<u>210</u> + 460 = <u>670</u> R
P3	752 F + 460 = 1212 R	<u>745</u> + 460 = <u>1205</u> R

Divide smaller number by larger number in degrees R and multiply by 100.
Subtract that number from 100 to get % variation.
Variation limit is +/- 2%.

% Variation

P1	<u>.12</u>
P2	<u>.3</u>
P3	<u>.6</u>

L

SUMMARY OF POST METER BOX CALIBRATION

METER BOX NUMBER : 7
CALIBRATION DATE: 7/01/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE (inch Hg): 29.77

```
*****
*
*      DELTA H = ORFICE PRESSURE
*      VW = VOLUME OF WET GAS METER
*      TW = AVERAGED TEEMPERATURE OF WET METER
*      VD = VOLUME OF DRY GAS METER
*      TD = AVERAGED TEMPERATURE OF DRY GAS METER
*      TIME = DURATION OF EACH POINT RUN
*
*****
```

POINT 1
DELTA H = 1 VW = 11 TW = 79.5
VD = 10.904 TD = 80.5 TIME = 17.4 TEST METER Y = .9701
METER BOX Y = .978039
METER BOX H = 1.434765

POINT 2
DELTA H = 1 VW = 10 TW = 80
VD = 10.064 TD = 83.5 TIME = 15.81 TEST METER Y = .9701
METER BOX Y = .9677881
METER BOX H = 1.428013

POINT 3
DELTA H = 1 VW = 10 TW = 80.5
VD = 9.876001 TD = 84.25 TIME = 15.83 TEST METER Y = .9701
METER BOX Y = .9866584
METER BOX H = 1.432304

AVERAGE Y = .9774951
AVERAGE H = 1.431694

Post-Test
Meter Box Calibration

Dry Gas Meter #: 7
Calibrated by: *Dan Barrier*
Date: 7-1-95
Barometric Pressure: 29.77

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	$\Delta H @$
			Test Meter T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
1.0	11	10.904	79.5	82 89	74 77	80.5	17.40	.9701	
1.0	10	10.064	80	85 91	78 80	83.5	15.81	.9701	
1.0	10	9.876	80.5	84 92	80 81	84.25	15.83	.9701	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{15.6}) (T_w + 460)}$$

$$\Delta H @ = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 7

DATE: 7-1-95

ΔH	VW	TW	VD	TDT	TDO	ΔTD	θ
1.0 (10FT ³)	991.0	79/79	745.833	82	74		
	980.0	80/80	734.929	89	77		
	11	79.5	10.904		→	80.5	17.40
1.0 (10FT ³)	1001.0	80/80	755.897	85	78		
	991.0	80/80	745.833	91	80		
	10	80	10.064		→	83.5	15.81
1.0 (10FT ³)	1011.0	80/80	765.773	84	80		
	1001.0	81/81	755.897	92	81		
	10	80.5	9.876		→	84.25	15.83

Temperature Meter Calibration Form

Meter # 7 7-1-95

Emtech E

Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>29</u> + 460 = <u>489</u> R
P2	212 F + 460 = 672 R	<u>209</u> + 460 = <u>669</u> R
P3	752 F + 460 = 1212 R	<u>749</u> + 460 = <u>1209</u> R

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is +/- 2%.

% Variation

P1	<u>.6</u>
P2	<u>.4</u>
P3	<u>.2</u>

SUMMARY OF POST METER BOX CALIBRATION

METER BOX NUMBER : 10
 CALIBRATION DATE: 7/01/95
 CALIBRATED BY: Dan Barrera
 BAROMETRIC PRESSURE (inch Hg): 29.77

```
*****
*
*      DELTA H = ORFICE PRESSURE
*      VW = VOLUME OF WET GAS METER
*      TW = AVERAGED TEEMPERATURE OF WET METER
*      VD = VOLUME OF DRY GAS METER
*      TD = AVERAGED TEMPERATURE OF DRY GAS METER
*      TIME = DURATION OF EACH POINT RUN
*
*****
```

POINT 1
 DELTA H = 1 VW = 10 TW = 78
 VD = 9.895001 TD = 81.75 TIME = 15.53 TEST METER Y = .9701
 METER BOX Y = .9847953
 METER BOX H = 1.37211

POINT 2
 DELTA H = 1 VW = 10 TW = 78.5
 VD = 9.941 TD = 84.25 TIME = 15.51 TEST METER Y = .9701
 METER BOX Y = .9838476
 METER BOX H = 1.364825

POINT 3
 DELTA H = 1 VW = 10 TW = 79
 VD = 9.954001 TD = 85.75 TIME = 15.52 TEST METER Y = .9701
 METER BOX Y = .9843567
 METER BOX H = 1.365362

AVERAGE Y = .9843332
 AVERAGE H = 1.367432

Post-Test
Meter Box Calibration

Dry Gas Meter #: 10

Calibrated by: *Dan Barrera*

Date: 7-1-95

Barometric Pressure: 29.77

Orifice ΔH	Test Meter Volume V_w	Dry Gas Meter Volume V_d	Temperature				Time θ	γ	$\Delta H @$
			Test Meter T_w	Dry Gas Meter					
				Inlet T_{di}	Outlet T_{do}	Ave T_d			
1.0	10	9.895	78	84 88	76 79	81.75	15.53	.9701	
1.0	10	9.941	78.5	85 90	80 82	84.25	15.51	.9701	
1.0	10	9.954	79	87 91	82 83	85.75	15.52	.9701	

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H @ = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 10

DATE: 7-1-95

ΔH	VW	TW	VD	TDT	TDO	ΔTD	θ
1.0 (10FT ³)	960.0	78/78	197.143	84	76		
	950.0	78/78	187.248	88	79		
	10	78	9.895		→	81.75	15.53
1.0 (10FT ³)	970.0	78/78	207.084	85	80		
	960.0	79/79	197.143	90	82		
	10	78.5	9.941		→	84.25	15.51
1.0 (10FT ³)	980.0	79/79	217.038	87	82		
	970.0	79/79	207.084	91	83		
	10		9.954		→	85.75	15.52

Temperature Meter Calibration Form

Meter # 10 7-1-95

	Emtech X Thermocouple Checker	Meter Reading
P1	32 F + 460 = 492 R	<u>33</u> + 460 = <u>493</u> R
P2	212 F + 460 = 672 R	<u>213</u> + 460 = <u>673</u> R
P3	752 F + 460 = 1212 R	<u>751</u> + 460 = <u>1211</u> R

Divide smaller number by larger number in degrees R and multiply by 100.
 Subtract that number from 100 to get % variation.
 Variation limit is $\pm 2\%$.

	% Variation
P1	<u>.2</u>
P2	<u>.15</u>
P3	<u>.1</u>

L

SUMMARY OF POST METER BOX CALIBRATION

METER BOX NUMBER : 9
CALIBRATION DATE: 7/01/95
CALIBRATED BY: Dan Barrera
BAROMETRIC PRESSURE (inch Hg): 29.77

```
*****
*
*      DELTA H = ORFICE PRESSURE
*      VW = VOLUME OF WET GAS METER
*      TW = AVERAGED TEEMPERATURE OF WET METER
*      VD = VOLUME OF DRY GAS METER
*      TD = AVERAGED TEMPERATURE OF DRY GAS METER
*      TIME = DURATION OF EACH POINT RUN
*
*****
```

POINT 1
DELTA H = 1 VW = 10 TW = 77
VD = 9.575 TD = 77.75 TIME = 15.41 TEST METER Y = .9701
METER BOX Y = 1.012075
METER BOX H = 1.355982

POINT 2
DELTA H = 1 VW = 10 TW = 77.5
VD = 9.642 TD = 80.25 TIME = 16.34 TEST METER Y = .9701
METER BOX Y = 1.008775
METER BOX H = 1.520361

POINT 3
DELTA H = 1 VW = 10 TW = 78
VD = 9.549 TD = 82 TIME = 16.37 TEST METER Y = .9701
METER BOX Y = 1.02095
METER BOX H = 1.523853

AVERAGE Y = 1.013933
AVERAGE H = 1.466732

Post-Test
Meter Box Calibration

Dry Gas Meter #: *9*
Calibrated by: *Don Baricry*
Date: *7-1-95*
Barometric Pressure: *29.77*

Orifice ΔH	Test Meter Volume V _w	Dry Gas Meter Volume V _d	Temperature			Time θ	Y	ΔH@
			Test Meter T _w	Dry Gas Meter				
				Inlet T _{di}	Outlet T _{do}			
1.0	10	9.575	77	76 83	74 76	77.5	15.41	.9701
1.0	10	9.642	77.5	81 85	77 78	80.25	16.34	.9701
1.0	10	9.549	78	83 86	79 80	82	16.37	.9701

$$Y = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H@ = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[\frac{(T_w + 460) \theta}{V_w} \right]^2$$

P_{bar} = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 9

DATE: 7-1-95

ΔH	VW	TW	VD	TDT	TDO	ΔTD	θ
1.0 (10FT ³)	930.0	77/77	685.645	76	74		
	920.0	77/77	676.070	83	76		
	10	77	9.575		→	77.75	15.41
1.0 (10FT ³)	940.0	77/77	695.287	81	77		
	930.0	78/78	685.645	85	78		
	10	77.5	9.642		→	80.25	16.34
1.0 (10FT ³)	950.0	78/78	704.836	83	79		
	940.0	78/78	695.287	86	80		
	10	78	9.549		→	82	16.37

Temperature Meter Calibration Form

7-1-95

Meter # 9

Emtech X
Thermocouple Checker

Meter Reading

P1	32 F + 460 = 492 R	<u>31</u> + 460 = <u>491</u> R
P2	212 F + 460 = 672 R	<u>211</u> + 460 = <u>671</u> R
P3	752 F + 460 = 1212 R	<u>749</u> + 460 = <u>1209</u> R

Divide smaller number by larger number in degrees R and multiply by 100.
Subtract that number from 100 to get % variation.
Variation limit is +/- 2%.

% Variation

P1	<u>.2</u>
P2	<u>.15</u>
P3	<u>.2</u>

PITOT TUBE INSPECTION DATA SHEET

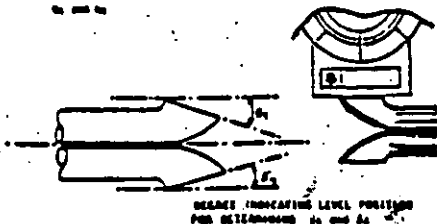
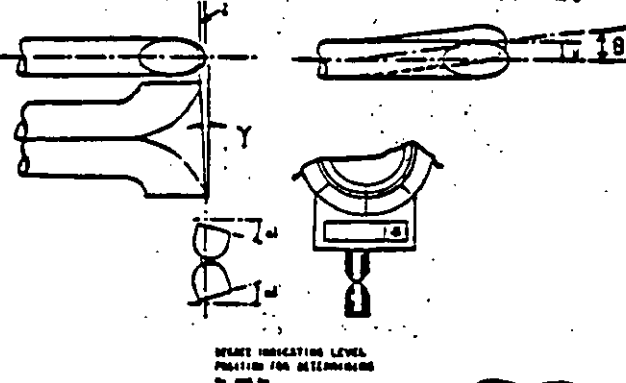
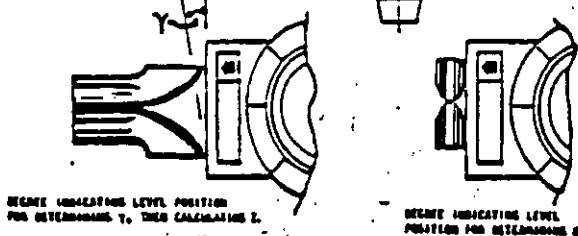
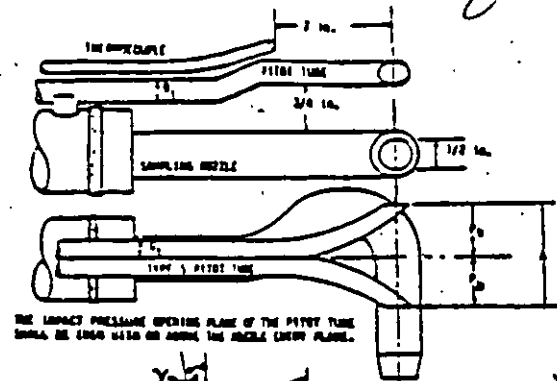
Company Name: Armstrong Env.

Pre-sample

Post Sample

Date 6/28/94

Date 7-5-95



yes	level?	yes
None	obstructions?	NO
No	damaged?	NO
-2	$-10^\circ < \alpha_1 < +10^\circ$	-2
-4	$-10^\circ < \alpha_2 < +10^\circ$	-4
+1.5°	$-5^\circ < \beta_1 < +5^\circ$	+1.6
-4°	$-5^\circ < \beta_2 < +5^\circ$	-4.2
-1.5°	Y	-1.5
-1	B	-1
1.071	A	1.071
.531	$1.05 D_t < P_a < 1.5 D_t$	.531
.540	$1.05 D_t < P_b < 1.5 D_t$	.540
3/8	$3/16" < D_t < 3/8"$	3/8
-.028	$A \tan \gamma < 0.125"$	-.028
-.019	$A \tan \theta < 0.03125"$	-.010
✓	$P_a = P_b \pm 0.063"$	✓

Comments:

Apex Probe

teflon

Pitot tube/probe number I-64 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature

Date

Joe A. Raman
6/28/94

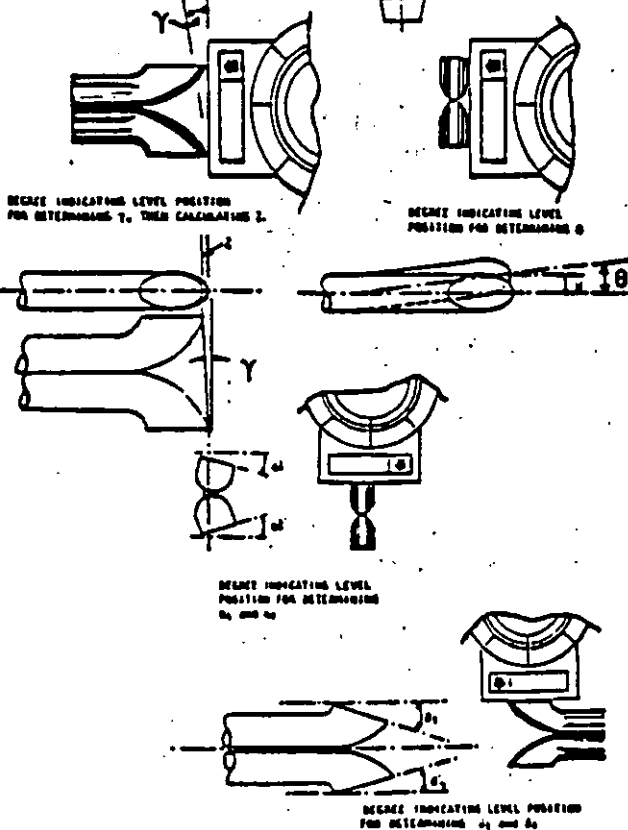
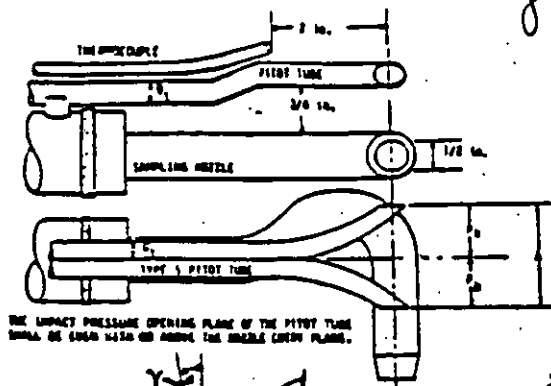
*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

PITOT TUBE INSPECTION DATA SHEET

Company Name: Armstrong

Pre-sample
Date 5-16-95

Post Sample
Date 7-5-95



yes	level?	yes
NO	obstructions?	NO
NO	damaged?	NO
+3	$-10^\circ < \alpha_1 < +10^\circ$	+3
+1	$-10^\circ < \alpha_2 < +10^\circ$	+1
-1	$-5^\circ < \beta_1 < +5^\circ$	-1
+3	$-5^\circ < \beta_2 < +5^\circ$	+3
+2	Y	+2
+1	θ	+1
1.03	A	1.05
.521	$1.05 D_t < P_a < 1.5 D_t$	.519
.509	$1.05 D_t < P_b < 1.5 D_t$	.531
.276	$3/16" \leq D_t \leq 3/8"$	.277
.0359	$A \tan \gamma < 0.125"$	.0367
.0179	$A \tan \theta < 0.03125"$	.0183
✓	$P_a = P_b \pm 0.063"$	✓

Comments: 4eflon

Pitot tube/probe number C-65 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature [Signature]

Date 7-5-95

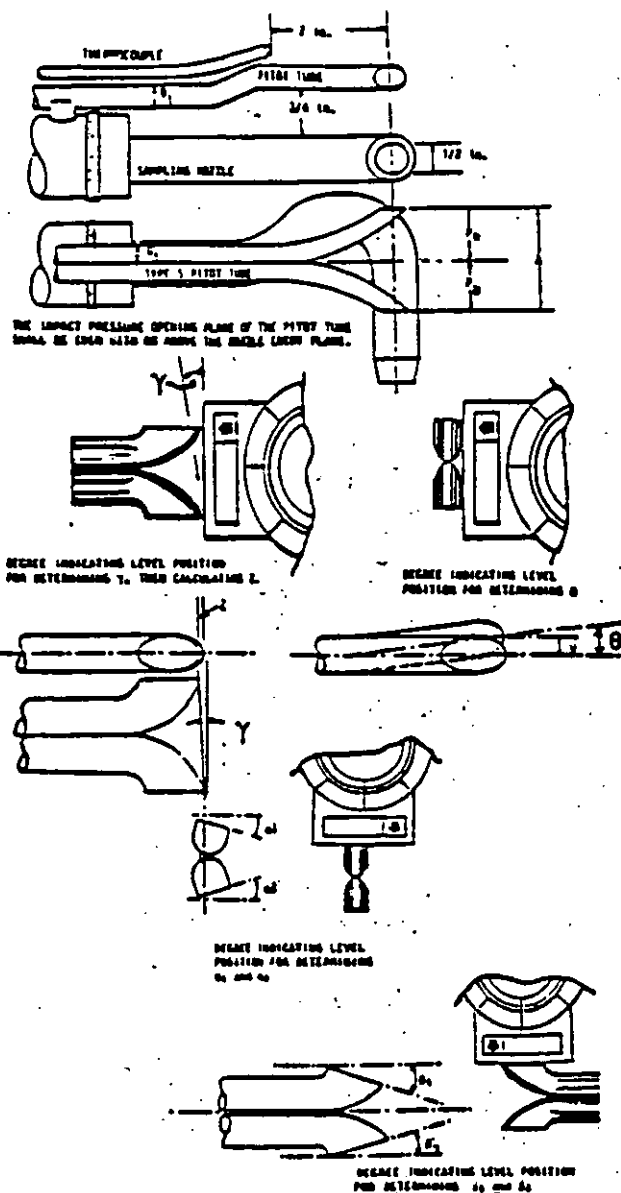
*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

PITOT TUBE INSPECTION DATA SHEET

Company Name: Armstrong Env.

Pre-sample
Date 6-17-95

Post Sample
Date 7-5-95



res	level?	Yes
NO	obstructions?	No
No	damaged?	No
+3°	$-10^\circ < \alpha_1 < +10^\circ$	+3
+2°	$-10^\circ < \alpha_2 < +10^\circ$	+2
-1°	$-5^\circ < \beta_1 < +5^\circ$	-1
+3°	$-5^\circ < \beta_2 < +5^\circ$	+3
+2°	γ	+2
1°	θ	1
1.050	A	1.050
.532	$1.05 D_t < P_a < 1.5 D_t$	.532
.518	$1.05 D_t < P_b < 1.5 D_t$	.518
.281	$3/16" \leq D_t \leq 3/8"$	.281
.037	$A \tan \gamma < 0.125"$	.037
.018	$A \tan \theta < 0.03125"$	.018
✓	$P_a = P_b \pm 0.063"$	✓

Comments:

teflon

Pitot tube/probe number D-65 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature

Date

Darryl White
6-19-95

*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

PITOT TUBE INSPECTION DATA SHEET

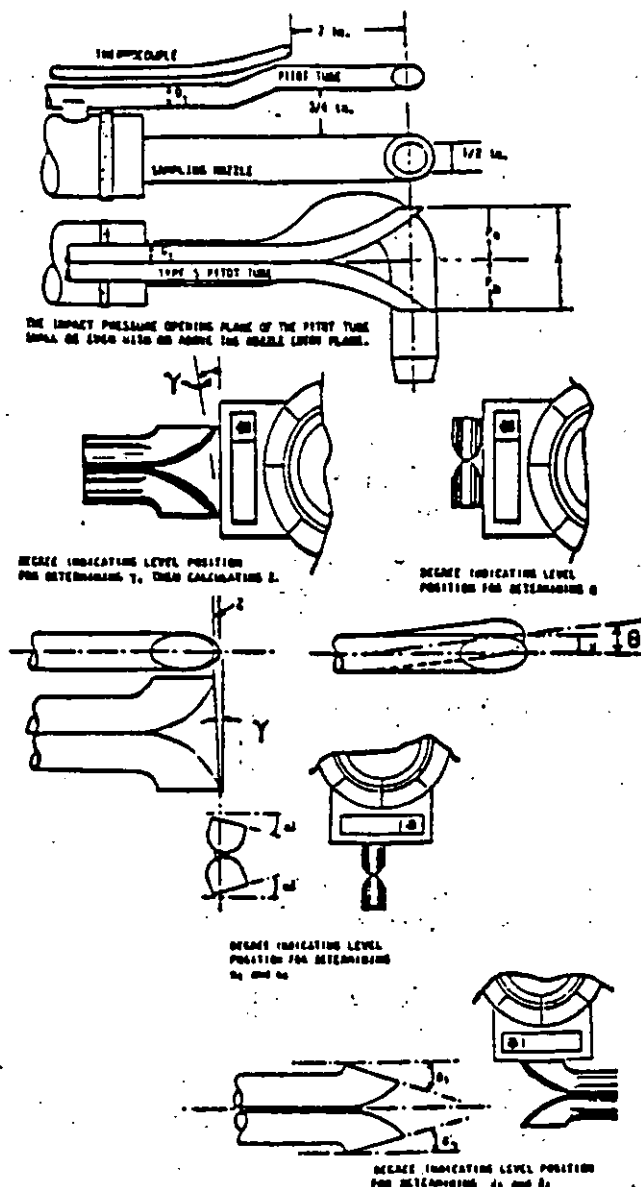
Company Name: Rockwell EMI

Pre-sample

Date 7-28-95

Post Sample

Date 7-5-95



✓	level?	✓
NO	obstructions?	NO
NO	damaged?	NO
0	$-10^\circ < \alpha_1 < +10^\circ$	0
1	$-10^\circ < \alpha_2 < +10^\circ$	1
2	$-5^\circ < \beta_1 < +5^\circ$	2
1	$-5^\circ < \beta_2 < +5^\circ$	1
1	γ	1
0	θ	0
.690	A	.690
.361	$1.05 D_t < P_a < 1.5 D_t$	.361
.329	$1.05 D_t < P_b < 1.5 D_t$	.329
.249	$3/16" < D_t < 3/8"$	.249
.012	$A \tan \gamma < 0.125"$	.012
0	$A \tan \theta < 0.03125"$	0
.032	$P_a = P_b \pm 0.063"$	.032

Comments:

teflon

Pitot tube/probe number B-66 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature [Signature]

Date 7-28-95

*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

Model #453 Serial #10030

318

APPENDIX H



To: BOC Retail - Dallas

Expiration Date: 12-07-96

Customer P.O.: R11760/2286-10g

Balance Gas: Nitrogen

CAS 7727-37-9

Certification of Analysis - EPA Protocol Gas
Performed According to Section 3.0.4

Certified Per Traceability Procedure # 1
Certified Accuracy 11 NIST Protocol # 1

Test Number: 1294-045
Cylinder Number: CCG848
Fill Date: 11-17-94
Cylinder Pressure: 2000 PSIG
Certification Date: 12-07-94
Location: Port Allen, La.

Component	Concentration	SRM No.	SRM Conc.	Cylinder Number	Analytical Information		Make	Model	Calibration Date
					Serial Number	Analytical Procedure			
Nitric Oxide	51 PPM	1693b	48.00 PPM	CLM08071	42H-45487-274	CHEMILUMINESCENT	THERMO ENVIR	42H	11-30-94

First Analysis					Second Analysis				
Analyt: D. Parrott					Analyt: B. Stoye				
Date: 11-30-94					Date: 12-07-94				
Zero Gas	Reference Gas	Sample Gas	-- Concentration		Zero Gas	Reference Gas	Sample Gas	-- Concentration	
0.02	46.32	49.00	51 PPM		0.00	45.89	48.31	51 PPM	
0.03	46.41	49.23	51 PPM		0.00	45.88	48.50	51 PPM	
0.02	46.33	49.34	51 PPM		0.00	45.77	48.50	51 PPM	
Average--				51 PPM	Average--				51 PPM

This Calibration Standard has been Certified versus EPA Traceability Protocol # 1, Procedure C1, and Analysis performed per section 3.0.4
Certified Concentration: Balance = Nitrogen, Nitric Oxide = 51 PPM
APPROVED BY *[Signature]*
Laboratory Manager

Almega Corp. 601A Country Club Dr., Bensenville, IL /ATTN: Carl Cella /8.0. 1.675746

EXP. DATE

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1

Customer:

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

Notes:

Order No: 36A-006058
Batch No: 861-18124

Cylinder No: SG9132485B

Cylinder Pressure: 2000 psig

Certification Date: 05/12/94

Expiration Date: 05/12/96

PO: 1372 Rel:

*** Certified Concentration *** ***** Reference Standards ***** Analytical Instrumentation *****

Certified

Standard

Instrument

Serial

Last

Measurement

Component

Concentration

Cylinder #

Number

Concentration

Make/Model

Number

Calibration

Principal

NITRIC OXIDE

29.7 ±0.34 PPM SG9113524BAL

GMIS

28.6100 PPM Rosemount 951a 0101877 05/04/94 CHEMILUMINESCE

Balance Gas: Nitrogen

Contaminant

Nitrogen Dioxide

.200 PPM

* Standard should not be used below 150 psig

320

Analyst:

Richard Vandyke
Richard Vandyke

Approved By:

Robert McNear
Robert McNear

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 6

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G

Customer: ARMSTRONG ENVIRONMENTAL 7715 SOVEREIGN ROW DALLAS TX 75247

Notes:

Order No: 36A-006051
Batch No: 861-18318
Cylinder No: SG91323701
Cylinder Pressure*: 2000 psig
Certification Date: 05/25/94
Expiration Date: 05/25/96

PO: 1372 Rel:

*** Certified Concentration *** ***** Reference Standards *****

Component	Certified Concentration	Cylinder #	Standard Number	Concentration	Instrument Make/Model	Analytical Serial Number	Last Calibration	Measurement Principal
NITRIC OXIDE	95.8 ±.42	PPM SG9103337BAL	GHIS	93.6000 PPM	Rosemount 951a	0101877	05/04/94	CHEMILUMINESC

Balance Gas: Nitrogen

Contaminant

Nitrogen Dioxide .500 PPM

* Standard should not be used below 150 psig

Analyst: Richard Van Dyke
Richard Vandyke

Approved By: Robert McNear
Robert McNear

AIRCO
To: BOC Retail - Dallas

Expiration Date: 09-13-96
Customer P.O.: R11758/2286-10g
Balance Gas: Nitrogen
CAS 7727-37-9

**Certification of Analysis - EPA Protocol Gas
Performed According to Section 3.0.4**

Certified Per Traceability Procedure 1 G1
Certified Accuracy 1% NIST Protocol 1.1

Test Number: 0994-008
Cylinder Number: CC20562
Fill Date: 08-05-94
Cylinder Pressure: 2000 PSIG
Certification Date: 09-13-94
Location: Port Allen, LA.

Component	Certified Concentration	GNIS No.	GNIS Conc.	Cylinder Number	Serial Number	Analytical Information	Make	Model	CAS	Calibration Date
Nitric Oxide	110 PPM	16856	232.5 PPM	CC26183	42H-45487-274	CHEMILUMINESCENT	THERMO ENVIR	42H	08-19-94	08-19-94

First Analysis				Second Analysis			
Zero Gas	Reference Gas	Sample Gas	Concentration	Zero Gas	Reference Gas	Sample Gas	Concentration
0.05	253.2	110.5	110 PPM	0.04	255.9	111.2	110 PPM
0.06	252.3	110.1	110 PPM	0.04	255.8	111.4	110 PPM
0.05	252.0	110.0	110 PPM	0.04	255.9	111.7	110 PPM
Average-			110 PPM	Average-			110 PPM

This Calibration Standard has been Certified versus EPA Traceability Protocol # 1, Procedure G1, and Analysis performed per section 3.0.4
Certified Concentration: Balance - Nitrogen, Nitric Oxide=110 PPM
Almega Corp., 601 A County Club Rd., Bensenville, IL 60106 / ATTN: Carl Cella / P.O. #2286-10

APPROVED BY *C. M. Daniel*
Laboratory Manager

EXPIRED



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

PROJECT #: 04-31603-001

PO#: 1365

ITEM #: 04021453 2AL

DATE: 4/05/94

CYLINDER #: ALM028262

ANALYTICAL ACCURACY: +-1%

PRODUCT EXPIRATION: 4/04/95

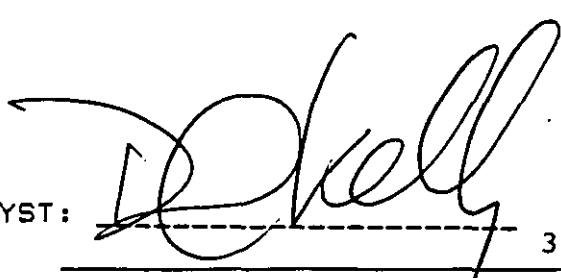
BLEND TYPE : ACUBLEND MASTER GAS

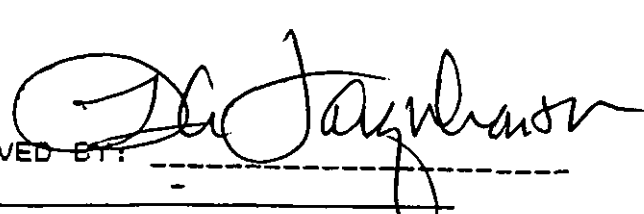
COMPONENT
CARBON MONOXIDE
NITROGEN

REQUESTED GAS
CONC MOLES
400. PPM
BAL

ANALYSIS
(MOLES)
400. PPM
BAL

2000 PSI

ANALYST: 

APPROVED BY: 

323



362813

Airco Special Gases
4551 North Access Road
Chattanooga
Tennessee 37415
Telephone: 615-877-4387
FAX: 615-877-8694

ANALYTICAL REPORT

To: BOC Gases
2615 Joe Field Road
Dallas, TX 75247

Date Reported: 11-16-94
Test Number: 41267
Fill Date: 11-16-94

Material Submitted: 400 ppm Carbon Monoxide, Balance Nitrogen
Specification Number: BOC Specifications
Method of Analysis: Non-Dispersive Infrared Analyzer

Analyzed: Cylinder No. CC6529 Size 152, CGA 350 2000 psi

<u>Component</u>	<u>Specification</u>	<u>Concentration</u>
Carbon Monoxide	400 ppm	391 ppm
Nitrogen	Balance	Balance

by

AUTHORIZED SIGNATURE



300314

Airco Special Gases
4551 North Access Road
Chattanooga
Tennessee 37415

Telephone: 615-877-4387
FAX: 615-877-8694

ANALYTICAL REPORT

To: BOC Gases
2615 Joe Field Road
Dallas, TX 75229

Date Reported: 11-16-94
Test Number: 41269
Fill Date: 11-16-94

Material Submitted: 100 ppm Carbon Monoxide, Balance Nitrogen

Specification Number: BOC Specifications

Method of Analysis: Non-Dispersive Infrared Analyzer

Analyzed: Cylinder No. CC71796 Size 152, CGA 350 1650 psi

<u>Component</u>	<u>Specification</u>	<u>Concentration</u>
Carbon Monoxide	100 ppm	98.0 ppm
Nitrogen	Balance	Balance

by

AUTHORIZED SIGNATURE

**BOC GASES**

1075 Cinclore Drive
Port Allen
Louisiana 70767
Telephone: 504-388-0900

BOC Gases
Division of the BOC Group, Inc.
1075 Cinclore Drive
Port Allen, LA 70767

FAX: 504-388-0959

Date Reported: 01/05/95

Customer Order No.: R11733

Shipper No.: 671251

Test No.: 0195-021

ANALYTICAL REPORT

To: BOC RETAIL
DALLAS, TX

Material Submitted: CARBON MONOXIDE IN NITROGEN

Information Requested: CARBON MONOXIDE CONCENTRATION

Method of Analysis: NON-DISPERSIVE INFRARED

Result of Investigation: Cyl.No.: CC90936

<u>Component</u>	<u>Specification</u>	<u>Concentration</u>
CARBON MONOXIDE	250 PPM	250 PPM
NITROGEN	BALANCE	BALANCE

Principal Analyst: C. Monahan



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

C E R T I F I C A T E O F A N A L Y S I S

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

PROJECT #: 04-29795-002

PO#: 1349

ITEM #: 04021452 2AL

DATE: 1/27/94

CYLINDER #: ALM003541

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 1/27/95

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

NITROGEN

REQUESTED GAS

CONC MOLES

50. PPM

BAL

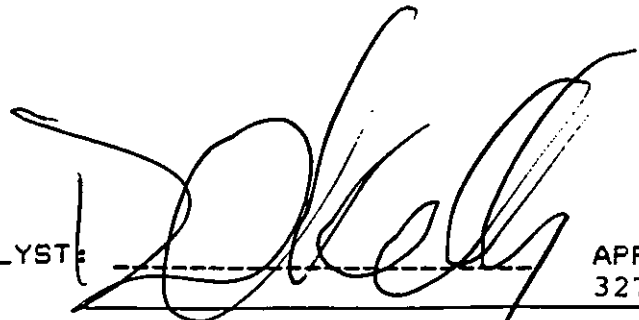
ANALYSIS

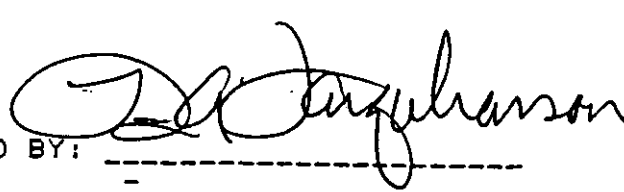
(MOLES)

50.8 PPM

BAL

2000 PSI

ANALYST: 

APPROVED BY: 

327



Scott Specialty Gases, Inc.

Shipped
From:

3714 LAPAS DRIVE
HOUSTON
Phone: 713-644-4820

TX 77023

Fax: 713-644-0244

CERTIFICATE OF ANALYSIS

ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS

TX 75247

PROJECT #: 04-29795-001

PO#: 1349

ITEM #: 04021453 2AL

DATE: 1/27/94

CYLINDER #: ALM022671

ANALYTICAL ACCURACY: +/- 1%

PRODUCT EXPIRATION: 1/27/95

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

NITROGEN

2000 PSI

REQUESTED GAS

CONC MOLES

100. PPM

BAL

ANALYSIS

(MOLES)

100. PPM

BAL

ANALYST:

APPROVED BY:

328

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G. Customer: 36A-00598

ARMSTRONG ENVIRONMENTAL

Order No:

Batch No:

7715 SOVEREIGN ROW

Notes:

DALLAS

TX 75247

Cylinder No: SG91324561

Cylinder Pressure: 2000 psig

Certification Date: 05/09/94

Expiration Date: 05/09/97

Analytical Instrumentation

Serial Last Measurement

Number Calibration Principal

59405U 05/05/94 GC-FID

PO: 1371 Rel:

*** Certified Concentration *** ***** Reference Standards *****

Component Concentration Cylinder # Standard Number Concentration Instrument Make/Model

PROPANE 909 42.2 PPM SG9128533BAL GHIS 1025.0000 PPM Gow-Mac 750

Balance Gas: Nitrogen

* Standard should not be used below 150 psig

329

Analyst:

James Laas

Approved By:

Robert McNear

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1

Customer: APCI Order No: 360-047885

3415 BANNING ST Batch No: 861-23327

DALLAS, TX. Notes: Cylinder No: SG9127028B

Cylinder Pressure: 2000 psig

Certification Date: 01/28/95

Expiration Date: 01/28/98

PO: Rel: *** Certified Concentration *** ***** Reference Standards ***** Analytical Instrumentation *****

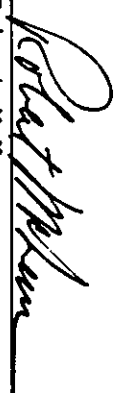
Component	Certified Concentration	Cylinder #	Standard Number	Concentration	Instrument Make/Model	Serial Number	Last Calibration	Measurement Principal
-----------	-------------------------	------------	-----------------	---------------	-----------------------	---------------	------------------	-----------------------

PROPANE	495 ±1.3	PPM	SG9128635BAL	GMIS	505.1000 PPM	Gow-Mac 750	59405U	01/18/94 GC-FID
---------	----------	-----	--------------	------	--------------	-------------	--------	-----------------

Balance Gas: Nitrogen

* Standard should not be used below 150 psig

Analyt: 
Richard Vandyke

Approved By: 
Robert McNear

AIR PRODUCTS
4822 INDUSTRY LANE
DURHAM, NC 27713

CERTIFICATE OF ANALYSIS-EPA PROTOCOL MIXTURES

REFERENCE #: 88-31136 CYLINDER #: SG9121023 CYL. PRESSURE:2000PSIG
EXPIRATION DATE: 5/6/97 LAST ANALYSIS DATE:5/6/94
CUSTOMER: P.O.#

METHOD: ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION
OF GASEOUS CALIBRATION STANDARDS-SEPTEMBER 1993:G-1

STANDARD:	INSTRUMENT:BECKMAN THC	
SRM #: 1666B	MODEL #:400	
CYL #: CLM5040	SERIAL #:1003052	
CONC.: 9.69PPM	LAST CAL.:5/2/94	
VAL. DATE:6/4/92	EXP. DATE:6/4/96	
COMPONENT:PROPANE	COMPONENT:	COMPONENT:
MEAN CONC:4.95PPM	MEAN CONC:	MEAN CONC:
REPLICATE CONC.	REPLICATE CONC.	REPLICATE CONC.
DATE:5/6/94 DATE:	DATE: DATE:	DATE: DATE:
4.95PPM		
4.94PPM		
4.95PPM		

BALANCE GAS:N2

REPLICATE DATA

DATE: 5/6/94

Z	0	R	283.4	C	144.8
R	283.5	Z	0	C	144.5
Z	0	C	144.8	R	283.5

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:PROPANE

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

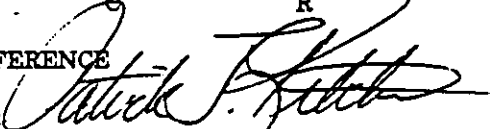
COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

Z=ZERO C=CANDIDATE R=REFERENCE

ANALYST: Richard Sykes

APPROVED BY: 

"THIS REPORT STATED ACCURATELY THE RESULTS OF THE INVESTIGATION MADE UPON THE MATERIAL SUBMITTED TO THE ANALYTICAL LABORATORY. EVERY EFFORT HAS BEEN MADE TO DETERMINE OBJECTIVELY, THE INFORMATION REQUESTED; HOWEVER, IN CONNECTION WITH ITS RENDERING OF THIS REPORT, NATIONAL SPECIALTY GASES SHALL HAVE NO LIABILITY IN EXCESS OF ITS ESTABLISHED CHARGE FOR THE SERVICE."

To: Airco Dist. & City Gases

Expiration Date: 01/12/98

Customer P.O. # R11747

Balance Gas: Nitrogen

CAS 7727-37-9

Certification of Analysis - EPA Protocol Gas Performed According to Section 3.0.4

Certified Per Traceability Procedure 1 G1
Certified Accuracy 1% MST Protocol 1.1

Test Number: 672700

Cylinder Number: CC23227

Fill Date: 01/06/95

Cylinder Pressure: 2000 PSIG

Certification Date: 01/12/95

Location: Royal Oak, M.I.

Component	Certified Concentration	SRM No.	SRM Conc.	Cylinder Number	Analytical Information	Model	Calibration Date
Propane	91.0 ppm	2643a	99.1 ppm	5129443	Serial Number RAPID 4189	Analytical Procedure Plane Ionization Detector	12/23/94

First Analysis				Date: 01/12/95	
Zero Gas	Reference Gas	Sample Gas	-- Concentration		
00.0	99.1	90.9	90.9 ppm		
00.0	99.0	90.9	91.0 ppm		
00.0	99.0	90.9	91.0 ppm		
Average-			91.0 ppm		

Second Analysis				Date: 01/12/95	
Zero Gas	Reference Gas	Sample Gas	-- Concentration		
00.0	99.1	90.8	90.8 ppm		
00.0	99.0	90.6	90.9 ppm		
00.0	99.0	90.6	90.9 ppm		
Average-			90.9 ppm		

This Calibration Standard has been Certified versus EPA Traceability Protocol 1.1 Procedure G1, and Analysis performed per section 3.0.4
Certified Concentration: Balance - Nitrogen, Propane-91.0 ppm

APPROVED BY

M. Kelly
Laboratory Manager

EXP. 01/12/98

Air Products and Chemicals, Inc.
SPECIALTY GAS DEPARTMENT
12722 S. WENTWORTH AVENUE
CHICAGO, IL 60628

Certificate of Analysis - EPA Protocol Gas Standard

Page 1 of

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G

Customer: ARMSTRONG ENVIRONMENTAL Order No: 36A-00598

7715 SOVEREIGN ROW

Batch No: 861-18143

DALLAS TX 75247

Notes:

Cylinder No: SG91324911

Cylinder Pressure: 2000 psig

Certification Date: 05/04/94

Expiration Date: 05/04/97

PO: 1371 Rel:

*** Certified Concentration *** ***** Reference Standards ***** ***** Analytical Instrumentation *****

Certified

Standard

Instrument

Serial

Last

Measurement

Component

Concentration

Cylinder #

Number

Concentration

Make/Model

Number

Calibration

Principal

PROPANE 31.9 ± 1.3 PPM SG9128572BAL

GMIS

30.2600 PPM Gow-Mac 750

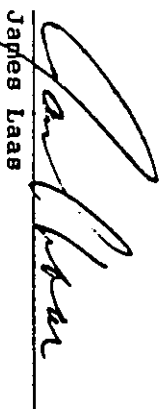
59405U

04/25/94 GC-FID

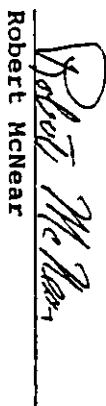
Balance Gas: Nitrogen

• Standard should not be used below 150 psig

Analyst:


James Laas

Approved By:


Robert McNear

AIR PRODUCTS
4822 INDUSTRY LANE
DURHAM, NC 27713

CERTIFICATE OF ANALYSIS-EPA PROTOCOL MIXTURES

REFERENCE #: 88-23473

CYLINDER #:SG9113690 CYL PRESSURE: 2000PSIG

EXPIRATION DATE:4-7-96

LAST ANALYSIS DATE: 4-7-93

BATCH# 05867

CUSTOMER: AIR PRODUCTS

P.O.#

DALLAS, TX 75233

METHOD: EPA PROTOCOL # 1 3.0.4. G-1

STANDARD:

SRM #: 2644

CYL #: FF39583

CONC.: 244.5 PPM

VALID DATE:7-13-90

EXPIR. DATE:7-18-94

INSTRUMENT:

COMPONENT: BECKMAN THC

MODEL #: 400

SERIAL #: 1003052

LAST CAL.: 4-2-93

COMP: C3H8

MEAN CONC: 203 PPM

REPLICATE CONC.

DATE: 4-7-93

DATE:

203 PPM

203 PPM

204 PPM

COMP:

MEAN CONC:

REPLICATE CONC.

DATE:

DATE:

COMP:

MEAN CONC:

REPLICATE CONC.

DATE:

DATE:

BALANCE GAS: NITROGEN

334

REPLICATE DATA

DATE: 4-7-93

Z	0	R	425	C	352.9
R	426	Z	0	C	353.7
Z	0	C	354.6	R	425

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

REPLICATE DATA

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:C3H8

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

COMPONENT:

DATE:

Z		R		C
R		Z		C
Z		C		R

Z=ZERO C=CANDIDATE R=REFERENCE

ANALYST:

APPROVED BY:

"THIS REPORT STATED ACCURATELY THE RESULTS OF THE INVESTIGATION MADE UPON THE MATERIAL SUBMITTED TO THE ANALYTICAL LABORATORY. EVERY EFFORT HAS BEEN MADE TO DETERMINE OBJECTIVELY, THE INFORMATION REQUESTED; HOWEVER, IN CONNECTION WITH ITS RENDERING OF THIS REPORT, AIR PRODUCTS SHALL HAVE NO LIABILITY IN EXCESS OF ITS ESTABLISHED CHARGE FOR THE SERVICE. ANY USE OF THIS REPORT OR THE INFORMATION CONTAINED HEREIN SHALL BE AT THE SOLE RISK OF THE USER."